5. Discussion & Conclusion

This dissertation started by discussing the intricacies of how professionals in organizations engage in self-organized knowledge sharing and integration, and how ESM can facilitate these processes. Before addressing the main research question and discussing the contributions to the literature, the following sections will first provide a brief overview of the key findings and contributions from each empirical study reported in Chapter 2, 3, and 4. This chapter will then cover the overall theoretical implications by integrating the findings from the different studies to extend our understanding of the conditions under which knowledge workers engage in knowledge sharing and integration in organizations. The chapter will conclude with a general reflection on this doctoral research.

5.1. Summary of key findings

5.1.1. Knowledge sharing within and across communities and networks

The aim of Chapter 2 was to unravel the organizational and relational conditions under which professionals engage in self-organized knowledge sharing and integration to be able to understand how practice-based knowledge (i.e., individuals’ experiences) can be shared within and across communities and networks to become organizational knowledge. NOPs within an organization allow employees with a common practice to connect with each other (Brown & Duguid, 2001) and allow members of those networks to learn from others’ experiences (Tagliaventi & Mattarelli, 2006). Because those networks with a common practice connect the different local communities of practice (COP) (Brown & Duguid, 1999; Tsoukas & Vladimirou, 2001) practice-based knowledge can become institutionalized and made available to all members of an organization (Cook & Brown, 1999; Orlikowski, 2002; Bechky,
However, from a practice-based perspective, the practice within a COP is different from the practice in a NOP (Orlikowski, 2002; Feldman & Orlikowski, 2011; Nicolini, 2011). Members of a COP share a situated practice for example by working together, regularly interacting over shared experiences, and collectively discussing local developments (Brown & Duguid, 1991). Members of a NOP however work much more dispersed and share a similar but not situated practice (Brown & Duguid, 2001). Hence, sharing knowledge across COPs and NOPs to become organizational knowledge becomes problematic.

To address this puzzle and understand the organizational and relational conditions that facilitate knowledge sharing and integration among professionals, I conducted a study at CareInstitute, a healthcare organization that provides care for children and adolescents who face complex combinations of communication related impairments such as mental challenges combined with blind or deafness. The methodologies that the therapists can apply in their treatments are sometimes of limited use: because the clients experience such complex challenges, the methodologies need to be tailored to the specific complexity of the client. In some of these situations the therapists realize that other therapists and clients might also benefit from their new methodology. For an individuals’ experience with a new methodology to become organizational knowledge, our findings show that two distinct continua of knowing have to be crossed. The first continuum of knowing concerns the individuals and their COP and ranges from experience to knowledge. The second continuum of knowing concerns members of a NOP and the organization, and ranges from hypothesis to knowledge. Our data show that whenever therapists develop an idea for a new methodology, they engage with members of their COP in a process of experiential validation, and with members of their NOP and the organization they engage in a process of evidential validation. In these consecutive processes of validation, therapists go through a number of interactions in which their ideas are discussed and tested to find out whether their ideas may improve the existing methodologies – and hence individual experience can become organizational knowledge.

During the process of experiential validation, individual therapists exchange their experiences with their peers from their COP. Because the other members of the COP share the same situated practice (they do the same work and regularly talk about their work) they are able to reflect on their own work, experiment with preliminary guidelines, and discuss their experiences with the new methodology. Through several iterative cycles among the different members of the COP, the individual experience of the therapists incrementally
becomes knowledge throughout their COP. Subsequently, during the process of evidential validation, the knowledge of the COP is shared with the NOP. But because members of the NOP cannot draw on a shared experience to evaluate the new methodology, they treat it as a hypothesis: they require some evidence that shows that the methodology indeed works. Through several cycles among members of the NOP and the organization, the knowledge of the COP is tested and developed formally, and hence the knowledge of the community incrementally becomes knowledge in the NOP and the organization. Hence, by going through both experiential and evidential validation, individual experience can become organizational knowledge.

**Conditions for knowledge sharing across communities and networks of practice:**

The study reported in Chapter 2 extends research on the ways in which individuals work and learn through their situated practice, as such studies have shown that the creation of organizational knowledge is problematic when we consider knowledge to be inherently entangled with practice (Tagliaventi & Mattarelli, 2006; Brown & Duguid, 1991; Orr, 1996; Tsoukas & Vladimirou, 2001; Orlikowski, 2002; Feldman & Orlikowski, 2011). By drawing attention to the two continua of knowing, we elaborate theory on knowledge in organizations by identifying and discussing experiential and evidential validation. In line with for example Brown and Duguid (1991, 1999, 2001) the data from Chapter 2 highlights the importance of social interactions among people with a shared practice. Combined with the necessary resources, it is because actors can reflect on their shared situated practice and experiences that practice-based ideas can be validated and adopted as new accepted methodologies.

Regarding the main research objective of this dissertation, the findings from Chapter 2 show that self-organized knowledge sharing and integration happens under the relational conditions that professionals are highly motivated to share and integrate knowledge with professionals from other communities and networks. Next to that, the organization provided the right conditions for professionals to engage in self-organized knowledge sharing and integration which made it possible for knowledge from practice to become organizational knowledge. Both processes of experiential and evidential validation show that knowledge sharing happens under the conditions that professionals have an infrastructure of communities, networks, and resources to engage in knowledge sharing and integration with
others. For organizational knowledge to emerge, professionals need to be highly motivated to engage in conversations related to their daily practice (and thereby share knowledge) and also have access to organizational resources.

5.1.2. Emergent technology adoption cultivates knowledge sharing

Whereas Chapter 2 unraveled the conditions under which professionals engage in self-organized knowledge sharing and integration within and across communities and networks, the purpose of Chapter 3 was to understand the conditions under which ESM can support these process of self-organized knowledge sharing and integration throughout an organization. Chapter 3 specifically focused on understanding how and why an ESM platform becomes emergently integrated (i.e., domesticated) into the practices of actors as to support organization wide knowledge sharing and integration. While the literature on ESM is widespread and continues to grow, most studies to date seem to focus on a top-down introduction of these technologies. However, technologies similar to ESM will be introduced in organizations not only by management but also by the professionals themselves (e.g., Colbert et al., 2016; Arnaboldi & Coget, 2016; Aral et al., 2013). Hence, the study presented in Chapter 3 focuses on the emergent introduction of an ESM platform as I focused on the activities conducted by actors in practice that bring about this emergent introduction. I build on the literature on domestication of technologies (Faraj et al., 2016; Haddon, 2007; Lie & Sørensen, 1996) that draws our attention to the ways actors become acquainted with, and incrementally embed a technology into their daily routines.

The findings from Chapter 3 show that the ESM platform (i.e., Yammer) becomes incrementally domesticated over the course of five years. By collecting and analyzing both online and offline data I am able to unravel that the usage of Yammer changed over time. In the first few years (between 2011 and 2015) most content on Yammer was produced by a relatively small number of users (i.e., researchers) who regularly posted content related to the overall profession of the therapists (e.g., research on speech therapy). In these first few years, Yammer was “filled” with relevant content, which provided some of the necessary conditions for domestication to progress. As a result, at the end of 2015, the content posted on Yammer became much more related to the actual practice of the therapists (e.g., related to specific methodologies or cases) and whereas before the researchers posted most of the content, in
2016 the data show that most content was actually produced by the therapists themselves. On top of that, in 2016 there was a lot more interaction: posts received more comments than before. Hence, the data show that the process of domestication occurred through two phases: while between 2011 and 2015 Yammer was mostly a repository for relevant content, in 2016 Yammer became adopted in the knowledge intensive work of the therapists: they used it for organizing meetings, locating relevant expertise, and discussing complex client cases.

The findings show that this process of domestication progresses because three sociotechnical conditions are developed and maintained: (1) Meta-knowledge: because more and more therapists join the discussions, other therapists are increasingly able to locate relevant knowledge and expertise, which provides an incentive to keep frequenting Yammer; (2) Critical mass: there is a continuous flow of relevant content (e.g., research findings) that creates a normative pressure for the therapists to continue to visit Yammer to stay up to date about recent developments in their field of work. (3) Psychological safety: as more therapists are using Yammer to talk about their work and new developments, other therapists increasingly feel at ease with asking questions and engaging in constructive discussions.

The conditions under which ESM support knowledge sharing:

Chapter 3 contributes to theory on the introduction and use of ESM in organizations and shows the conditions under which professionals engage in self-organized knowledge sharing and integration through such technologies. Prior research has also separately covered the importance of meta-knowledge (Leonardi, 2014), critical mass (e.g., Riemer et al., 2012), and psychological safety (e.g., Edmondson, 1999), but the findings from Chapter 3 show that these three concepts are actually all necessary conditions for the process of domestication to progress. If we consider only one of these conditions, we continue to conceptualize the introduction and use of ESM as “successful” when actors use the technology to exchange information and knowledge occasionally. We would forego the fact that ESM can become domesticated into the daily work practices and can actually enhance how work is done. Moreover, the aforementioned also highlights the merits of combining both online and offline data. By juxtaposing online data with offline observations and interviews I was able to distill how the therapists actually used the ESM platform and how the technology became domesticated into their actual caregiving work.
Regarding the main research question of this dissertation, the findings from Chapter 3 add to our understanding of the conditions under which ESM may facilitate self-organized knowledge sharing and integration among professionals. In line with the findings from Chapter 2, knowledge sharing and integration happens among professionals who want to discuss things that happen to them during their work. Because the professionals experienced the right sociotechnical conditions they engaged in self-organized knowledge sharing and integration. By sharing experiences and talking about practice-related problems both in situ and through ESM, professionals share knowledge and are able to do (parts of) their knowledge intensive work. The findings of the next Chapter will then be more of a contrast to show conditions that may actually frustrate knowledge sharing among professionals.

5.1.3. Engineered technology adoption frustrates knowledge sharing

Whereas Chapter 2 and Chapter 3 showed that, under the right conditions, professionals engage in self-organized knowledge sharing and integration and adopt ESM to support practice-based knowledge sharing and integration, Chapter 4 shows the institutional conditions that influence the extent to which ESM facilitate knowledge sharing and integration. Chapter 4 therefore focuses on understanding how the introduction and use of ESM is influenced by institutional logics that transcend specific organizations. I focus on understanding the social-practices of actors when they engage a technology, and hence turn to the literature on affordances (Gibson, 1986) that covers how different affordances (i.e., action possibilities) of ESM allow for different forms of knowledge sharing in practice (Treem & Leonardi, 2012; Gibbs et al., 2013). Building on the literature on affordances I distinguish five overarching affordances: associating, notified attention, selectivity, visibility, and persistence. Using the literature on institutional logics (Thornton et al., 2012; Friedland & Alford, 1991), I theorize that when an ESM platform is introduced in a corporate environment, the affordances of the technology will be enacted differently depending on what institutional logics inform the knowledge sharing behavior of actors.

In the case study at ItCon, I show that the IT consultants are informed by an institutional complexity (Greenwood et al., 2011) that consists of a corporate logic and a profession logic. The corporate logic prescribed behaviors such as remaining efficient in communication, respecting senior management’s authority, and focusing on one’s reputation
within the organization. The profession logic on the other hand prescribed behaviors such as focusing on their reputation within their profession (e.g., programmers), engaging in knowledge sharing to develop their expertise, and associating with peers (from their profession). While these two logics were not always conflicting, the IT consultants indicated to regularly experience an ambiguity as to how they should use the ESM platform. For example, they initially found it difficult to make the choice to focus on being efficient, or spending time to learn more about their profession (e.g., learning new programming languages). Quickly after getting a feel for the technology, the professionals at ItCon started to behave most often in line with the corporate logic, because they realized that they needed to adhere to that logic to stay employed at the organization.

As a result of the institutional complexity, the findings show that the affordances of ESM are enacted in a strategic way that oftentimes frustrates knowledge sharing. The data show that there are three practices that the professionals engage in to cope with the institutional complexity: (1) connection management: professionals connect strategically with influential users; (2) reputation management: professionals partake in public discussions but safeguard their reputation by refraining from potential risky behavior (e.g., exerting critique); and (3) information management: professionals focus their attention and time on information posted by management and ignore most of the other content on the ESM platform.

**Institutional conditions for knowledge sharing on ESM:**

The study at ItCon first of all extends research that hinted at strategic uses of these technologies (e.g., Gibbs et al., 2013; Leonardi & Treem, 2012) by providing a theoretical explanation on why ESM are used in practice in ways that actually frustrate self-organized knowledge sharing and integration. This study thereby also shows that while the material features of ESM may embed several affordances that can facilitate knowledge sharing (Treem & Leonardi, 2012; Elisson et al., 2015), whether the technology becomes used in practice for knowledge sharing depends on what institutional logics inform the users’ behavior. Hence, to understand the ways in which ESM may facilitate or frustrate knowledge sharing, it can be fruitful to study the institutional pressures that transcend the individual organization and apply to professionals in a variety of different industries and organizations.
Chapter 5 – Discussion & Conclusion

Regarding the main research question, the findings from Chapter 4 add to our understanding of the conditions that influence whether ESM may or may not facilitate self-organized knowledge sharing and integration. Chapter 3 showed the conditions that favored the use of ESM for knowledge sharing, and, by contrast, the findings of Chapter 4 identify the institutional conditions that actually stymie self-organized knowledge sharing and integration. Because the professionals experience conflicting institutional conditions, they refrain from self-organized knowledge sharing and integration.

5.2. Theoretical implications & answer to the research question

Whereas the previous section covered the findings and conclusions of the different papers of my dissertation separately, the present section will discuss the overall implications for the literature on knowledge and organizing. More specifically this section will go into more detail regarding the different conditions that support employees’ knowledge sharing and integration, as well as the role of ESM herein. The main research question of this dissertation, as discussed in the introduction, is as follows:

Under what conditions do professionals engage in self-organized knowledge sharing and integration, and how can ESM facilitate these processes?

The next sections will discuss these contributions in more detail.

5.2.1. Infrastructure for knowledge sharing and integration

The first major contribution of this dissertation concerns the organizational and relational conditions for knowledge sharing and integration. Rather than focusing on the actions and measures taken by organizations and managers to stimulate knowledge sharing, this dissertation focuses on the role of professionals to understand under what conditions they share and integrate knowledge. Adding to the literature on knowledge and organizing, this dissertation identifies the complex infrastructure of communities, networks, and resources that provides the necessary conditions for professionals to engage in self-organized knowledge sharing and integration. Literature on knowledge sharing and integration in
organizations has discussed important conditions such as the importance of having slack resources for exploration (Nohria & Gulati, 1996) and engaging in networks where actors share a common practice (e.g., Brown & Duguid, 1991; 2000; 2001). Based on these insights organizations have experimented with different ways to make knowledge sharing happen. For example, managers attempt to stimulate knowledge sharing by setting up knowledge networks, appointing employees to be part of such networks (Wenger et al., 2002), or providing monetary rewards when employees share knowledge across networks (Bartol & Srivastava, 2002). These studies highlight some of the initiatives that organizations engage in to create flourishing networks where knowledge flows through and across a wide variety of disciplines, departments, and hierarchical levels. Many of these attempts, however, have proven to be unsuccessful.

In her dissertation, Agterberg (2012: 149) refers to the ideal of setting up networks in the hopes of making people share knowledge, as “network determinism”. Focusing on the role of managers, network leaders, and influential core members of such networks, Agterberg explains that the quality of the interactions within networks is more important than the quantity in terms of members, contributions, number of meetings, et cetera. Building on her insights, the research presented in this doctoral dissertation adds to the literature by adopting a more employee-centric approach. The findings from this dissertation highlight the importance of the entire infrastructure of communities, networks, technologies, and resources for self-organized knowledge sharing and integration. Chapter 2 first draws the attention to the two validation processes that contain a variety of steps and activities that allows practice-based knowledge to flow within and across communities and networks. Chapter 3 complements these findings by showing that under appropriate conditions ESM can support self-organized knowledge sharing and integration across locations, networks, and disciplines. The findings of this dissertation thereby first of all concur with research that has shown that knowledge flows almost organically within communities of actors with a shared practice (e.g., Brown & Duguid, 1991). But furthermore, the findings of this dissertation show the intricacies that accompany knowledge sharing and integration across communities and disciplines.

This dissertation adds to the literature on knowledge and organizing by describing how both through the processes of experiential and evidential validation, and facilitated by ESM, knowledge can be shared and integrated across geographically dispersed professionals.
Table 5.1 – Research summary of the three empirical studies in this dissertation

<table>
<thead>
<tr>
<th>Chapter:</th>
<th>Findings (§5.1):</th>
<th>Response to overall research question (§5.2):</th>
<th>Theoretical contribution (§5.2):</th>
<th>Practical implications (§5.3):</th>
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<tbody>
<tr>
<td>Chapter 2. RQ: As knowledge is embedded in practice, under what conditions can individual experience become organizational knowledge?</td>
<td>- Individual experience becomes organizational knowledge through successive processes of experiential and evidential validation. - Reforms that damage evidential validation frustrate the creation of organizational knowledge.</td>
<td>- Relational conditions such as motivation to engage in (interdisciplinary) meetings and use communication technologies. - Organizational conditions such as resources and support to engage in knowledge development.</td>
<td>- Practice-based knowledge becomes organizational knowledge through processes of experiential and evidential validation.</td>
<td>- Provide infrastructure to support professionals’ knowledge sharing practices to allow practice-based knowledge to be validated and diffused. - Reduce focus on tangible benefits of knowledge sharing initiatives.</td>
</tr>
<tr>
<td>Chapter 3. RQ: Under what conditions does an ESM platform become emergently integrated (i.e., domesticated) into the practices of actors?</td>
<td>- The ESM platform becomes integrated in daily work of actors through a process of domestication. - Process of domestication is supported by three conditions: meta-knowledge, critical mass, and psychological safety.</td>
<td>- Sociotechnical conditions of meta-knowledge and critical mass induce people to frequent the technology. - Relational conditions such as psychological safety and motivation to develop expertise - Organization conditions support emergent introduction of technologies.</td>
<td>- ESM can become integrated in daily practice through a process of domestication.</td>
<td>- Engage with employees to be knowledgeable about new developments and support emergent initiatives for introducing new technologies. - Provide necessary visible organizational support (legitimacy) when new technology is becoming increasingly adopted/widespread.</td>
</tr>
<tr>
<td>Chapter 4. RQ: How do institutional conditions influence the use of ESM for knowledge sharing purposes?</td>
<td>- Affordances are enacted differently depending on what institutional logic is informing actors’ behavior. - Actors develop three coping practices that may frustrate knowledge sharing: connection management, reputation management, and information management.</td>
<td>- Institutional conditions that are favorable for the adoption of ESM - Organizational conditions that do not coerce employees to share knowledge. - Sociotechnical conditions that allow knowledge sharing to happen on ESM.</td>
<td>- Institutional complexity influences how affordances of technologies are enacted.</td>
<td>- Be careful with top-down implementation of ESM. - Inventory whether the practice of the employees can be supported by technologies (see what they are already using). - Refrain from dictating the ways in which a technology should be used.</td>
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</table>
Knowledge sharing does not have to be stimulated but can certainly be facilitated through networks. In line with existing research, the findings emphasize that professionals want to engage in self-organized knowledge sharing and integration: they are interested in sharing experiences and knowledge with peers who share a common practice. As Chapter 2 shows, this process can be facilitated when the necessary tools and resources are available and professionals are highly engaged with both their work and their expertise. In COPs professionals with their shared situated practice are able to create new knowledge through experiential validation. To become organizational knowledge, an infrastructure of communities, networks, and resources is necessary. NOPs are vital elements for self-organized knowledge sharing and integration as they bring together professionals with different histories, experiences, and insights that are derived from their own situated practice (Brown & Duguid, 2001; Agterberg et al., 2010). Allowing members of NOPs to regularly interact allows knowledge to flow and increases the chances that new knowledge is created. Providing slack resources for professionals in COPs and NOPs is a necessary condition for explorative activities (March, 1991), and Chapter 2 shows that resources are essential for the creation of new organizational knowledge through a process of evidential validation. Hence, an infrastructure of communities, networks, and resources is necessary for fruitful knowledge sharing and integration. In addition the aforementioned conditions, Chapter 3 adds that when professionals experience a certain psychological safety (Edmondson, 1999) and have reasons to start and continue using an ESM platform, such a technology is likely to become used for self-organized knowledge sharing and integration throughout an organization. The therapists did not require any organizational push or persuasion and instead noticed the ways in which the ESM platform benefitted their work. Hence, my findings show that under the conditions that actors have the freedom to explore, the technology can become domesticated into the daily work to the extent that they engage in self-organized knowledge sharing and integration throughout the organization. By contrast, Chapter 4 adds to our understanding by showing the conditions under which self-organized knowledge sharing and integration is stymied because of managerial interventions.

When the technology is introduced from the top down without considering the situated work of the professionals, self-organized knowledge sharing and integration is frustrated as there is an incomplete infrastructure: the professionals do not have the freedom to explore and the technology did not emerge out of the work of the professionals themselves.
Hence, the findings presented in this dissertation add to the stream of literature on knowledge and organizing that focuses on *how* and *why* professionals engage in various knowledge sharing activities through practice (Tagliaventi & Mattarelli, 2006; Oborn & Dawson, 2010; Rennstam & Ashcraft, 2013; Pyrko et al., 2017).

5.2.2. ESM for knowledge work

The second major contribution of this dissertation highlights the sociotechnical conditions for self-organized knowledge sharing and integration, and is related to the literature on technologies and knowledge sharing. The findings of this dissertation extend research that is concerned with studying the ways in which ESM can facilitate knowledge sharing in organizations (e.g., Leonardi, 2014; Leonardi et al., 2013; Gibbs et al., 2013; Majchrzak et al., 2013; Kane, 2017). ESM have been lauded for their potential for knowledge sharing: users can connect and share knowledge with anyone within the organization (Treem & Leonardi, 2012; Leonardi & Vaast, 2017). Moreover, existing research has most often explained that such a technology can be used for knowledge sharing, but also hinted at the potential for ESM to become online workspaces (Leonardi et al., 2013). By studying how Yammer was used by the therapists over the course of six years, the findings of this dissertation show the conditions that, taken together, make it possible that an ESM platform becomes more than “just” a tool for knowledge sharing: the technology became an online workspace where knowledge intensive work was done. As more organizations are currently introducing “digital workspaces”, future research could for example explore the different contexts in which such a technology becomes used as an online space for knowledge intensive work (Colbert et al., 2016).

The findings of this dissertation also add to the literature by showing that tools such as ESM do not necessarily need to be introduced by management. Extant research has most often documented cases where knowledge sharing initiatives (e.g., technologies or routines) are introduced and implemented by managers and champions. Moreover, Van den Hooff and Huysman (2009) emphasized the importance of the “emergent” element of knowledge management: organizations should facilitate bottom-up initiatives because actively “engineering” knowledge sharing is likely to result in frustration. This dissertation argues in line with their research by highlighting the importance of the professionals in organizations.
and the ways in which they engage in self-organized knowledge sharing and integration. Chapter 3 and 4 add to this argument further by providing a contrast between an emergent and an engineered case of the introduction of ESM. Chapter 3 shows that such a technology will facilitate self-organized knowledge sharing and integration when the three conditions of meta-knowledge, critical mass, and psychological safety are satisfied. Chapter 4 then shows that while an organization may introduce an ESM platform, such an attempt to increase knowledge sharing is likely to fail whenever the institutional logics that inform management misalign with the logics that inform professionals’ self-organized knowledge sharing behavior. Put differently, this dissertation shows two sides of ESM. On the one hand, these technologies facilitate self-organized knowledge sharing and integration when they are emergently introduced in organizations under the right conditions where professionals recognize how the technology can improve how they do their work. On the other hand their usage will frustrate self-organized knowledge sharing and integration when the technology is introduced top-down, does not match the work of the professionals, and the intentions of management do not align with the intentions of the professionals.

This dissertation shows that ESM can most certainly facilitate self-organized knowledge sharing and integration by affording professionals the ability to connect, share, and collaborate with other professionals, but only under the right conditions. These findings are in line with some conceptual work that has called attention to the increasing ways in which new technologies enter organization – not through managerial initiatives but by employees introducing new tools that they themselves see as improvements for their work (Colbert et al., 2016; Aral et al., 2013). This dissertation may provide interesting ideas for new avenues of research: the ESM platform at CareInstitute was already introduced by a small group of people in 2011, which suggests that there are probably more organizations where such technologies have been introduced emergently. Future research could study if a process of domestication happens in different types of organizations such as consultancy firms or educational institutions.

5.2.3. Micro-level consequences of institutions on knowledge sharing

The third major contribution of this dissertation is by discussing the institutional conditions that affect knowledge sharing and integration. The findings show that macro-level
institutional logics do have important micro-level consequences for the ways in which ESM are enacted in practice. The findings from this dissertation add to the literature on knowledge management by theorizing how institutional logics – that are outside the “power” of individual organizations or managers – influence how professionals in corporate organizations enact ESM. There is a growing scholarly and practitioner literature on the use of ESM in organizations, that explains that these technologies provide a host of sophisticated features that facilitate new ways of knowledge sharing and integration (e.g., Van der Meulen et al., 2013; Harrysson et al., 2016; Leonardi et al., 2013; Elisson et al., 2015; Kane, 2017; Leonardi & Vaast, 2017).

Chapter 3 of my dissertation indeed concurs with such research as I show that the professionals are able to engage in self-organized knowledge sharing and integration: the ESM platform affords employees to get in contact with, collaborate with, and learn from other users independent of time and space. The study presented in Chapter 4, however, shows that the introduction and use of such a technology is not unproblematic. Based on research that combines the theoretical spaces of information systems, affordances, and institutional theory (Seidel & Berente, 2013; Berente & Yoo, 2012; Thornton et al., 2012) I first theorize that in contexts where multiple institutional logics inform actors’ behavior, the affordances of ESM will not necessarily be enacted in a way that facilitates knowledge sharing, but may in fact frustrate self-organized knowledge sharing and integration. The consultants at ItCon indeed did not use the ESM platform in a way that facilitated knowledge sharing and integration. Because they were influenced by an institutional complexity the consultants experienced and ambiguity on how to use the tool, and hence developed three coping practices.

By contrast, while this is not explicitly discussed in the Chapter 3, the therapists at CareInstitute did not experience an institutional complexity because the logics that accompanied the introduction of Yammer were not conflicting with the logic that generally informed their passionate and professional actions regarding their clients. Hence, the contrasting findings from Chapter 3 and 4 highlight that the ways in which affordances of a technology “come to life” in practice is affected by institutional logics. Whereas Chapter 3 shows that – under favorable institutional conditions – the affordances can facilitate self-organized knowledge sharing and integration, Chapter 4 shows that – under contradictory institutional conditions – the similar affordances are enacted in a way that actually frustrates self-organized knowledge sharing and integration.
To understand how (collaboration) technologies are enacted in practice and whether they facilitate or frustrate knowledge sharing and integration, it is necessary to consider the potential institutional logics that are at play. While it was not the focus of the study in Chapter 3, the findings do seem to suggest that a community logic (i.e., being part of CareInstitute) (Thornton et al., 2012) augments a profession logic (i.e., being a knowledgeable therapist). We suggest future research to, among others, study the extent to which some logics might not necessarily be contradictory but perhaps complementary.

5.3. Practical implications for organizations and knowledge workers

5.3.1. Introducing, facilitating, and sustaining validation processes

First and foremost, my findings show and reaffirm that practice is where knowledge resides. Professionals who do the work know most about what that work looks like, and they are the ones best prepared to come up with and evaluate ideas about how that work could be done differently. I urge managers to realize that the ideas of their employees are often valuable, because those employees know exactly what they are talking about. As a suggestion, I advise managers to put more emphasis on the relevance of practice for organizational innovation. I suggest managers to provide employees with more possibilities to engage in self-organized knowledge sharing and integration to allow ideas from practice to emerge more easily. For example by adopting sophisticated digital technologies related to internal crowdsourcing. The point is that ideas that emerge in practice should have the opportunity to, incrementally or radically, improve practice.

A necessary element in the process of moving from individual experience to organizational knowledge is evidential validation, which relies on two important elements: networks and organizational resources. By organizing for self-organized knowledge sharing and integration, by for example allowing for members of a network to regularly interact, professionals can come together voluntarily to talk about their work, the issues they run into, and the ideas they have to do their work better. Networks bring together different experiences, worldviews, disciplines, and levels of expertise. By allowing professionals to come together, ideas from practice can be discussed, learned from, critiqued, and can potentially be developed into new practices that can benefit both the professionals and the
organization at large. To prevent falling into the “network determinism” trap (Agterberg, 2012), I recommend organizations to check whether there are already certain networks of practice within their organization, and what is actually happening within those networks. To facilitate the emergence of such networks, I suggest managers to provide resources (e.g., time and finance) to allow the creation of networks of professionals. I also suggest that management does not prescribe any goals of such networks as professionals have to be able to engage in self-organized knowledge sharing and integration without managerial intervention.

To be able to follow developments “on the ground”, management at CareInstitute had appointed network spanners who were former-therapists. These network spanners were able to connect both to various networks and to the upper echelons of the organization without intrusive managerial interventions. They thereby could for example assist therapists with finding the right departments or people for requesting resources or research assistance.

Another implication is related to the problem of regressing organizational innovation and renewal. Research has shown that exploration is essential for organizational renewal and survival (March, 1991). Without resources for exploration, an organization has no choice other than to continue doing things without considering potential improvements (because considering improvement requires exploration, which requires slack resources). And without considering new ways of working (e.g., technologies, therapies, and routines), organizations will slowly but sure become stuck in existing ways of working, lag behind competitors, and will not be able to provide better services based on external developments (e.g., new research). Hence, I suggest policy makers of both public and private organizations to evaluate the possibilities to provide resources for explorative activities.

5.3.2. Accommodating for the emergent adoption of new technologies

In Chapter 3, I show that an ESM platform can become embedded in the daily work of professionals without active management intervention. The findings from this study suggest that professionals can domesticate a technology when they perceive the technology to help them do their work. Based on the insights derived from my fieldwork at CareInstitute, I suggest management to take on a passive but supportive role to allow professionals to engage in self-organized knowledge sharing and integration initiatives. Passive in the sense that management should not actively take part in the introduction or dissemination of the
technology. Based on the findings from Chapter 3 and Chapter 2, I believe that such an approach will be counterproductive because employees are likely to see such managerial involvement as an annoyance (“a here’s another management fad…”). Refraining from actively stimulating people to use the technology allows the professionals themselves to make choices about the adoption of the technology in their work. Because they do the actual work, they are in the best position to decide whether an ESM platform actually helps them do their job in a better way. As the case at CareInstitute shows, this process of domestication can take quite a while, but I am convinced that this is necessary because it allows the professionals to, step-by-step, become acquainted with and appropriate the technology in such a way that it fits their specific work context.

Considering the long-term use, digital technologies are highly modular (i.e., functionalities can be changed, added, or removed), and so the possibilities of the technology will change over time. Even more so, not only the features but also the complete entanglement of actor intentions and technological features may change. Chapter 3 shows that while the technology itself did not change significantly, the use of Yammer changed because therapists perceived different uses for the technology. Only after a while the technology became used as a tool to ask for help and exchange experiences for specific cases. If management would have intervened earlier, I doubt whether the therapists would have started to use the technology in their actual work. As Chapter 4 showed, active management involvement raises the concern by professionals that their every move is being watched.

I do not suggest management to stay away from the technology completely. I think the findings show that some form of support from management does show to the employees that it is “OK” to use the technology, it provides a nudge that some people need to start using the tool. Management can be supportive by, for example, responding positively whenever such initiatives emerge (i.e., not disapproving usage). Regarding the three conditions that support the process of domestication (meta-knowledge, critical mass, and psychological safety), I suggest managers can support the professionals in using such technologies. By supporting I mean that management can, for example, endorse professionals who provide relevant content for the technology, and make sure that there is an organizational culture where professionals are already keen on staying knowledgeable about their field of work. But I do suspect that it might be best to let professionals deal with the technology themselves. Future research should explore this scenario in more detail.
Summarizing, I suggest managers to allow professionals to engage in self-organized knowledge sharing and integration initiatives. My findings show that it can be fruitful when management trusts their employees, supports bottom-up initiatives, and refrains from active involvement. For employees working in knowledge intensive organizations, I suggest to be explorative and open to the potential of new digital technologies. My findings show ESM do provide a host of features and functionalities that make it possible to: stay up to date about profession-related developments, locate and contact people with the desired expertise, and share experiences that may help people do their work in better ways.

5.3.3. Anticipating the frustrations of top-down technology implementation

The findings from Chapter 4 show that the openness of a collaboration tool is what makes the clash between the logics more apparent. The professionals are aware that management is able to track their activities. The professionals experience this almost in a way as if 'big-brother is watching you'. They realize that management has introduced the technology not only with the ideal of increasing knowledge sharing, but also with the goal of increasing efficiency and reducing time spent on activities that add no value (i.e., that do not earn profit). Knowledge sharing is an activity that is difficult if not impossible to track and measure, and employees realize that they have to deliver billable hours, be productive, and show that they are not slacking around. As a result, employees will be reluctant to actually use the technology for self-organized knowledge sharing and integration and rather refrain from using the technology altogether because it does not match their practice. For organizations considering the implementation of ESM, I suggest management to refrain from (or at least minimize) dictating how technology should be used. My findings show that this creates unnecessary strain and confusion because employees feel that they must comply with managerial guidelines, but also realize that doing so costs quite some time (e.g., reading, learning, and applying) while they are simultaneously held accountable for being productive in the eyes of their managers.

Especially with digital technologies that are relatively complex and modular, the technology can and will be used for different purposes than prescribed by management. If the technology really affords employees to do their work faster, better, and/or more innovative, than they will probably start to use it voluntarily, rather than managers telling them that the
technology helps them do their work. The IT consultants at ItCon regularly referred to some of the technologies they already used as they worked best for their specific work. This suggestion for practice is also substantiated by Chapter 3, which shows that ESM can become domesticated in the daily work of professionals when management mostly refrains from intervening and basically lets employees decide for themselves how to do their work.

Summarizing, I suggest managers to consider the potential that any attempt to introduce ESM by actively stimulating employees to start sharing their knowledge can result in counterproductive behavior.

5.4. Boundary conditions, limitations, and suggestions for future research

5.4.1. Understanding experiential and evidential validation

To understand how therapeutic practices traveled from the actual work of the therapists through the organization, I had to rely on interviews, retrospective accounts, and documentation that often contain stylized versions of reality. Also, I was not able to be present during the actual work of the therapists: I reason that future research can improve on this element by increasing interdisciplinary research between organizational scholars and, for example, medicine and pedagogy. If researchers can cooperate between these disciplines, I suggest that for future studies, practicing doctors can accompany organizational scholars in the observations and interpretations of caregiving situations.

Second, the therapists at CareInstitute had an astounding passion for their practice and their clients. As I discuss in more detail in my findings in Chapter 2, the therapists all expressed their engagement with their practice continuously, and it is an important source for their constant drive for knowledge development: they wanted to work with the best practices to be sure they could provide the best care for their “little clients”. This intense drive to work on and develop their knowledge and expertise was an important reason for the validation process to “work”. If I had conducted this study at an organization where professionals are not so passionate about their practice, I do not know if I had discovered similar validation processes. Future research could explore other organizations or industries to see whether there are similar or completely different variations on the validation processes.

Third, an important element in the validation process is the presence of the
interdisciplinary knowledge networks that allowed multiple professionals to regularly come together, exchange experiences, and collectively discuss potential new practices. I was only able to find out that these networks were so important by being present at such meetings. The limitation here is that my presence could also have biased my findings because I could have induced the therapists to focus more on knowledge sharing. I introduced myself by explaining how I study knowledge sharing practices in organizations, and that I was interested to find out how the knowledge networks “worked” and what they talked about. To mitigate this limitation I also analyzed minutes from other meetings and talked with professionals from other knowledge networks too. Hence, I am confident that my findings reflect what was actually happening at CareInstitute, but I do suggest future research to conduct similar studies and perhaps include less intrusive observational methodologies (e.g., audio recorders).

5.4.2. Understanding the process of domestication

Because my doctoral research started in 2014, I have not been able to collect interviews and observational data from the start of Yammer (2011). While I did interview several therapists who used Yammer from the beginning, this provided only retrospective data. Also, because of confidentiality reasons, I did not have access to the closed (or private) groups on Yammer. Therefore I have not been able to include the content of those groups in my analysis. Because this limitation was known from the start, I did ask almost all informants to what extent they were using the private groups. The therapists explained that they indeed were using such private groups, but it did not seem that the usage of the private groups was any different from the open groups. They merely explained to use both open and closed groups in similar ways, and some open groups were more active than some closed groups, and vice versa. I do suspect that not including the closed groups limits my insights: because the members have some control over who is able to watch and join the discussions, I reason that people could have been more open about issues they encountered in practice. It would be beneficial if future research could get full access to the ESM from the start. Perhaps when a practitioner at an organization opts for a (part-time) Ph.D., it could be negotiated that the student conducts his or her research at the same organization. Such research should, of course, be accompanied with appropriate ethical considerations, but if handled conscientiously I reason that such a
study might generate even more theoretically and practically relevant insights.

5.4.3. Understanding institutional influences on using ESM

I did not study the long-term implications of the coping strategies that the consultants at ItCon employed. While my data show that the coping strategies to some extent frustrate knowledge sharing, I did not take into consideration how the coping strategies evolve over time. It could be that, over time, the professionals at ItCon become socialized into using the ESM platform. In such a scenario, the coping strategies could be less important. I suggest future research to conduct more longitudinal studies on the use of ESM in corporate organizations. I for example suggest that researchers follow the introduction of such a technology from the point of development to the use over several years. Only then will we be able to fully understand how a technology is initially designed, how people initially interact and understand the technology, and how they use it in the long run when its use becomes domesticated. Chapter 3 provides some handles, but given the different context (public versus private organization), it remains questionable if domestication would happen in a similar way.

Second, I did not consider the influence of the cultures that actors might have been socialized into. Due to practical constraints most of my interviewees were Dutch, and given that the Dutch culture is fairly ‘direct’, it could be that in other countries some of the coping mechanisms described in Chapter 4 are more or less important. I consider this a limitation because ItCon, and many other organizations that are implementing ESM, are in fact internationally oriented. Hence, on top of the institutional logics that inform the knowledge sharing behavior, I suggest future research to also consider potential nuances based on cultural influences. In other cultures, power and hierarchy might have different consequences for the ways in which actors perceive and use ESM.

Third, the openness of the ESM platform at ItCon made the professionals reluctant about what to share, say, and do on the platform because they felt “big brother is watching you”. What I did not study, however, is the extent to which management actually used the trace data in any way. If management indeed decided to use the activity of the consultants for example in yearly evaluations, it could be that different coping strategies emerged over time. For example, it could be that consultants decide to engage in knowledge sharing behavior just
to please their direct managers. This could be relevant to consider as organizations may try
different ways of coercing their employees to use such a technology. I suggest future research
to study the different ways in which managers develop policies to coerce their employees to
use such a technology.

5.4.4. Concluding remarks

I started this doctoral dissertation by outlining the importance of communities and networks
of practice for professionals to engage in self-organized knowledge sharing and integration,
and I discussed the emergence of ESM platforms that affect how knowledge is shared and
integrated throughout organizations. In order to understand how ideas that emerge in
practice can travel throughout an organization, I conducted a longitudinal study at CareInstitute. The ways in which the therapists work and how their ideas were evaluated in
the processes of validation provide valuable insight on the importance of social interactions
among professionals with a passion for their shared interest. To better understand how ESM
may or may not facilitate knowledge sharing I also studied the use of Yammer at CareInstitute. I found out that the technology does indeed allow the therapists to share their
knowledge, learn from each other, and help them make sense of complex clients. I also found
out that this was only possible because the technology entered the organization emergently,
and because over time three conditions facilitated the domestication of Yammer into the
actual (knowledge) work of the therapists. While my data did not show any relevant
institutional influences when studying the use of Yammer, in my third and last empirical
study I unraveled that when there is an institutional complexity of multiple logics, the
introduction and usage of an ESM platform is affected. The professionals at ItCon wanted to
use the technology in different ways than what was prescribed from a corporate viewpoint,
and so the technology turned out not to facilitate knowledge sharing and integration.

Taken together, I hope my research inspires researchers, practitioners, and anyone
interested in knowledge sharing and integration and the impact of digital technologies to
think about the ways in which new technologies may affect how professionals in both public
and private organizations may engage in self-organized knowledge sharing and integration.