

Developing Social Capital in Online Communities: The Challenge of Fluidity

Completed Research Paper

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Abstract

The present paper extends social capital theory by exploring the creation of social capital in a highly innovative, yet under-researched organizational form: online communities. It is shown that social capital development has thus far not been sufficiently theorized and research on how social capital may be created in online communities is missing altogether. Attempting to fill this gap, I draw on earlier contributions to the sociological literature by Coleman and Bourdieu. More specifically, four mechanisms that lead to the creation of social capital are identified, namely closure, stability, interdependence, and interaction. The concept of fluidity is then introduced as an important characteristic of online communities. The impact of fluidity on the mechanisms for social capital development is consequently scrutinized and some propositions are developed. The paper concludes with a discussion of opportunities for overcoming the challenges identified earlier. Implications for research and practice are advanced.

Keywords

Social Theory, Social Capital, Antecedents, Online Communities, Fluidity

Introduction

Online communities (OCs) are new organizational forms (Butler 2001; Sproull and Arriaga 2007) in which knowledge collaboration can take place on an unprecedented scale (Faraj et al. 2011). OCs have enjoyed rapid growth over the past years (Chui et al. 2012). They are part of a development in which information technology plays an increasingly important role for organizing and managing social relations (Kraut and Resnick 2011; Zammuto et al. 2007). The management of such communities has become a crucial issue for organizations (Aral et al. 2013; Li and Bernoff 2011; McAfee 2009), many of which have introduced specialized personnel and/or entire departments to take care of them (Kane et al. 2009; Parmentier and Gandia 2013). OCs have been used by organizations to engage and harness the knowledge of various stakeholders, such as employees, customers, and the wider public (Larson and Watson 2011; McAfee 2009; Ransbotham and Kane 2011).

Extant research shows that knowledge collaboration in OCs is contingent on the social capital held by its members (Chou and He 2011; Robert et al. 2008; Wasko and Faraj 2005). Although social capital has featured prominently in the social sciences (Bourdieu 1986; Burt 1997; Coleman 1990) and it provides an extremely useful lens through which to explore collaborative relationships in organizational and community settings (Adler and Kwon 2002; Cohen and Prusak 2001; Nahapiet and Ghoshal 1998), it has not gained comparable attention from scholars concerned with information technology (Huysman and Wulf 2004). As a consequence, various scholars have called for future research to examine the role of social capital in technologically mediated settings in more detail (Cohen and Prusak 2001; Huysman and Wulf 2004; Riemer and Klein 2007; Steinfield et al. 2013; Widén-Wulff and Tötterman 2009). What is more, scholars' attention has been imbalanced towards the effects of social capital and there is a significant gap in the literature regarding its antecedent conditions (Arregle et al. 2007; Bolino et al. 2002; Poder 2011). Robert and colleagues (2008) argue, more specifically, that social capital is more important for digitally enabled groups compared to their face-to-face counterparts, yet it is more difficult for them to develop social capital in online settings. Accordingly, several researchers suggest that existing theories of social capital may not fit the digital realities involving OCs, hence adaptations may be required

(Corley and Gioia 2011; Majchrzak 2009). In light of the facts above, the following research question is formulated: *How can social capital be developed in online communities?*

By studying the dynamics of social capital creation in OCs research on social capital is advanced in several ways. First, the paper leverages an established theory to explore a new, unexplained phenomenon, more specifically social capital theory and OCs. Second, the paper moves beyond a focus on social capital effects by considering its development. Third, the mechanisms for social capital creation in a new organizational form, i.e., online communities, are explored. As for managerial implications, insights are generated into how OCs should be designed and managed from a social capital point of view.

The paper starts by introducing the concept of social capital. Subsequently, four mechanisms for creating social capital are presented in detail. More specifically, these mechanisms are closure, stability, interaction, and interdependence. Related research on social capital in OCs is subsequently presented. Following this, challenges for the development of social capital in OCs are discussed, particularly with regard to one of their fundamental characteristics, i.e., fluidity, and some propositions developed based on this theorizing. I then discuss opportunities for overcoming the challenges identified earlier. The paper concludes with implications for research and practice as well as suggestions for future research.

Theoretical Foundation

Social Capital Theory

According to Bourdieu, social capital may be defined as “the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition” (1986 p. 248), although it may be added that a multitude of definitions exists and the most suitable one for a given purpose should be chosen based on the scientific discipline and the level of analysis (see Adler and Kwon 2002 for a comparison of alternatives). For the purpose of this paper, the social capital definition by Arregle and colleagues (2007) is adopted. According to them, social capital may be defined as the relationships between individuals and collectives that facilitate action and create value. While it is noteworthy to state that significant conceptual ambiguities remain and different schools of thought continue to exist to date, it would go beyond the scope of this paper to address them in detail.

Bourdieu (1986) distinguishes between three forms of capital, namely economic capital, cultural capital, and social capital. Portes describes them succinctly as follows: “Whereas economic capital is in people’s bank accounts and human capital is inside their heads, social capital inheres in the structure of their relationships” (1998 p. 7). In most general terms, the concept of social capital is about the value of relationships as a resource for social action. Studies in the field of social capital generally try to explain variations in personal or organizational success as a function of social ties (Borgatti and Foster 2003; Borgatti and Halgin 2011). Yet social capital outcomes need not be uniformly positive. Too high a degree of social capital may actually turn into a liability and curtail potential actions, a phenomenon commonly referred to as its ‘dark side’ (Gargiulo and Benassi 2000). As a consequence, firms may be ignoring novel sources of information (Staw et al. 1981) or develop overly stable organizational structures due to power imbalances (Leana and van Buren 1999).

There has been a surge of scholarly interest in social capital over the past 20 years. As stated by Poder (2011), this interest cannot be attributed uniquely to the innovativeness of the concept as it has already been discussed a long time ago in classic philosophical and economic works. Its popularity may be better explained by the concept’s broad application in the social sciences as well as the potential to illuminate a diverse range of problems. A number of books have been written on social capital; some cater to an academic audience (e.g., Fine 2010; Lin 2001; Putnam 1995), others are aimed at practitioners (e.g., Cohen and Prusak 2001). Detailed reviews on the concept are available by Adler and Kwon (2002), Portes (1998) as well as Poder (2011).

Antecedents of Social Capital

As suggested above, the fact that the “principal theorists of social capital seldom put the question on how social capital initially took its form” (Poder 2011 p. 353) is problematic. In their book, Cohen and Prusak (2001) suggest that organizations can invest in social capital development via different routes, namely

through trust-building, fostering the establishment of networks and communities, providing space and allowing time to connect as well as leaving room for social talk and storytelling. However, they admit to a “lack of rigorous distinctions among social capital causes, indicators, and effects” (Cohen and Prusak 2001 p. 9). In their seminal article, Nahapiet and Ghoshal (1998) discuss four sources of social capital, more specifically closure, stability, interdependence, and interaction, all of which are derived from the works of Coleman (1990) and Bourdieu (1986). These antecedents are described in more detail below.

Closure

According to Coleman (1990), closure describes a situation in which different types of actors in a network are connected in such a way that equal power is held by all parties. It specifies the extent to which the actors in a network are connected to one another (Battilana and Casciaro 2012). A loss of connectivity between individual actors may lead to power imbalances and, consequently, to collusion or other types of opportunistic behavior. Coleman uses family relations as an example and shows how closure within the family system may lead to the establishment and enforcement of group norms. Of course, the underlying argument may be extended in that a high degree of connectivity in a collective, i.e. a network’s density, may help to establish and enforce group norms more generally. The concept of closure is easily transferrable to organizational settings (Borgatti and Halgin 2011), where imbalances in connectivity among organizational actors may lead to unionization, price fixing, boycotts, or embargoes.

Stability

Social capital “thrives on stable connections and adherence to the explicit and tacit agreements that bind people to one another” (Cohen and Prusak 2001 p. 19). This is in line with Nahapiet and Ghoshal (1998), who posit that stability and continuity of social structure are what helps social capital to be formed. They view social capital as accumulated history, i.e., investments of time in social relations and social organization. Firms, according to them, provide unique possibilities for such enduring interchanges. Individual mobility, in turn, may be considered a threat to social capital as people leave behind the social networks they have built and the goodwill they have accumulated through interactions with others in the network (Coleman 1990).

Interdependence

Nahapiet and Ghoshal state that “high levels of social capital usually are developed in contexts characterized by high levels of mutual interdependence” (1998 p. 257). Coleman (1990) argues that the less people are dependent on each other for certain types of support, the less likely they are to develop social capital. In turn, the more extensively people call on each other, the greater the quantity of social capital developed. Interdependence may be created through a joint task, a common purpose, common fate, or joint rewards (Sherif 1961). A joint task involves inputs from all group members, a common purpose is a joint goal to be attained, e.g., a high group score, and joint fate means that group members receive the same treatment or outcome. Bourdieu (1986) argues that group membership provides certain credentials, which produces solidarity among its members and entitles them to certain credits. These credits may be viewed as expectations regarding the obligations of group members, thus producing interdependence.

Interaction

According to Bourdieu, the “reproduction of social capital presupposes an unceasing effort of sociability, a continuous series of exchanges” (1986 p. 250). Such a series of exchanges is possible because social contact has been shown to be a basic psychological motive (Reiss 2004). Nahapiet and Ghoshal (1998) conjecture that firms, by design and by accident, provide numerous opportunities for exchanges to take place and that these exchanges, in turn, are the interactions that constitute formal organization, i.e., supervision and coordination. Conversations are principal among these interactions (Mintzberg 1973) and can be “viewed as collective investment strategies for the institutional creation and maintenance of dense networks of social relationships” (Nahapiet and Ghoshal 1998 p. 258). Examples in an organizational context include asking each other questions, overhearing conversations, and jointly recalling past

situations. Such social elements of the day help define acceptable behaviors and create a sense of belonging (Cohen and Prusak 2001).

A summary of the antecedents of social capital that were discussed above is provided in Figure 1.

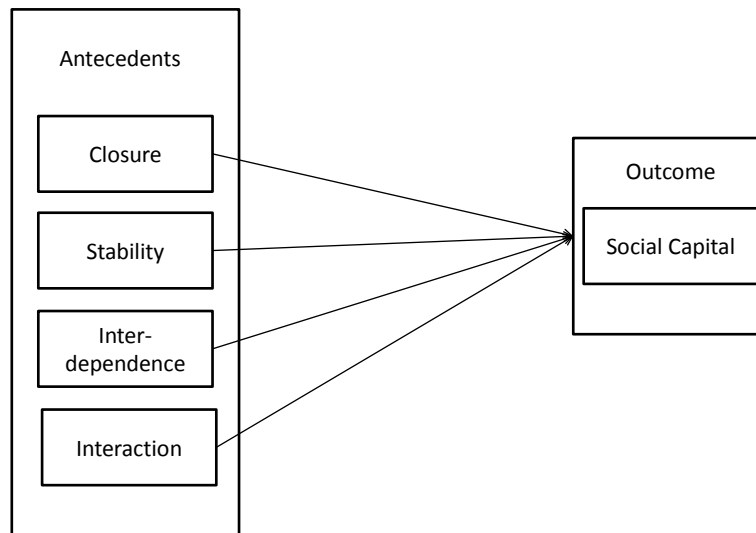


Figure 1. Antecedents of Social Capital, adapted from Nahapiet and Ghoshal (1998)

Social Capital and Online Communities

The world of work has changed over the past years and one of the drivers of this change has been the use of information technology in organizations (Zammuto et al. 2007), i.e., the move towards virtualization or virtual organization (Cohen and Prusak 2001; Riemer and Klein 2007). In the words of Cohen and Prusak, the "phenomenon of virtuality both challenges social capital and presents an opportunity to make valuable use of a social capital perspective" (2001 p. 20). While some see the potential of technology to strengthen and expand networks and communities, thus facilitating social capital development, others perceive it to be a threat (Wellman et al. 2001). Along with the movement toward virtuality, OCs have enjoyed a rising popularity (Chui et al. 2012). Drawing on Sproull and Arriaga, an OC may be 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" (2007 p. 248).

It seems that moving people and interactions from an offline setting to an OC is often a viable task (Cohen and Prusak 2001). This is because social capital has previously been established and can usually be transferred across multiple social contexts, a characteristic that Coleman (1988) describes as appropriable social organization. For example, a project group that has previously worked together in person may find it relatively easy to transfer its practices into an OC context. From a social capital point of view, the group has previously had the chance to develop social capital through recurrent interactions, a joint project goal, and a degree of connectivity that facilitated the emergence of group norms. However, how can social capital be developed when no record of social capital building exists? This is likely to be the case when a new community is started (Resnick et al. 2011) or when newcomers to a community, who have not previously been exposed to its members, need to be integrated (Kraut et al. 2011). Robert and colleagues (2008) find that social capital is more important for digitally enabled groups compared to their face-to-face counterparts, yet it is more difficult for them to develop social capital in virtual environments.

OCs have certain characteristics that have implications for social capital development. For instance, collaboration in OCs is different from traditional offline settings in that stable team membership, convergence after divergence, repeated people-to-people interactions, goalsharing, and feelings of interdependence among group members may not be present (Faraj et al. 2011). One of the central features characterizing OCs is their fluidity (Faraj et al. 2011; Kane et al. 2009; Schreyögg and Sydow 2010). In a general sense, fluid organizational forms are highly flexible social structures that enable constant change (Schreyögg and Sydow 2010) or, put differently, “organizational objects that are simultaneously morphing and yet retaining a recognizable shape” (Faraj et al. 2011 p. 1125). They are characterized by a lack of common emotional bonds, shared languages, mental models (Kane et al. 2009). According to Faraj and colleagues (2011), fluidity is a type of dynamism that allows resources, such as passion, time, social disembodiment of ideas, socially ambiguous identities, and temporary convergence, to flow into and out of the network. Fluidity also means that boundaries, norms, participants, artifacts, interactions, and foci continually change over time. Fluidity creates tensions within the OC, which must consequently be responded to. These tensions may be considered a catalyst for collaboration if they produce generative responses. In light of this fluidity, challenges for social capital development in OCs will be analyzed in more detail in the next chapter.

Research Model

The Moderating Effect of Fluidity on Closure

As mentioned above, fluid organizational forms, such as OCs, frequently change their membership base as well as their boundaries (Faraj et al. 2011). If an OC treats a subject of great interest, membership may increase rapidly, for example. If the subject focus changes over time, so does the membership composition of the community. It has also been shown with help of the family example that closure may be defined as a network’s connectedness or density (Coleman 1990). Even if the community is sufficiently small for members to be well connected to each other at the time the OC is founded, as the community changes its membership base and/or boundaries, it will become increasingly difficult for individual actors to stay connected to all others in the community over time. Another limiting factor in this respect is the size of the community. Generally, the bigger the community, the more difficult it will be for all members to be connected to each other. Dunbar (1993) shows that there is a cognitive limit to the number of close, stable connection humans can entertain. His estimate is at around 150 and has been confirmed in online settings, too (Dunbar 2012; Gonçalves et al. 2011). Yet, many OCs are substantially larger than that. It can generally be assumed that the greater the size of the community as well as its member turnover, the more difficult it will be for members to form and maintain connections with all others.

Proposition 1: The greater the fluidity of an OC, the lower will be the degree of closure within the community and, thus, the lower the possibility for social capital to develop.

The Moderating Effect of Fluidity on Stability

Earlier it was stated that social capital “thrives on stable connections and adherence to the explicit and tacit agreements that bind people to one another” (Cohen and Prusak 2001 p. 19). Stable membership, a feature of traditional collaboration within firms (Nahapiet and Ghoshal 1998), is unlikely to be the case in OCs (Faraj et al. 2011). Quite intuitively, then, fluidity seems to be the antidote to stability (Schreyögg and Sydow 2010). In addition, empirical evidence suggests that while passionate individuals may dedicate significant amounts of time and effort into building and sustaining a community (Butler et al. 2008; Kraut and Fiore 2014; Wasko and Faraj 2000), roughly two thirds of community members drop out after their first contribution (Arguello et al. 2006). As many as 90 percent are estimated to remain inactive, i.e., members are only consuming, while not actively contributing to the community (Nonnecke and Preece 2000). Such behavior is usually referred to as lurking and represents a key challenge for the success of OCs (Schneider et al. 2013). In view of the figures above, it is difficult to speak of continuity of social relations in OCs. Their fluid nature, including changing membership and differential degrees of participation, makes it difficult for members to repeatedly come across and converse with each other (Ren et al. 2007).

Proposition 2: The greater the fluidity of an OC, the lower will be the degree of interaction stability within the community and, thus, the lower the possibility for social capital to develop.

The Moderating Effect on Fluidity on Interdependence

In the conception of Coleman (1990) introduced above, social capital is more likely to develop in situations where people heavily call on each other for different types of support, i.e., when they are highly interdependent. Interdependence among group members may be created through a joint task, a common purpose, common fate, or joint rewards (Ren et al. 2007, 2012; Sherif 1961). Whereas in organizational settings there are plenty of opportunities to design in interdependence in everyday work practices, this is not necessarily the case in OCs. Due to the voluntary nature of contributions to OCs (Faraj et al. 2011; Sproull and Arriaga 2007), they are unlikely to be characterized by group members being dependent on joint inputs. Instead, many OCs are established around shared purposes or common fate. As members join and leave a community, it will be divided into people with and those without a shared context (Kane, Majchrzak, et al. 2009). A community without a shared context, however, is less likely to develop social capital.

Proposition 3: The greater the fluidity of an OC, the lower will be the degree of interdependence within the community and, thus, the lower the possibility for social capital to develop.

The Moderating Effect of Fluidity on Interactions

It was shown above that social contact is a basic motive (Reiss 2004) which helps to bring about the continuous series of social exchanges required for social capital development (Bourdieu 1986). OCs are particularly good at facilitating social exchanges, mainly because traditional boundaries of time and space are removed within an online context, allowing a wide range of members to participate (Katz and Rice 2002; Wallace 2001). On the other hand, interactions in OCs are less rich than traditional, multiplex communications, providing fewer possibilities for instant feedback, situational or interactional cues (Daft et al. 1987; Sproull and Kiesler 1991). Given that OCs are supported by information technology which frequently changes, so does the range of interactions afforded by those technologies (Faraj et al. 2011; Gibson 1986; Wagner et al. 2014). Such changes may produce communicative ambiguity and lead OC members to structure their interactions in new and unexpected ways (DeSanctis and Poole 1994; Yates et al. 1999). In the worst case, technology may replace interpersonal interactions, rendering them obsolete. Schultze and Orlikowski (2004), for example, explore the introduction of a new self-serve technology in an organization. They find that the technology has detrimental effects on social capital as it replaces existing interactions between sales reps and customers. Changes in artifacts and types of interactions in OCs, therefore, present a challenge for social capital development.

Proposition 4: The greater the fluidity in OCs, the higher the likelihood of interaction ambiguity within the community and, thus, the lower the possibility for social capital to develop.

A summary of the proposed effects of fluidity on the antecedents of social capital is provided in Figure 2 below.

Discussion

Addressing the challenge of virtuality, Cohen and Prusak state that they “believe the technology today [is] generally not an effective social medium and that relying on it for community, connection and understanding – for social capital – is a mistake” (2001 p. 163). They continue to argue that there are two assumptions underlying the use of technology which are fundamentally flawed. This first one is that most work is individual when, in fact, most of it is a collective effort. The second is that technology creates adequate social connection while, indeed, virtual connections are lacking much of the richness of real-world, multiplex communication. More than a decade has passed since the book was first published. However, the issues raised above remain very topical until today. The move towards virtuality has certainly continued (Riemer and Klein 2007), yet scholars remain divided about the social capital effects of technology on society, organizations, and communities (Putnam 1995; Rainie and Wellman 2012; Steinfield et al. 2009; Wellman et al. 2001).

At the beginning of this paper, the question was raised as to how social capital can be developed in online communities. The social capital literature was revisited and it was shown that through the mechanisms of closure, stability, interdependence, and interaction social capital may successfully be created. These mechanisms may be equally fruitful in OCs, however, fluidity, one of the key characteristics of OCs, has

been identified as a moderator (Baron and Kenny, 1986) that has significant implications for social capital development. In general, the more fluid an OC, the more difficult it will be to develop social capital. Conversely, the less fluid an OC, the easier it will be to develop social capital.

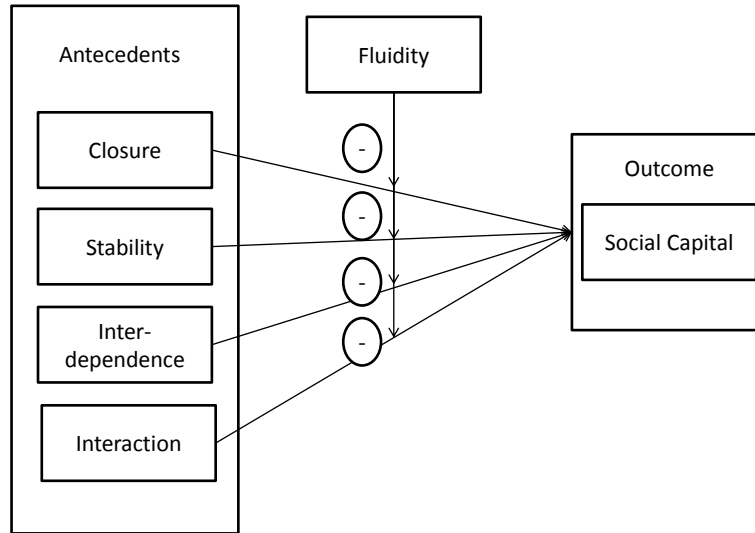


Figure 2. Proposed Effects of Fluidity on the Development of Social Capital

Despite the challenges posed with regard to the impact of fluidity on social capital development in OCs, I believe that social capital theory can substantially inform the design and management of OCs in order to maximize the potential they hold (Kraut and Resnick 2011). It is argued above that it is difficult to achieve *closure* in OCs characterized by a changing or growing membership base. Remedies to this situation are to reduce group size, to cap it (Latané 1981) or to let sub-communities emerge that remain sufficiently cohesive (Kim 2000). Ren and colleagues (2011) suggest that the clustering of communication should be organized around social similarities of community members in order to enhance the cohesion between them and the commitment to the community. In an OC of professionals, for example, this may mean introducing community subsections for different types of community members, e.g., job announcements for job seekers, tips and tricks for everyday work practices, or an event category that exhibits opportunities for professional development and exchange.

It has further been argued that a changing membership makes the *stability* of social exchanges within a community more precarious. Several studies show that long term identifiers, reputation systems, and transaction histories are beneficial to stress the repeated nature of interactions within OCs over time and, therefore, facilitate future transactions (Resnick et al. 2000, 2006). If managed correctly, reputation scores may turn into valued status markers for community members (Kiesler et al. 2011). An example for a reputation system is the buyer/seller rating on ebay.com. Transaction histories are applied in many communities in the form of member activity indices, i.e., the display of the total number of contributions or of the last activity in the community.

It was explained above that contributions to OCs are generally made on a voluntary basis. Therefore, it may not be possible to design in tasks that are *interdependent*. However, interdependence among group members may also be created through a common purpose, common fate, or joint rewards (Ren et al. 2007, 2012; Sherif 1961). For example, wikipedia.org has a strong purpose by envisioning “a world in which every single human being can freely share in the sum of all knowledge.” It rewards group effort when an article reaches a featured article status (Ransbotham and Kane 2011; Ren et al. 2011). At

patientslikeme.com, a health-related OC, individual community members are bound by fate, as they are likely to be brought together by having the same medical condition and receiving similar treatments.

Lastly, although the introduction of new types of *interactions* may produce ambiguity and lead to unintended responses by community members, they may also facilitate interactions that previously were not possible and transcend the same-place, same-time constraint typically associated with offline interactions (Katz and Rice 2002; Wallace 2001). For example, OCs afford their members novel ways to establish connections between themselves or between individuals and content, a feature that has elsewhere been termed association (Treem and Leonardi 2013). Establishing a connection means forming a social tie, usually by friending or following someone or by subscribing to someone's updates. The connection between individuals and content normally takes place through authored contributions, e.g., the writing of a post or the tagging of an article. By helping previously unknown community members to find and interact with each other, communities like twitter.com may aid the creation of social capital. Analogously, OCs may facilitate interactions between previously unknown members and stakeholders of large organizations (Gulati et al. 2012; McAfee 2009; Steinfield et al. 2009).

In sum, while the changing membership base, boundaries, foci, interactions, and the temporary nature of involvement in OCs are potential threats to social capital development, a number of management and design decisions are available to alleviate them.

Conclusion

The paper contributes to theory in several ways. First, it leverages an established theory to explore a new, unexplained phenomenon (Yadav 2010), more specifically social capital theory and OCs. In doing so, I respond to calls by fellow researchers who have suggested that new digital realities have implications for and require the adaptation of existing theories (Corley and Gioia 2011). Second, the paper moves beyond a focus on social capital effects (Adler and Kwon 2002) by considering its development (Poder 2011). Antecedent conditions of social capital have been shown to be scantily researched and much more work needs to be done in the future (Arregle et al. 2007; Nahapiet and Ghoshal 1998). Ultimately, the paper focuses on a particularly innovative organizational form, namely online communities (Majchrzak 2009; Sproull and Arriaga 2007). It shows how one of its key characteristics, i.e., fluidity (Faraj et al. 2011; Schreyögg and Sydow 2010), impacts on social capital development. Based on this theorizing, I argue that fluidity is a moderator for social capital development and put forward a number of propositions.

From a practical perspective, the paper generates insights into how OCs should be designed and managed from a social capital point of view. These insights are relevant for managers of social media and online communities, a new, but increasingly important profession (Jaworski 2011; Kane et al. 2009). While the paper aims to sensitize community and social media managers to the challenges of fluidity for social capital development, a number of specific design and management suggestions are provided in the discussion. These suggestions are meant to counteract the challenges identified previously and provide guidance to managers of social media and online communities with regard to how closure, stability, interdependence, and interactions may be achieved or enhanced in OCs.

As for future research, the question remains as to how social capital development may be scrutinized empirically. There seems to be agreement among scholars that 'messy', holistic methods are most promising (Faraj et al. 2011). Sociomaterial accounts of OCs, seeking to integrate technical and social components by analyzing their entanglement, are particularly encouraged (Orlikowski and Scott 2008; Orlikowski 2007). Case studies may offer a promising avenue for information systems scholars as they allow for an integration of a multitude of methods as well as different sources of evidence (Sherif et al. 2006; Urquhart and Vaast 2012).

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