Lurking: a Challenge or a Fruitful Strategy?

A Comparison between Lurkers and Active Participants in an Online Corporate Community of Practice

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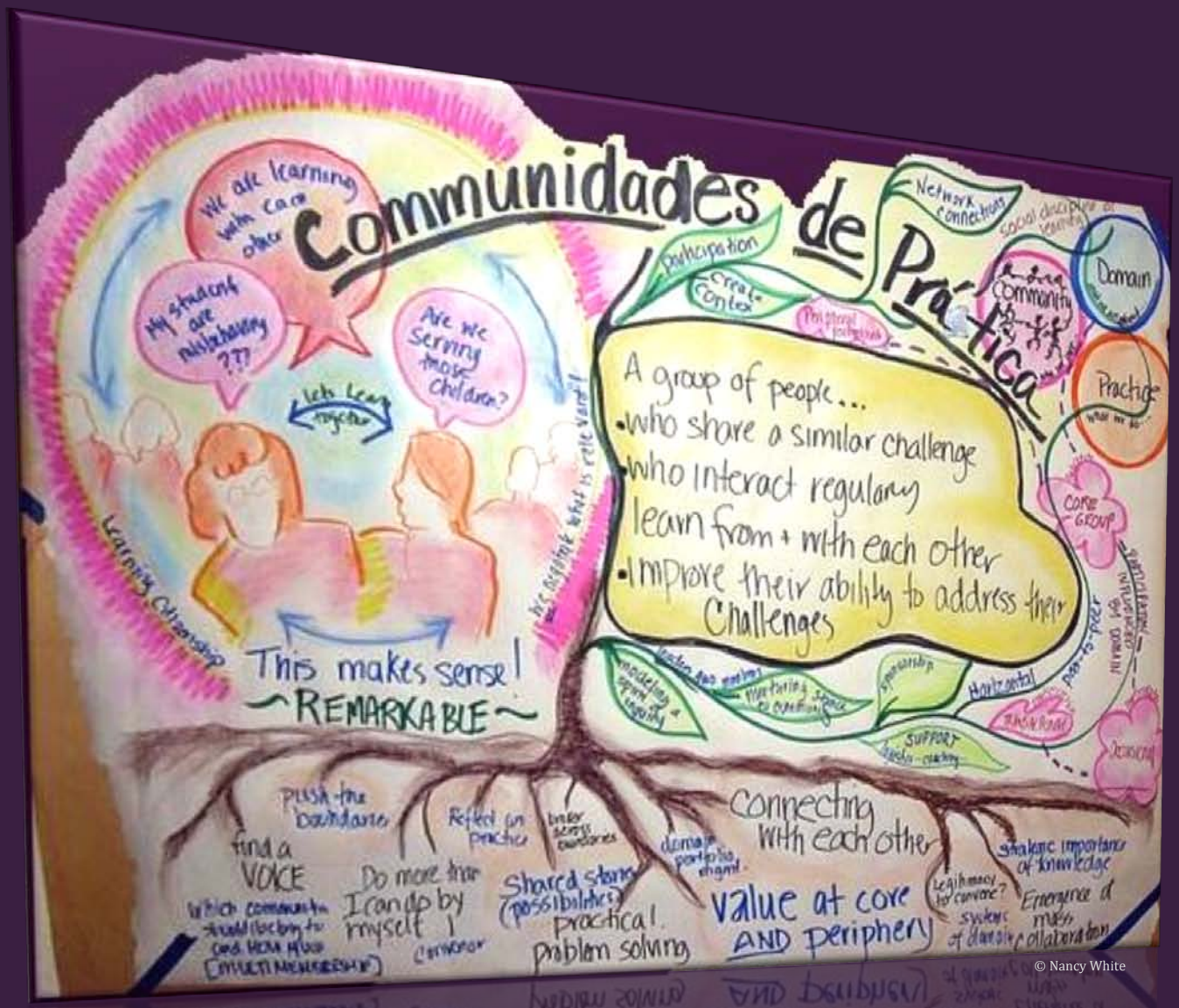

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Foreword

Although a thesis is a fun but lonely journey in many ways, I could have never completed it without the help of people around me who supported me all in their very own ways. My passion for Informal Learning and Communities of Practice started with the Corporate Learning and Trends 2008 conference, organized by Jay Cross, George Siemens, and Tony Karrer. They have inspired me, probably without knowing it. Thank you for that.

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Samenvatting

In de strijd om zich competitief te onderscheiden van concurrenten zijn online corporate Communities of Practice (CoPs) vandaag de dag onmisbaar voor organisaties (Anthony, Rosman, Eze, & Gan, 2009; Wenger & Snyder, 2000). Deze CoPs hebben als doel om kennis binnen de organisatie te verspreiden. Op deze manier kan een organisatie competitief voordeel behalen (Kang & Shin, 2008). Om dit voordeel te behalen is kenniscreatie van groot belang. Omdat kenniscreatie begint met het delen van kennis, is het succes van een online corporate CoP ten zeerste afhankelijk van actieve deelname van zijn leden (Ardichvilli, 2008; Bieber et al., 2002; Soroka & Rafaeli, 2006; Fetter, Berlanga, & Sloep, 2009). Echter, veelal post het merendeel van de leden niets, terwijl ze wel inhoud van andere leden lezen. In de Engelstalige literatuur worden deze zogenaamde passieve leden *lurkers* genoemd.

Om te beginnen beschrijft dit onderzoek vier perspectieven op *lurking*, te weten free-riding, legitieme perifere participatie (LPP), microleren en barrières die het delen van kennis belemmeren. Ook analyseert het onderzoek of en waarom deze perspectieven schadelijk of juist productief zijn voor het kennismanagementproces (KM proces) binnen een organisatie.

Ook vergelijkt deze studie *lurkers* en actieve leden van een bestaande online corporate CoP in het licht van drie van de vier perspectieven, zoals hierboven genoemd. Elk lid van de Cop heeft een vragenlijst ingevuld, welke speciaal voor het betreffende onderzoeksdoel ontworpen is.

Ten eerste kunnen *lurkers* gezien worden als free-riders, omdat zij profiteren van kennis in de CoP zonder daar iets voor terug te geven. Als zij de gevonden informatie elders in hun werk gebruiken, kan deze vorm van *lurking* echter toch productief zijn voor het KM proces. Zoals verwacht, indiceren de onderzoeksresultaten dat zowel *lurkers* als actieve leden de gevonden kennis in hun werk gebruiken. Daarom mag geconcludeerd worden dat ook *lurkers* bijdragen aan het intellectuele kapitaal van hun organisatie, zelfs als zij geen inhoud posten in de online corporate CoP.

Ten tweede suggereert het microlerenperspectief dat *lurken* een leerstrategie is. Zolang individuen de gevonden kennis gebruiken om zich professioneel te ontwikkelen en zolang zij de kennis delen in de organisatie, mag gesteld worden dat ook deze vorm van *lurking* productief is voor het KM proces. De resultaten geven aan dat beide groepen het bladeren door en lezen van geposte informatie gebruiken als leerstrategie, welke hun professionele ontwikkeling ondersteunt en een positieve invloed heeft op hun werkprestaties.

Ten derde, barrières die het delen van kennis belemmeren, kunnen gedefinieerd worden als obstakels die ervoor zorgen dat individuen besluiten om hun kennis niet te delen met andere leden van de CoP. Dit kan uiteindelijke schadelijk zijn voor het KM proces. Deze studie

onderzoekt interpersoonlijke, procedurele en technologische barrières. De resultaten suggereren dat *lurkers* een neutrale houding hebben ten opzichte van interpersoonlijke barrières, terwijl de actieve leden aangeven geen last te hebben van deze barrières. Verder lijken zowel *lurkers* als actieve leden geen procedurele barrières te ervaren. Echter, beide groepen verschillen significant en de actieve participanten lijken het sterker oneens te zijn met de stellingen dan de *lurkers*. Tenslotte lijken zowel *lurkers* als actieve leden een neutraal gevoel te hebben met betrekking tot technologische barrières.

De resultaten van dit onderzoek suggereren dat organisaties inzicht kunnen krijgen in de vraag of redenen voor *lurking* in hun CoP schadelijk of productief zijn voor het KM proces, als zij rekening houden met de in deze studie gepresenteerde perspectieven. Op basis van het verkregen inzicht kunnen organisaties besluiten of er al dan niet actie moet worden ondernomen. Alleen op deze manier kunnen organisaties het beste uit hun CoPs halen en het competitieve voordeel behalen waar zij naar streven.

Abstract

For today's organizations to obtain competitive advantages, online corporate Communities of Practice (CoPs) are indispensable (Anthony, Rosman, Eze, & Gan, 2009; Wenger & Snyder, 2000). They have a specific purpose to spread knowledge throughout the organization. That way, the organization can obtain competitive advantage (Kang & Shin, 2008). In order to reach this goal, knowledge creation is critical. Because knowledge creation starts with knowledge sharing, the success of an online corporate CoP highly depends on active participation of its members (Ardichvilli, 2008; Bieber et al., 2002; Soroka & Rafaeli, 2006; Fetter, Berlanga, & Sloep, 2009). However, often the majority of its participants does not post any content; they lurk.

This paper explores four different perspectives on lurking; that is free-riding, legitimate peripheral participation (LPP), microlearning and knowledge sharing barriers. It furthermore analyzes whether and why they are detrimental or fruitful for the knowledge management (KM) process.

In addition, this study compares lurkers and active participants of an online corporate CoP in the light of three of the four perspectives as presented above. Each participant filled out a survey, specifically designed for this paper's research purposes.

First, lurkers can be considered free-riders as they profit from knowledge in their CoP without giving back. However, when they use the information they find elsewhere on the job, this type of lurking can be fruitful for the KM process. As expected, the results indicate that lurkers and active participants use the obtained knowledge on the job. Therefore, it may be concluded that lurkers contribute to the intellectual capital of their organizations, even when they do not post content in their online corporate CoP.

Second, the microlearning perspective suggests that lurking is a learning strategy. As long as individuals use the knowledge to develop professionally and share obtained knowledge in the organization, this type of lurking is fruitful for the KM process. The results indicate that both groups use browsing and reading as a learning strategy that supports their professional development and improves job performance.

Last, knowledge sharing barriers can be defined as obstacles that cause individuals not to share knowledge with other community members. This can potentially be harmful to the KM process. This study investigates interpersonal, procedural, and technological knowledge sharing barriers. The results indicate that the lurkers have a more neutral attitude towards the interpersonal knowledge sharing barriers while the active participants seem to truly disagree. In addition, lurkers do not seem to experience procedural knowledge sharing barriers. However, groups differ significantly and active participants seem to disagree more strongly

than lurkers do. Lastly, both lurkers and active participants feel neutral towards technological knowledge sharing barriers.

The results of this paper indicate that, if organizations take the presented perspectives into account, they will be able to gain insight if reasons for lurking are detrimental or fruitful for the KM process and therefore, if taking action is needed. Only that way, organizations can make the most of their CoPs and gain the competitive advantages they strive for.

Introduction

Online, or virtual, communities have become an important method of knowledge management (KM) to leverage knowledge sharing and that way, support continuous organizational learning and obtain competitive advantage for the organization. In particular online corporate CoP have a potential benefit to leverage knowledge sharing and creation because individuals can benefit from community connections by gaining access to new information, expertise, and ideas that are not available locally in the organization (Kang & Shin, 2008). Although online corporate CoPs are a way for an organization to leverage continuous professional development, the success and sustainability of online communities in general highly depends on the active participation of its members (e.g. Ardichvilli, 2008; Bieber et al., 2002; Fetter, Berlanga, & Sloep, 2009; Soroka & Rafaeli, 2006). Although there is no solid understanding why, in many cases an online community only has an active core group of posters and a much bigger group of people who read messages of others but do not post (e.g. Kahnwald & Köhler, 2006; Nonnecke, Andrews, Preece, & Voutour, 2004; Soroka & Rafaeli, 2006). These readers-only are called lurkers.

This paper presents four different perspectives on why people lurk and indicates if these perspectives on lurking are considered detrimental or beneficial for the KM process. It furthermore surveys lurking employees in an existing corporate online CoP in order to determine why they lurk and how various reasons for lurking as categorized under the four different perspectives, are distributed over the community. In addition, this paper discusses if the present reasons are considered harmful or fruitful for the KM process. It claims that it is possible to develop supportive strategies that could potentially help to tackle the problematic reasons. This way, corporations would have tools available that would allow them to intervene if necessary and that way leverage growth, success, and sustainability for their CoPs and through that, obtain competitive advantage (Antonova & Gourova, 2006). On the other hand, if employees lurk for reasons that are considered fruitful, that would be valuable information as well, as these reasons could then be interpreted as a valuable part of the knowledge sharing and KM process.

Theoretical Background

In order to establish competitive advantage, an important focus is on understanding an organization's current approach to acquiring, sharing, and utilizing knowledge (Antonova & Gourova, 2006), or, KM. Traditional approaches to KM emphasize the role of management and information systems in organizing knowledge exchange. However, this type of top-down controlled and centralized KM does not meet today's needs for competitive advantage (Anthony et al., 2009). Tangible resources of an organization are no longer considered a sustainable

source of competitive advantage; as such assets quickly become available to competitors. For KM to be effective today, a combined approach that focuses on both social and information systems is needed (Sharratt & Usoro, 2003).

Online Communities as a KM Tool

Online, or virtual, communities have become an important method of KM to leverage an organization's intellectual capital by enhancing knowledge exchange and that way, support continuous organizational learning (Anthony, et al., 2009). Nahapiet and Ghoshal (1998) define intellectual capital as *"the knowledge and knowing capability of a social collectivity, such as an organization, intellectual community, or professional practice"* (pp. 245). The authors acknowledge the significance of socially and contextually embedded forms of knowledge. They also stress that knowing is a source of value different from the simple aggregation of the knowledge of a set of individuals.

Johnson (2001) describes online communities as communities that use current networked technology and Chen (2007) adds that those communities are centered upon communication and interaction of participants. Online communities do not develop over night; rather they grow over time (Sloep, 2008). Different types of online communities can develop, depending on its purpose and the needs of the group (Butcher, 1999). Online communities can have many purposes, of which sharing techniques, work, or best practices are typical examples for online CoPs. Wenger (2001) defines CoPs as "*...groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly." (pp. 1)*. According to Wenger (personal communication, March 3, 2009) the key elements of a CoP is the domain, the community, and the practice. In other words, members have a shared learning need, either explicit or implicit (domain), the learning together bonds them over time (community), and their interactions lead to resources that affect their individual or collaborative practice (the practice).

Online corporate CoPs have a specific purpose to spread knowledge in order for professionals to meet today's high performance standards and for the organization to obtain competitive advantage. In particular this type of CoPs has a potential benefit to leverage knowledge sharing and creation because individuals can benefit from community connections by gaining access to new information, expertise, and ideas that are not available locally in the organization (Kang & Shin, 2008). Online corporate CoPs therefore can be a vehicle for spreading knowledge through an organization and involving practitioners directly in KM they need individually and collectively to meet today's high performance standards (Wenger & Snyder, 2000).

Knowledge sharing can be seen as occasions in which individuals respond to a posted problem by sharing what they know (Sharratt and Usoro, 2003). Antonova and Gourova (2006) refer to these individuals as knowledge sources. In order to be able to exchange knowledge effectively, knowledge seekers are just as important. This paper argues that knowledge seekers include lurkers. Appropriate connections between knowledge seekers and knowledge sources are needed to share knowledge effectively. Because knowledge resources and knowledge seekers are equally important, this paper defines knowledge sharing as reading, posting, and discussing content.

Lurking in Online Communities: Four Different Perspectives

While, as stated above, online corporate CoPs are a way for an organization to leverage continuous professional development, Kerno (2008) stresses that they are no "magic bullet" and must be understood in terms of their limitations as well. According to many researchers, the success and sustainability of online communities in general highly depends on the active participation of its members (e.g. Ardichvilli, 2008; Bieber, et al., 2002; Fetter, Berlanga, & Sloep, 2009); Soroka & Rafaeli, 2006) and all agree that attaining and sustaining these communities is a challenge.

Although there is no solid understanding why, in many cases an online community only has an active core group of posters and a much bigger group of people who read messages of others but not or rarely post (e.g. Kahnwald & Köhler, 2006; Nonnecke, et al., 2004; Soroka & Rafaeli, 2006). As described previously, the phenomenon of people who participate in online communities by reading but do not post any content is called lurking. It needs to be said that some researches include those who rarely post (e.g. Nonnecke, et al., 2004). However, this paper considers occasional posting a normal ebb and flow dynamism as topics change (McDermott, 2000).

Research on lurking shows four perspectives on the phenomenon; that is free-riding (e.g. Kollock & Smith, 1996), legitimate peripheral participation (LPP) (Lave & Wenger, 1991), microlearning (Kahnwald & Köhler, 2006), and knowledge sharing barriers (Ardichvilli, 2008). Some of these perspectives shed a problematic light on lurking (e.g. Kollock & Smith, 1996; Morris & Ogan, 1996) while others suggested that lurking is fruitful (e.g. Kahnwald & Köhler, 2006). Various reasons for lurking as presented in the current literature (e.g. Johnson, 2001; McDermott, 2000; Nonnecke et al. 2004; Nonnecke & Preece 2001; Preece, Nonnecke, & Andrews, 2004) can be categorized under one of these four perspectives. The next section analyzes the four perspectives on lurking and the various reasons that fall under these perspectives.

Free-Riding

One well-known perspective on lurking is free-riding (Kollock & Smith, 1996; Morris & Ogan, 1996; Wellman & Gulia 1998). Soroka and Rafaeli (2006) define free-riding as a use of common good without making any contributions to it. Because information and knowledge is usually considered a public good, lurkers can be perceived as free-riders. Also, Rheingold (1993) claims that lurkers supply themselves with knowledge at the expense of the community. Preece et al. (2004) suggested, together with Ardichvilli (2008) and Bureŝ (2006) that lurkers consider knowledge power and therefore they believe it should not be shared in order to keep one's value and uniqueness. Ardichvilli (2008) referred to this phenomenon as information hoarding.

Legitimate Peripheral Participation

Lurking can also be defined as a *"persistent but silent audience"* (Sonoka & Rafaeli, 2006, pp. 164). The silent part refers to lying in wait. This suggests that they are waiting for something; perhaps an opportunity to actively share their knowledge. This idea aligns with legitimate peripheral participants (LPPs) (Lave & Wenger, 1991); another term that is used for lurkers. Kahnwald and Köhler (2006) describe LPP as a novice that takes up a position at the fringe of the community (peripherality). They continue by saying that the fact that the novice has full access to the common practice refers to legitimacy. However, the legitimacy does not lie in having full access to the common practice; it rather refers to the fact that this person is a novice and therefore it is legitimate to learn from experts as a form of cognitive apprenticeship. McDermott (2003) argues that, apart from the fact that a participant is a novice; an online community has an ebb and flow with peripheral and core members as topics change. Note that this point cannot be maintained for participants that never post any content.

This paper states that, for an online corporate CoP, the LPP phenomenon also concerns new employees, even when they are experts in their field. After all, new hires are overwhelmed with new information; they need to get to know their direct peers, the organizational culture, and so forth. It is furthermore very much expected that they are focused on making a great first impression and will therefore carefully test the waters. Therefore, it is very likely that new employees will read to get to know the group, the focus of it, and the way its participants communicate.

The term *new employee* is complex in itself. Rollag (2007) attempted to define the term "new" in this context and concluded that, while newness co-varies with tenure, clock-time is not the driving force behind newness perceptions in corporations. Rollag (2007) concluded that organizational members judge newness of their co-workers by evaluating the individual's tenure relative to other co-workers. If relative tenure influences co-worker perceptions of 'newness' in organizations, then organizational growth and turnover may influence new

employee socialization dynamics. According to Rollag (2007), individuals in fast-growing organizations lose their newbie status more quickly than employees in slow-growing organization. In addition, the departure of more senior members accelerates changes in an individual's relative tenure, while departure of more junior members slows it down. In conclusion, the definition of a *new employee* depends on the corporation where research is conducted.

So far, this paper has presented interpretations of lurking as a more sinister intent or as a temporary phase. However, Stegbauer (in Kahnwald & Köhler, 2006) found that usually the first posting is sent after a relatively short period of passive membership. If participants do not post the first four months, the likelihood for them to become active is already minimized. This result suggests that lurking is not just a temporary or developmental phase.

Microlearning

Although LPP is applicable to the learning processes of lurkers in online communities; it cannot exhaustively explain the mass phenomenon of lurking (Kahnwald & Köhler (2006). According to these authors, lurking should not be deduced from a developmental perspective, but rather from an informational perspective. The latter refers to the lurkers' individual informational strategy. Kahnwald and Köhler (2006) claim that lurking is an efficient informational behavior and can therefore be interpreted as a way of learning. They refer to this learning as microlearning, which basic premise is that people learn better and more effectively if information is broken down in smaller chunks and if learning takes place in small steps. Bruck (2005) describes microlearning as follows:

1. Reduce information overload and complexity. Create new architectures of information by structuring information into small and well-connected units. Active engagement with the design of information is necessary.
2. Undertake this reduction from the perspective of the person who needs to cope with large amounts of information and who wants to learn. To accomplish this, we need new didactic models.
3. Allow individuals to choose time, place, and pace of learning. To support individuals in their learning preferences, we need technology.

Kahnwald and Köhler (2006) acknowledge that online communities are the obvious place for an analysis under a microlearning perspective as they are recognized as social learning and information spaces to which individuals can connect on demand. In addition, Nonnecke, et al., (2004) stress that lurking appears to be a fruitful way of participating and those lurkers may achieve similar levels of learning to posting individuals.

Knowledge Sharing Barriers

The free-riding, LPP, and microlearning perspective all suggest that lurkers do not intend to post to start with and that the lurker has a specific reason for doing so. As opposed to intentional lurking, Nonnecke et al. (2004) present a different point of view. They claim that lurking is a habit that an individual develops rather than a conscious decision from the onset. While some do never intend to post any content, others decide not to post as a result of a negative community experience. This is an important observation as it supports the idea that lurkers are not simply free-riders and that they do have initial intentions to share their knowledge. This paper identifies several knowledge sharing barriers that cause individuals to lurk instead of share their knowledge.

Knowledge sharing barriers can be defined as obstacles that individuals face and that make them decide to not share their knowledge with other community members. Several researchers mention knowledge sharing barriers (e.g. Ardichvilli, 2008; Garfield, 2006). Others identified reasons for lurking (e.g. Nonnecke & Preece, 2001; Preece et al, 2004) from which knowledge sharing barriers can be distracted. Ardichvilli (2008) summarized the following four categories of knowledge sharing barriers:

1. Interpersonal
2. Procedural
3. Technological
4. Cultural

Although Ardichvilli (2008) includes a cultural knowledge sharing barrier and claims that cross-cultural differences are an important knowledge sharing barrier for corporate online CoPs, this paper will not further discuss this category. Even though it needs to be acknowledged that cultural differences have a possible impact on knowledge sharing in online communities, the complicated topic goes far beyond the scope of this paper.

Interpersonal knowledge sharing barriers.

The interpersonal category refers to fear of criticism and fear of misleading peers (Ardichvilli, 2008), irrespective to being a novice or expert. Ardichvilli (2008) and Sharatt and Usoro (2003) far and foremost see fear of losing face as the main barrier for this category. Bureŝ (2003) uses the term fear from revelation in this context. If an individual decides to provide knowledge that is not valued by his peers, this might cause embarrassment.

In addition, Nonnecke and Preece (2001) and Preece et al. (2004) discuss reasons for lurking that can be interpreted as knowledge sharing barriers in the interpersonal category. Preece et al. (2004) suggests that individuals are afraid of making commitments to the group or

having their comments mocked. Nonnecke and Preece (2001) add that individuals might be shy to post.

In summary, all types of fears or uncomfortable feelings fall under the umbrella of interpersonal knowledge sharing barriers that cause employees to decide not to post any content.

Procedural knowledge sharing barriers.

Basically, procedural knowledge sharing barriers refer to a lack of understanding of the best and most efficient way to share knowledge. Garfield (2006) gives 10 reasons why people do not share knowledge. Those can be summarized in Ardichvilli's (2008) four main categories. Three of Garfield's reasons fall into the category of procedural knowledge sharing barriers:

1. Employees do not understand why knowledge sharing is important for the organization and themselves.
2. Employees do not believe that the recommended ways of sharing knowledge are effective.
3. Employees are not motivated to share or do not see personal benefits of sharing.

Technological knowledge sharing barriers.

Technological knowledge barriers refer to a lack of technological aptitude or acceptance of technology for communication purposes (Ardichvilli, 2008). Preece et al. (2004) mention that not getting the software to work is one of the main reasons for lurking. Chen (2007) and McDermott (2000) also acknowledge the technological factor as a knowledge sharing barrier. In addition, Garfield (2006) argues that employees do not know what the best ways of sharing knowledge are because they are not familiar with the tools.

The technological knowledge sharing barrier can be as simple as a confusing and cluttered interface usability problem (Preece et al., 2004), however, it can also apply to lack of internet self-efficacy (Kang & Shin, 2006). The authors defined internet self-efficacy as the belief in an individual's capabilities to use internet technology. In addition, Sharatt and Usoro (2003) argued that two aspects of a technical infrastructure can be related to one's motivation to act. First, the action itself must be easy to undertake and, second, the outcome of the action must be perceived as useful. In other words, with regard to the latter, the information that individual's find need to be received as useful. Furthermore, system quality and information quality and satisfaction impact people's intentions (Chen, 2007).

The perspectives on lurking as described above shed different lights on the phenomenon of lurking. Important questions are whether and why lurking is a problem for online corporate CoPs.

Whether and Why Lurking Is a Problem for Online Corporate CoPs

Lurking may or may not be a problem for online communities, depending on the perspective on which the behavior is judged and on the goals of those who make the judgments (Preece, et al., 2004). Furthermore, the authors stress that lurking is a problem when there is little or no posting in an online community because it needs a certain amount of activity to make visiting the community interesting. However, if there is sufficient activity in the community to keep it vibrant, lurking does not have to be a problem.

In addition, this paper states that lurking may or may not be a problem for an online community, depending on its purpose. For example, a more social focused online community might keep going if there is just sufficient activity to make a visit to the community interesting to individuals. However, corporate online CoPs serve a whole different purpose. While for other online communities it might be sufficient if an individual's (learning) need is satisfied, for a corporate online CoP this is more complex. After all, this type of community is designed and built with the specific goal to spread knowledge and involve practitioners directly in knowledge management they need individually and collectively to meet today's high performance standards (Wenger & Snyder, 2000) and to obtain competitive advantage (Anthony et al, 2009; Antonova & Gourova, 2006). In order to reach this goal, knowledge creation is necessary. And, as claimed before, knowledge creation starts with knowledge sharing.

Also, online corporate CoPs depend on a set group of people; that is, the employees that are currently working for the organization. This might make those CoPs more vulnerable. For example, McDermott (2000) points out how critical a passionate core group is for an online corporate CoP. If an individual that belongs to the core of the community leaves the organization, it is possible that his spot remains untaken.

Some claim that ideally all online CoPs' members participate actively in order to accomplish successful knowledge sharing (Ardichvilli, 2008). Others point out that information overload is a problem for online CoPs (Kahnwald & Köhler, 2006; Soroka & Rafaeli, 2006). If people feel that they do not have anything new to add to existing content, or if they think that they will only confuse an already cluttered interface even more, it is wise for them to stay silent. However, Preece et al., (2004) indicate the possibility that the community misses out on interesting alternatives or more subtle explanations. Especially for a corporation, these alternatives or subtle interactions might be critical to obtain that desired competitive advantage.

Besides the above arguments whether and why lurking in corporate online CoPs can be considered problematic in general, this paper furthermore analyzes if lurking is either problematic or fruitful for online corporate CoPs in the light of each perspective on lurking as

presented in the previous section; that is free-riding, LPP, microlearning, and knowledge sharing barriers. This analysis leads to several hypotheses on why lurkers in online corporate CoPs lurk.

Hypotheses

Free-Riding

The first reason for lurking that this paper analyzes is free-riding. If individuals just like to free-ride in online corporate CoPs, it might be a problem as they can potentially limit the organizational intellectual capital (Brown & Duguid, 1991). However, besides the set group of participants and the individual versus organizational needs as discussed previously, there is another factor that makes things even more complex. That is, even if an individual does not share its knowledge online, he or she might still spread the knowledge obtained in the online CoP within the organization. For example, the employee might share the knowledge in team meetings, through email, or otherwise. As long as individuals spread the community's knowledge organization-wide, lurking cannot be considered as free-riding and is not problematic. However, it is important for a corporation to know if this is the case. Several recent studies show that most lurkers are not simply free-riders (Kahnwald & Köhler, 2006; Preece, et al., 2004; Soroka & Rafaeli, 2006) and therefore it is very likely that lurkers from an online corporate CoP go online with a professional need for information and when they find what they need, will use this information on the job. Therefore, this paper hypothesizes that:

H1: With regard to free-riding, there is no difference between lurkers and active participants in using the obtained knowledge on the job.

However, as argued previously, the majority of online community participants lurk. If free-riding is not the reason; what is? Nonnecke and Preece (2001) conclude that lurkers have many different reasons for doing so and this paper argues that these reasons can be categorized under the remaining three perspectives; that is LPP, microlearning, and knowledge sharing barriers.

Legitimate Peripheral Participation

As explained before, this paper interprets LPP as employees that are new to the company and not so much as people who are non-experts as this might differ as topics change (McDermott, 2000). Lurking by new hires seems very realistic for online corporate CoPs. It is very likely that new employees are hesitant to share their knowledge right away. They are overwhelmed with new information; they need to get to know their direct peers, the organizational culture, and so forth. It is furthermore very likely that they are focused on making a great first impression and will therefore carefully test the waters.

Although this is perfectly understandable from the new hire's point of view, it might be potentially problematic for the online corporate CoP. After all, Stegbauer (in Kahnwald & Köhler, 2006) found that if participants did not post for the first four months, the likelihood for them to become active posters was already minimized. This suggests that if a new employee is cautious to post in the first place, they might decide to never do it. If that is the case, the corporation potentially deals with a lack of knowledge sharing within the CoP, which again makes it vulnerable.

H2. When compared to active participants, lurkers in online corporate CoPs are more frequently new employees.

Microlearning

If lurking can be interpreted in the perspective of microlearning, as Kahnwald and Köhler (2006) propose, it serves as an informational strategy for employees. As stated previously, as long as individuals share their obtained knowledge chunks elsewhere in the organization, this type of lurking is not a problem. It even can be an advantage to the organization as it would be a relatively cheap way of continuous professional development (Butler, Sproul, & Kiesler, 2008). Several reasons indicate that lurking can be interpreted as a learning strategy. For example, for some lurkers reading and browsing is enough, while others claim that they use the online community to find solutions to urgent problems (Nonnecke et al., 2004). Some even believe they are being helpful by not posting in order to prevent information overload (Preece et al., 2004). Because all those reasons can be interpreted as a form of microlearning and because, as argued before, this paper does not believe that lurkers in online corporate CoPs are just free-riders, it states that:

H3. With regard to using browsing and reading as an informational strategy, there is no difference between lurkers and active participants in online corporate CoPs.

Knowledge Sharing Barriers

The last perspective on lurking involves knowledge sharing barriers. These barriers cause employees to not share knowledge actively. Ardichvilli (2008) suggests that all knowledge barriers are problematic for online corporate CoPs because employees' resistance to share knowledge prevents it from flowing easily. Nahapiet and Ghoshal (1998) suggest that knowledge creation needs knowledge combination and exchange. In other words, intellectual capital is usually created through a process of combining the knowledge and experience of different individuals. If individuals go online with the intention to contribute to the intellectual capital, but decide not to because of a knowledge sharing barrier, this can be potentially harmful for the intellectual capital of the corporation.

It is very well possible that employees decide not to post because of interpersonal knowledge sharing barriers. Wasko and Faraj (2005) claim that building professional reputation is a strong motivator for active participation in online communities. It seems fair to assume that most employees would like to build this reputation and therefore would have the initial intention to post. However, if a fear of criticism, losing face, or misleading peers is stronger than the desire to build a reputation, it is very likely that they decide to not post.

H4.1. Unlike active participants, lurkers in online corporate CoPs experience interpersonal knowledge sharing barriers.

It is also likely that employees decide to lurk because of procedural knowledge sharing barriers. Although many organizations adopt the concept of online CoPs because of its knowledge creation potential, the actual management of these communities often turns out to be a challenge. For example, Kerno (2008) stresses that today's usual hierarchical organizations clash with organic self-organizational nature of CoPs. If employees within an organization are more concerned with adhering to the official organizational chart than with maximizing the organizational performance, they may very well decide not to contribute their knowledge to their CoP. In addition, McDermott (2000) acknowledges the following challenges for an organization's management: First, online corporate CoPs do not always focus on topics that are both important to the business and the CoP members. Second, the community does not always build on the core values of an organization, according to McDermott (2000). Kerno (2008) additionally addresses the lack of time available in which to engage in the CoP activities. Garfield (2006) adds that employees might not know why they should share their knowledge because management has not communicated clearly on knowledge-sharing expectations or

goals. All those types of procedural knowledge sharing barriers may hamper people's willingness to help others.

H4.2. Unlike active participants, lurkers in online corporate CoPs experience procedural knowledge sharing barriers.

Last, the technological sharing barrier is a potential problem for the corporation as well. Systems that fail to do what a user intends to do will fall out of use (Chen, 2007). Again, if potential active participants decide to hold back because of technological knowledge sharing barriers, this is potentially harmful for the intellectual capital of the organization. As described previously, many researchers acknowledge the impact and recurrence of technological knowledge sharing barriers (Ardichvilli, 2008; Chen, 2007; Garfield, 2006; McDermott, 2000; Preece et al., 2004) and therefore it is very well possible that employees decide to lurk because of them.

H4.3. Unlike active participants, lurkers in online corporate CoPs experience technological knowledge sharing barriers.

Methodology

Participants

The participants were a total of 800 members of an online corporate CoP for the Business & Sales department at a wireless phone company in Washington state, USA. For privacy reasons this paper uses a pseudonym for the organization. It will be referred to as *Sell Phones Unlimited*. The online corporate CoP will be reffered to as *SPUnet.*

Participant contribution score.

The participants were divided in two groups, based on the participant contribution score. Each time a participant contributes to SPUnet, he or she receives between two and 10 points, depending on the type of contributions. For example, creating a new blog post is worth three points, while a correctly answered forum thread question has a 10-point value.

When the score was zero, the participant fell into the lurkers' group. Because this paper defines lurkers as people who never post, only the participants that had zero points were selected for this group. When the score was higher than zero, the participant fell into the group of active participants. The vendor of the online community platform provided a list of participants with zero points (lurkers) and a list of participants with more than zero points

(active participants). The total of 800 participants could be divided in 450 lurkers and 350 active participants.

Materials

Survey.

This paper used a five-point Likert scale survey that was designed specifically for this study (see appendix 1 for the questions per hypothesis and appendix 2 for the survey as completed by the participants). The survey had a total of 22 questions and a comments section. The questions fed into several categories. Each category could be linked to one of the hypotheses as listed previously; that is *free-riding*, *LPP (new employees)*, *microlearning*, *interpersonal knowledge sharing barriers*, *procedural knowledge sharing barriers*, and *technological knowledge sharing barriers*. Each category includes four to five questions. Only the question how long people have been working for the company (question 22) is a stand-alone .

The possible answers to each question varied from one (strongly agree) to five (strongly disagree). Table 1 shows an sample question for each of the categories; that is free-riding, LPP, microlearning, interpersonal knowledge sharing barriers, procedural knowledge sharing barriers, and technological knowledge sharing barriers.

Table 1
Survey Examples for Each Category

Category	**(min/max score per category)**	**Sample Item**
Free-riding	(4/20)	I use the information that I find on SPUnet to do my job.
LPP	(4/20)	How long have you been working for Sell Phones Unlimited?
Microlearning	(4/20)	I learn by browsing and reading on SPUnet.
Knowledge Sharing Barriers		
Interpersonal	(4/20)	I am not afraid that my fellow employees will criticize my posts on SPUnet.
Procedural	(5/25)	SPUnet focuses on topics that are both important to the business and to me.
Technological	(4/20)	It is easy to find the information that I need on SPUnet.

The survey was constructed by the author of this paper and four people reviewed the survey. Two of them knew the purpose of the study and reviewed each question to make sure it was worded well and to check if the questions met the research purposes. The other two reviewers did not know the purpose of the study and had been members of SPUnet; they were members of a different, no longer existing, group within the community. They reviewed the survey from a user's perspective and gave feedback on the way the questions were worded as well as how they interpreted these questions. After review, nine questions were reworded.

In order to prevent sequencing effects, 21 questions were quasi-randomized. First, the questions were displayed per category in column A (e.g. question 1, 8, 11, and 16 belong to the free-rider category). Then, the questions of the categories were numbered in column B. For example, the first category was numbered one to four, the second category four to one, the third category one to four, and so on. After numbering each question per category, both column A and B were selected. Then, "Sort and Filter", "Custom Sort", and "Smallest to Largest" were selected respectively. The question *How long have you been working for Sell Phones Unlimited?* is chosen as the last question as it is the most personal one.

To prevent possible duplicates, IP addresses were logged. Two separate but identical surveys were created in order to manage the two different groups. The lurkers received a different link than the active participants. This was done to be able to divide lurkers' responses and active participants' responses.

Participants could only send the survey if they answered all the survey questions in order to avoid missing data.

Procedures

Each participant received a request through the official SPUnet email address to fill out the survey (for an example of the email, see appendix 3a). They could fill out the survey online and sent their answers through email. After four days, 81 responses were received and a reminder email was sent (see appendix 3b). After five days a total of 89 valid responses was collected and served as research input.

Results

From the 450 lurkers and 350 active participants (N=800), a total of 89 people responded (29 lurkers and 60 active participants).

To verify the homogeneity of the previously selected items per category, such as free-riding or microlearning (see appendix 1), a Reliability Analysis was conducted. Cronbach's Alfa was determined for each category (see table 2).

Table 2
Cronbach's Alpha for Each Category

Category (min/max score)	**Cronbach's Alpha**	**Valid Cases**	**N of items**
Free-riding (4/20)	.586	86	4
Microlearning (4/20)	.852	89	4
Knowledge Sharing Barriers			
Interpersonal (4/20)	.729	87	4
Procedural (5/25)	.786	85	5
Technological (4/20)	.937	88	4

The results indicate that the items that are assigned to the free-riding, microlearning, interpersonal knowledge sharing barriers, procedural knowledge sharing barriers, and technological knowledge sharing barriers categories have an α of .586, .852, .729, .786, and .937 respectively.

With regard to item 22 (*How long have you been working for Sell Phones Unlimited?*) it needs to be noted that there are insufficient employees who can be considered new employees. Only one lurker and four active participants can be defined as such. These numbers indicate that the LPP hypothesis *new employees in online corporate CoPs are lurkers* cannot be tested in this paper.

In order to determine differences between lurkers and active participants, an ANOVA test was conducted for each remaining category. Table 3 shows the Means, standard deviations, and significance levels for the free-riding, microlearning, interpersonal knowledge sharing barriers, procedural knowledge sharing barriers, and technological knowledge sharing barriers categories.

Table 3

Means and Standard Deviations for Lurkers and Active Participants for Each Category

Source	**Lurkers (N=29)**		**Active Participants (N=60)**		**Significance**	
	Mean	SD	Mean	SD	F	p
Free-riding	8.32	2.25	6.9	1.83	9.83	.00
Microlearning	10.24	3.66	9.28	3.15	1.63	.21
Knowledge Sharing Barriers						
Interpersonal	13.32	2.16	15.34	2.35	14.75	.00
Procedural	16.96	3.72	18.62	2.88	5.06	.03
Technological	11.31	4.55	12.29	4.38	.95	.33

Free-Riding

Unexpectedly, the results for the free-riding category show a significant difference between lurkers and active participants ($F(1, 84) = 9.83$, $MSE = 38.339$, $p = .00$, $\eta = .324$). However, Means show that both groups agree with the items as included in this category (8.32 for lurkers and 6.9 for active participants), indicating that active participants agree more strongly than lurkers do.

Microlearning

The results for the microlearning category show that, in accordance to the hypothesis, there is no difference between lurkers and active participants ($F(1, 87) = 1.63$, $MSE = 17.945$, $p = .21$, $\eta = .135$). As expected, both groups agree with the items as included in this category (Means=10.24 for lurkers and 9.28 for active participants).

Interpersonal Knowledge Sharing Barriers

As expected, for the interpersonal knowledge sharing barriers category the results indicate that both groups differ significantly ($F(1,85) = 14.75$, $MSE = 77.293$, $p = .00$, $\eta = .385$). The interpersonal knowledge sharing barriers category shows a Means of 13.32 for the lurkers and 15.34 for the active participants, suggesting that active participants disagree more strongly than lurkers. Lurkers seem to tend more to the neutral side, while the hypothesis expects lurkers to agree and active participants to disagree.

Procedural Knowledge Sharing Barriers

The procedural knowledge sharing barrier hypothesis expected the lurkers to agree and the active participants to disagree. However, a Means of 16.96 for lurkers and a Means of 18.62 for

active participants indicates, unexpectedly, that both groups disagree with the statements that are included in this category. The results furthermore show a significant difference between lurkers and active participants ($F(1, 83) = 5.06$, $MSE = 50.629$, $p = .03$, $\eta = .240$), suggesting that the active participants disagree more strongly than the lurkers do.

Technological Knowledge Sharing Barriers

Last, the results for the technological knowledge sharing barriers indicate, au contraire the hypothesis, that there are no differences between lurkers and active participants ($F(1,86) = .95$, $MSE = 18.589$, $p = .33$, $\eta = .104$). Both groups suggest with their responses that they are somewhere between neutral and disagree on this category (Means for lurkers=11.31; Means for active participants=12.29).

Discussion

The present study investigated four different perspectives on why members of an online CoP lurk and indicated which of those perspectives can be considered fruitful or detrimental for the knowledge sharing and KM process. The research conducted in the online corporate CoP (SPUnet) sheds an interesting light on employees' reasons for lurking and its consequences for the KM process.

Free-riding

The free-riding hypothesis stated that neither lurkers nor active participants in corporate online CoPs are free-riders as they use the obtained knowledge on the job. Both active participants and lurkers agree with the items assigned to the free-riding perspective. Hence, they cannot be considered free-riders. With regard to the corporate KM process it may be concluded that also lurkers contribute to the intellectual capital of their organizations, even when they do not post content in their online corporate CoP.

However, the difference between groups was significant, indicating that active participants agree more strongly with the items and thus might feel a stronger urge to share knowledge with others on the job than lurkers do. It is important to note that α was low for the free-riding scale (.586), which suggests that the results must be interpreted very carefully.

Microlearning

The hypothesis for microlearning states that both active participants and lurkers in online corporate CoPs use browsing and reading as an informational strategy. The results indicate that this hypothesis can be confirmed for both the lurkers and the active participants. This finding aligns with the suggestion of Kahnwald and Köhler (2006) that lurking is a legitimate informational strategy. It also confirms the finding of Nonnecke, et al., (2004) that lurkers have high information expectations from online communities. Lurkers seek answers to questions, even when they do not openly ask for them. This paper would like to add that, with regard to an

online corporate CoP, lurkers use the information that they find on the job. Also, they feel that browsing and reading supports their professional development and improves job performance. For organizations to take most advantage of this type of lurking for the KM process, it is critical to ensure that tools are in place so lurkers can find the information they need in an effective and efficient way (Nonnecke, et al., 2004).

Interpersonal Knowledge Sharing Barriers

Although, au contraire the hypothesis, both lurkers and active participants do not seem to experience interpersonal knowledge sharing barriers, the difference between both groups was significant. The results indicated that the lurkers have a more neutral attitude towards the hypothesis while the active participants seem to truly disagree. It might be the case that it is difficult for lurkers to admit to themselves that a fear of losing face or being criticized might play a role for them. Another option is that the statements in the survey are too strong. Perhaps feelings are more subtle than being afraid or feeling that you risk misleading your peers. A further possibility is that lurkers experience those feelings only for certain topics.

Procedural Knowledge Sharing Barriers

The procedural knowledge sharing barrier hypothesis cannot be confirmed as such, as lurkers do not seem to experience this type of barrier. However, again, groups differ significantly and active participants seem to disagree more strongly than lurkers do. It is possible that procedural knowledge sharing barriers are more complex than the used survey covered. After all, the survey items included in this knowledge sharing barrier strongly relate to aspects of organizational culture, such as values, beliefs, assumptions, and manager support. Many researchers, such as Ardichvilli (2008), McDermott and O'Dell (2001), Tuggle and Shaw (2000), and Usoro and Kuofie (2006), acknowledge organizational culture as a major factor to success (or failure) and recognize a supportive organizational culture as an enabler of knowledge sharing. Although it is beyond the scope of this paper to discuss the wide variety in definitions of organizational culture and the impact it might have on employee behavior and attitudes (Usoro & Kuofie, 2006), it is important to note that organizational culture might very well influence an employee's perspective on procedural knowledge sharing barriers. In the case of this study, it is possible that neither active participants nor lurkers experience procedural knowledge sharing barriers because they feel that they work in a supportive organizational culture.

Technological Knowledge Sharing Barriers

The results for the technological knowledge sharing barrier hypothesis suggest, unexpectedly, that both lurkers and active participants feel neutral towards this barrier. In addition, it needs to be noted that the majority of the respondents who filled out the *Comments Section* in the

survey (N=30), say that information on SPUnet is hard to find because there is too much information on the site and the information is cluttered and unorganized.

On one hand it cannot be confirmed that lurkers experience a technological knowledge sharing barrier, while on the other hand the results indicate that the tools are not as efficient and effective as need be. After all, the CoP members do not disagree with the survey statements either. As mentioned previously in the interpersonal knowledge sharing barrier paragraph, it is critical to have high quality tools in place that help lurkers to find the information they need effectively and efficiently (Nonnecke, et al., 2004). Others also point out the importance of excellent technology in knowledge sharing (Ardichvilli, 2008; Chen, 2007; Sharrat & Usoro, 2003).

However, there seems to be more to it. According to Johnson (2001), it is not just about high quality technology itself. He adds that learning in virtual environments requires certain skills and in order to learn those skills, extensive scaffolding is necessary. This scaffolding can take place in many forms. Angehrn, Maxwell, and Sereno (2008) mention full-time moderators who help to connect people to content or people to people. They additionally discuss connection agents. Those agents, for example, stimulate users on a regular basis to review their own personal profiles and they can also make sure that users explicitly describe their relationship networks. In addition, Wenger, White, and Smith (2009) stress the importance of technological stewarding. A technological steward is an individual who understands the workings of a community to understand its technology needs. The technological steward also has experience or interest in technology to take leadership in addressing those needs.

Limitations

The work as presented in this paper is subject to some limitations. First, with regard to the second hypothesis that *lurkers in online corporate CoPs lurk for various reasons*, the LPP perspective could not be analyzed. Unfortunately, an insufficient number of new employees responded to the survey.

Second, the survey respondents might not be representative of the entire online Business and Sales community. After all, the proportion of respondents was fairly small, especially for the lurkers. Although identifying the lurkers was not a methodological problem in itself, as Soroka and Rafaeli (2006) point out, the low response rate could be due to a problem that Mason (in Nonnecke & Preece, 2001) found; that is that most lurkers are less open to being studied by nature. Furthermore, Nonnecke et al., (2004) mention that there is anecdotal evidence that lurkers feel guilty about being one. This might be a reason for them not to respond to a survey.

Last, this paper only surveyed one online corporate CoP. Therefore, it remains unclear to which extend the findings can be generalized to other online corporate CoPs.

Future Research

Despite the limitations as presented above, the research conducted by this paper shows an interesting perspective on lurking in online corporate CoPs and the consequences it has on the KM process. The results of this study indicate that, in order for organizations to make the most of their online corporate CoPs and gain the competitive advantages they strive for, they need to analyze why their employees do or do not actively participate in the CoP. In addition, they need to research if and how their employees use the knowledge that they obtain in the CoP on the job. This study presents the perspectives that organizations need to take into account and provides insight in the question if those perspectives are detrimental or fruitful for the KM process. In addition, the present study reveals several implications for future research to support healthy and thriving online corporate CoPs.

As stated previously, new employees who lurk might be potentially problematic for knowledge sharing and, as a consequence, the intellectual capital in an organization. Because this study was unable to research the LPP perspective, future research is needed to determine if the hypothesis that *new employees in online corporate CoPs are lurkers* can be confirmed.

With regard to the interpersonal knowledge sharing barrier perspective, this paper suggests the likelihood that lurkers do not admit to themselves that this type of knowledge sharing barrier is a reason for them to not post any content. To research their reasons and feelings in more depth, it could have been helpful to interview lurkers. Because this paper used an anonymous survey, it was not possible to retrieve the lurkers' personal information and ask them for an interview. Future research might keep this in mind although non-anonymous surveys of course have disadvantages as well.

In addition, as suggested in the procedural knowledge sharing barrier paragraph above, it is very likely that organizational culture plays a role in an employee's perspective on procedural knowledge sharing barriers. Hence, the influence of organizational culture on lurking in online corporate CoPs is an important topic for future research.

Besides research on feelings, reasons, and organizational culture, future research could also give more insight in CoP scaffolding and which role it plays in supporting technological and possibly other knowledge sharing barriers, such as the interpersonal knowledge sharing barrier.

Despite the fact that the free-riding hypothesis could be confirmed for lurkers, it would also be valuable to research in more detail why active participants, compared to lurkers, agree significantly more with the items assigned to this perspective. In addition, it would be

interesting to research if online participation in a corporate CoP contributes more to the intellectual capital than offline knowledge sharing does.

This paper states that it is critical to continue to research all those aspects that are likely to play a part in causing lurkers to lurk and furthermore shed light on positive and negative consequences for the KM process as well. Only if we are able to paint the whole picture, a complex phenomenon such as lurking could be unraveled, which will help find ways to support a vibrant and knowledge creating online corporate CoP.

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Appendix 1 Survey questions per category (hypothesis)

Category: free-riding

H1: Lurkers in corporate online CoPs are not free-riders because they use the obtained knowledge on the job.

- I use the information that I find on SPUnet to do my job.
- I share the information that I find on SPUnet with others at Sell Phones Unlimited.
- I consider knowledge power and therefore I do **NOT** share the knowledge that I obtained on SPUnet with others on the job.
- I do **NOT** keep the knowledge that I obtained on SPUnet for myself to get ahead.

Category: LPP

H2. New employees in online corporate CoPs are lurkers.

- How long have you been working for Sell Phones Unlimited?

Category: microlearning

H3. Lurkers in online corporate CoP use lurking as an informational strategy.

- Browsing and reading on SPUnet supports my professional development.
- I learn by browsing and reading on SPUnet.
- I do **NOT** use SPUnet to solve urgent problems on the job.
- I use SPUnet to improve my job performance.

Category: interpersonal knowledge sharing barriers

H4.1. Lurkers in online corporate CoPs lurk because of interpersonal knowledge sharing barriers.

- I am **NOT** afraid that my fellow employees will criticize my posts on SPUnet.
- I feel that I risk misleading my peers when posting on SPUnet.
- I maintain my credibility when I post on SPUnet.
- I think my peers value the knowledge I provide when posting on SPUnet.

Category procedural knowledge sharing barriers

H4.2. Lurkers in online corporate CoPs lurk because of procedural knowledge sharing barriers.

- SPUnet focuses on topics that are both important to the business and to me.
- SPUnet builds on the Sell Phones Unlimited's core values.
- I do **NOT** have sufficient time to post on SPUnet.
- I understand why it is important to share knowledge on SPUnet.
- My manager encourages me to contribute to SPUnet.

Category: technological knowledge sharing barriers

H4.3. Lurkers in online corporate CoPs lurk because of technological knowledge sharing barriers.

- It is easy to navigate in SPUnet.
- The content on SPUnet is displayed in a cluttered manner.
- It is easy to find the information that I need on SPUnet.
- SPUnet is difficult to use.

Appendix 2 Survey

1. I use the information that I find on SPUnet to do my job.
2. I understand why it is important to share knowledge on SPUnet.
3. I am **NOT** afraid that my fellow employees will criticize my posts on SPUnet.
4. I learn by browsing and reading on SPUnet.
5. My manager encourages me to contribute to SPUnet.
6. I maintain my credibility when I post on SPUnet.
7. I do **NOT** have sufficient time to post on SPUnet.
8. I share the information that I find on SPUnet with others at Sell Phones Unlimited.
9. It is easy to navigate in SPUnet.
10. Browsing and reading on SPUnet supports my professional development.
11. I consider knowledge power and therefore I do **NOT** share the knowledge that I obtained on SPUnet on the job.
12. I feel that I risk misleading my peers when posting on SPUnet.
13. I use SPUnet to improve my job performance.
14. SPUnet builds on Sell Phones Unlimiteds core values.
15. The content on SPUnet is displayed in a cluttered manner.
16. I keep the knowledge that I obtained on SPUnet to myself to get ahead.
17. I do **NOT** use SPUnet to solve urgent problems on the job.
18. I think my peers would value the knowledge I provide when posting on SPUnet.
19. It is easy to find the information that I need on SPUnet.
20. SPUnet focuses on topics that are both important to the business and to me.
21. SPUnet is difficult to use.

22. How long have you been working for Sell Phones Unlimited?

Comments section.

Appendix 3a Email

We want to ensure that SPUnet continues to meet your needs and the needs of the business. We would appreciate if you could help by taking this brief SPUnet survey.

The survey should take only 5-10 minutes to complete. Your responses are confidential so please read all questions carefully and answer all questions asked. The survey closes on **Friday, August 14**.

Your participation is very important – high participation leads to more credible results. Thank you in advance for taking this time to provide your feedback on SPUnet!

Appendix 3b Reminder email

SPUnet User Survey Closes Tomorrow

If you haven't done so already, take a few minutes to complete this short SPUnet survey. The survey closes tomorrow night, Friday, August 14, at midnight PT.