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How Do They Differ? Analyzing the Motivations of Posters and Lurkers for Participation in Enterprise Social Networks

Lisa Giermindl
Chair of Management, People and Information
University of Passau, Germany
lisa@giermindl.com

Franz Strich
Chair of Management, People and Information
University of Passau, Germany
franz.strich@uni-passau.de

Marina Fiedler
Chair of Management, People and Information
University of Passau, Germany
marina.fiedler@uni-passau.de

Abstract:

Organizations have increasingly begun to implement enterprise social networks (ESNs) due to their potential to afford enterprise-wide collaboration, knowledge sharing, and interaction. Despite their proliferation, many companies still struggle to motivate a sufficient number of employees to actively participate in these collaborative networks. Consequently, many ESNs fail due to a lack of contributions. While most employees only read and consume content (lurking), few actively create content (posting). Little research has examined the differences between posters and lurkers and their underlying motivations, particularly in the ESN context. Building on social exchange theory (SET), we identify and test a set of motivational factors that researchers have scarcely studied in corporate social networks: reputation, common identity, common bond, social interaction, and community commitment. By investigating a rich data set of 4,892 respondents in a large knowledge-intensive multinational company, we provide evidence that posters and lurkers significantly differ in why they participate in ESNs. Further, we introduce a nuanced classification of participant roles to distinguish five user groups (super frequent posters, frequent posters, infrequent posters, frequent lurkers, and infrequent lurkers) with super frequent posters showing significantly higher mean values for all motivational factors to use an ESN compared to the other user groups. Our findings yield important theoretical and practical implications regarding different usage behaviors and on how to enhance participation in ESNs.

Keywords: Enterprise Social Networks, ESN, Enterprise Social Media, Corporate Social Networks, Social Software, Motivational Differences, Social Exchange Theory, Lurker, Poster, Community, Usage, Type, Group Comparison.

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1 Introduction

Because many organizations have and continue to become increasingly globally distributed, digitized, and networked, they strongly rely on social technologies to enable the flow of information through time and space (Burke & Ng, 2006). They turn to enterprise social networks (ESNs) to foster speed and connectivity and to promote global collaboration and information exchange among their widespread workforce (Kane, 2015; Treem & Leonardi, 2013). ESNs are organizationally bound social networks and operate as platforms for internal communication, social interactions, and social connections (Alarifi, Sedera, & Recker, 2015; Leonardi, Huysman, & Steinfield 2013). Since these platforms are digital, they allow anyone in an organization to access content and share knowledge at any time from any place (Kane, 2015).

ESNs are destined to transform how people interact in the workplace (Cao, Gao, Li, & Friedman, 2013). Not only are they changing the ways employees communicate, share, and create expertise and ideas, they also yield the potential to vastly increase knowledge workers' efficiency and allow employees to connect across geographical boundaries and organizational hierarchies (Behrendt, Klier, Klier, & Richter, 2015; Cao et al., 2013; Stieglitz, Riemer, & Meske, 2014). Accordingly, they promise to accelerate problem solving and decision making and to foster employee engagement, innovation, self-organization, and productivity (Alarifi & Sedera, 2013; Kügler, Smolnik, & Kane, 2015b).

Yet, companies still battle to leverage and materialize these benefits (Giermindl, Strich, & Fiedler, 2017). Recent studies highlight that most ESN platforms struggle to gain momentum (Alarifi & Sedera, 2013; Alarifi et al., 2015; Kügler & Smolnik, 2014), and only 25 percent of all companies manage to widely diffuse their ESN (Li, 2015). Researchers and practitioners have attributed this situation to employees' underusing ESNs and not actively participating in them (Chin, Evans, Choo, & Tan, 2015; Giermindl et al., 2017). Considering the high investment costs for implementing ESNs and the resulting enormous potential economic losses, scholars and practitioners face a pressing need to understand why companies still battle to engage their workforce and why a substantial number of employees do not actively use ESNs.

As with any other user community, ESNs depend on a substantial number of active participants who consume, read, and contribute content to the community (Ridings, Gefen, & Arinze, 2006). Research on online communities suggests that the vast majority of users are lurkers who do not create content (Alarifi & Sedera, 2014; Nonnecke & Preece, 2000; Rafaeli, Ravid, & Soroka, 2004). The widely used 90-9-1 distribution estimates that 90 percent of members in online communities only absorb content but do not actively engage in the community, nine percent edit or like content or contribute sparingly, and only one percent regularly create new content (Alarifi et al., 2015; Arthur, 2006; Koch & Richter, 2009). Therefore, organizations need to enhance participation by harnessing lurkers' capabilities and knowledge in order to prevent ESNs from failing and to promote the workforce to more widely adopt them. To accomplish these goals, for practical and theoretical reasons, we need to understand and analyze the motivational differences between posters and lurkers regarding their ESN usage behaviors (Kane, Alavi, Labianca, & Borgatti, 2014; Leonardi et al., 2013; Ridings et al., 2006). Thus, we address the following research question (RQ):

RQ: How do posters and lurkers differ in their motivations for participating in ESNs?

Contribution:

Our research makes several theoretical and practical contributions. First, as one of the only or few studies to analyze posting and lurking behaviors in the ESN context, we generate novel theoretical insights by integrating the literature on posting and lurking behaviors and social exchange theory. Second, we go beyond prior work on posting and lurking behaviors by identifying and analyzing different subgroups of posters and lurkers regarding their motivational differences to participate in ESNs. Third, by investigating a rich dataset with almost 5,000 participants, we introduce an in-depth and nuanced classification of participant groups (super frequent posters, frequent posters, infrequent posters, frequent lurkers, and infrequent lurkers) in the work context and, thus, provide valuable insights for the knowledge management and IS community. Fourth, we add to the emerging conversation on re-evaluating the role of lurkers by highlighting that they are active participants and acknowledging their role. Fifth, we provide managers and IT architects with numerous implementable guidelines to recognize the importance of all user groups and to enhance participation in ESNs by specifically addressing lurkers' needs and motives.

Interestingly, while many studies have examined why individuals participate in online communities and social networks, we know little about the factors that distinguish posters and lurkers, particularly in the ESN context. To address this research gap, we integrate social exchange theory (Blau, 1964) with the literature on posting and lurking behaviors and empirically investigate the motivational differences of posters and lurkers.

Building on the premises of social exchange theory, we know that individuals base their interactions with others on a subjective and self-interested cost-benefit perspective that compares current intangible costs with the expected future social benefits (Blau, 1964; Ridings et al., 2006; Shore et al., 2004). If individuals find value in the expected socioemotional resources, they will be motivated to perform a particular behavior, such as to share their knowledge in social networks (Shore, Tetrick, Lynch, & Barksdale, 2006; Rode, 2016). Results from prior research on online communities provide evidence that factors such as reputation, common identity, common bond, social interaction, and community commitment strongly influence whether members participate in and adopt a community (Fiedler & Sarstedt, 2014; Ren et al., 2012; Ren, Kraut, & Kiesler , 2007; Wasko & Faraj, 2000; Wasko & Faraj, 2005).

In this paper, we analyze how posters and lurkers differ in these motivational factors to use ESNs. To do so, we conducted a survey with 4,892 participants in a multinational and knowledge-intensive high-tech company. We found support for our hypotheses that posters and lurkers significantly differ in their motivations for participating in ESNs: posters display overall higher motivations than lurkers. Moreover, we introduce an in-depth and nuanced classification of participant roles to distinguish five user groups (super frequent posters, frequent posters, infrequent posters, frequent lurkers, and infrequent lurkers). We provide evidence that these user groups significantly differ in their motivations to use the ESN.

This paper proceeds as follows: in Section 2, we provide an extensive literature review on posting and lurking behaviors. We also describe the theoretical foundation of our paper, social exchange theory, and outline how posters and lurkers engage in social exchanges in the ESN context. Based on social exchange theory, we identify key motivations for posting and lurking behavior in ESNs and provide an overview of prior research. In Section 3, we outline our research methodology to empirically examine how posters and lurkers differ in these motivational factors. We report our mode of data collection, sampling procedures, and measurements in detail. In Section 4, we present our results and further analysis with a nuanced classification of user groups. In Section 5, we discuss how our empirical findings advance our understanding on how posters and lurkers differ in their underlying motivations and their expected benefits. Further, we discuss the theoretical and practical implications of our study, its limitations, and avenues for future work. Finally, in Section 6, we conclude our paper by summarizing our findings.

2 Theoretical Background

2.1 Posting and Lurking Behaviors

Researchers mainly differentiate between two dominant user groups in ESNs: posters and lurkers (Lai & Chen, 2014; Preece, Nonnecke, & Andrews, 2004). Researchers generally define posters as core content producers who regularly post and contribute online content (Ridings et al., 2006). Moreover, scholars have described them as individuals who contribute an above-average number of postings to a group and regularly visit a website (Taylor, 2002) and members who have posted at least one message in a community forum in the past three months (Lai & Chen, 2014). Drawing on prior research (e.g., Marett & Joshi, 2009; Nonnecke, Preece, & Andrews, 2004), we define posters as members who post and actively create content in an ESN community.

Since posters are a community's visible and active members, most research on online communities has focused only on why posters share their knowledge in ESNs. By contrast, we know surprisingly little about lurkers and their motives, even though they arguably constitute the large majority of users in communities (Lai & Chen, 2014; Marett & Joshi, 2009; Nonnecke & Preece, 2001; Preece et al., 2004). Lurking is a popular online behavior that digital and social technologies afford since it gives users access to information without having to publicly participate or leave visible traces (Edelmann, 2013; Soroka & Rafaeli, 2006). Thus, researchers usually associate lurking with non-participation and non-posting behavior (Edelmann, 2013) and generally understand it as regularly visiting a community but not posting or posting very infrequently (Ridings et al., 2006).

Although the notion of lurking behavior is clear, definitions of lurkers vary significantly across studies (Edelmann, 2013; Lai & Chen, 2014; Ridings et al., 2006). Definitions of lurkers range from community

members who never post in a community (Farzan, DiMicco, & Brownholtz, 2010; Nonnecke et al., 2004; Ridings et al., 2006) to members who never or only occasionally post a message (Nonnecke & Preece, 2000; Nonnecke & Preece, 2001; Nonnecke & Preece, 2003), or members who have not created content in the past month (Alarifi et al., 2015). Researchers also refer to lurkers as passive members (Malinen, 2015), as a persistent yet silent audience (Rafaeli et al., 2004), as consumers of information (Muller, Shami, Millen, & Feinberg, 2010), and as silent members who regularly participate in online discussions but post less often (Preece et al., 2004). In line with recent research (Edelmann, 2013; Lai & Chen, 2014; Marett & Joshi, 2009; Nonnecke et al., 2004; Preece et al., 2004; Ridings et al., 2006), we apply a strict no-posting definition and define lurkers as members who never post in a community but regularly log into a system and use an ESN to read, browse, or consume content and follow discussions.

Lurking implies negative and pejorative connotations (Edelmann, 2013). Thus, research initially portrayed lurkers as non-productive and selfish free-riders who take without reciprocating, as loafers or free-loaders, and as non-members or second-class community members (Kollock & Smith, 1996; Preece et al., 2004; Sun, Rau, & Ma, 2014; Wellman & Gulia, 1999). Further, research accused non-contributors of eroding communities, threatening online groups' vitality, and hiding and assuming false or multiple identities (Edelman, 2013; Rafaeli & Raban, 2005).

Scholars have only recently acknowledged that lurking is a normal or even positive and helpful behavior (Preece et al., 2004). Thus, researchers highlight that lurking behavior occurs for various reasons, including altruistic and pro-social reasons (Nonnecke & Preece, 2001). Table A1 summarizes the identified reasons and major findings and definitions of the most important empirical studies on posting and lurking behaviors. Current studies also argue that lurkers are not non-users or non-participants since they do use the technology and visit a community and call on researchers to redefine lurking in positive terms (Cranefield, Yoong, & Huff, 2015; Edelmann, 2013). Lurkers dedicate considerable time studying the community and provide the audience for posters (Rafaeli et al., 2004; Ridings et al., 2006). Therefore, one can describe lurking as listening and social reading, which is not solitary, unconnected, or unproductive but occurs in a social context (Muller, 2011). Correspondingly, one should regard lurkers as goal-driven actors who engage in different activities and employ a range of strategies (Edelmann, 2013).

In an effort to fully comprehend their roles and influence, scholars have even observed that lurkers will use the information they have gained by lurking in a community and take the knowledge outside the application to exchange it with others in offline settings, offline network, and ties (Muller et al., 2010; Takahashi, Fujimoto, & Yamasaki ,2003). Consequently, lurkers enhance both the reach of posters and the community by increasing the number of persons who are influenced by the insights which they acquired in the social network (Muller et al., 2010). These online-offline interactions are particularly relevant in the organizational context of ESNs since lurkers will use their newly acquired knowledge by, for instance, sharing it with their colleagues, applying it in their daily work, and/or contributing to projects or improving processes for the benefit of their corporation (Farzan et al., 2010). Therefore, lurking behavior has spillover effects outside a community's boundaries (Edelmann, 2013). As a result, lurkers also help to bring new users into a community (Farzan et al., 2010), acquire social capital (Rafaeli et al., 2004), and gain new perspectives and useful information and insights (Katz, 1998) while lurking.

Lurking is a way for newcomers to learn about a group or online community and to become a part of it, and, hence, one can view it as a kind of learning and transformation process (Nonnecke et al., 2004; Preece et al., 2004; Rau, Gao, & Ding, 2008). Most users start as lurkers in a new community, and, once they become more familiar with the community, they sometimes begin to *de-lurk* (Lai & Chen, 2014; Malinen, 2015; Rafaeli et al., 2004). Researchers have studied this transformation process from poster to lurker and described it as moving from the periphery of a community to its center (Bryant, Forte, & Bruckmann, 2005; Gray, 2004; Malinen, 2015) while emphasizing that the process is not straightforward since members move back and forth between being active and passive users (Gray, 2004; Malinen, 2015). Further, scholars have discovered that users can vary in their involvement in different communities or even different groups in the same community by actively participating in some groups and at the same time being silent lurkers in other parts of a community (Wellman, Haase, Witte & Hampton, 2001).

Prior studies stress that whether lurking constitutes a problem and other members or managers of a community perceive it as a negative, neutral, or welcome behavior largely depends on the community's size and context (Preece et al., 2004; Ridings et al., 2006). In active and larger online communities, lurkers are not only required but also desirable since information overload would occur if all members posted or duplicated irrelevant content (Farzan et al., 2010; Preece et al., 2004; Ridings et al., 2006). Conversely, lurking behavior can threaten smaller or less active communities if it becomes dominant

(Preece et al., 2004; Rau et al., 2008; Ridings et al., 2006). In such communities, community managers need to step in and take actions to encourage active participation and seek new contributors, which they can find in the lurking population (Preece et al., 2004; Ridings et al., 2006).

Building on the above premises, we argue that lurkers are active and valuable community members and that we should see lurking as a "positive and helpful behavior, a way of giving, receiving, providing/obtaining support or learning" (Edelmann, 2013, p. 646). At the same time, an ESN—as with any digital platform or online community—strongly depends on content creation and will fail if too few users contribute (Alarifi et al., 2015). Thus, we understand lurkers both as valuable, standalone user type (no matter whether or not they will become posters) and as possible future posters. Moreover, we believe that posters and lurkers are not diametrical opposite groups but distinct usage types and that some intermediate subgroups or gradual steps between these two types exist (Ridings et al., 2006). Accordingly, we expect posters and lurkers to differ in the ways they engage in social exchange and their underlying motivations for participation in ESNs.

2.2 Social Exchange Theory

Social exchange theory (SET) is a major theoretical lens for explaining employee behaviors and relationships in the work context. Since its origins in the 1920s, SET has bridged various disciplines and has been applied to diverse organizational study fields (Cropanzano & Mitchell, 2005), such as networks (Faraj & Johnson, 2011; Wong & Boh, 2010), online communities (Liang, Liu, & Wu, 2008; Wasko & Faraj, 2005), and leadership (Liden, Sparrowe, & Wayne, 1997). Although different perspectives have emerged over time, scholars agree that social exchange results in relationships that evolve into loyal and mutual support, commitments, and investments (Cropanzano & Mitchell, 2005; Tsui, Pearce, Porter, & Tripoli, 1997). Researchers envision social exchange as a key process in social life that underlies all kinds of relationships—both dyadic relationships and relationships between groups and individuals (Blau, 1964; Cook & Rice, 2003).

Social exchange implies a series of interactions that generate indefinite, unspecified, unquantified, and open-ended obligations (Cropanzano & Mitchell, 2005; Shore, Bommer, Rao, & Seo, 2009). Thus, when an individual does another party a favor, the former expects some future return (Blau, 1964; Coyle-Shapiro & Conway, 2005; Emerson, 1976; Shore et al., 2006; Tsui et al., 1997). Since an individual does not know when and how another party will return a favor or benefit, exchange partners must invest in the relationship (Shore et al., 2009). Owing to the immanent uncertainty and risk that the investment will not be repaid, social exchange relationships require trust (Blau, 1964; Molm, Peterson, & Takahashi, 2001; Shore et al., 2006). Therefore, reciprocal behavior, which implies that each partner in a social exchange relationship has an obligation to repay received benefits, represents one underlying principle of SET (Gouldner, 1960). Over time, reciprocal behavior results in a cycle of mutually discharging obligations via each party's providing more benefits (Hom et al., 2009; Dulac, Coyle-Shapiro, Henderson, & Wayne, 2008). Nonetheless, the favor returned does not need to involve the same resource but can include rewards such as recognition, status, or liking (Gouldner, 1960; Wong & Boh, 2010).

Social relationships differ from economic exchange in two central aspects: the exchanged resource types and the duration of the exchange process. First, one can divide resources into economic resources and socioemotional resources (Foa & Foa, 1974; Blau, 1964). In economic exchanges, employees and employers trade time, effort, and work tangible incentives such as pay and fringe benefits (Armeli, Eisenberger, Fasolo, & Lynch, 1998). Social exchange refers to all socioemotional aspects of an employment relationship that the economic exchange relationship does not include and addresses employees' social needs (e.g., approval, caring, status, approval). Second, social exchange relationships are repeated, long-term-oriented interactions characterized by mutual investments and trust given that they lack explicit agreements or rules and open-ended and diffuse obligations (Blau, 1964; Shore et al., 2006). As such, they clearly differ from economic exchange relationships, which are fairly short-term-oriented and are regulated by agreements or contracts and, therefore, do not depend on trust or mutual investments (Ridings et al., 2006; Shore et al., 2006).

In ESNs, individuals exchange socioemotional resources, which presumes that companies do not provide economic rewards to employees for using and knowledge sharing in them. Indeed, most companies, including the case organization we investigated, do not provide such rewards. Whereas employees receive pay for their job duties, they voluntarily contribute knowledge into an ESN platform's community, and their contributions fall outside the scope of prior agreements. Thus, posting in a community and responding to others' needs represents a social investment and bears costs such as time, effort, and

empathy (Ridings et al., 2006). Nonetheless, many employees make such investments even though they have no guarantee that community members will reciprocate because they "expect to be rewarded in some way which is important to them" (Ridings et al., 2006, p. 333). So, we might ask what rewards and resources motivate employees to participate in ESNs and share their valuable knowledge and time.

2.2.1 SET and Individual Motivations to Participate in Digital Communities

SET assumes that individuals have different resource levels and opportunities and motivations to exchange resources (Faraj & Johnson, 2011). According to Blau (1964), social exchange "refers to voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others" (p. 91). Individuals regulate their interactions with other individuals based on a self-interest analysis regarding costs and benefits of such an interaction and seek to maximize their benefits and minimize their costs when exchanging resources with others (Liang, Liu, & Wu, 2008; Molm et al., 2001). Therefore, they will engage in an exchange only if they expect it to give them some social reward (e.g., approval, status, respect) and if they consider the exchanged resources to be desirable (Rode, 2016; Wasko & Faraj, 2005). Johnson, Faraj, and Kudaravalli (2014) suggest that key motivating factors for online participation are "access to information, advice seeking, experimentation, reputation building, expertise signaling, altruism, empathy, reciprocity, bonding with others, and commitment to community goals" (p. 796).

From a SET perspective, posters and lurkers experience their social exchanges, the social context, and the overall community differently (Ridings et al., 2006). By taking over an active role, posters participate more in social exchange than lurkers do and expect to receive a benefit via recognizing, influencing, or helping the community (Ridings et al., 2006). Posters have direct social ties with other community members and directly interact with others in the community (Ridings et al., 2006). Correspondingly, they also invest much more time, have higher exchange costs, and bear more risks and uncertainty since they depend more on the community's goodwill, audience, and reciprocity (Ridings et al., 2006). Thus, from a SET perspective, we can reasonably assume that posters have higher expectations that a community will reward them than lurkers.

While lurkers also participate in a community in the sense that they invest their time and attention as costs, they do not invest other resources such as their valuable knowledge, empathy, or reputation (Ridings et al., 2006). They expect a reward for their investment, which likely differs from posters and might include learning something new, being part of a community, or reading something interesting (Ridings et al., 2006). By not engaging in a give-and-take relationship, lurkers invest in fewer social exchange costs. As a result, "lurkers play a much lower stakes game when participating in their social exchange in a virtual community" (Ridings et al., 2006, p. 334) and expect fewer social exchange benefits than posters.

Nonetheless, recent research emphasizes that lurkers also engage in social exchanges and gain social capital (Cranefield et al., 2015; Rafaeli et al., 2004; Takahashi et al., 2003; van Uden-Kraan, Drossaert, Taal, Seydel, & van der Laar, 2008). Studies on health online support groups propose that lurkers benefit equally from participation and feel similarly empowered as posters (van Uden-Kraan et al., 2008). Apparently, lurkers feel that their needs are met and that they receive informational support by purely reading others' posts and seeing that those posts represent and reflect their personal opinions (van Uden-Kraan et al., 2008). Takahashi et al. (2003) observed that lurkers apply acquired knowledge in their organizational activities and daily work and found that merely reading and following their work community changed lurkers' thoughts regarding their company and work-related topics. They also recognized that many lurkers use or propagate information that they gain from an online community in their outside environment. Thus, lurkers transfer, share, and exchange their acquired knowledge with colleagues in their offline work environment and often even wield strong and wide influence outside a community; that is, they engage in boundary-spanning, behind-the-scenes, and knowledge-brokering activities (Cranefield et al., 2015; Takahashi et al., 2003).

2.2.2 Related Work on Motivations for Participation in ESNs

To succeed, any digital platform, online network, or community needs to motivate users to participate in community activities and to contribute to discussions (Malinen, 2015; Koh, Kim, Butler, & Bock, 2007). Accordingly, a major strand of research has long sought to understand why people use public social media and participate in online communities (e.g., Faraj, Wasko, & Teigland, 2009; Fiedler & Sarstedt, 2014; Ren et al., 2007; Ren, Kraut, Kiesler, & Resnick, 2012; Wasko & Faraj, 2005). Among a wide range

of identified factors, researchers have emphasized that reputation, common identity, common bond, social interaction, and community commitment constitute essential motivations for active participation and community membership.

However, these findings have limited generalizability to the ESN context because ESNs differ from public networks and online communities in several aspects: members of online communities usually participate voluntarily and anonymously, they can decide whether they want to disclose information about their identities, and they can choose when they want to enter and exit a community. In online communities, an individual's online presence is not necessarily related to the individual's offline presence, nor do offline contacts necessarily overlap. Thus, online community users often do not face offline consequences for their online postings or behaviors. In contrast, in the organizational context of an ESN, members act with their full name, which automatically reveals their department, job function, and position in the hierarchy. Thus, members' colleagues, supervisors, and senior managers can fully trace their actions and postings in an ESN (Giermindl et al., 2017). As a result, bureaucratic roles and their hierarchical interdependence influence the relationships between members (Behrendt et al., 2015). As employees contribute to the ESN in the context of their work performance, their online behavior can also result in direct offline consequences in form of praise or sanctions (van Osch, Bulgurcu, & Kane, 2016). Accordingly, successful contributions may lead to offline benefits, such as raises, promotions, and increased visibility in the workplace, while critical or negative contributions may lead to negative consequences, such as an unfavorable reputation (Giermindl et al., 2017; van Osch et al., 2016). Thus, since a variety of the assumptions in the literature on online communities do not apply to ESNs, we have several reasons to expect that private and corporate usage patterns of social networks differ significantly (Kuegler et al. 2015b; Rode, 2016).

Yet, few studies have focused on identifying the factors that influence employees to actively participate in social media platforms in work environments, and researchers have called for more dedicated research into ESNs (Kügler, Dittes, Smolnik, & Richter, 2015a; Wattal, Racherla, & Mandviwalla, 2010). To date, most studies have been qualitative studies that have explored different reasons, purposes, and outcomes of ESN usage (Chin et al., 2015; Kügler, Smolnik, & Raeth, 2012; Löcker et al., 2014; Meske & Stieglitz, 2013; Richter, Stocker, Müller, & Avram, 2013; Riemer, Stieglitz, & Meske 2015). Conversely, few quantitative studies have examined why employees use ESNs (Kügler et al., 2015a; Kügler & Smolnik, 2014; van Osch et al., 2016). Most recently, Rode (2016) has revealed that extrinsic motivations (such as reputation and reciprocal benefits) have larger effects on knowledge-sharing processes in ESN participation than intrinsic motivations. Still, we need to investigate more motivational influencing factors for social technology usage, and scholars have called for further quantitative studies with large sample sizes and cross-cultural settings to understand employees' usage roles and behaviors in ESNs (Alarifi & Sedera, 2013; Alarifi et al., 2015; El Ouirdi, El Quirdi, Segers, & Henderickx, 2014; Ren et al., 2012; van Osch et al., 2016).

Further, research has looked at the ESN community only as a single group without distinguishing user groups. Thus, to date, almost all ESN studies have focused on posters' motives and adoption behaviors but have disregarded the much larger user group (i.e., lurkers). They may have done so in part due to the difficulties of assessing lurkers in an ESN platform (Muller et al., 2010). Alarifi et al.'s (2015) study on promotional messages' influences on four major motivations to use an ESN provides one exception. The authors found that extrinsic and intrinsic benefits significantly predicted posting and that intrinsic and extrinsic costs significantly predicted lurking.

To bridge these gaps, our paper sheds light on how posters and lurkers differ in their motivations to use a corporate social network. We focus on five motivational factors that are central to the characteristics of social exchange relationships and the exchange of socioemotional resources: reputation, common identity, common bond, social interaction, and community commitment. According to SET, reputation strongly relates to the exchange of socioemotional resources such as approval, status, and respect and serves as a desirable extrinsic social reward in the cost/benefit analysis. Willingness for social interaction serves as a key prerequisite for engaging in social investments. Finally, identity- and bond-based attachments and community commitment strongly relate to the long-term-oriented relationships and the strong psychological attachments created in social exchanges.

As Table B1 (Appendix B) summarizes, researchers have widely investigated these factors and demonstrated that they are among the most salient motivational factors in the context of online communities and private social networks. Conversely, scholars have only recently begun to investigate what role these factors have in social technologies in the workplace. Due to the aforementioned

idiosyncratic organizational and social influence factors of corporate social networks, these motivations are highly relevant for ESN participation. Further, most of these studies have examined only active contribution or community members as one research subject without differentiating between different usage types (Appendix B). To address these research gaps, we explore the motivational differences between posting and lurking behaviors in organizational context of ESNs. In Sections 2.2.3 to 2.2.6, we discuss each of the selected motivational factors in further detail.

2.2.3 Reputation

Owing to the cycle of open-ended obligations, cooperation in social exchanges requires individuals to build relationships and have a reputation for trustworthiness. Following Baker and Bulkley (2014), we define reputation as "a person's history of actions toward others—specifically, how helpful the person has been to others in the same social system" (p. 1496). In line with previous research that highlights that to have a reputation implies to be known for something (Emler, 1990; Wong & Boh ,2010), such as competence (Kilduff & Krackhardt, 1994), expertise (Phang, Kankanhalli, & Sabherwal, 2009), trustworthiness (Burt, 2005), or effectiveness (Tsui, 1984), we argue that employees typically desire to have a good reputation at work. Thus, we hold that employees will want to actively participate in an ESN if they consider reputation to be a desirable resource and believe that participation will enhance their reputation. If so, we believe they will be willing to trade resources such as their time, effort, information, and knowledge in order to receive socioemotional resources such as reputation, approval, status, and respect.

Research on electronic networks and online communities has shown that building reputation represents a strong motivator for why people actively participate and contribute knowledge (Wasko & Faraj, 2005). Studies have revealed that posters perceive more benefits from a community than lurkers (Preece et al., 2004) that posters care more about the reputation and status of their online identities and will, therefore, cultivate and manage their reputation and status by sharing information and contributing value to a community (Marett & Joshi, 2009). In contrast, by posting no messages or only a few, lurkers lack visibility and, hence, will not significantly enhance their reputation (Lai & Chen, 2014).

Building on this research, we hold that employees can earn respect, improve their image, signal their personal expertise, and draw attention to their competencies by contributing their knowledge in ESNs (Rode, 2016; Kankanhalli, Tan, & Wei, 2005). Since other organizational members over a long period can view members' posts in an ESN, posters become visible and identifiable (Lai & Chen, 2014; Ma & Agarwal, 2007; Treem & Leonardi, 2013) to a large number of employees and can build reputations as experts (Phang et al., 2009). Further, and particular to ESNs, is that the aforementioned benefits of reputation in the ESN may directly impact on offline relationships. Accordingly, employees can increase their social recognition among their colleagues, in their team as well as among their supervisors and senior managers by posting in the ESN, which may even indirectly result in individual rewards and resources (e.g., positive performance reviews, career opportunities, promotions). Based on a recent study (van Osch et al., 2016), we even have reasons to expect that a subset of individuals may engage in ESNs primarily to boost their reputation in their company. Therefore, we argue that posters will care more about enhancing their reputation than lurkers. Accordingly, we hypothesize:

H1: Posters exhibit a higher motivation to gain reputation than lurkers.

2.2.4 Common Identity and Common Bond

To benefit from direct and indirect reciprocal behavior, workers must develop ties in a community and must mutually invest in long-term-oriented relationships since the unspecified return of a given benefit requires interactions that exceed single transactions (Cropanzano & Mitchell, 2005). Frequent interactions will reduce uncertainty and risk, will improve the relationship quality, and will create personal bonds of attachment and a sense of a common identity (Flynn, 2005). Researchers consider common identity attachment and common bond attachment to be key factors for member attachment and user behaviors in online communities (Prentice, Miller, & Lightdale, 1994; Ren et al., 2007, Ren et al., 2012; Utz & Sassenberg, 2002).

The two concepts derive from social-psychological theory and distinguish two distinct member attachment types according to people's different motivations for being in a group or community (Prentice et al., 1994; Ren et al., 2007). With identity-based attachment, people value a group as a whole and feel connected to a group's purpose, goals, norms, or character (Sassenberg, 2002). In the context of online communities,

common identity implies that users feel a commitment to an online community's purpose or topic and a sense of belonging to the community (Fiedler & Sarstedt, 2014; Ren et al., 2007). In the case of bond-based attachment, users develop relationships and foster interpersonal ties with other individuals of a group (Ren et al., 2007; Ren et al., 2012). Users who experience common bond attachment feel emotionally and socially attached and close to specific members of a community (Ren et al., 2007; Fiedler & Sarstedt, 2014).

From a social exchange perspective, employees exchange not only help, knowledge, or information, but also socioemotional resources such as esteem, approval, sense of belonging, understanding, or emotional support. By regularly exchanging resources, employees create strong emotional attachments to the community, and, hence, the community becomes part of their social identity (Dholakia, Bagozzi, & Pearo, 2004; Hom et al., 2009). Evidence from the open-source community shows that users who adopt a collective identity orientation are "likely to develop and maintain a norm that emphasizes unilateral giving without direct reciprocation" (Flynn, 2005, p. 741). Thus, users with a collective identity are willing to sacrifice their personal investments to benefit the collective without expecting that they will receive direct reciprocation as the "community serves as a powerful target of identification" (Flynn, 2005, p. 741). Yet, presuming all other contributors to share this willingness, these users expect reciprocal help at a later stage, although they do not necessarily expect this support to come from those they helped in the past but from the whole community (Flynn, 2005; Ridings et al., 2006).

Building on these premises about bond-based or identity-based attachments, we hold that employees will want to actively participate in an ESN more if they identify with the community and enjoy membership in it. This study constitutes the first effort to apply identity-based and bond-based attachment in the ESN context. However, we need to analyze these factors in the organizational context because ESNs have several unique characteristics: for instance, in an organizationally bound network, employees also share a corporate or organizational identity and feel a commitment to a company's values and goals, which will certainly influence the identity-based attachment to the network (Kane, 2015). Further, in contrast to an online community in which most members do not know one another's offline identities, ESN members often share existing interpersonal bonds from the offline context, which explains why relationships in the offline and online context will influence each another.

Interestingly, studies indicate that posters consider lurkers to be community members more than lurkers consider themselves to be community members (Nonnecke et al. 2004). Owing to frequent interactions and resource exchanges, posters have a greater sense of belonging to a community than lurkers and build stronger emotional attachments and bonds with other members (Flynn, 2005; Preece et al., 2004). Since lurkers have no interaction history and, hence, lack the motivation to respond to the needs of others, they are unlikely to adopt a collective identity orientation (Flynn, 2005). Nonetheless, some studies also indicate that lurkers can feel a sense of belonging to a community (Beaudouin & Velkovska, 1999; Nonnecke & Preece, 2000). Therefore, we argue that identity-based attachment and bond-based attachment represent key motivational factors for both lurkers and posters but that posters will exhibit higher scores than lurkers. Accordingly, we hypothesize:

H2: Posters exhibit a higher common identity-based attachment than lurkers.

H3: Posters exhibit a higher common bond-based attachment than lurkers.

2.2.5 Social Interaction

The concept of social interactions and interpersonal exchanges represents a central idea in social exchange theory (SET). Only by engaging in mutual social interactions can individuals build relationships, benefit from resource exchanges, and generate obligations to reciprocate (Coyle-Shapiro & Shore, 2007). Accordingly, Faraj and Johnson (2001) note: "Whether the resource exchanged be facts, know-how, answers to questions, or social niceties, the interactions are social in nature and thus, by definition, aim to influence others" (p. 1466).

Previous research on online communities highlights that individuals in these communities require social interaction to establish social cohesiveness and shared values (Chang & Chuang, 2011; Chiu, Hsu & Wang, 2006; Fiedler & Sarstedt, 2014; Ren et al., 2007). In online communities, the frequency with which users interact with one another determines the extent to which they build social connections and relationships with one another (McKenna, Green, & Gleason, 2002). Further, interactions provide ample opportunities for people to get acquainted, become familiar, and build trust (Ren et al., 2007).

ESNs offer a forum for enterprise-wide social interaction and a broad range of possibilities for social exchange and self-disclosure (Preece & Maloney-Krichmar, 2003). Thus, employees can use an ESN to exchange information; to share their thoughts and ideas, skills, and abilities; and to engage in discussions with other organizational members (Fiedler & Sarstedt, 2014). Moreover, they can broaden their network, connect with new members, or strengthen their existing interpersonal connections in the ESN (Kane, 2015). Thus, we anticipate that social interaction represents a key motivation for why people participate in ESNs.

While lurkers do not directly exchange or socially interact with other members in the community, they do contribute to it by giving posters an audience and public awareness for their messages (Ridings et al. 2006). Their frequent visits to a community and followership also underline their general willingness for social interaction. Furthermore, owing to the idiosyncratic nature of ESNs, lurkers may read postings and may transfer the content to share and interact with posters or other members in an offline context (Muller et al., 2010; Takahashi et al., 2003).

In addition to reading others' posts, posters also share direct social interactions with other contributors in a community and engage in reciprocal relationship-building processes (Preece et al., 2004). They actively invest in maintaining relationships and in building new connections in their community by sharing skills and knowledge in ESNs. Therefore, we contend that posters will have a greater willingness and motivation for social interaction than lurkers. Accordingly, we hypothesize:

H4: Posters exhibit a higher willingness for social interaction than lurkers.

2.2.6 Community Commitment

The perspective that commitment is rooted in an exchange relationship has a long history (Gouldner, 1960; Mowday, Porter, & Steers, 1982; Shore et al., 2006). Drawing on SET, we know that the extent to which employees believe in their company's values and feel that it cares about their wellbeing determines the extent to which they feel obliged to repay with affective commitment (Eisenberger, Huntington, Hutchison, & Sowa, 1986; Shore & Wayne, 1993). Accordingly, research on SET indicates that "commitment is best conceptualized as a social exchange relationship, in which perceived organizational support (POS) represents the employer side of the exchange and affective and continuance commitment represents the employee side of the exchange" (Shore et al., 2006, p. 837).

Commitment reflects a duty or obligation to engage in future interaction (Wasko & Faraj, 2005), and we can define it as "an interpersonal attachment leading persons to exchange repeatedly with the same partners" (Cook & Rice, 2003, p. 64). Researchers also see it as a necessary condition for developing ongoing long-term relationships (Hur, Ahn, & Kim, 2011; Kim, Choi, Qualls, & Han, 2008; Ye, Chen, & Jin, 2006) and that it predicts a wide range of business outcomes (Harter, Schmidt, & Hayes, 2002; Mayer & Schoormann, 1992; Mowday, Steers, & Porter, 1979). Ye et al. (2006) stress the importance of community commitment as a collectivistic and principal motivator since people contribute knowledge because they care for the community's wellbeing, feel morally obliged, or pay less attention to self-benefits such as extrinsic motivated reciprocity or reputation.

Research on online communities and electronic networks has found that commitment "conveys a sense of responsibility to help others within the collective on the basis of shared membership" (Wasko & Faraj, 2005, p. 42). Thus, individuals participate in ESNs due to a sense of obligation to their organization and a perceived moral duty to pay back the network, assist other members, and contribute knowledge (Bateman, Gray, & Butler, 2006; Gupta & Kim, 2004; Kim et al., 2008; Wasko & Faraj, 2000). Therefore, commitment is a stronger motivational factor for posters than for lurkers (Fan, Wu, & Chiang, 2009; Sun et al., 2014). In line with this research, we hold that employees will want to interact and participate in an ESN if they feel a strong commitment to the community and its values, and goals. Accordingly, we hypothesize:

H5: Posters exhibit a higher community commitment than lurkers.

3 Method

3.1 Sampling Procedures

We conducted a survey in a large multinational engineering company that offers a diverse portfolio of knowledge-intensive products, solutions, and services. The organization is active in various industries, mainly in the B2B sector, and has its headquarters in Germany. Due to its worldwide locations, it has a

geographically dispersed knowledge-intensive workforce that depends highly on technologies to share business-related information. To promote innovation and global exchange across geographical and hierarchical boundaries, the organization introduced an ESN platform as internal collaborative platform in 2013 for all employees worldwide. Since the company has successfully completed the implementation and adoption phase of the ESN and due to its size and global presence in several sectors, we believe this company provides a representative sample and that it highly suits our study.

The ESN has a similar interface to public social networks such as Facebook and allows its users to create a personal website that reveals personal and business-related contact information. The newsfeed on the ESN's front page displays a steady stream of content and recent activity that users can browse via keywords, topics, or hashtags. Additionally, it includes Web 2.0 features such as searching, tagging, following, and social networking, in order to enhance interconnectivity between employees. Employees can use the ESN to send and receive personal messages, collaborate, and exchange information in open or closed groups in virtual meetings or chats. All community members can see the published information and can access it via the Intranet or an app for mobile devices.

3.2 Measures

We recruited respondents via email, which meant we could reach all user groups and non-users of the ESN equally. To assess how frequently they actively participated in the ESN, we asked the participants to answer the question "How often do you create your own posts or comment on other posts?" on a five-point Likert scale with the following anchors: daily (1), several times a week (2), several times a month (3), less than once a month (4), never (5). Drawing on recent research (Lai & Chen, 2014; Marett & Joshi, 2009; Nonnecke et al., 2004; Preece et al., 2004; Ridings et al., 2006), we applied the strict no-posting definition for lurkers: members who stated that they never (5) post or comment on other posts in the ESN community. Conversely, we classified posters as members who posted and created content daily (1) to less than once a month (4), which agrees with prior research (Marett & Joshi, 2009; Nonnecke et al., 2004).

We used well-established measurements for the motivational constructs (i.e., reputation, common identity, common bond, social interaction, and community commitment) in order to investigate the research question in the ESN context. We slightly adapted the items in order to match the organizational context. We rated all answers on a five-point Likert-type scale (with anchors from strongly disagree (1) to strongly agree (5)). Due to restrictions by the case company regarding questionnaire length, we used two items to present each factor. To enhance our measures' validity, we submitted the shortened version of our questionnaire to a group of seven experts; they revised the items in terms of understandability and face validity as Rossiter (2002) proposes. We also conducted preliminary interviews with eight participants and discussed our selected questions concerning relevance to the context. We then conducted a pretest with n = 36 participants. After analyzing the retrieved data, we chose two items of each scale to include in our survey. We excluded all participants engaged in the preliminary survey from the final sample.

We evaluated reputation using a shortened version of the reputation scale that Wasko and Faraj (2005) deploy. We asked respondents to indicate to what extent they agreed with the statements: "I earn respect from others by participating in [the ESN]" and "I feel that the participation in [the ESN] improves my status within [the company]". The scale showed good reliability ($\alpha = .89$).

We measured common identity, common bond, and social interaction using adapted versions of the respective scales from Fiedler and Sarstedt (2014). We represented each scale with two items. We assessed common identity with the items "Belonging to the [ESN] community is very important to me" and "I feel a strong attachment to the [ESN] community". The scale showed good reliability ($\alpha = .85$). We measured common bond with the items "I feel very close to the other members of the [ESN] community" and "Many members of the [ESN] community have influenced my work-related thoughts and attitudes". The scale showed good reliability ($\alpha = .82$). We evaluated social interaction with the items "In the [ESN] community I share information about a particular subject with other members" and "In the [ESN] community I share my skills and abilities with other members". The scale showed good reliability ($\alpha = .82$).

Finally, we examined organizational community commitment using a shortened version of Mayer and Schoormann's (1992) scale. We asked respondents to indicate to what extent they agreed with the items "I am proud to tell others that I am part of the [ESN] community" and "I am willing to put in a great deal of effort in order to help the [ESN] community to be successful". Again, the scale showed good reliability ($\alpha = .81$).

4 Results

The final sample comprised n = 4,892 participants (30.1% female). On average, participants were 42 years old (M = 41.60, SD = 10.75) and had been working 13 years for their current employer (M = 13.10, SD = 10.41). Participants spent about one hour per week in the ESN (M = 1.25, SD = 1.82). Our results classified most users as posters (66.5%), with an average usage time of one-and-a-half hours per week (M = 1.52, SD = 2.11), while lurkers spent significant less time in the ESN (M = 0.71, SD = 0.79). This difference was significant (t(4757) = 19.70, p = .000) with a small effect size (d_{Cohen} = 0.46 (95 % CI [0.40, 0.51])).

To check for differences between posters and lurkers regarding the five motivational factors, we conducted an analysis of covariance (ANCOVA), including gender and age as covariates. We only present the respective covariates if they reached significance. Due to differences in group size between posters and lurkers, we report the effect size d_{Cohen} with pooled standard deviation (Cohen, 1988) and respective 95 percent confidence intervals (CI).

Overall, posters showed significant higher mean values for all five motivational aspects compared to lurkers. Specifically, we found a significance difference between posters and lurkers regarding reputation: posters showed higher motivational values (M = 2.46, SD = 1.10) than lurkers (M = 1.78, SD = 0.94) (F(1,4892) = 452.25, p = .000) with a medium effect size (d_{Cohen} = 0.64 (95% CI [0.58, 0.71])). Age was a significant covariate in the model (F(1,4892) = 22.92, p = .000, β < .01).

For the motivational aspect of common identity, posters showed significant higher mean values (M = 2.70, SD = 1.07) than lurkers (M = 1.95, SD = 0.96) (F(1,4892) = 575.14, p = .000) with a medium effect size (d_{Cohen} = 0.73 (95% CI [0.67, 0.79])).

Further, posters displayed significant higher mean values for common bond (M = 2.61, SD = 1.03) than lurkers (M = 1.89, SD = 0.93) (F(1,4892) = 578.18, p = .000) with a medium effect size (d_{Cohen} = 0.73 (95% CI [0.67, 0.79])). Age proved to be a significant covariate in the model (F(1,4892) = 12.75, p = .000, β < .01).

For the fourth motivational factor, social interaction, posters showed significant higher mean values (M = 3.19, SD = 1.01) than lurkers (M = 1.90, SD = 0.96) (F(1,4892) = 1841.01, p = .000) with a large effect size (d_{Cohen} = 1.30 (95% CI [1.23, 1.36])).

Finally, posters displayed significant higher mean values (M = 2.75, SD = 1.06) than lurkers (M = 1.99, SD = 0.97) regarding the motivational aspect community commitment (F(1,4892) = 595.13, p = .000) with a medium effect size (d_{Cohen} = .73 (95% CI [0.68, 0.80])). Again, age proved to be a significant covariate (F(1,4892) = 29.39, p = .000, β < .01).

Accordingly, our results support all five hypotheses. Overall, age proved to be a significant covariate in some of the models, but very small beta weights indicate it had little to no effect on the results.

4.1 Further Analysis

To more deeply understand the motivational differences between posters and lurkers, we also closely analyzed whether there are different subgroups of posters and lurkers that differ in their motivations for using ESNs. By further separating the different user groups, we answer the call for more detailed investigations into different user groups (e.g., Alarifi et al., 2015; Ridings et al., 2006). In addition to the proposed distinction between posters and lurkers, prior research has only differentiated the poster group into frequent posters (four or more posts per month) and infrequent posters (one to three posts per month) without discriminating the lurker group (Ridings et al., 2006). Extending this research, we further differentiated both the poster and lurker groups by not only asking participants how often they posted but also investigating their general usage frequency of the ESN. Thus, we additionally asked all participants "How often do you use the ESN platform?" on a five-point Likert scale with the following anchors: daily (1), several times a week (2), several times a month (3), less than once a month (4), and never (5).

By considering both the frequency with which users generally used, browsed, and read the ESN and the frequency with which they created content and commented, we can provide a more accurate picture of ESN usage and interactions. We identified three distinct poster subgroups. Employees who posted content daily (1) or several times a week (2) contributed the most content and were most likely to keep discussions going and to stimulate other participants (Ridings et al., 2006). Thus, we labeled those users super frequent posters since they shared content far more frequently than the average. We expected

them to differ from the group of frequent posters who created content several times a month (3) and, thus, regularly contributed to the ESN in that they had not integrated the system into their daily routine as much and participated less actively. Again, by contrast, infrequent posters posted or commented on others post on an irregular basis (namely, less than once a month (4)) and represent an intermediate user group between posters and lurkers.

We also differentiate the lurker group into frequent lurkers as participants who never (5) created content but used the ESN daily (1), several times a week (2), or several times a month (3) and infrequent lurkers who also never (5) created content but used the ESN less than once a month (4). We make this distinction since frequent lurkers may not create content but still use the ESN regularly and actively and even spread knowledge through active ESN use (Takahashi et al., 2003). Thus, these users provide much value to the community (Cranefield et al., 2015; Edelmann, 2013; Takahashi et al., 2003). In contrast, infrequent lurkers neither post content nor actively read the ESN. Nevertheless, one needs to leverage the potential of these rare users to widen the diffusion of and enhance activity in the ESN (Alarifi et al., 2015; Ridings et al., 2006). For an overview of the detailed distinction between the different user groups, see Figure 1. We do not include participants who never (5) use the ESN and never (5) create content in the analysis since we consider them as non-users.

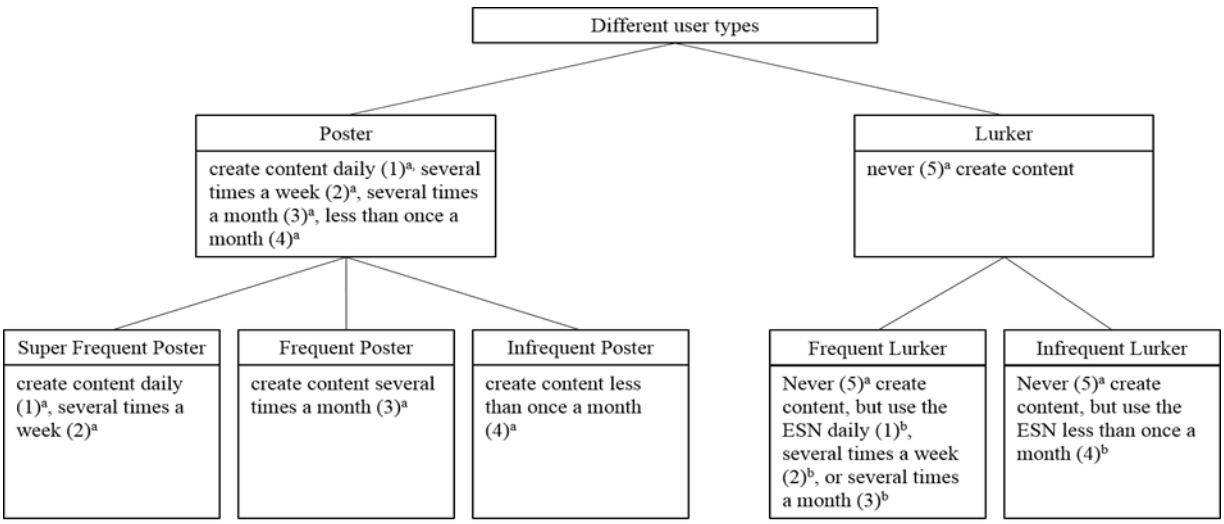

Figure 1. Classification of Different User Types[1]

Most participants qualified as infrequent posters (37.4%) followed by infrequent lurkers (16.9%), frequent lurkers (16.5%), frequent posters (15.9%), and super frequent posters (13.2%). In the user groups, super frequent posters spent more than two hours per week in the ESN (M = 2.53, SD = 3.63) followed by frequent posters (M = 1.63, SD = 1.77), infrequent posters (M = 1.12, SD = 1.25), frequent lurkers (M = 1.00, SD = 0.88), and infrequent lurkers (M = 0.45, SD = 0.58), which indicates a gradual decline in usage time for each usage group. The differences between the five groups of users were significant ($F(4,4891 = 149.95$, $p = .000$, partial $\eta^2 = .11$). Table 1 presents the results. We performed Bonferroni adjusted post hoc analyses to examine mean differences across all levels between the user groups. All post hoc mean comparisons were statistically significant ($p = .000$) except for infrequent posters and frequent lurkers, which showed no significant difference regarding usage time. Gender ($F(1,4891) = 4.86$, $p = .028$, partial $\eta^2 < .01$) and age ($F(1,4891) = 6.09$, $p = .014$, partial $\eta^2 < .01$) were significant covariates in the model but had little to no effect on the results as one can see in the very small effect sizes. We conducted an analysis of covariance (ANCOVA) that compared the groups of users (super frequent posters, frequent posters, infrequent posters, frequent lurkers, and infrequent lurkers) regarding the five motivational constructs (reputation, common identity, common bond, social interaction, and community commitment). We included gender and age as covariates. We only present covariates if they reached significance in the post hoc analysis. Table 1 presents the results.

[1] [a] question: “How often do you create your own posts or comment on other posts?”; [b] question: “How often do you use the ESN platform?”.

Table 1. Differences for Groups of Users Regarding the Motivational Factors Reputation, Common Identity, Common Bond, Social Interaction, and Community Commitment

	Super frequent posters		Frequent posters		Infrequent posters		Frequent lurkers		Infrequent lurkers		ANCOVA	
	M (SE)	CI	M (SE)	CI	M (SE)	CI	M (SE)	CI	M (SE)	CI	F(4,4891)	η^2
Reputation	2.97 (0.04)	[2.90; 3.05]	2.56 (0.04)	[2.49; 2.63]	2.23 (0.02)	[2.18; 2.27]	1.94 (0.04)	[1.87; 2.01]	1.62 (0.04)	[1.55; 1.69]	198.01***	.14
Common identity	3.30 (0.04)	[3.22; 3.37]	2.81 (0.04)	[2.74; 2.88]	2.45 (0.02)	[2.40; 2.49]	2.20 (0.03)	[2.13; 2.27]	1.70 (0.03)	[1.64; 1.77]	274.12***	.18
Common bond	3.14 (0.04)	[3.06; 3.21]	2.71 (0.03)	[2.64; 2.77]	2.38 (0.02)	[2.34; 2.43]	2.11 (0.03)	[2.05; 2.18]	1.66 (0.03)	[1.60; 1.73]	255.88***	.17
Social interaction	3.85 (0.04)	[3.78; 3.92]	3.38 (0.03)	[3.31; 3.44]	2.87 (0.02)	[2.83; 2.92]	2.04 (0.03)	[1.97; 2.10]	1.77 (0.03)	[1.70; 1.83]	666.20**	.35
Community Commitment	3.30 (0.04)	[3.22; 3.38]	2.87 (0.04)	[2.79; 2.93]	2.51 (0.02)	[2.46; 2.55]	2.16 (0.03)	[2.09; 2.23]	1.82 (0.03)	[1.75; 1.89]	251.25**	.17

Notes: *** p < .001, ** p < .01. Scales for the motivational constructs ranged between 1 (strongly disagree) and 5 (strongly agree).

4.1.1 Reputation

There was a significant difference between groups of users for reputation (F(4,4891) = 198.01, p = .000, partial η^2 = .14). We performed Bonferroni adjusted post hoc analyses to examine mean differences across all levels of users. All post hoc mean comparisons were statistically significant (p = .000). The effect was linear, which shows that super frequent posters had the highest mean values for reputation followed by frequent posters, infrequent posters, frequent lurkers, and infrequent lurkers. Age was a significant covariate in the model (F(1, 4891) = 21.90, p = .001, partial η^2 < .01).

4.1.2 Common Identity

There was a significant difference between groups of users for common identity (F(4,4891) = 274.12, p = .000, partial η^2 = .18). We performed Bonferroni adjusted post hoc analyses to determine differences in mean values for all user levels. All post hoc mean comparisons were statistically significant (p = .000). Super frequent posters had the highest mean values for common identity followed by frequent posters, infrequent posters, frequent lurkers, and infrequent lurkers.

4.1.3 Common Bond

There was a significant difference between groups of users for common bond (F(4,4891) = 255.88, p = .000, partial η^2 = .17). Post hoc analyses disclosed a linear effect for all groups regarding differences in mean values (p = .001). Super frequent posters had the highest mean values for common bond followed by frequent posters, infrequent posters, frequent lurkers, and infrequent lurkers. Age was a significant covariate in the model (F(1, 4891) = 12.23, p = .001, partial η^2 < .01).

4.1.4 Social Interaction

There was a significant difference between groups of users for social interaction (F(4,4891) = 666.20, p = .001, partial η^2 = .35). We carried out Bonferroni adjusted post hoc analyses to specify differences in mean values for all levels. All post hoc mean comparisons were statistically significant (p = .001). Super frequent posters had the highest mean values for social interaction, followed by frequent posters, infrequent posters, frequent lurkers, and infrequent lurkers.

4.1.5 Community Commitment

There was a significant difference between groups of users for community commitment (F(4,4891) = 251.25, p = .001, partial η^2 = .17). Post hoc analyses revealed a linear effect for all groups regarding differences in mean values (p = .001). Super frequent posters had the highest mean values for community commitment followed by frequent posters, infrequent posters, frequent lurkers, and infrequent lurkers. Age was a significant covariate in the model (F(1, 4891) = 28.60, p = .001, partial η^2 < .01). Overall, in some of the models, age proved to be a significant covariate. The very small effect sizes imply little to no effect on the results.

5 Discussion

To more deeply understand the different types of users in corporate social networks, we investigated the underlying motivational factors and differences for posting and lurking behaviors in the theoretical framework of SET. We identified existing subgroups of both user types and further differentiated between three groups of posters (super frequent, frequent, and infrequent posters) and two groups of lurkers (frequent and infrequent lurkers).

Our findings highlight that posters and lurkers differ significantly in why they participate in ESNs. Overall, posters showed higher motivations than lurkers. Further, we found significant difference between the five user groups regarding the five selected motivational factors for ESN usage. Super frequent posters showed significantly higher motivation on all five constructs than any other user group. This finding demonstrates that super frequent posters, as the most active user group, had the highest investments in the community but also expected, perceived, and received the highest social benefits for their engagement. Notably, among all groups of posters, social interaction had the highest mean value of all motivational factors. We could identify no such pattern for the highest mean values for lurkers.

Among lurkers, common bond was higher for frequent lurkers than for infrequent lurkers, which supports Ridings et al.'s (2006) assumption that lurkers provide an audience and follow and feel close to certain community members but that they hesitate to comment or respond in an ESN. This finding also implies that lurkers believe other community members to influence their work-related thoughts and attitudes, which concurs with Takahashi et al.'s (2003) findings.

Also, frequent lurkers showed higher mean values for common identity compared to infrequent lurkers. Thus, frequent lurkers found it important to belong to the ESN community and felt a strong attachment to it. This finding is interesting since it partly contradicts recent research that lurkers generally do not feel part of such a community or not as much as posters do (Nonnecke et al. 2004; Preece et al., 2004). Likewise, it confirms the findings of prior work that lurkers also feel a sense of belonging to a community (Beaudouin & Velkovska, 1999; Nonnecke & Preece, 2000; Nonnecke & Preece, 2003).

In the group of infrequent lurkers, community commitment had the highest values compared to the other four motivational factors. Since infrequent lurkers neither tend to create content nor routinely follow other members' activity, they read and log in to an ESN due to their commitment and obligation to their colleagues and community.

Reputation had the lowest mean values for all groups of users, which supports Ye et al.'s (2006) argument that intrinsic motivators such as commitment or attachment motivate people more strongly than extrinsic benefits such as reciprocity and reputation. At the same time, our results stand in contrast to one of the few quantitative motivational studies of ESNs (Rode, 2016), which found that extrinsic motivations (such as reputation and reciprocal benefits) have a stronger effect on knowledge-sharing processes than intrinsic motivations in the context of corporate social networks. It also contradicts van Osch et al.'s (2016) assumptions that the most active user group will engage in an ESN primarily to boost their reputation among their peers and supervisors and to contribute self-promoting content without consuming or sharing content that others contribute. Thus, our results imply that even the super frequent users do not exceedingly engage in self-presentation activities to enhance their standing. Overall, our results show that all groups of users perceive ESNs not as a way of building a stronger reputation but as forums for social exchange and interaction.

Moreover, our findings underscore that posters spent more time in the ESN than lurkers, which is intuitive since posters invest time not only in their postings and their active usage behaviors but also in reading content that others produce (Ridings et al., 2006). Super frequent posters spent more than two hours per week in the ESN. While in the context of online communities, two hours may not particularly high, it is a substantial amount of time when one considers that employees use the ESN in their (limited) working hours. Since the general working week was 35 hours in our case company, super frequent posters spent more than seven percent of their time in the ESN. Interestingly, infrequent posters and frequent lurkers spent about the same amount of average time using the ESN per week. Thus, we can see that one should consider both user groups as active users even though they differ regarding their usage behavior types in an ESN.

5.1 Theoretical Implications

By using the theoretical lens of SET and analyzing social exchange relationships in ESNs, we advance the understanding of the exchanged resources, perceived benefits, and costs for different user groups in an ESN context. We also provide evidence that posters and lurkers differ significantly in their underlying motivations for social exchange and expected rewards. These findings affirm that both posters and lurkers engage in social exchanges in the ESN context but experience social exchanges in the ESN community differently as previous research suggests (Ridings et al., 2006).

Our research adds to the growing debate about re-evaluating the lurkers' role (Edelmann, 2013; Cranefield et al., 2015; Takahashi et al., 2003). Our findings reveal that both posters and lurkers feel close to other members of the community and that they feel a strong attachment to and are proud to be part of the ESN community. The results also underpin that lurkers are not passive members but spend considerable time in the ESN and even engage in social interaction. Further, the relative high scores for community commitment and social interaction suggest that lurkers interact and engage with other community members outside the community. Consequently, we advocate that researchers need to re-evaluate lurkers' role and give them more attention and consideration in future research.

This study represents an initial effort to consider nuanced differentiations of both participant roles and identifies five significantly distinct user groups (super frequent posters, frequent posters, infrequent posters, frequent lurkers, and infrequent lurkers). Thus, we go beyond prior research (Ridings et al., 2006) and address numerous calls for a more detailed analysis of user groups and types (Alarifi et al., 2015; Alarifi & Sedera, 2014; Ridings et al., 2006; van Osch et al., 2016). By identifying, analyzing, and shedding light on these subgroups' usage behaviors in organizational settings, we illuminate distinct forms of participation in corporate social networks and advance the literature on posters and lurkers.

Furthermore, our work adds to the understanding of posters' and lurkers' motivations to participate in ESNs and closes several research gaps. To date, most studies on motivations for participation in the online community have considered only posters or have analyzed posting and lurking behaviors separately. Particularly in the ESN context, researchers have devoted almost no attention to studying posting and lurking behaviors, which prior work has also stressed (Alarifi et al., 2015; Lai & Chen, 2014; Ridings et al., 2006). Further, we do not know about any research that has considered the five selected motivational factors with regard to posting and lurking behaviors not only in the ESN context but also in the general context of online communities and public social networks. Our study provides evidence that the motivational factors reputation, common identity, common bond, social interaction, and community commitment differentiate posters and lurkers based on why they participate in ESNs. As a consequence, our findings also yield useful insights for research in other community contexts, such as online communities and networks in the private realm, which makes them particularly valuable for IS and knowledge management researchers.

5.2 Practical and Managerial Implications

Our research offers various important implications for organizations and managers who deal with introducing and diffusing ESNs across their organization. First, our study helps practitioners to understand the nature of the different usage types and the underlying motivational factors for both posting and lurking behaviors in ESNs. Practitioners often consider it desirable to turn all employees into frequent posters, which we show is a misconception by highlighting the significance, strengths, and weaknesses of each user type and emphasizing that lurking also constitutes a beneficial form of participation. Owing to the in-depth insights of the differences between posters and lurkers that this study provides, practitioners can now recognize the importance of each user type. Understanding and acknowledging the uniqueness of all user roles is key and forms the basis for all managerial actions and interventions.

Second, our study raises awareness that lurking behavior is indeed an active form of participation that benefits ESN communities. Managers and practitioners can learn from our study that the process of merely reading and following discussions in the ESN influences employees and changes lurkers' thoughts and work-related attitudes. Employees who lurk are also likely to carry their gained insights outside the community to exchange them with others and apply them in the context of their job duties. Based on these findings, IT architects and managers should rethink current managerial interventions, which focus only on increasing the number of contributing users.

Instead, community and IT architects should acknowledge lurkers as a valuable user group and, when designing an interface for an ESN, think about posters but also consider lurkers' specific needs and motivations, such as following discussions and finding the desired information easily so they can transfer knowledge. When companies evaluate the success of their ESN, they should consider not only the number of active users, groups, and messages created per month but also the likely benefit of knowledge transfer to outside environments and offline networks. Thus, we encourage community managers to not only consider the number of comments and likes but also the number of hits or views for individual contributions. Moreover, we recommend practitioners to gain useful insights by analyzing the quality of the postings from super frequent, frequent, and infrequent posters to look for consistent patterns. Further, we advise organizations to survey their employees to find out whether they find the acquired knowledge and information helpful to apply it in their daily work and whether they exchange and share their gained insights with other members.

Third, our research helps practitioners to diffuse ESNs by explaining the motivational differences between poster and lurker user groups—a key prerequisite for addressing employees who insufficiently use ESNs (Giermindl et al., 2017). Since an ESN's success largely depends on its members contributing information and knowledge, practitioners seek to convert lurkers into posters. Lurkers have the potential to enrich ESN communities if organizations can motivate them to actively engage in discussions. Since we found that the selected motivational factors were relevant for all user groups and that the poster groups showed overall significantly higher motivations than the lurker groups, we recommend organizations to strengthen the motivations of all user groups. Primarily, to unleash the potential of lurkers and harness their expertise and competencies, they need to increase lurkers' motivations to contribute and create content.

Fourth, our study and the underlying principles of SET assist leaders and community and communication managers to adequately address the specific needs of each user group. Managers should recognize that employees base their decision on whether and how to participate in ESNs by evaluating the perceived cost they will incur and expected socio-emotional rewards they will gain from doing so. In order to positively influence employee's evaluations, we advise formal and informal leaders to clearly communicate the intrinsic benefits of active ESN usage and to reduce the costs for participating in ESNs. For instance, community architects could facilitate social interaction and bond-based attachments by introducing smart user-recommendation systems to provide opportunities for people with similar interests and jobs to become acquainted and familiar with each other. Furthermore, managers could strengthen identity-based attachments by attracting a critical mass, creating networks effects and a large community with many possibilities for social interaction and connection, and emphasizing the ESN's purpose, goals, norms, or character. To promote community commitment and create a sense of obligation, leaders should increase their support and caring for individual employees both in the ESN community and through organizational support. Moreover, to address the extrinsic motivation and benefits of perceived reputation, managers could increase the visibility and active participation of top and senior managers in an ESN.

Altogether, our paper provides rich insights for managers about the distinct existing user types in ESNs and their social exchanges and underlying motivations for participation. Based on these insights, we encourage practitioners to rethink current managerial interventions and make more informed decisions in order to evaluate and promote participation in ESNs.

5.3 Limitations and Future Work

Our study has several limitations, which point to promising avenues for future research. First, we used cross-sectional data in our study, which does not allow for causal inferences. Although the existing literature supports our assumptions, longitudinal data would further strengthen our findings. We also investigated differences between groups of posters and lurkers at a single moment. Future research could inspect the longitudinal shift from one group to another, even in a cross-cultural setting.

Second, since we used single-source self-reported measures, common method variance (CMV) could potentially influence our results (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Richardson, Simmering, & Sturman, 2009). Researchers have advised that one should consider CMV prior to conducting research (Podsakoff et al., 2003). Nonetheless, in some cases, a study's research design does not allow for such an ex ante approach (Chang, van Witteloostuijn, & Eden, 2010) as in our study. In such cases, the literature proposes investigating CMV by composing ex post statistical approaches (Podsakoff et al., 2003; Malhorta, Kim, & Patil, 2006). Whereas some researchers consider CMV to be a serious threat to results' validity, others indicate that it has a moderate (Crampton & Wagner, 1994) or almost no influence

(Spector, 2006). While one cannot know the true amount of CMV in a study, Fuller, Simmering, Atinc, Atinc, and Babin (2016) recently used simulated data to test CMV's effect on study results. They found that CMV had little to no impact on the results if less than 70 percent of the variance is attributed to CMV (Fuller et al., 2016). The expected amount of CMV in single-source self-reported studies ranges from 10 percent (Malhorta et al., 2006) to 18 percent (Lance, Dawson, Birkelbach, & Hoffman, 2010), 35 percent (Podsakoff et al., 2003), and 41 percent (Cote & Buckley, 1987). Thus, even with a conservative estimation of CMV present in a single-source self-reported measure, CMV is unlikely to influence the results. Further, current approaches to detect CMV are very controversial and lack the necessary statistical validity (Fuller et al., 2016; Richardson et al., 2009; Spector, 2006), which leads to potentially false assumptions. Additionally, in our study, the questions we presented to the participants came from well-established constructs and, thus, were less likely to be influenced by common method bias (Malhorta et al., 2006; Podsakoff et al., 2003). Overall, we do not believe CMV to be a problem in the study. Even if CMV were present to some extent, recent research indicates that it does not substantially influence the results (Fuller et al., 2016; Richardson et al., 2009; Spector, 2006). Nonetheless, we strengthened the results' validity by reporting effect sizes that are unsusceptible to CMV's influence (Fuller et al., 2016).

Third, we could not measure constructs with complete scales owing to restrictions from our industry partner, the large sample size, and the number of participating employees. Nonetheless, we used shortened versions of validated scales from well-measured constructs and tested them with preliminary samples.

Fourth, since one cannot exhaustively consider all possible motivations responsible for users' participation in a single paper, we derived the most influential motivational factors from SET to analyze motivational differences between posters and lurkers. Nonetheless, other intrinsic and extrinsic motivational factors might be influential, and future research should consider more organizational and technological factors that impact posting and lurking behaviors. Furthermore, a qualitative approach might further shed light on motivational differences between the identified distinct user groups. Thus, we call for further research to reveal different motivational factors each different group of users.

6 Conclusion

To date, the motivational differences between posters and lurkers have received scarce attention. Further, no study has yet differentiated between different subgroups of posters and lurkers and examined the motivational differences for different user types in the ESN context in depth. Thus, our study makes several important theoretical and practical contributions to the currently limited body of research. First, we generate novel insights by integrating the literature on posters and lurkers with the framework of SET and applying it to the ESN context. Second, drawing on SET theory, we analyze key motivational factors for employees to use an ESN and corroborate motivational differences between posters and lurkers. Third, by investigating a rich dataset with almost 5,000 participants, we introduce an in-depth and nuanced classification of participant groups (super frequent posters, frequent posters, infrequent posters, frequent lurkers, and infrequent lurkers). We also found empirical support that the identified subgroups differ regarding the motivational factors in the context of the ESN. Fourth, we offer rich insights for other research contexts and the IS and knowledge-management community by shedding light on their usage behaviors in work settings, identifying subgroups, and advancing the understanding of employees' posting and lurking behaviors in ESNs. Fifth, we provide managers and IT architects with useful guidance to acknowledge the importance of all user roles and to enhance participation in ESNs by specifically addressing the needs and motives of lurkers. Overall, we trust this research will serve as a first step toward a more nuanced view of posting and lurking behaviors and will encourage further investigation regarding motivation factors for participation in the ESN context.

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Appendix A: Literature Review on Posting and Lurking Behaviors

Table A1. Literature Review: Posting and Lurking Behaviors

Study	Context of study	Theories and models	Method	Definitions of posters and lurkers	Key findings
Alarifi et al. (2015)	Enterprise social network	Elaboration likelihood model; intrinsic and extrinsic motivation; Kankanhalli et al.'s (2005) model of knowledge contribution	Quantitative survey (n = 366 in an Australian case organization)	Lurkers = members who did not create content in the past month Posters = members who posted or commented at least once in the past month	Extrinsic and intrinsic benefits (image and intrinsic interest, respectively) significantly predict posting, while intrinsic and extrinsic costs (fulfillment and loss of knowledge power, respectively) significantly predict lurking. Persuasion-based interventions (argument quality, source credibility) affect posters and lurkers' beliefs about participation.
Lai & Chen (2014)	Online communities	Knowledge-sharing, intrinsic motivation, and extrinsic motivation	Quantitative survey (n = 324 from the largest online community platform in Taiwan)	Lurkers = members who have never posted a message Posters = members who have posted at least one message in the past three months	Among the extrinsic motivational factors, reputation did not significantly influence the knowledge-sharing intention of posters or lurkers, while reciprocity significantly influenced the knowledge-sharing intentions of lurkers but not of posters. Among the intrinsic motivational factors, we found that enjoyment in helping others and knowledge self-efficacy are significant predictors of knowledge-sharing intentions of posters but not of lurkers.
Marett & Joshi (2009)	Online communities	Knowledge-sharing, information-sharing, and rumor-sharing; intrinsic and extrinsic motivations	Quantitative survey (n = 471 of an online discussion forum for sport fans)	Lurkers = members who have never posted to the forum Posters = members who have posted at least one message to the forum since becoming members	Posters' likelihood of sharing information and rumors are shaped collectively by all three factors (i.e., intrinsic, extrinsic, and normative). Lurkers are primarily driven by extrinsic and normative influences.
Nonnecke & Preece (2001)	Online communities	Gratification model; lurking	Qualitative study with 10 members of online groups	Lurker = anyone who posts infrequently or not at all	Lurking is a strategic and idiosyncratic activity. Lurking can meet members' personal and information needs Reasons for lurking vary and range from personal to work-related reasons Authors identified 79 reasons for lurking and seven lurkers' needs; the most important ones were: • Anonymity, privacy, and safety • Time-related and work-related constraints • Message volume and quality, and • Shyness about public posting.

Table A1. Literature Review: Posting and Lurking Behaviors

Nonnecke & Preece (2003)	Online communities	Lurking	Qualitative study with 10 members of online groups / discussion lists	Lurker = anyone who rarely or never participates publicly in online groups or communities	Authors discovered a total of 117 possible reasons for lurking, which they classified into eight categories: • Satisfy personal needs • Satisfy informational needs • Learn about the group • Leave a group quietly • Maintain privacy and safety • Reduce noise and exposure • Act with constraints, and • Act in response to group dynamics. Lurkers followed five strategies to deal with messages: • Maximize return on effort • Keep information manageable • Identify DL email among other email • Follow threads, and • Decide to read or to not read. Lurkers feel a sense of community (even without posting).
Nonnecke, et al. (2004)	Online communities	Posters and lurkers	Quantitative survey (n = 1,188 responses from 375 MSN bulletin board / online discussion board communities) with open-ended text questions	Lurkers = members who have never posted in the community at any time Posters = members who post	Lurkers and posters both join for personal reasons and come to get a general understanding. While lurkers did not publicly ask questions, they wanted answers to questions. Lurkers lurk for varied reasons: "just reading/browsing is enough" the most important reason. An offline presence of the community has no significant effect on lurking. Posters feel their needs are better met and perceive more benefit. Lurkers have less respect for posters. Lurkers feel like members, but posters feel a greater sense of membership. Posters consider lurkers as members more than lurkers do.
Preece et al. (2004)	Online communities	Posting and lurking	Quantitative survey (n = 1,188 responses from 375 MSN bulletin board communities) with open-ended text questions	Lurker = someone who has never posted in the community to which they belong Poster = someone who has posted in the community	Lurkers are not selfish free-riders. People lurk in OCs for various reasons: Lurkers: • Feel they do not need to post • Want to find out more about a group before participating • Feel they are being helpful by not posting • Cannot make the software work correctly in order to post • Do not like the group dynamics, and • The community is a poor fit for lurkers.

Table A1. Literature Review: Posting and Lurking Behaviors

Rafaeli et al. (2004)	Online communities	Social capital, social communication network approach (SCN)	Quantitative analysis of the SCN measures (82 online forums for asynchronous, e-learning undergraduate courses in one university; analysis of logs for eight months)	Lurkers = a persistent but silent audience De-lurking = going from passive participation (only visiting the forum to read) to active participation (actively posting opinions and thoughts on the forum)	Familiarity with the community and persistent involvement contributes to de-lurking. Information overload affects active and passive participation. The effects of group information overload cause users to read less and thus acquire less social capital. In turn, the reduction in social capital erodes community involvement.
Rau et al. (2008)	Social network services (SNSs)		Quantitative survey (n = 102 from one social network service)	Lurkers = members who posted less than three posts over a three-month period and who visited the site at least once a month on average Posters = members who posted more than three posts	Significant differences exist in both verbal and affective intimacy levels between lurkers and posters. The level of verbal intimacy level and the affective intimacy level are positively correlated with posting frequency. People lurk in SNSs because they believe their socioemotional needs may not be satisfied even if they post.
Ridings et al. (2006)	Online communities / virtual communities	Social exchange theory	Quantitative survey (n = 663 participants from 36 bulletin board virtual communities)	Lurkers= users who never post Infrequent posters = users who have posted three or less times per month Frequent posters = users who have posted four or more times per month	Lurkers differed significantly from posters, especially in their willingness to give information and exchange social support. There is a gradual progression from lurker to poster regarding the desires to get knowledge and obtain shopping information.
Schlosser (2005)	Multiple audience context / film reviews	Posters and lurkers	Experimental design: Experiment 1 with n = 154 students and 2 x 3 factorial; experiment 2 with n = 137 students and a 2 x 2 x 2 factorial		Posters' ratings were significantly less favorable when they received a negative rather than a positive review. Posters' ratings did not differ when they received a positive review from when they received no review. The negative review influenced posters' ratings more than lurkers' ratings. These results suggest that a negativity bias is triggered by a negative review and is a self-presentational strategy used by posters.
Van Uden-Kraan et al. (2008)	Online support groups	Posters and lurkers	Quantitative survey (n = 528 of 19 online support groups)	Lurkers = members who have never posted to the online group Posters = members who have posted to the online group	Participation in an online support group had the same profound effect on lurkers' self-reported feelings of being empowered in several areas as it had on posters (with the exception of the outcome enhanced social wellbeing). Thus, the mere reading of postings from others in online support groups can benefit patients. Lurking in online support groups can be seen as a form of bibliotherapy.

Appendix B: An Overview of the Literature on Motivational Factors

Table B1. Overview of Prior Literature on the Selected Motivational Factors

Motivational factor	Research context		Research subject	
	Online communities and public social networks	Enterprise social networks	No differentiated analysis between posters and lurkers	Differentiated analysis between posters and lurkers
Reputation	Chan & Chuang (2011), Faraj et al. (2009), Jeppesen & Frederiksen (2006), Lai & Chen (2014), Marett & Joshi (2009), Moore & Serva (2007), Nov, Naaman, & Ye (2009), Tang, Gu, & Whinston (2012), Wasko & Faraj (2005), Ye et al. (2006)	Alarifi et al. (2015), Alarifi & Sedera (2014), Kügler et al. (2012, 2015), Rode (2016)	Chan & Chuang (2011), Faraj et al. (2009), Jeppesen & Frederiksen (2006), Kügler et al. (2012), Kügler et al. (2015), Rode (2016), Moore & Serva (2007), Nov et al. (2009), Tan et al. (2012), Wasko & Faraj (2005), Ye et al. (2006)	Alarifi et al. (2015), Alarifi & Sedera (2014), Lai & Chen (2014), Marett & Joshi (2009)
Common Identity	Chan & Chuang (2011), Chiu et al. (2006), Dholakia et al. (2004), Fiedler & Sarstedt (2014), Postmes, Spears, Sakhel, & De Root (2001), Postmes, Spears, Lee, & Novak (2005), Prentice et al. (1994), Ren et al. (2007, 2011, 2012), Sassenberg (2002), Utz & Sassenberg (2002)	Kügler et al. (2012)	Chan & Chuang (2011), Dholakia et al. (2004), Fiedler & Sarstedt (2014), Postmes et al. (2001, 2005), Ren et al. (2007, 2012), Sassenberg (2002)	
Common bond	Fiedler & Sarstedt (2014), Prentice et al. (1994), Ren et al. (2007, 2011, 2012), Sassenberg (2002), Utz & Sassenberg (2002)		Fiedler & Sarstedt (2014), Ren et al. (2007, 2012), Sassenberg (2002)	
Social interaction	Chan & Chuang (2011), Chiu et al. (2006), Faraj & Johnson (2011), Fiedler & Sarstedt (2014), McKenna & Bargh (1999), Ren et al. (2007), Slater et al. (2006), Tsai & Ghoshal (1998), Yli-Renko, Autio, & Sapienza (2001)		Chan & Chuang (2011), Chiu et al. (2006), Faraj & Johnson (2011), Fiedler & Sarstedt (2014), McKenna & Bargh (1999), Ren et al. (2007), Slater et al. (2006)	
Community commitment	Bateman (2007), Bateman et al. (2006), Bock & Ng (2004), Ellemers, Kortekaas, & Ouwerkerk (1999), Fan et al. (2009), Faraj et al. (2009), Gupta & Kim (2004), Hur et al. (2011), Jang, Olfman, Ko, Koh, & Kim (2008), Kim et al. (2008), Nov et al. (2009), Ren et al. (2011), Sun et al. (2014), Wasko & Faraj (2005), Wellmann et al. (2001), Ye et al. (2006)		Bateman (2007), Bateman et al. (2006), Bock & Ng (2004), Ellemers et al. (1999), Gupta & Kim (2004), Hur et al. (2011), Jang et al. (2008), Kim et al. (2008), Nov et al. (2009), Wasko & Faraj (2005), Wellmann et al. (2001), Ye et al. (2006)	Fan et al. (2009), Sun et al. (2014)

About the Authors

Lisa Giermindl is a PhD candidate at the University of Passau, Germany. Her current research focuses on Enterprise Social Networks, digitalization, digital transformation, and leadership and organizational change. She holds a triple diploma in International Business and Cultural Studies of the Universities of Passau (Germany), Limerick (Ireland) and Granada (Spain) and has extensive working experience as an HR manager for multinational companies.

Franz Strich is a research assistant and PhD candidate at the University of Passau, Germany. His current research focuses on social network analysis, strategic use of Enterprise Social Networks, organizational change, intercultural differences, and advanced statistical methods. Beforehand, he studied Psychology at the University of Halle (Saale) and has been working as research assistant since 2015.

Marina Fiedler is Professor of Management, People and Information at the University of Passau, Germany. Her research focuses on the implications of institutional and individual antecedents on behavior of economic actors. She is particularly interested in pro-environmental behavior of employees and information systems, mindful management practices, work 4.0, and enterprise social networks. She has published papers in journals such as *Games and Economic Behavior*, *Journal of Economic Behavior and Organization*, *Organization Studies,* and *Research Policy*. She has taught a wide range of courses in Management and Positive Psychology at the undergraduate, MBA, Executive MBA and PhD levels. She follows a multi-method research approach, employing a variety of different data sources and research designs (experimental and correlative designs).

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