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# IS IT REALLY ABOUT FACTS? THE POSITIVE SIDE OF "MEFORMING" FOR TURNING SELF-DISCLOSURE INTO SOCIAL CAPITAL IN ENTERPRISE SOCIAL MEDIA

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# IS IT REALLY ABOUT FACTS? THE POSITIVE SIDE OF 'MEFORMING' FOR TURNING SELF-DISCLOSURE INTO SOCIAL CAPITAL IN ENTERPRISE SOCIAL MEDIA

*Complete Research*

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## Abstract

*Through the way in which people communicate they can affect their relationships, social network structures and ultimately the social capital acquired through their connections. We understand social capital from an ego-centric point of view as the resources obtained through the relationships among people within social networks. Social capital is a key factor for the performance of individuals and organizations. Therefore, companies increasingly implement social media platforms to facilitate communication among employees and to leverage the social capital benefits. To enhance our understanding of successfully building social capital through communication in enterprise social media, we apply human coding and quantitative analysis to the content and tone of 6,306 enterprise microblogging messages created by 136 employees of an international financial service provider. In accordance with existing information systems (IS) literature, we develop a model-based operationalization of communication styles and empirically abstract the two general communication types of In- and Meformers. Analysing the individual network structures of these communication types, we identify differences in the effectiveness building of social capital. Contrary to preliminary findings in public social media, our results suggest that a more self-disclosing communication type benefits from a higher efficacy in building social capital compared to a primarily factual-oriented communication type.*

*Keywords: Communication Type, Social Capital, Enterprise Microblogging, Enterprise Social Media.*

## 1 Introduction

Social capital is considered a key factor for the performance of individuals as well as companies by enabling the creation and sharing of organizational knowledge (Nahapiet and Ghoshal, 1998). A growing body of literature has demonstrated that enterprise social media (ESM) is a promising solution to support collaboration and relationship building among employees (DiMicco et al., 2008) which ultimately results in an increase in social capital (SC) (Steinfeld et al., 2009). Enterprise social media enabled SC has in turn been found to enhance information sharing, support information seeking, sustain a feeling of connectedness, and build a common ground among colleagues (Jacovi et al., 2011). Social capital is understood as the resource obtained through the relationships among people within social networks (Nahapiet and Ghoshal, 1998) and resides in relationships which are created through mutual exchange (Bourdieu, 1986). Hence, the pattern of relationships a person has established within a network influences the access to and the added value of SC.

In order to leverage the potential of social media to build SC, Ellison et al. (2011a) call for research to analyse specific social media communication practices. In network learning environments, literature suggests that different communication types (CT) can influence SC in terms of the structure of social networks (Cho et al., 2007), the diversity of relational linkages, and ultimately even affect business outcomes (McCroskey et al., 1984; Richmond and Roach, 1992). Communication types are generally understood as particular ways of making contact, communicating and forming a relationship with others (Schulz von Thun, 1989).

So far, however, work on communication practices in social media has focused mainly on the generic usage like the number of messages, discussed topics, and shared content (Ellison et al., 2011a; Java et al., 2007; Naaman et al., 2010). Regarding the building of SC through communication, research has been limited to compare the degree of (more vs. less) self-disclosure for building SC, thereby neglecting the impact of different types of (e.g. self-disclosing vs. factually oriented) communication. Moreover, these studies generally rely on reactive self-report instruments for single dimensions of SC (Ellison et al., 2011a; Ellison et al., 2011b). Preliminary research that considers diverse CTs in social media indicates a higher level of SC in terms of larger numbers of friends and followers for a factually oriented CT compared to a rather self-disclosing communicator (Naaman et al., 2010). These findings, however, only follow a descriptive approach towards communication and also do not consider the multidimensionality of SC (Nahapiet and Ghoshal, 1998).

This study is among the first to explore the relationship between social capital and specific communication practices on enterprise microblogging (EMB) as one of the most widely adopted forms of ESM. Specifically, we assume that the way in which users typically communicate within an EMB influences their network structure, which ultimately affects their SC. Therefore, we differentiate four different communication styles on the single message level, based on the content and tone of the message, and a user's overall communication type (CT), as an aggregation of the individual communication styles expressed in the messages. Thus, we analysed a large dataset of EMB messages and empirically abstract the two CTs of Informers and Meformers in accordance with preliminary IS literature (Naaman et al., 2010). While Informers mainly communicate factual information, Meformers primarily convey self-disclosing messages about their mood or current activities. Moreover, we assess the SC of each user to examine *how communication types differ concerning their efficacy in building SC*.

Regarding the communication style, we analyse each message through the lens of the distinguished "communication square" model of Schulz von Thun (1981; 2008) which differentiates four styles of a message: factual information, self-statement, relationship indicator, and appeal. This approach allows us to appreciate the full complexity of communication without having to rely on self-report measures. Through addressing this research question, we contribute to social media literature by extending existing communication theory which allows us to simultaneously consider multiple communication styles instead of only one. Furthermore, we analyse how the different use of ESM in terms of CTs might foster building of SC in organizations. Hereby, we consider SC in its multidimensional form and measure differences in the users' actual network structures. Finally, we address the calls from Ellison et al. (2011a) and Richter et al. (2011) by providing theory-guided insights into the role of communication to leverage the value of social media for organizations.

The remainder of this paper is organized as follows. In the next section, we outline the theoretical background for our research question. Subsequently, we provide details of our empirical study, describe our research methodology, and illustrate the results of our analysis. Finally, we discuss our findings and present limitations of our work as well as implications for further research.

## 2 Theoretical Background

### 2.1 From communication styles to communication types

A large body of microblogging research has investigated the users' communicative behaviour in terms of different self-presentation strategies (Zhao and Rosson, 2009), building interpersonal relationships (Jacovi et al., 2011), coordinating work processes (Riemer and Richter, 2010), and sharing of information (Seebach, 2012). Although the broader concept of CTs has been studied extensively in psychology and educational science (Cho et al., 2007), social media research in this field is scarce. The commonly established idea that individuals exhibit personality-like differences in their general CTs resulted in numerous self-report CT indices. These CT have been found to influence the structure of a person's network substantially (Cho et al., 2007). Preliminary work in the field of public microblogging by Naaman et al. (2010) identified the two CTs of Informers and Meformers.

In this study, we apply the psychological "communication square" model (Schulz von Thun, 1981; 2008) to analyse communication styles in the context of EMB and abstract CTs in accordance with the existing IS literature. The "communication square" model was applied due to its potential to analyse single messages while respecting the complexity (in terms of multidimensionality) of communication. Based on the tone and content of the communication, we first identify four potential communication styles within each message, and then derive overall CTs statistically.

Based on the work on human communication, Schulz von Thun distinguishes four different communication styles within any message in his seminal model of a "communication square" (Schulz von Thun, 2008). He proposes that, in general, any message contains information on four "sides" (in metaphorical terms of the communication "square"): the matter as such (factual information), the sender (self-statement), the receiver (relationship-indicator) and the intended impact (appeal). Although each message principally contains all four layers, it is acknowledged that people have different CTs based on which (combination of) communication styles they address more explicitly (Schulz von Thun, 1989). Accordingly, it is important to express clearly the intended style to avoid misunderstanding. Which side of a message sender and receiver focus on is influenced by the persons' individual background (e.g. culture, intentions, expectations, communicative skill), the characteristics of the situation (e.g. work or private environment), and non-verbal qualifications of the explicit content (e.g. tone, inflexion, gestures) (Schulz von Thun, 2008).

The *factual information* layer of a message comprises the content component delivering factual information on objects, events, or people. Such a 'hard fact' can be judged based on three different criteria: truth, relevance and completeness. It is assumed that factual information can be clearly recognized as true or false, be more or less significant to the matter, and provide full or incomplete knowledge (e.g., "An employee in this company works about 50 hours per week."). This side of the communication square is explicitly and predominantly focused on within work-related communication (Schulz von Thun, 2008).

A *self-statement* is a message that reveals something about the sender. This can either be a more voluntary form of self-presentation or a rather unintended self-revelation. The voluntary form of self-presentation encompasses techniques of intended self-display (e.g. ostentation or pretence as well as demonstrative self-diminishment). This side of the message is usually displayed in "Me-Statements" (e.g., "I consider myself as very hardworking.") (Schulz von Thun, 2008).

The *relationship indicator* contains two aspects of information: the sender's estimation of the receiver and his or her estimation of their mutual relationship. The assessment of the receiver is usually communicated in "You-Statements" (e.g., "You are very ambitious because you work far more than the average.") and classified according to the two dimensions "appreciation vs. depreciation" and "guidance/ paternalism". The evaluation of the relationship is commonly phrased in "We-Statements" (e.g., "We both are working very hard together for the success of our company.") resulting in

symmetric, complementary or meta-complementary relationships. Many times non-verbal signals like the tone of voice and the wording of a statement play a major role in the relationship layer (Schulz von Thun, 2008).

On the *appeal* layer of a message the sender is trying to affect the receiver to (not) do something (e.g., “Please get this done by today, even if it means staying a little longer tonight!”). This influence can be more or less obvious. The case of a hidden appeal is called manipulation and originates from an exploiting the other message layers and thereby enabling the sender to achieve something without taking responsibility for it (e.g. exploiting the self-statement layer by saying “I would want to make a good impression by having this work done by tonight.”). In order to express an appeal openly the sender needs to supplement the appeal with sufficient factual information as to why a certain intention is aspired (Schulz von Thun, 2008).

In public social media, Naaman et al. (2010) identified the two different CTs of *Informers* and *Meformers*. In sum, Informers focus on distributing factual information in their Twitter messages while Meformers are preoccupied with sending “me now” messages about their mood or current activities. Accordingly, in public social media Informers are mentioned more often in other users’ tweets, have more followers and more friends as compared to Meformers who, however, represent the majority of Twitter users. In terms of the “communication square” model, we assume that Informers adopt more often the more impersonal communication styles factual information and appeal, while Meformers would rely more on the rather interpersonal self-statement and relationship indicator communication styles (Walther, 1996).

## 2.2 Social capital in organizations

The concept of SC and its added value for organizations has attracted extensive attention in various social science disciplines over the past decades (Adler and Kwon, 2002). In general, SC denotes the resources obtained through the relationships among people within a specific social network (Coleman, 1988; Lin, 2002; Putnam, 1995). Due to the core functionality of social media to build relationships and support communication among people and along with the strong empirical support for SC leverage through social media (Ellison et al., 2011b), we consider SC to be highly relevant to study in the context of ESM. In this study, by analysing the individual network structures derived from the relationships among the EMB users, we focus on the mechanisms that generate SC (Portes, 2000). Thus we explore the possibilities of social network sites to build SC (Ellison et al., 2007) and investigate the value of social media for enterprises (Richter et al., 2011). Hereby, we adopt an ego-centric approach focusing on the building of SC for the individual actor in a network (van Reijssen and Helms, 2011).

Following Nahapiet and Ghoshal (1998), we understand SC in terms of the three clusters: structural capital, relationship capital, and cognitive capital. This conceptualization of SC has already been adopted to IS research (Trier and Molka-Danielsen, 2012). *Structural capital* describes the overall patterns of whether and how people are connected within the network structure. Important for structural capital is the presence or absence of network ties between people as well as the corresponding network positions (i.e., centrality). The benefits of embeddedness in social network structures have been explained through the theory of structural holes (Burt, 2001) and the strength of weak ties (Granovetter, 1973), generally pointing out the significance of having a large network (Trier and Molka-Danielsen, 2012). *Relationship capital*, however, emphasizes the quality of the personal relationships which people have developed through interactions. The relationship strength is based on trust, mutual respect, shared norms, or on friendship between the actors. *Cognitive capital* comprises the common understanding and concepts shared by the different actors within a network (Nahapiet and Ghoshal, 1998). Such shared concepts depend on similar experiences and communication (Trier and Molka-Danielsen, 2012) which enables individuals within a network to have similar interpretations of events. Subsequently, we will analyse how different CTs can help to build different forms of SC on the individual level in the context of ESM.

### 3 Empirical Study – Enterprise Microblogging

Out of the different social media technologies worth analysing regarding our research questions, EMB is considered one of the most pervasive forms of electronic communication (Richter et al., 2011) and is as such a promising technology for building SC in organizations (Ellison et al., 2011b; Pahlke, 2012). Despite common concerns of reduced productivity and information overload, first scientific studies have demonstrated the potential benefits of EMB in supporting collaboration and, thereby, creating productive work environments (Riemer et al., 2010). Accordingly, we assume particularly EMB to be a promising social media technology for supporting organizational collaboration and communication (Wasko et al., 2009) and ultimately for building SC for the users (Pahlke, 2012).

#### 3.1 Case description and data collection

Our EMB dataset was obtained from a leading international financial institution with globally over one hundred thousand employees. The platform was implemented to support collaboration and knowledge exchange among the employees across departments and countries in June 2010. More than a thousand employees from all corporate divisions (e.g. HR and IT) used it extensively by the end of 2010.

The functionalities offered by the EMB tool are comparable to Twitter. Users can post short messages that contain up to 300 characters which appear in a chronologically organized stream generally visible to everyone. To structure the message stream filtering by keywords, users, and groups is possible. Furthermore, applying a ‘follower-feature’ enables users to customize incoming message streams by defining to “follow” specific users and confine incoming messages accordingly. The participation is non-anonymous as the full name and profile picture is displayed with each message. Therefore, all users participate voluntarily and access the EMB via a desktop application, a web frontend, or by different mobile devices.

Overall, the dataset contained over 15,000 messages posted by 1,166 users on the EMB platform from July to December 2010. We cut off the first two months of data (July and August) to preclude assimilation effects like usage lags and unstable utilization (Fichman and Kemerer, 1999). Additionally, for coder training purposes (further described below) data from the third month (September) was used (Lombard et al., 2002). Finally, our sample was limited to the platform’s main users (about 12% of the overall sample) who asked at least one question and sent five messages. This ratio of main users and lurkers is typical for online communities (Nonnecke and Preece, 2000; Preece et al., 2004). We focused on main users since SC is a result of instrumental sociability and building it requires active participation in networks (Portes, 2000). Ultimately, the data sample comprised 6,306 messages from 136 users. Moreover, an expert interview with one of the IT managers responsible for the EMB system revealed that approximately 80% of the users are employed in the IT department as one of the largest departments of the financial institution. These users range from university hires to directors across all age groups.

#### 3.2 Method and Measures

##### 3.2.1 Directed content analysis procedure

We conducted a manual directed content analysis to discover (1) which and to what extent users adopt different communication styles on an EMB platform and (2) to assess the quality of knowledge expressed in their messages (as a proxy for reputation). The coding of the communication styles was derived from the communication square model (Schulz von Thun, 2008). The quality of knowledge for each message was assessed on a unipolar five-point scale based on the helpfulness (“1 = not helpful at all” to “5 = very helpful”) of the specific contribution (Wasko and Faraj, 2005). Previous work has substantiated the application of the underlying coding scheme in the microblogging context (e.g.,

(Beck et al., 2014; Pahlke, 2012). In general, directed content analysis allows to classify text into specific categories in reference to an explicit coding scheme derived from existing theory and findings from prior research to make systematic, replicable, and valid inferences from data to the context (Hsieh and Shannon, 2005; Krippendorff, 2012). First, we inferred key concepts for initial coding categories (different communication styles and quality of knowledge levels) and then built category specific operational definitions based on theory and literature (Potter and Levine-Donnerstein, 1999). The coding scheme provided a descriptive evaluation of the message tone and content in order to avoid presumptions about the user sending the message (e.g., manipulation intentions, boasting).

We addressed the commonly issued reproval of subjectivity in content analysis (Harwood and Garry, 2003) by following established principles along all steps of analysis. Specifically, we followed Morris' 5-step process for manual content analysis (Morris, 1994).

Step one: Unit of analysis for the coding process. Since single messages are commonly used as the unit of analysis, are objectively identifiable by independent coders, and reflect the sender's original meaning the closest (Rourke et al., 2001) we adopted this level of analysis. For communication style we established each message and quality of knowledge for each contribution to another posting as the unit of analysis.

Step two: Developing a coding schemata. Based on established theories (Morris, 1994; Rourke et al., 2001) the coding schemata for communication styles referred to the work of Schulz von Thun (2008) while the quality of knowledge was coded in accordance with categories developed by Wasko and Faraj (2005) and their adoption to the microblogging context (Pahlke, 2012). Furthermore, we intensively discussed both coding schemata among a panel of one practitioner and three researchers familiar with the theories. Subsequently, the coding schemata were revised several times during the following process until the final version was established (see below).

Step three: Coding scheme adjustments. Here, the coder's familiarity with the schemata was built in order to establish objectivity of the judges (Kolbe and Burnett, 1991). The training comprised the independent test-coding of a 100 messages training sample by two researchers (Lombard et al., 2002). Afterwards, the results were compared, discussed, and the coding schemata revised accordingly.

Step four: Coder training. To establish reliability of the codings we conducted an iterative sample coding until reaching an acceptable level. In accordance with accepted guidelines, for each iteration a data sample of 200 messages was coded (Harwood and Garry, 2003) and reliability scores Krippendorff's alpha and Fleiss' kappa (Lombard et al., 2002; Wever et al., 2006) of above .70 were considered satisfactory (Krippendorff, 2004; Neuendorf, 2002). Following each iteration, apparent discrepancies were discussed among the coders and the coding scheme was revised accordingly (Morris, 1994). The acceptable level of intercoder reliability was obtained for both coding schemata after two iterations. Messages from this and the previous step were excluded from the final analysis.

Step five: One author processed all 6,306 messages based on the previously established coding schemata. Although intercoder reliability is usually based on the coding results of the entire data sample, it is a common approach for large datasets to rely on a data share (D'Aveni and MacMillan, 1990; Lombard et al., 2002).

### **3.2.2 Model based operationalization of communication styles**

Based on the concept of four different communication styles in the communication square model (Schulz von Thun, 1981) and based on prior work (Risius and Beck, 2014), we considered the communication style of the messages as key concept for the coding categories. The operationalization of these communication style categories was derived from the detailed descriptions of the specific communication styles in the model (Schulz von Thun, 2008). Following the model's assumption that each message can principally contain all four communication styles, we coded all styles apparent within each message. For the sake of convenience, however, the following descriptions of the operational definitions will focus on the description of singular communication styles (see table 1).

Communication Style	Definition	Example from data sample
<b>Factual Information</b>	<b>What the sender informs about.</b> Hard facts concerning objects, persons or events.	<i>Have a look see: <a href="http://domain.com/c-bin/TWiki/">http://domain.com/c-bin/TWiki/</a></i>
<b>Self-Statement</b>	<b>What is being revealed about the sender.</b> Information about the sender as person. This can either take the form of a voluntary self-presentation or an involuntary self-revelation.	<i>I just read the article too I am really excited to see things already in action in Tokyo.</i>
<b>Relationship-Indicator</b>	<b>What the sender thinks about the receiver and their relationship.</b> The sender's assessment of the receiver as a person and of their mutual relationship.	<i>@54c719bc Great to meet you at the unconference - I hope you got something from the collaboration session. :)</i>
<b>Appeal</b>	<b>What the sender is trying to induce.</b> The sender prompts the receiver (not) to do something.	<i>Please someone help me to set up a sharepoint access location and its cost details.</i>

Table 1. Overview of the four sides of the communication square.

A message contained *factual information* whenever someone shared (or asked for) work-related information concerning software, responsibilities or links to websites, news articles, video or audio files (“@1c83d Should be able to use <http://domain.com/wiki/Help:Collapsing>”). Also status updates about a person's past, current, or future activities, as well as the explanation of future plans or suggestions were considered factual information. The key criterion to distinguish factual information from self-disclosure was the absence of emotional cues. To differentiate between factual suggestions and appeal the immediacy of the message was considered: A suggestion made impersonally (“@696a5725 Uninstalling & reinstalling OCS solves the problem”) is considered factual information.

Messages were generally considered as *self-statement* then they were biased subjectively. “Me-Messages” as well as “We-messages” (when relating to a smaller group the sender was part of) were considered indicators for this message layer. Specifically subjectively framed or emotionally displayed information (“Also takes me a long time (+ frustration) to interpret internet slang. Although the translator <http://domain.com/> is my best friend :-))” expressing personal opinion was counted as self-disclosing statements. Moreover, appraisal of projects or ideas as well as (dis)agreement to another statement was included in self-disclosure. The differentiation from relationship statements was made by considering whether (dis)agreement or appraisal was directed towards a fact (self-disclosure) or relating to a person (relationship). The use of emoticons served as an indicator for self-disclosure, since it conveys the sender's conscious intentions and motives (Walther and D'Addario, 2001).

Whenever someone was commenting on another person or his or her mutual relationship, this was assessed as a *relationship statement*. Therefore “You-” as well as “We-“ resp. “Our-messages” (when relating directly to the interaction people) served as indicators for the relationship side (“we'd love to get your insights and also share what we're collectively gathering in our community”). Whenever someone's (dis)agreement or assessment was directed towards a person and not to a point, as well as making inferences about another person (“I think you'll like it (being smart and forward-thinking as you are :-))” was coded as a relationship statement. Thankfulness towards another person was only included when explicitly relating to another person, whereas a simple “thanks” was excluded from the analysis due to its inconclusiveness. Emoticons served as an indicator for the relationship side due to their role in relational communication online (Walther, 1995).

*Appeal* was coded when someone explicitly instructed another person to (not) do something. This could happen either in form of demands (“So please let us know if you've a solution for this.”) or by instructively coordinating others. Also questions explicitly having an appellative quality (“Could you or anyone advise how to do that?”), they were considered as an appeal. Suggestions formulated in a pressing fashion were also subsumed in this category.

For the subsequent cluster analysis, we computed the average communication style frequency within the total number of messages specifically for each user.



### 3.2.3 Empirically abstracting the communication types of In- and Meformers

The main goal of our analysis is to abstract different CTs and compare them in regard to their SC. To differentiate the communication types, we performed a confirmatory cluster analysis depending on the communication style of the messages a user posted. Based on existing IS literature and prior work (Risius and Beck, 2014) we expected to find the two groups of In- and Meformers (Naaman et al., 2010). Informers are expected to adopt the more impersonal communication styles of factual information and appeal, while Meformers refer more to the interpersonal communication styles of self-disclosure and relationship indicators (Walther, 1996).

Cluster analysis allowed us to abstract groups of communication types with minimal communication style variance within the groups but maximal across groups (Kaufman and Rousseeuw, 2009) in order to derive distinct and meaningful clusters from the assimilation of the four communication styles. We followed the two-step process recommended by Ketchen and Shook (1996), and Merchant (2000) to abstract the CTs (Risius and Beck, 2014). First, the inspection of the Euclidean distances trend across clusters in the dendrogram of Ward's hierarchical clustering method supported a two-cluster solution. Second, the robustness evaluation of this solution by generating three-, and four-cluster solutions with the K-means clustering algorithm substantiated this solution. All of these alternative solutions either had a weaker discriminatory power or produced non-meaningful clusters. We therefore concluded that the assumed two-cluster solution best captured the CTs.

CT	Sample Number of		Factual Information		Relationship Indicator		Self-Statement		Appeal	
	users	messages	abs.	rel.	abs.	rel.	abs.	rel.	abs.	rel.
Informer	79	3,043	2,258	77.17	373	11.21	1,207	37.92	230	9.16
Meformer	57	3,263	1,852	44.63	472	14.4	1,857	51.75	209	4.74
Total	136	6,306	4,110	63.53	845	13.39	3,064	43.71	439	7.31

Statistics: abs. = absolute frequency, rel. = relative frequency (based on the individual level)

Table 2. Descriptive statistics for the different communication types.

The descriptive results (see table 2) and inferential statistics support the interpretation of the clusters as In- and Meformers. The post-hoc analysis confirmed that Informers' messages contain significantly more factual information ( $\bar{x}_1=77.17$ ,  $\bar{x}_2=44.63$ ,  $T=13.685$ ,  $p<.01$ ) and appeals ( $\bar{x}_1=9.16$ ,  $\bar{x}_2=4.74$ ,  $T=3.454$ ,  $p<.01$ ) than those of Meformers. Meformers, on the contrary, communicate more self-statements ( $\bar{x}_2=51.75$ ,  $\bar{x}_1=37.92$ ,  $T=4.252$ ,  $p<.01$ ) compared to Informers. Relationship-indicators did not differ between groups ( $T=1.677$ ,  $p<.05$ ). This, however, follows findings in extant literature that access to personal identity information supports the relationship-formation process (Ellison et al., 2010). Transferred to this context, being self-disclosing towards someone might already be a relationship indicator. The user might communicate that they have a personal relationship without explicitly expressing it. Contrary to previous findings from public microblogging research, the number of Informers exceeds the number of Meformers. In this context, however, it is important to note that the In- and Meformers in this EMB sample differ from the public EMB CTs as described by Naaman et al. (2010). On Twitter Meformers provide barely any factual information, whereas in the business context they show a balanced share of factual information and self-statements. Furthermore, in the EMB environment Informers make a considerable amount of appeals, which have been generally neglected by previous research.

### 3.2.4 Structural capital measurement

The individual structural capital was assessed through the focus on the network structure of the users. Several measures were applied which were generally based on the dyadic interactions in the EMB. Based on the high-level dichotomy for the measurement model of Putnam (1995), we differentiate *bonding* and *bridging* capital. Bonding is measured through the number of replies sent to other participants among a homogenous group of people (with a social affinity score of at least two, further details below), while bridging focusses on the number of replies to heterogeneous users (social affinity score below two). *Betweenness centrality* is the extent to which an individual has a structurally advantageous position through connecting people along the shortest path in the network (Wasserman and Faust, 1994). We used UCINET 6 software to compute Freeman's betweenness centrality as the normalized betweenness centrality divided by the maximum possible betweenness centrality in percent (Borgatti et al., 2002).

### 3.2.5 Relationship capital measurement

To measure relationship capital it is important to consider the quality of mutual relationships. A major form of relationship capital for individuals engaged in enterprise social media is their reputation (Coleman, 1988) which they build among others through trustworthiness. One way to build trust is through beneficial interactions that results in expectations about favourable future interactions (Coleman, 1988; Wasko and Faraj, 2005). Here, we applied *reputation* as a proxy for trustworthiness and, consequently, relationship capital. In EMB, reputation can be estimated through the amount of high quality replies sent by an individual. Thus, we manually coded score comprised the average quality of his or her reply messages. Another way to build trust in social relationships is based upon *reciprocity* (Tsai and Ghoshal, 1998). We measured individual reciprocity through the number of all reciprocal interactions a user has had with any other EMB participant (Izquierdo and Hanneman, 2006). Finally, *relationship strength* was determined by the individual pattern of relationships similar to Naaman et al. (2010). Given the asymmetrical structure of the "follower-feature" we approximated relationship strength between users on a scale from 0 (weak) to 2 (strong) as follows: A and B are not following each other (0), A is following B or vice versa (1), A and B are following each other (2). The user's overall relationship strength was obtained through the sum of his or her relationship strengths.

### 3.2.6 Cognitive capital measurement

We considered the cognitive capital in terms of shared concepts and attributes between users. Thus, the cognitive capital estimates applied in this work, were generally dependent on the individual's group membership (Reagans and McEvily, 2003). Each group captures some personal information such as occupations (e.g., "interns", "business analysts", "IT architects"), hobbies (e.g., "private pilots", "golf"), or interests (e.g., "apple products", "Japanese literature"), that can also be treated as social attributes. In the growing body of literature on social network analysis, *social cohesion* has frequently been defined through social network density (e.g., Yang and Tang, 2004). We understand network density as the frequency of interactions within the predefined social boundaries of a group membership (Reagans and McEvily, 2003). For each group, we computed the density of the emerging network as the number of interactions among unique group members relative to the number of all possible connections (Wasserman and Faust, 1994). The individual social cohesion score comprised the average density values for each group the focal individual was a member of. Furthermore, we estimated the individual *social affinity* to all other members of the EMB as an estimate for cognitive capital. Whenever two users sign up for the same group and therefore share a social attribute, we assume that this relates to the social affinity between them (Smith et al., 2009). Therefore, we calculate the overall social affinity of an actor by taking the average of the pairwise social affinity scores to all other users in the EMB.

### 3.3 Empirical analysis and results

Our main research goal was to compare the two different CTs regarding their potential to build SC in ESM (see figure 1). Accordingly, we compared the previously established Me- and Informing groups concerning the various dimensions of SC. Furthermore, we included the nationality and EMB language code to control for cultural influences on SC building (Adler and Kwon, 2002).

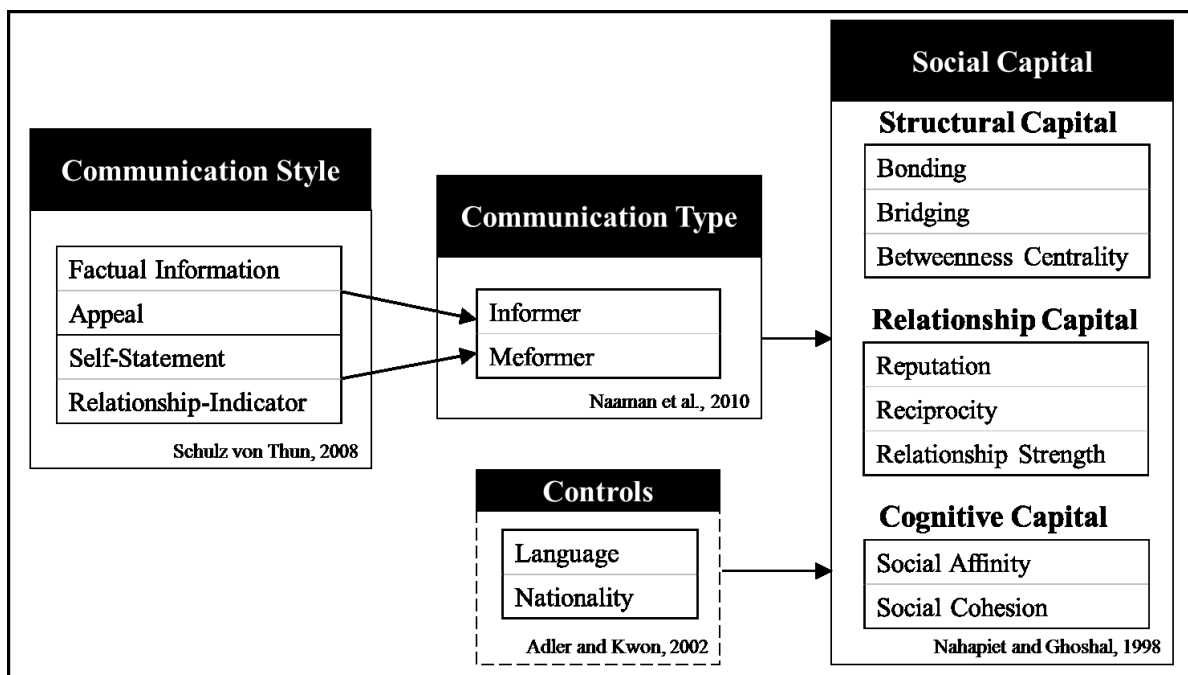


Figure 1. Research model for analysing the efficacy of different CTs to build SC.

To compare the two CTs we conducted a descriptive linear discriminant analysis (LDA), which allowed us to estimate the specific impact on each SC dimension and control variable simultaneously and thereby eliminating the risk of redundancy between variables (Burns and Burns, 2008). Due to the high number of social capital indicators and the partly related measures, it was necessary to control in this way for the risk of redundancy and correlation between measures. The LDA is a generalised linear model which allows analysing the extent to which the In- and Meformers discriminate within the various SC dimensions (Burns and Burns, 2008). The particular standardized coefficient shows how strongly the groups differ concerning each dimension. Thus, we used two separate LDAs with group (*Me- and Informers*) as the two-class categorical group variable and (1) the different SC dimensions and (2) the overall SC clusters as the differentiating attributes. To substantiate the robustness of our findings we also consider a higher level of analysis. Therefore, we aggregated the single SC dimensions into the three SC clusters by conducting separate principal components analyses with Varimax rotation (Creswell, 2013). For each SC dimension and cluster, we conducted an a-priori ANOVA to test whether group differences exist between In- and Meformers at all (see table 3). The analysis reveals significant differences for the structural capital ( $F_{1,128}=16.153, p<0.001, \lambda=0.888$ ) and relationship capital ( $F_{1,128}=15.46, p<0.001, \lambda=0.892$ ) with higher scores for Meformers compared with Informers. The differences were not significant in cognitive capital ( $F_{1,128}=1.062, p>0.05, \lambda=0.992$ ) and in the controls ( $F_{1,128}=2.33, p>0.05, \lambda=0.982$ ;  $F_{1,128}=0.071, p>0.05, \lambda=0.999$ ). The result pattern was similar on the single dimensional level except for reputation which does not differ between groups ( $F_{1,128}=0.004, p>0.05, \lambda=1.00$ ) as a relationship capital dimension. In general, the a-priori analysis provided substantial support for group differences thereby legitimizing proceeding with the analysis.

Social Capital Aspects and Control Variables	Informer		Meformer		Group comparison				
	$\bar{x}_1$	(SD)	$\bar{x}_2$	(SD)	$\lambda$	F	df1	df2	Sig.
Language	---	---	---	---	.982	2.33	1	128	> .05 <sub>n.s.</sub>
Nationality	---	---	---	---	.999	0.071	1	128	> .05 <sub>n.s.</sub>
Structural Capital	-0.252	(0.461)	0.436	(1.4)	.888	16.153	1	128	< .001***
Bonding	7.44	(11.82)	23.38	(31.15)	.885	16.716	1	128	< .001***
Bridging	8.51	(11.22)	20.36	(33.63)	.939	8.256	1	128	< .01**
Betweenness Centrality	0.0003	(0.001)	0.001	(0.002)	.91	12.716	1	128	< .001***
Relationship Capital	-0.236	(0.594)	0.432	(1.311)	.892	15.46	1	128	< .001***
Reputation	2.7	(0.78)	2.71	(0.63)	1.00	0.004	1	128	> .05 <sub>n.s.</sub>
Reciprocity	21.73	(20.6)	47.43	(51.8)	.892	15.458	1	128	< .001***
Relationship Strength	27.79	(25.87)	54.87	(67.09)	.925	10.338	1	128	< .01**
Cognitive Capital	-0.075	(0.896)	0.11	(1.135)	.992	1.062	1	128	> .05 <sub>n.s.</sub>
Social Affinity	0.27	(0.22)	0.31	(0.27)	.995	0.668	1	128	> .05 <sub>n.s.</sub>
Social Cohesion	0.0009	(0.001)	0.001	(0.001)	.989	1.433	1	128	> .05 <sub>n.s.</sub>
<p><b>p-values:</b> p &lt; .001 *** very highly significant, p &lt; .01 ** highly significant, p &lt; .05 * significant, p &gt; .05<sub>n.s.</sub> non- significant (two-tailed significance)</p> <p><b>Statistics:</b> <math>\bar{x}</math> = group mean, SD = standard deviation, <math>\lambda</math> = Eigenvalue, df = degrees of freedom</p>									

Table 3. Results of the a-priori group comparison of CTs.

Given the number of groups, one discriminant function was produced for each level of analysis. In general, on the cluster level the respective Wilks' lambdas show significant differences ( $\Lambda=0.836$ ,  $\chi^2_{10}=22.069$ ,  $p<.05^*$ ;  $\Lambda=0.865$ ,  $\chi^2_5=18.207$ ,  $p<.01^{**}$ ) between In- and Meformers with an advantage in structural capital and relationship capital for Meformers compared with Informers (see table 4). Specifically, considering all SC dimensions simultaneously the standardized coefficients show that Meformers have an especially higher SC level in bonding ( $\bar{x}_1=7.44$ ,  $\bar{x}_2=23.38$ ,  $RC_{Bon} = .815$ ), bridging ( $\bar{x}_1=8.51$ ,  $\bar{x}_2=20.367$ ,  $RC_{Rel} = .573$ ), and norm of reciprocity ( $\bar{x}_1=21.73$ ,  $\bar{x}_2=47.43$ ,  $RC_{Rec} = .733$ ). Surprisingly, the relationship capital dimension reputation ( $\bar{x}_1=2.7$ ,  $\bar{x}_2=2.71$ ,  $RC_{Rep} = .013$ ) does not differ significantly between groups ( $F_{1,128}=0.004$ ,  $p>0.05$ ,  $\lambda=1.00$ ). This means that Informer und Meformer do not differ in the quality of knowledge they share with others but that the significantly higher quality of relationships (relationship capital) of Meformers can be related to shared norms of reciprocity and higher popularity. The non-significant differences in social cohesion ( $\bar{x}_1=0.0009$ ,  $\bar{x}_2=0.0011$ ,  $RC_{SoC} = .239$ ) and social affinity ( $\bar{x}_1=0.27$ ,  $\bar{x}_2=0.31$ ,  $RC_{SoA} = .163$ ) lead to assume that these aspects cannot be influenced differently through the CTs. It seems reasonable to assume that such shared concepts and attributes (like common hobbies or interests) are more strongly dependent on state-like attributes than on the communicative behaviour. This would explain the insignificant differences between CTs regarding cognitive capital. Summarizing, in our analysis we found substantial evidence for the SC building potential of Meforming in terms of structural capital and relationship capital as compared with Informers on the single dimensional as well as on the cluster level in ESM. However, concerning cognitive capital we did not find an impact of CT.

Social Capital Aspects and Control Variables	Single Dimension Level			Cluster Level		
	b	d	RC	b	d	RC
Language	0.69	0.278	.053	0.811	0.101	0.059
Nationality	0.093	0.083	.304	0.106	0.317	0.341
Bonding	0.081	1.775	.815			
Bridging	0.043	0.996	.573	0.588	0.564	.899
Betweenness Centrality	59.965	0.07	.711			
Reputation	0.044	0.032	.013			
Reciprocity	-0.043	-1.581	.784	0.491	0.468	.88
Relationship Strength	0.006	0.261	.641			
Social Affinity	-0.78	-0.188	.163	-0.141	-0.141	.231
Social Cohesion	-233.632	-0.227	.239			
	$\Lambda=0.836, \lambda=.197, R^2=16.40, \chi^2_{10}=22.069, p < .05^*$			$\Lambda=0.865, \lambda=.156, R^2=13.47, \chi^2_5=18.207, p < .01^{**}$		
<p><b>p-value:</b> <math>p &lt; .01^{**}</math> highly significant, <math>p &lt; .05^*</math> significant (two-tailed significance)  <b>Coefficients:</b> b = unstandardized canonical coefficient, d = standardized canonical coefficient, RC = canonical correlation (structure coefficient)  <b>Statistics:</b> <math>\Lambda</math> = Wilks' Lambda, <math>\lambda</math> = Eigenvalue, <math>R^2</math> = explained variance</p>						

Table 4. Results of the a-posteriori discriminant analysis of CTs.

## 4 Discussion and Conclusion

The goal of this study was to analyse different communication types regarding their efficacy to build social capital via enterprise social media platforms. Specifically, we focused on the individual CT and how SC building differentiates between CTs. Therefore, we analysed the communicative behaviour of users and the SC obtained within their social network structure. Based on the results of our analysis we will discuss implications of our findings for theory and practice and point out the potential for future research as well as limitations.

### 4.1 Implications for Theory and Practice

Our first theoretical contribution concerns the appropriation and use of social media. While previous research has investigated the generic use of social media, the role of social media to support SC and the value of SC in organizations, this research has been generally limited to the degree of one dimension of communication (more vs. less self-disclosure) on singular aspects of SC (e.g., bridging) (Ellison et al., 2011b). By considering different CTs we find that Meformers exceed Informers in building SC within EMB. This result is contrary to the preliminary findings from Twitter, where the Informers' numbers of friends and followers exceeds those of Meformers (Naaman et al., 2010). Seeing that users vary their style of self-presentation depending on the target (Walther, 2007), it is reasonable to assume that users show differently effective forms of self-disclosure in public and EMB.

The potential of different CTs to build SC, however, is limited to the structural (size of and position within the network) and relationship capital (quality of connections), while reputation and the cognitive capital (shared concepts and common experiences) are not affected by the communicative behaviour. The unexpected non-significant differences in reputation can be ascribed to the potential contribution preferences of the CTs. On microblogs factual questions as well as opinion-oriented and

socially connective questions are commonly asked (Efron and Winget, 2010) and answered equally well (Seebach, 2012). Our findings suggest that Informers would best answer factual questions while Meformers would be prone to respond to social connective and opinion-oriented demands. Consequently, both CTs would overall have an equivalent level of reputation.

The second contribution to literature is our theory guided approach to analyse how people interact with each other and abstract different CTs in the context of ESM. Thereby, we consider existing IS literature from public social media which has introduced the concept of the two CTs Informers and Meformers (Naaman et al., 2010). We, however, provide deeper insights into the underlying characteristics of these CTs by applying the established communication square model (Schulz von Thun, 2008). Specifically, while Informers predominantly share impersonal information in form of factual information and appeals, Meformers communicate more interpersonal messages like self-statements than factual information. We did not observe the expected prevalence of relationship indicators for Meformers, This, however, can be explained through the relationship building effect of self-disclosing information (Ellison et al., 2010) that compensates for the explicit expression of relationship indicators. Moreover, contrary to findings in public social media, the number of Informers exceeds the number of Meformers in the ESM environment. This supports the assumption of Riemer et al. (2011) who show differences in usage patterns based on the particular organisational context.

Due to the major relevance of SC for organizations (Adler and Kwon, 2002) and the potential of ESM to build SC (Steinfeld et al., 2009) our findings on how to leverage the SC building potential through communication are of great significance for practice. We are able to show that self-disclosure as opposed to factually oriented communication increases an employee's SC by influencing the network structure. Thus, organizations would benefit from encouraging ESM users to self-disclose in terms of the communication square model (Schulz von Thun, 2008) to effectively build valuable relationships among each other. We also respond to common practitioners' concerns regarding the waste of resources through microblogging (Riemer et al., 2010). On the one hand, by providing further evidence that an EMB platform can help to support communication and collaboration among the members of the organization and ultimately build SC. On the other hand, our findings suggest that organizations would benefit from a more diverse usage of the platform in terms of communication. A strictly impersonal and factual oriented communication seems (to a certain extend) be less successful to leverage the SC building potential of EMB platforms. Even though other research points out that the risk of hedonistic chatter in EMB is comparatively low (Riemer and Richter, 2010) our findings suggest that it is just this certain backlog of self-disclosing communication over impersonal communication that helps the individual user to build SC.

## **4.2 Limitations and Future Research**

The implications of our findings need to be considered in the light of the study's limitations as well. At first the context of our study needs to be acknowledged, which might not be generalizable to other settings. The limited generalizability concerns (1) the EMB tool's comparability to other social media technologies, (2) the sample comprising mainly IT-workers not necessarily equal to other knowledge intensive workers, and (3) the representativeness of a multinational financial. The second potential limitation regards the causality of our findings. It is thinkable that people with a larger SC could also (afford to) communicate more self-disclosingly. However, since our dataset comprised the first months of the EMB implementation and the major share of employees was personally unacquainted with each other, it seems probable to assume that apparent SC differences can be ascribed to the individual CTs.

In order to analyse such causal relations, in future works we intend to investigate the development of SC in regard to the CT longitudinally. Furthermore, our focus on SC was on the individual network structures derived from the relationships among the EMB users as well as the mechanisms that generate SC. Considering that SC can alternatively refer to the outcomes of SC (Portes, 2000), future research will need to analyse the quality of the relationships (i.e. as information source, information seeker, or friends (Java et al., 2007)) to investigate ultimate differences in SC outcomes between CTs.

## References

- Adler, P. S. and S.-W. Kwon (2002). Social capital: Prospects for a new concept. *Academy of management review*, 27 (1), 17-40.
- Beck, R., I. Pahlke and C. Seebach (2014). Knowledge Exchange and Symbolic Action in Social Media-Enabled Electronic Networks of Practice: A Multilevel Perspective on Knowledge Seekers and Contributors. Forthcoming in: *MIS Quarterly*.
- Borgatti, S. P., M. G. Everett and L. C. Freeman (2002). *Ucinet for Windows: Software for social network analysis*.
- Bourdieu, P. (1986). The forms of capital. *Handbook of theory and research for the sociology of education*, 241, 258.
- Burns, R. P. and R. Burns (2008). *Business research methods and statistics using SPSS*. Sage.
- Burt, R. S. (2001). Structural holes versus network closure as social capital. *Social capital: Theory and research*, 31-56.
- Cho, H., G. Gay, B. Davidson and A. Ingraffea (2007). Social networks, communication styles, and learning performance in a CSCL community. *Computers & Education*, 49 (2), 309-329.
- Coleman, J. S. (1988). Social capital in the creation of human capital. *American journal of sociology*, S95-S120.
- Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publications, Incorporated.
- D'Aveni, R. A. and I. C. MacMillan (1990). Crisis and the Content of Managerial Communications: A Study of the Focus of Attention of Top Managers in Surviving and Failing Firms. *Administrative Science Quarterly*, 35 (4), 634-657.
- DiMicco, J. M., D. R. Millen, W. Geyer, C. Dugan, B. Brownholtz and M. Muller (2008). Motivations for Social Networking at Work. In 11th Conference on Computer Supported Cooperative Work, New York, USA.
- Efron, M. and M. Winget (2010). Questions are content: a taxonomy of questions in a microblogging environment. *Proceedings of the American Society for Information Science and Technology*, 47 (1), 1-10.
- Ellison, N. B., C. Lampe, C. Steinfield and J. Vitak (2010). With a little help from my friends: How social network sites affect social capital processes. *A networked self: Identity, community, and culture on social network sites*, 124-145.
- Ellison, N. B., C. Steinfield and C. Lampe (2007). The benefits of Facebook "friends:" Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, 12 (4), 1143-1168.
- Ellison, N. B., C. Steinfield and C. Lampe (2011a). Connection strategies: Social capital implications of Facebook-enabled communication practices. *New Media & Society*, 13 (6), 873-892.
- Ellison, N. B., J. Vitak, C. Steinfield, R. Gray and C. Lampe (2011b). *Negotiating privacy concerns and social capital needs in a social media environment*. Springer.
- Fichman, R. G. and C. F. Kemerer (1999). The illusory diffusion of innovation: An examination of assimilation gaps. *Information Systems Research*, 10 (3), 255-275.
- Granovetter, M. S. (1973). The strength of weak ties. *American journal of sociology*, 1360-1380.
- Harwood, T. G. and T. Garry (2003). An Overview of Content Analysis. *The Marketing Review*, 3 (4), 479-498.
- Hsieh, H.-F. and S. E. Shannon (2005). Three approaches to qualitative content analysis. *Qualitative health research*, 15 (9), 1277-1288.
- Izquierdo, L. R. and R. A. Hanneman (2006). *Introduction to the formal analysis of social networks using mathematica*. University of California, Riverside.
- Jacovi, M., I. Guy, I. Ronen, A. Perer, E. Uziel and M. Maslenko (2011). *Digital Traces of Interest: Deriving Interest Relationships from Social Media Interactions*. Springer London.

- Java, A., X. Song, T. Finin and B. Tseng (2007). Why we twitter: understanding microblogging usage and communities. In Proceedings of the 9th WebKDD and 1st SNA-KDD 2007 workshop on Web mining and social network analysis, 56-65.
- Kaufman, L. and P. J. Rousseeuw (2009). Finding groups in data: an introduction to cluster analysis. Wiley-Interscience.
- Ketchen, D. J. and C. L. Shook (1996). The application of cluster analysis in strategic management research: an analysis and critique. *Strategic Management Journal*, 17 (6), 441-458.
- Kolbe, R. H. and M. S. Burnett (1991). Content-Analysis Research: An Examination of Applications with Directives for Improving Research Reliability and Objectivity. *The Journal of Consumer Research*, 18 (2), 243-250.
- Krippendorff, K. (2012). Content analysis: An introduction to its methodology. SAGE Publications, Incorporated.
- Krippendorff, K. (2004). Reliability in Content Analysis. *Human Communication Research*, 30 (3), 411-433.
- Lin, N. (2002). Social capital: A theory of social structure and action. Cambridge university press.
- Lombard, M., J. Snyder-Duch and C. C. Bracken (2002). Content Analysis in Mass Communication: Assessment and Reporting of Intercoder Reliability. *Human Communication Research*, 28 (4), 587-604.
- McCroskey, J. C., J. Daly and J. McCroskey (1984). Self-report measurement. Avoiding communication, 81-94.
- Merchant, H. (2000). Configurations of international joint ventures. *MIR: Management International Review*, 107-140.
- Morris, R. (1994). Computerized Content Analysis in Management Research: A Demonstration of Advantages & Limitations. *Journal of Management*, 20 (4), 903-931.
- Naaman, M., J. Boase and C.-H. Lai (2010). Is it really about me?: message content in social awareness streams. In Proceedings of the 2010 ACM conference on Computer supported cooperative work, 189-192.
- Nahapiet, J. and S. Ghoshal (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of management review*, 23 (2), 242-266.
- Neuendorf, K. A. (2002). The content analysis guidebook. Sage Publications, Thousand Oaks, Calif.
- Nonnecke, B. and J. Preece (2000). Lurker demographics: Counting the silent. In Proceedings of the SIGCHI conference on Human factors in computing systems, 73-80.
- Pahlke, I. (2012). Leveraging Social Capital in the Virtual Work Environment-Knowledge Exchange through Social Media Platforms. *ECIS 2012 Proceedings*.
- Portes, A. (2000). Social capital: Its origins and applications in modern sociology. LESSER, Eric L. Knowledge and Social Capital. Boston: Butterworth-Heinemann, 43-67.
- Potter, W. J. and D. Levine-Donnerstein (1999). Rethinking validity and reliability in content analysis.
- Preece, J., B. Nonnecke and D. Andrews (2004). The top five reasons for lurking: improving community experiences for everyone. *Computers in Human Behavior*, 20 (2), 201-223.
- Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of democracy*, 6 (1), 65-78.
- Reagans, R. and B. McEvily (2003). Network structure and knowledge transfer: The effects of cohesion and range. *Administrative Science Quarterly*, 48 (2), 240-267.
- Richmond, V. P. and K. D. Roach (1992). Willingness to communicate and employee success in US organizations. *Journal of Applied Communication Research*, 20 (1), 95-115.
- Richter, D., K. Riemer and J. vom Brocke (2011). Internet Social Networking. *Business & Information Systems Engineering*, 53 (2), 89-103.
- Riemer, K., A. Altenhofen and A. Richter (2011). What are you doing?-Enterprise Microblogging as context building.
- Riemer, K. and A. Richter (2010). Tweet inside: Microblogging in a corporate context. Proceedings of the 23rd Bled eConference, 1-17.
- Riemer, K., A. Richter and P. Seltsikas (2010). Enterprise Microblogging: Procrastination or productive use? In 16th Americas Conference on Information Systems, Lima, Peru.



- Risius, M. and R. Beck (2014). You Reap What You Sow? How Knowledge Exchange Effectiveness is Affected by Different Types of Communication in Enterprise Social Media. In System Sciences (HICSS), 2014 47th Hawaii International Conference on, 540-549.
- Rourke, L., T. Anderson, D. R. Garrison and W. Archer (2001). Methodological Issues in the Content Analysis of Computer Conference Transcripts. *International Journal of Artificial Intelligence in Education*, 12, 8-22.
- Schulz von Thun, F. (1989). *Miteinander Reden 2-Stile*. Rowohlt, Reinbek.
- Schulz von Thun, F. (1981). *Miteinander reden: Störungen und Klärungen*. Rowohlt, Reinbek.
- Schulz von Thun, F. (2008). *Six Tools for Clear Communication: the Hamburg Approach in English language*. Hamburg, Germany: Schulz von Thun-Institut für Kommunikation.
- Seebach, C. (2012). Searching for Answers--Knowledge Exchange through Social Media in Organizations. In System Science (HICSS), 2012 45th Hawaii International Conference on, 3908-3917.
- Smith, M., C. Giraud-Carrier and N. Purser (2009). Implicit affinity networks and social capital. *Information Technology and Management*, 10 (2-3), 123-134.
- Steinfeld, C., J. M. DiMicco, N. B. Ellison and C. Lampe (2009). Bowling online: social networking and social capital within the organization. In *Proceedings of the Fourth International Conference on Communities and Technologies*, 245-254.
- Trier, M. and J. Molka-Danielsen (2012). Sympathy or strategy: social capital drivers for collaborative contributions to the IS community. *European Journal of Information Systems*, 22 (3), 317-335.
- Tsai, W. and S. Ghoshal (1998). Social capital and value creation: The role of intrafirm networks. *Academy of management Journal*, 41 (4), 464-476.
- van Reijssen, J. and R. Helms (2011). *Social Capital as an Enabler for Sustainable Knowledge Management in Organizations*.
- Walther, J. B. (1996). Computer-mediated communication impersonal, interpersonal, and hyperpersonal interaction. *Communication Research*, 23 (1), 3-43.
- Walther, J. B. (1995). Relational Aspects of Computer-Mediated Communication: Experimental Observations over Time. *Organization Science*, 6 (2), 186-203.
- Walther, J. B. (2007). Selective self-presentation in computer-mediated communication: Hyperpersonal dimensions of technology, language, and cognition. *Computers in Human Behavior*, 23 (5), 2538-2557.
- Walther, J. B. and K. P. D'Addario (2001). The Impacts of Emoticons on Message Interpretation in Computer-Mediated Communication. *Social Science Computer Review*, 19 (3), 323-345.
- Wasko, M. M. and S. Faraj (2005). Why Should I Share? Examining Social Capital and Knowledge Contribution in Electronic Networks of Practice. *MIS Quarterly*, 29 (1), 35-57.
- Wasko, M. M., R. Teigland and S. Faraj (2009). The provision of online public goods: Examining social structure in an electronic network of practice. *Decision Support Systems*, 47 (3), 254-265.
- Wasserman, S. and K. Faust (1994). *Social Network Analysis: Methods And Applications (Structural Analysis In The Social Sciences)* Author: Stanley Wasserman.
- Wever, B., T. Schellens, M. Valcke and H. van Keer (2006). Content analysis schemes to analyze transcripts of online asynchronous discussion groups: A Review. *Methodological Issues in Researching CSCL*, 46 (1), 6-28.
- Yang, H.-L. and J.-H. Tang (2004). Team structure and team performance in IS development: a social network perspective. *Information & Management*, 41 (3), 335-349.
- Zhao, D. and M. B. Rosson (2009). How and Why People Twitter: The Role That Microblogging Plays in Informal Communication at Work. In *27th ACM international conference on Supporting group work*, 243-252, New York, USA.