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The Impact of Intra-Organizational Social Networking Sites on Impression Formation

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Abstract

The introduction of social media has changed the way individuals communicate and collaborate both within and outside the organization. This paper examines a specific social media, Social Networking Sites. Organizational use of social networking sites (both public and enterprise) is discussed followed by a closer examination of intra-organizational social networking sites and how these sites have the potential to change the impressions formation process. Finally, this paper concludes by examining how the information available through this technology impacts the impression formation process with an exploratory study of information availability and impressions of social capital. Implications and future directions are suggested.

Keywords: intra-organizational social networking sites, impression formation, Web 2.0, social capital

1. INTRODUCTION

Organizational use of social media technologies continues to increase. The popularity of sites such as Facebook, Twitter and Wikipedia has led many organizations to not only have a presence in the public domain but also invest in these technologies for intra-organizational use. Companies are scrambling to provide social networking capabilities within an organizational environment to meet the increasing demands of many young employees ("digital natives" (Palfrey and Gasser 2010)) who see contemporary technologies such as social networking software as necessary for a productive work life. McAfee (2006) has termed this phenomenon of moving this traditionally "public" technology into the organization as Enterprise 2.0, the use of social media technologies within an organization for increased performance or benefit to the employees and business.

While social media packages often entail a range of tools, companies have tended to focus on the a few specific technologies such as wikis (e.g. a knowledge repository) or blogs (e.g. a tool for internal, company-wide communications). One social media technology, social networking sites, is often overlooked or undervalued due to the stigma generated by popular public sites (e.g. Facebook, Twitter, Google+, etc.) as being a socially oriented, unproductive tool. However, the use of intra-organizational social networking sites has the potential to provide benefits beyond a tool traditionally thought of as means of only "socializing". The current study focuses on how intra-organizational social networking sites (IOSNS) can be beneficial for employees when forming impressions of others. These impressions have the potential to alleviate issues often experienced with the increased emphasis on "virtual" work. For example, a common issue that could benefit from impressions formed in IOSNS is the interpersonal relationship development process of virtual teams.

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Virtual teams are often formed to leverage differing backgrounds with team members having little to no prior knowledge of one another who teams may never meet in person or work together again in the future (Hung, Dennis et al. 2004). This has raised questions of how relationships form in this non-traditional work environment. Research suggests that in the development of "virtual" relationships, an initial face-to-face meeting is needed to form impressions of team members and develop rapport for effective future collaboration (Ramesh and Dennis 2002). However, the diverse (and dispersed) workforce of today's organization limits the likelihood of face to face meetings as coordination of such meetings is often prohibitive. This limitation leads to the reduction of the socio-emotional processes of relationship development among team members (Martins, Gilson et al. 2004).

The introduction of social media technologies in the enterprise, such as IOSNS, has provided a new set of resources that may change the limitation often found in virtual team relationship building. The increase of the availability of information provides individuals with significant insights about others not previously available. A typical SNS allows individuals to create an extensive "online profile" which includes, but is not limited to a profile summary (e.g. self-description), education background, experience, group affiliations, contacts/friends and the ability of contacts to post information about the profile owner (through wall posts and recommendations) (Dwyer, Hiltz et al. 2008). The abundant amount of information provided allows anyone to know more about the person than ever before.

The goal of the current paper is to provide an overview of intra-organizational social networking sites and examine the benefits of these sites on the relationship development process. Specifically, we are interested in how employees are using these technologies to supplement the traditional impression formation process used in virtual environments. In the subsequent sections, an overview of social networking sites is provided, including the difference between organizational use of public sites as well as enterprise only sites. This is followed by an examination of the traditional impression formation process and how social networking sites impact this process. Finally, results from an exploratory study examining intra-organizational social networking sites are discussed including implications to organizations and future directions.

2. SOCIAL NETWORKING SITES

SNSs have been broadly defined as "*a web-based service that allows individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system*" (boyd and Ellison 2008, p.211). Within the public domain, social network sites offer individuals an outlet to present themselves in a digital format, allowing them to provide details concerning themselves and establish/maintain their network of relationships to fellow members (Ellison, Steinfield et al. 2007). However, profile owners are not the only ones who are able to create information on their sites. Most sites (e.g. Facebook and LinkedIn) allow for the creation of information by their connections, for example, through the use of wall posts or recommendations. The primary features of these sites include the ability to connect with others, share personal information (including photos and videos), send/receive messages, provide "status" updates, post comments on a friend's site, and numerous other tools that can be tailored by the user.

Uses of public sites by individuals range from simply a tool to connect/maintain contact with friends (e.g. Facebook) to more work-related sites used for connecting to companies and professionals (e.g. LinkedIn). SNSs have gained immense popularity, often becoming integrated into our daily lives. In fact, Facebook, one of the leading SNSs, has over 955 million monthly active users spanning over 100 countries worldwide (as of 2nd Quarter Earnings announcement, 7/26/12). Due to this immense popularity, the primary interest in social networking site research has been in the public domain, focused on popular sites such as Facebook and MySpace (Lampe, Ellison et al. 2006). However, there has been a shift with organizations focusing efforts on taking advantage of these sites for internal benefits.

There are two strategies organizations have taken to leverage social networking sites internally. One potential strategy is to leverage existing, publically available SNSs (e.g. Facebook or LinkedIn) for internal, employee interaction purposes. However, as discussed in

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the next section, these have not been successful for internal relationship building. Alternatively, organizations can choose to implement an intra-organizational social networking site that limits use to employees only. Each strategy is discussed in the subsequent sections including reasons for using an internal site as opposed to public SNSs.

Public SNSs (for internal use)

A number of studies have examined the use of public SNS as a resource to maintain a company network and build an internal network of relationships. Because of their immense popularity within the public realm, two of the more commonly used sites by organizations are Facebook and LinkedIn. Both sites offer functionality such as Groups (in Facebook) and Company Sites (in LinkedIn) that allows employees to join and maintain connections with fellow employees throughout the organization. However, studies show mixed results for using these to build internal relationship. Skeels et al. (2009) found employees rank internal networking lowest for usefulness of such sites. Instead, many employees engage in these sites (e.g. LinkedIn) as a tool for maintaining relationships with former colleagues or external clients. Additionally, these sites are not being used for their intended purposes as well. In a study examining Facebook use within IBM, DiMicco and Millen (2007) found most employees who joined the Facebook IBM network were not using the SNS as way of building internal, company relationships. Instead, a majority of users were categorized as "Reliving the College Days," socially using Facebook as a tool to maintain personal relationships. This study points to one of the pitfalls of using these sites internally: making a distinction between personal and professional use. Thus, while public sites may be useful from an external relationship building perspective, these sites are not being used to build a network of relationships at the company where the user is employed.

Enterprise SNSs

As previously mentioned, the reach of social networking sites is beginning to gain ground in the organizational domain. Forrester Research estimates spending on enterprise social media to reach $4.6 billion by 2013 (Young, Brown et al. 2008). This has driven many companies to provide social networking software specifically designed for enterprise use. Microsoft (Sharepoint), Cisco (Quad) and IBM (LotusConnections) are just a few of the companies now offering IOSNSs as part of their enterprise social media packages. This increase in intra-organization social networking sites (IOSNSs) is due to the emphasis on the adoption and usage of enterprise social media (c.f. Young, Brown et al. 2008). Organizations are finding the utility that social and interactive technologies bring through sharing of expertise and positively supporting employees.

The primary benefit of these sites over publically available SNSs is the increased establishment and maintenance of organizational relationships (Dwyer, Hilts et al. 2008). Employees have appropriated these technologies to not only interact with known employees but to search and create connections with new ones (DiMicco, Geyer et al. 2009). Because profiles serve as a mechanism for one's social self, people consciously put effort toward crafting a presentation that is aimed at influencing others within the network (Dwyer, Hiltz et al. 2008). DiMicco et al (2008) has examined the types of users within IOSNSs suggesting that many employees use these sites as a self-promotion outlet for advancement or for campaigning for new ideas. They also suggest that employees are using the site for "social browsing" (i.e. discovering and connecting with employees they may not know). While it is known that employees are using these sites to "socially" understand others, little is known about how employees use this information when forming impressions.

As more organizations explore the use of IOSNSs, the amount of information made available to users and how that information is evaluated should be explored further. Large organizations (e.g. IBM, Deloitte, Best Buy, etc.) are already promoting the use of IOSNSs, allowing employees to provide information not traditionally found within a company. For example, IBM launched their internal SNS, BeeHive, as a tool to find, collaborate and maintain contact with fellow employees from around the world (DiMicco and Millen 2008). The popularity of IOSNS has led IBM to create LotusConnections which has been made available to any organization wishing to implement an IOSNS. The primary reason these sites enable collaboration and collection is the ability to share a variety of information not

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traditionally found on company intranets of the past.

One might expect that the information employees provide would be limited in an organizational setting (e.g. omitting personal information). However, DiMicco et al (2008) found that employees actually supplied more personal information on IOSNS than on public SNS. They found that users of IOSNS felt that the information was more secure compared to public SNS. This emphasizes a distinct characteristic entering the organizational landscape where both professional as well as personal information is now being provided. Thus, IOSNS provide an outlet for information that goes beyond that traditionally found in organizational technologies (i.e. the type of information you would find through the intranet or email system about fellow colleagues).

These sites now allow individuals to manage contacts beyond traditional software (e.g. Outlook) incorporating visual components (e.g. pictures of contacts), active engagement (e.g. status of contacts) and maintenance of fringe relationships (e.g. staying in contact with former project team members) (Shih 2009). Because SNSs originally started in the public domain, IOSNSs are often based upon their public counterparts, providing information such as past experience, education, location, and personal characteristics similar to those found in sites like LinkedIn. Many IOSNSs allow additional information beyond work life, encouraging individuals to list hobbies, post photos, and interact with other individuals within the network.

While research has suggested the potential positive implications of social media use in organizations (McAfee 2006), little is known concerning the amount of information now made publically available and the impact this has on employee perceptions during the impression formation process. In the following section, a closer examination of the implications an IOSNS may have on impressions is conducted using virtual teams as an example.

3. IOSNS AND IMPRESSION FORMATION

Impressions can affect numerous facets of an employee's career from the initial job interview to subsequent career stages such as advancement, project decisions and organizational citizenship behaviors (c.f. Bolino,

Kacmar et al. 2008). An initial impression sets the stage for future interpersonal interaction by signaling a number of factors, among them trustworthiness (Donath 2007). More importantly, this impression can have an anchoring effect on individuals where all future observations and interactions are impacted by this initial impression with individuals being less likely to search for disconfirming information (Good and Gambetti 1988). Thus, impression formation becomes an important component within team interaction especially when these interactions occur in a dispersed, virtual environment.

Impression formation is referred to as an interpersonal process occurring as an individual uses the information available to them to make general judgments concerning another individual's personal characteristics (Switzer 2008). Traditionally, employees form impressions through an initial, face-to-face (FtF) encounter occurring prior to the formation of a project team. From these direct encounters, individuals are able to interpret "signals" into attributes of the person they will interact with in the future (Donath 2007). These interpretations often set the basis for future team interactions, affecting team cohesiveness, the decision making process and ultimately, the overall success of the project or task undertaken (Tidwell and Walther 2002).

The abundant signals available in FtF are reduced dramatically as these initial, FtF interactions are replaced by a mediated setting. Computer mediated environments have become commonplace in today's business environment for their usefulness in reducing cost and time but at the expense of initial face to face interaction that help with the formation of fellow team member impressions. Nevertheless, individuals do form a consistent impression based on whatever information is available to them at that time (Walther, Anderson et al. 1994). There is still a cognitive need for individuals to form an impression despite being in a mediated setting (Walther 2005). Thus, when faced with a mediated environment, individuals rely on alternative approaches, leveraging available signals when assessing the interpersonal characteristics of their communication partners.

Impression Formation and Computer Mediated Communication

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As organizational dependence on Computer Mediated Communication (CMC) continues to increase, the need to understand how individuals process electronically represented information has become important. Individuals have an inherent, cognitive need to form an impression of others, with impression formation in CMC being no exception in which individuals use any type of information source to form that initial impression (Walther 2005). Early research examining social behavior attempted to explain impression formation through the amount of cues (social) available given a specific medium (Short et al 1976). Social information processing argues that those media low in bandwidth (i.e. media with limited ability to provide rich cues) leads to low social presence causing the development of relationships to be stifled.

Alternatively, Walther (1992) takes a different perspective by examining how relationships build over time through continued group interaction. He suggested that individuals pursue the need for an interpersonal connection with their team and as time progresses the effects of diminished relational communication through CMC is reduced. Thus, individuals using CMC will compensate for the lack of traditional cues by examining the cues available in whatever medium is used (Tidwell and Walther 2002). For example, an individual using email would use spelling ability in assessing the cognitive ability of their communication partner. This research, like most to date, focuses on relationship building as a process-level behavior occurring overtime, often comparing online to the offline relationship building processes (Ramirez et al 2006). Limited attention has been placed on how individuals process social information.

With the advent of socially enabled technologies, individuals no longer have to rely solely on interpretation of cues available through traditional CMC (e.g. email) to garner impressions of others. SNSs have enabled users to construct more detailed impressions that go beyond examining (if available) personal web pages or the common practice of "googling" an individual to find out more details (Tong, Van Der Heide et al. 2008). Research has shown this to be true as individuals garner interpersonal impressions of both acquainted and unacquainted targets using SNSs (Walther, Van Der Heide et al. 2008).

Users treat profile information provided on these sites in the same manner as cues obtained through ongoing interactions; using this during the interpersonal relationship formation process (Lampe, Ellison et al. 2007). Thus, the same principle exists in IOSNS where information provides a signal about the individual being judged. While actual performance measures are absent, people will rely on whatever information is available that may be imperfectly correlated to features (e.g. social capital) signaling future performance within the team (Donath 2007). For example, an individual cannot know for sure if he/she will trust another team member he/she has yet to interact with. That individual relies on signals available through the profile information of the future counterpart to form judgments about trust. These may be in the form of a former or other co-worker comments about this individual or other general profile information signaling that this person can be trusted.

4. EXPLORATORY STUDY & HYPOTHESES

To understand if information availability in IOSNS can impact impression formation, an exploratory study was conducted manipulating the amount of information available to see if this effects impressions. That is, would the amount of profile information available (increasing cues) impact the individual impressions of profile owners? The impressions that were examined in this study were based on perceptions of social capital, a commonly cited construct related to virtual team success.

Social capital is defined as those resources (actual and potential) derived through an individual or social unit's network of relationships, comprising both the network and assets that can be mobilized through that network (Burt 1992; Nahapiet and Ghoshal 1998). Adler & Kwon (2002:93) extend this definition by stating that "social capital is a resource for individual and collective actors created by the configuration and content of the network of their more or less durable social relations."

Within organizational literature, social capital continues to gain popularity as way of capturing specific social elements and their contributions within various individual and collective contexts, including career success, product innovation, and entrepreneurship (Adler and Kwon 2002). At the individual level, social capital has been examined as a way to facilitate a person's actions and reflect their access to a variety of

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networking resources (Coleman 1990). Wasko & Faraj (2005) show individuals and relationships with others are a primary source of social capital, influencing how individuals behave in a collective to promote both creation and contribution of knowledge within their community.

The underlying argument surrounding social capital is the idea that social ties of one kind may be leveraged or used for different purposes (e.g. work related objectives) (Adler and Kwon 2002). Social capital has been linked to numerous benefits including increased information exchange, product innovation, cooperative behavior, knowledge contribution and team effectiveness (Coleman 1990; Adler and Kwon 2002; Wasko and Faraj 2005). Researchers have argued that social networking sites are used for creating and maintaining social relationships within their social community or unit (Dwyer, Hiltz et al. 2008). Thus, while users may not directly intend an IOSNS profile for this purpose, the use of these sites can be seen as a tool for displaying and/or influencing impressions of social capital. Within the current study's context, the focus is concerned with an individual's impression of the social capital dimensions of another. An individual's social capital can be examined across the dimensions of relational (i.e. trust and identification), cognitive (shared meaning) and structural (connectedness).

Given our previous discussion on cues, increasing the amount of information present in a profile (i.e. cues) should elicit a stronger impression of an individual's social capital. Therefore,

H1: As the amount of profile information made available increases, impressions of social capital will significantly increase across all dimensions.

Additionally, the type of information available in the profiles will also have varying impact on these impressions. For example, information concerning educational background or hometown may have a greater impact on identification or trust when compared to the number of connections which would impact impressions of connectedness. Thus, the type of information available will also impact impressions.

H2: Education information in the profile will significantly impact impressions of relational social capital more than structural or cognitive capital.

H3: Connection information in the profile will significantly impact impressions of structural social capital more than relational or cognitive capital.

H4: Experience information in the profile will significantly impact impressions of cognitive social capital more than cognitive or structural capital

5. RESEARCH METHODOLOGY AND RESULTS

An empirical study was conducted to examine the impact of IOSNS information on impressions of social capital. Data was collected using an experimental lab setting at a large, state university with participants drawn from an undergraduate business course. 340 participants were used. Participants were placed in a hypothetical situation (via a vignette) in which they were to evaluate members of future virtual team based upon the information available in an IOSNS. To simulate a familiar work environment that students may have previously been associated with, the setting of the team was an internship which many students participating had prior experience in this setting.

There were two different manipulations of profiles. The first manipulation (assessing hypothesis 1) had two different profiles: one containing a minimal amount of information (basic demographics) and another containing both demographics as well as information about education, experience and connections. The second manipulation (assessing hypotheses 2-4) had three different profiles, one with demographic/education information (relational), one with demographic/experience (cognitive) and one with demographic/connections (structural). These were presented in an social network environment to simulate similar information presentation, layout and emphasis on keywords that are readily picked up by users.

Vignettes were chosen to place all subjects in the same scenario with the only change being the manipulation of the data presented via the IOSNS. This provides increased control over the information presented (i.e. manipulation of IOSNS data) to ensure that the participants'

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judgments or perceptions (i.e. social capital dimensions) are less biased or contaminated as may be the case in traditional experimental settings (Greenberg and Eskew 1993).

Measures

Relational capital was assessed based on prior scales, adapted for the current study to assess both individual trust in others (Jarvenpaa and Leidner 1999) and identification with their team members (Brown, Condor et al. 1986; Henry, Arrow et al. 1999). Both are based on established scales and were measured as one variable.

For cognitive social capital, a scale was adapted to measure relevant expertise, knowledge expectations and values. Based on Wasko and Faraj's (2005) operationalization of cognitive capital, items were adapted to asses an individual's tenure in the field and expertise in the given situation of the experimental task (Kirsch, Ko et al. 2009). Other items for cognitive capital were developed based on the conceptual definition and scales developed in prior questionnaires to measure shared meaning and values (Nahapiet and Ghoshal 1998).

Structural capital items were developed using both a prior scale that assessed overall structural social capital within a team (van den Hooff and Huysman 2009) and the conceptual definition of structural capital (Nahapiet and Ghoshal 1998)

All measures were captured using a seven point Likert scale of 1 (strongly disagree) to 7 (strongly agree). Table 1 below provides the correlation matrix including means and standard deviations. Table 2 provides general demographics of participants. Trustworthiness, age and gender were used as controls across all manipulations.

Table 1. Construct Descriptive Statistics and Correlations

	Mean	Std Dev	SC	CC	RC
Structural Capital	4.65	1.22	-		
Cognitive Capital	4.89	1.06	.314**	-	
Relational Capital	4.54	1.06	.342**	.553**	-

** Correlation is significant at the 0.01 level (2-tailed).

Table 2. General Demographics and Usage Information

Gender	60 % Male 40 % Female
Age	20 yrs
Avg. Length of Computer Use	10.5 yrs
Avg. Length of SNS Use	6.5 yrs

6. FINDINGS

Multivariate analysis of variance (MANOVA) was used to first compare the impact of the amount of information on social capital impressions (H1) followed by mean comparisons to evaluate the impact of the type of information (H2, H3, H4).

Hypothesis 1 states that impressions of social capital will increase (stronger perceptions of relational, structural and cognitive dimensions) as the amount of information provided in profiles increase. The results indicate that there are significant differences for structural, cognitive and relational social capital perceptions as information increases (Wilks' λ=0.56, $F_{(6,176)}$ = 9.90, $p < 0.01$). This provides partial support for Hypothesis 1, however to understand these differences, follow-up ANOVAs were conducted to understand the mean difference across these groups (amount of information). Table 3 contains the Mean Square and F-Ratios from the follow-up ANOVAs. From these results, we see that each social capital dimension (F-Ratios) was significant. Thus, Hypothesis 1 is supported.

Table 3. ANOVA Results

Relational Capital		Cognitive Capital		Structural Capital	
MS	F	MS	F	MS	F
13.55	**17.29****	1.88	**3.15***	20.07	**20.85****

* $p < 0.05$, ** $p < 0.01$.

Hypotheses 2-4 examine the type of information presented and the impact to impressions of specific social capital dimensions. For each social capital dimension manipulated, measures for all dimensions were captured (i.e. when structural was manipulated, relational and cognitive constructs were also measured). Table 4 provides the means across manipulated dimensions.

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Table 4. Means and Standard Deviations Across Manipulated Dimensions

Relational Social Capital[1]		
Relational	Cognitive	Structural
4.84 (0.99)	4.10 (0.98)	4.27 (1.1.6)

Cognitive Social Capital[1]		
Relational	**Cognitive**	Structural
4.95 (0.84)	**5.37 (0.86)**	4.48 (1.11)

Structural Social Capital[1]		
Relational	Cognitive	**Structural**
3.82 (0.96)	4.24 (1.01)	**5.21 (1.16)**

[1] These represent the manipulated dimension (i.e. the profile information that is changed to induce perceptions of these dimensions).

Note: Below each manipulated dimension are the scores for each construct measured in the model.

Mean comparisons suggest that the manipulated features were significantly different (and higher) for the manipulated dimension compared to the other dimensions. For example, the manipulation for structural social capital resulted in a mean of 5.21 for the structural capital. This was significantly greater (i.e. pairwise comparisons) than the mean for the resulting relational and cognitive constructs when structural social capital is manipulated in the profile. Thus, Hypotheses 2-4 were supported.

7. CONCLUSIONS

The study presented here shows the impact information available in a SNS can impact factors important in an organizational setting (social capital impressions of team members). While this only focused on a few specific SNS features, it provides preliminary results suggesting that specific information found in profiles can have a direct impact on impression formation. More studies are needed to understand the extent these impressions may have on future interactions of employees. However, some implications for management and employees can be drawn from the previous discussion of enterprise social networking software and these preliminary results.

First, in general, organizations should be aware that employees are indeed engaging in these technologies when made available in the organizations and are using them as a way of presenting themselves in the best light possible. A majority of the information located on these sites is self-generated meaning the profile owner creates and maintains their own profile information. Management should be aware that these practices are occurring and understand the validity (or potentially, lack thereof) of information provided by the employee.

Second, the results of our study show that employees can use information available in profiles to form impressions of factors that could impact team and organizational performance. This could have both positive and negative implications. From a positive perspective, SNSs appear to provide a bridge to building interpersonal relationships with employees who may be dispersed or virtual. This overcomes many of the limitations previously seen with CMC. However, these impressions are not formed overtime through interaction. Employees may form impressions based purely on information provided in a SNS profile. As previously mentioned this information is often self-generated and may not be a true representation of the employee. Thus, employees using these systems need to be aware of both the advantages and disadvantages accompanying SNS use.

Finally, the impact of intra-organizational social networking sites is still being researched. To date, most studies have focused on how users participate in these sites without considering how they use this information to make judgments. The current study provides initial insights into how this information can be used to create impressions. This study presents a snapshot in time (i.e. the initial formation of a virtual team). Prior research suggests the potential for anchoring effects to occur during the impression formation process including formation within an SNS (Ellison et. al 2007). While some research suggests that individuals are less likely to search out disconfirming information depending upon how the impression is formed (Petty and Cacioppo 1986), additional research is needed to understand the ongoing impact of these impressions especially in a technology mediated environment. More

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research is needed to understand the impacts these site may have on the productivity and collaboration of employees.

8. ACKNOWLEDGEMENTS

9. REFERENCES

Adler, P. S., & Kwon, S.-W. (2002). Social Capital: Prospects for a New Concept. *The Academy of Management Review, 27*, 17.

Bolino, M. C., Kacmar, K. M., Turnley, W. H., & Gilstrap, J. B. (2008). A Multi-Level Review of Impression Management Motives and Behaviors. *Journal of Management, 34*(6), 1080-1109.

boyd, d., & Ellison, N. (2007). Social Network Sites: Definition, History, and Scholarship. *Journal of Computer-Mediated Communication, 13*(1), 210-230.

Brown, R., Condor, S., Mathews, A., Wade, G., & Williams, J. (1986). Explaining intergroup differentiation in an industrial organization. [Article]. *Journal of Occupational Psychology, 59*(4), 273-286.

Burt, R. (1992). *Structural Holes: The Social Structure of Competition*. Cambridge, MA: Harvard University Press.

Coleman, J. (1990). *Foundations of social theory*. Cambridge, Mass.: Belknap Press of Harvard University Press.

DiMicco, J. M., & Millen, D. R. (2007). *Identity management: multiple presentations of self in facebook*. Paper presented at the Proceedings of the 2007 international ACM conference on Supporting group work, Sanibel Island, Florida, USA.

DiMicco, J., Millen, D. R., Geyer, W., Dugan, C., Brownholtz, B., & Muller, M. (2008). *Motivations for social networking at work*. Paper presented at the Proceedings of the 2008 ACM conference on Computer supported cooperative work, San Diego, CA, USA.

DiMicco, J. M., Geyer, W., Millen, D. R., Dugan, C., & Brownholtz, B. (2009). *People Sensemaking and Relationship Building on an Enterprise Social Network Site.* Paper presented at the System Sciences, 2009. HICSS '09. 42nd Hawaii International Conference on.

Donath, J. (2007). Signals, cues and meaning *Signals, Truth and Design*. Cambridge, MA: MIT Press.

Dwyer, C., Hiltz, S. R., & Widmeyer, G. (2008). *Understanding Development and Usage of Social Networking Sites: The Social Software Performance Model*. Paper presented at the Proceedings of the Proceedings of the 41st Annual Hawaii International Conference on System Sciences.

Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The Benefits of Facebook "Friends:" Social Capital and College Students' Use of Online Social Network Sites. *Journal of Computer-Mediated Communication, 12*, 1143-1168.

Greenberg, J., & Eskew, D. E. (1993). The Role of Role Playing in Organizational Research. [Article]. *Journal of Management, 19*(2), 221.

Good, D., & Gambetti, D. (1988). Individuals, Interpersonal Relations and Trust. In D. Gambetti (Ed.), *Trust: Making and Breaking Cooperative Relationships* (pp. 31-48). New York: Blackwell.

Henry, K. B., Arrow, H., & Carini, B. (1999). A Tripartite Model of Group Identification. *Small Group Research, 30*(5), 558-581.

Hung, C., Dennis, A. R., & Robert, L. P. (2004). *Trust in Virtual Teams: Towards an Integrative Model of Trust Formation.* Paper presented at the Proceedings of the 37th Annual Hawaii International Conference on System Sciences (HICSS'04)

Jarvenpaa, S. L., Knoll, K., & Leidner, D. E. (1998). Is Anybody Out There? *Journal of Management Information Systems, 14*(4), 29-64.

Kirsch, L. J., Ko, D.-G., & Haney, M. H. (2009). Investigating the Antecedents of Team-Based Clan Control: Adding Social Capital as

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a Predictor. *Organization Science, 21*, 469-489.

Lampe, C., Ellison, N. B., & Steinfield, C. (2008). *Changes in use and perception of facebook*. Paper presented at the Proceedings of the 2008 ACM conference on Computer supported cooperative work, San Diego, CA, USA.

Martins, L., Gilson, L., & Maynard, M. T. (2004). Virtual Teams: What Do We Know and Where Do We Go From Here? *Journal of Management, 30*(6), 805-835.

McAfee, A. P. (2006). Enterprise 2.0: The Dawn of Emergent Collaboration. *MIT Sloan Management Review 47*(3), 21-28.

Nahapiet, J., & Ghoshal, S. (1998). Social Capital, Intellectual Capital, and the Organizational Advantage. *Academy of Management Review, 23*, 242-266.

Palfrey, J., & Gasser, U. (2010). *Born Digital: Understanding the First Generation of Digital Natives*: Basic Books.

Petty, R. E. and J. T. Cacioppo (1986). Elaboration Likelihood Model of Persuasion. *Advances in Experimental Social Psychology* 19, 123-181.

Ramesh, V., & Dennis, A. (2002). *The Objectoriented Team: Lessons for Virtual Teams from Global Software Development*. Paper presented at the Proceedings of the Thirty-Fifth Annual Hawaii International Conference on System Sciences, Hawaii.

Ramirez, A. (2007). The Effect of Anticipated Future Interaction and Initial Impression Valence on Relational Communication in Computer-Mediated Interaction. *Communication Studies, 58*(1), 53-70.

Skeels, M. M., & Grudin, J. (2009). *When social networks cross boundaries: a case study of workplace use of facebook and linkedin*. Paper presented at the Proceedings of the ACM 2009 international conference on Supporting group work, Sanibel Island, Florida, USA.

Switzer, J. (2008). Impression Formation in Computer Mediated Communities & Making a Good (Virtual) Impression In P. Zemliansky & K. Amant (Eds.), *Handbook of research on virtual workplaces and the new nature of business practices*. Hershey, PA: Information Science Reference.

Tidwell, L. C., & Walther, J. B. (2002). Computer-Mediated Communication Effects on Disclosure, Impressions, and Interpersonal Evaluations: Getting to Know One Another a Bit at a Time. *Human Communication Research, 28*(3), 317-348.

Tong, S. T., Van Der Heide, B., Langwell, L., & Walther, J. B. (2008). Too Much of a Good Thing? The Relationship Between Number of Friends and Interpersonal Impressions on Facebook. [Article]. *Journal of Computer-Mediated Communication, 13*(3), 531-549.

van den Hooff, B., de Ridder, J., & Aukema, E. (2004). Exploring the eagernes to share knowledge: the role of social capital and ICT in knowledge sharing. In M. Huysman & V. Wulf (Eds.), *Social capital and information technology*. Boston: MIT Press.

Walther, J. B. (1992). Interpersonal Effects in Computer-Mediated Interaction - a Relational Perspective. *Communication Research, 19*(1), 52-90.

Walther, J. B., Anderson, J. F., & Park, D. W. (1994). Interpersonal Effects in Computer-Mediated Interaction - a Metaanalysis of Social and Antisocial Communication. *Communication Research, 21*(4), 460-487.

Walther, J. (2005). *The rules of virtual groups.* Paper presented at the Proceedings of the 38th Hawaii International Conference on System Sciences, Hawaii.

Walther, J., Van Der Heide, B., Kim, S., Westerman, D., & Tong, S. (2008). The Role of Friends' Appearance and Behavior on Evaluations of Individuals on Facebook: Are We Known by the Company We Keep? *Human Communication Research, 34*(1), 28-49.

Wasko, M., & Faraj, S. (2005). Why Should I Share? Examining Social Capital and Knowledge Contribution in Electronic Networks of Practice. *MIS Quarterly, 29*, 35-57.

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Young, G. O., Brown, E. G., Keitt, T., Owyang, J. K., Koplowitz, R., & Shey, H. (2008). Global Enterprise Web 2.0 Market Forecast: 2007 To 2013. *Forrester Research*. Retrieved from Forrester website: www.forrester.com

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