

2011

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## Repository Citation

Vaezi, R., Torkzadeh, G., Chang, J. C. (2011). Understanding the Influence of Blog on the Development of Social Capital. *The DATA BASE for Advances in Information Systems*, 42(3), 34-45.

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# Understanding the Influence of Blog on the Development of Social Capital

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## Abstract

*The rapid use and application of blogs in diverse areas such as education, marketing, journalism, and human resource management in recent years underlines the need for a better understanding of the impact of this new technology on social capital. Social capital reflects the norm of reciprocity and the level of trust among individuals who connect, interact, and benefit from one another. Blog is expected to influence the extent and the scope of this interaction by providing new means of networking among people. This paper examines the relationship between blog use and social capital and reports on the results of an exploratory study that examines this relationship using survey data from 326 blog users. Results suggest a significant and positive impact of blog use on social capital and its components: social connections, reciprocity, and trust. Implications of these findings for research and practice are discussed.*

**Keywords:** Blog, Social Capital, Social Connections, Reciprocity, Trust, Web Survey, PLS

**ACM Category:** H. 1. 1 Systems and Information Theory

## Introduction

Rapid growth and advances in computer-based communication technologies have altered the way people network and interact among groups and across geographical boundaries. This trend reflects a paradigm shift in the way people and institutions are connected (Wellman and Hampton, 1999). In the last two decades, the traditional face-to-face form of civic association has steadily declined while new forms of social and organizational connectedness supported by digital media have increased (Vaast and Davidson, 2008). This is particularly true in the case of advanced industrialized societies.

Blog is an Internet-based tool that uniquely facilitates communication among groups of like-minded individuals. It has become the tool of choice for people that want to communicate with others who share similar views on a variety of topics such as politics, religion, ideology, and the like. It is reported that approximately 8 million, or 7%, of Internet users in the United States owned a blog by the end of 2004 (Rainie, 2005) and that trend is expected to continue (Sifry, 2007). Blog writers, also called bloggers, tend to immerse themselves in networking with others in their respective group about the topic of their choice and in doing so, promote the norms of reciprocity and trustworthiness that are considered essential ingredients of social capital (Putnam, 2000).

The effect of this new digital mode of communication on the level and scope of social capital is the subject of considerable debate among social scientists. Communication technologies and their impact on the individual and organization are important to information system research and practice (Wasko and Faraj, 2005). There is a need for better understanding of the impact of new digital forms of communication on social capital and its components: social connections, reciprocity, and trust among individuals.

There has been very little research, if any, on the relationship between blog use and social capital. As an Internet based communication medium, blog facilitates information exchange for anyone with access to World Wide Web. This openness allows the blog contents to reach the entire Blogosphere and the interactive nature of this medium creates involvement which in turn will lead to the potential for influencing social capital.

This exploratory study examines the potential impact of blog on social capital. In this paper, we first review the literature on blog and social capital and then describe a relationship model based on this literature review. Next, hypotheses, methodology, and survey design are described followed by a section on results and discussion of findings. Finally, implications of the study are discussed and suggestions for future research are offered.

## Review of the Literature

### Blog

A blog, originally called a 'weblog', is defined simply as a self-publishing website (Silva, Mousavidin, and Goel, 2006). Researchers in journalism have described blog as "diary style websites that generally offer observations and news listed chronologically on the site as well as commentary and recommended links, surged in popularity after the events of 9/11" (Johnson and Kay, 2004, p 622). Blog is also described as an "informal online journal, with chronological entries that are typically short and often includes news summaries and link to other sites" (Ross, 2005, p 4) in human resource management research. In other words, blog is a personal website that contains owner's ideas and opinions as well as Internet links (Smudde 2005). A person who creates and maintains a blog is called a '*Blogger*' and the community of blogs in cyberspace is known as the '*Blogosphere*'. Textual contents in a blog are referred to as posts. Blog post can also contain pictures and/or videos to support the text. Alternatively, PhotoBlog and VideoBlog are blogs

with posts of pictures and videos, respectively, supported by a few lines of text.

Some studies list a variety of purposes for blog: communication between managers and employees, a discussion forum, recruiting new employees, and the like (Ross 2005). Although blogs are increasingly developed within and maintained by organizations, referred to as corporate blogging (PR Web, 2005), they are typically developed and used for personal reasons where individuals in a group or association discuss and communicate topics of mutual interest. Blogs often feature a comment section which visitors can write comments in response to the author's content (Donovan and Lee, 2006).

There are different ways to label blogs. One study groups blogs into four categories: (1) personal blogs that belong to individuals who want to express their ideas, observations, suggestions, and so on; (2) topic or industry blogs which focus on issues relevant to a given subject area or a given industry; (3) publication-based blogs that promote dialog about subject of interest to a group of readers; and (4) corporate blogs that belong to companies and provide insights, assessments, commentaries and others within company discussions (Smudde, 2005). From the perspective of human resource research, blogs are also divided into four groups: (1) organizational blogs that facilitate communication between managers and employees, host work group discussion, and the like; (2) professional interest blogs that are about specific profession and discuss issues relative to that profession; (3) personal employee blogs that are kept by individuals independent of their organization for self-expression; and (4) hostile blogs that oppose specific organizations (Ross, 2005).

Blogs are relatively easy to develop and cost little to maintain; hosting services help individuals create blogs free of charge or for a small fee. In most cases, blog owners only need to log in and navigate through their blog site to find the proper places to start to create new postings and read comments for existing postings. Blogs typically rank high on search engines because of the 'Blogosphere culture'; bloggers tend to link other blog sites to their own. A blog may have more than one author with an indicator to link any post to its respective author. Because of its ease of use and low cost, blog use has been on the increase, not entirely for positive reasons; employees may use blogs to harm their organization or waste their organizational resources for non-business purposes (Silva, Mousavidin, and Goel, 2006).

## Social Capital

The concept of social capital has gained significant attention among researchers and educators in recent years, especially since the publication of a seminal work by Putnam (2000) where he examines the “collapse and revival of American community”. Putnam refers to social capital as “connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them” (p. 19). He believes that the core idea of social capital theory is that social networks have value.

In a society rich in social capital individuals are involved in networks of social relations. A society of isolated individuals is said to be void of social capital even if it has many other virtues. Social capital enhances community relations and civic responsibilities, “even those who bemoan the economic consequences of teachers’ unions or bar associations might acknowledge the social capital they represent” (Putnam, 2000, p. 80). It provides a context for some aspects of social structure and at the same time facilitates interactions by individuals within that structure (Coleman, 1990). Social capital enhances bonding as well as obligations among individuals in ways that would be impossible to achieve otherwise (Nahapiet and Ghoshal, 1998).

Social capital has also been defined as “the sum of the actual and potential resources embedded within, available through and derived from the network of relationships possessed by an individual or social unit” (Nahapiet and Ghoshal, 1998, p. 243), “network ties of goodwill, mutual support, shared language, shared norms, social trust, and a sense of mutual obligation that people can draw from” (Huysman and Wulf, 2004, p. 1), and “any aspect of a group that facilitates the group’s interaction, benefiting both the group and its individual members” (Blanchard, 2004, p. 54).

In addition to the connections among people, two other important ingredients of social capital are *trust* and *reciprocity* among individuals as they network, interact, and exchange ideas. Trust exists when one is willing to believe the words and actions of others. Putnam (2000) suggests trust as the lubricant of social capital. He also describes reciprocity as being either specific, when two people return favors to one another (I will do this for you if you do that for me) or general, when favors are returned by someone else down the road (I will do this for you now and I know that someone else will do something for me later). Social capital is composed of both the network and the assets that are mobilized through that network (Nahapiet and Ghoshal, 1998). Unlike other forms of

capital, social capital is owned jointly by the parties involved in a social grouping; no one has exclusive ownership rights to it (Burt, 1992). The development of social capital requires “the active and willing engagement of citizens within a participative community” (Onyx and Bullen, 2000, p. 15).

Although the definitions vary, the concept of social capital as a resource that can be utilized remains constant. The variations are in the specificities of the concept. For example, social capital is applicable to a social community. However, the scope of the community can be defined narrowly where all members share well defined purposes and goals such as professional organizations or business clubs; or loosely defined to include all members that share some common identifiers such as residents of a municipality or even citizens of a nation. Therefore, the dimensions of social capital suggested and the potential utilization of available resources would differ. We focus our discussion on the three most commonly examined dimensions of social capital: social connections, reciprocity, and trust.

### Social Connections

Without networks that connect individuals, there would be no social capital. Although there are differences in the specificity of social connections, the consensus is that social connections are the foundation of social capital. In his discussion of dimensions and forms of social capital, Putnam distinguishes between *bonding* and *bridging*. He suggests that bonding is an inward looking norm where individuals in a relationship tend to be more homogeneous (e. g., ethnic fraternal organizations). Bridging, on the other hand, is an outward looking norm where individuals in a relationship tend to be from diverse social groupings (e. g., civil rights movement). Bonding provides a more crucial social and psychological support for members of a social group; “a kind of sociological superglue” (Putnam, 2000, p. 23). Bridging, on the other hand, casts a wider net and provides linkage to external relations. It may be argued that bridging social capital and inter-organizational links are more valuable than bonding social capital because bridging social capital facilitates the flow of information among groups and people that are not currently connected (Kavanaugh, Reese, Carroll, and Rosson, 2005).

### Reciprocity

Reciprocity is the practice of give and take among people for mutual benefit. People in principle are expected to help those who have helped them (Gouldner, 1960). The norm of reciprocity acts as

initiator and stabilizer of social interactions among exchanging parties (Sanders and Schyns, 2006). It is also suggested that three factors of *equivalence*, *immediacy*, and *interest* have a determinant effect on the norm of reciprocity (Sanders and Schyns, 2006). Without the norm of reciprocity, social connections would weaken and negatively affect social capital.

Reciprocity may occur sometime in the future or may be done for someone other than the person who extended a favor (Guth, Klose, Konigstein, and Schwalbach, 1998). It is the act of responding in kind and it means that someone's behavior is reciprocated later on by somebody else. The party who moves second will reciprocate the first party who trusted him/her the first time.

### **Trust**

Literature maintains that trust and norms of reciprocity are underpinning features of social capital. It is suggested that "fundamental features of social capital are networks, shared values, social trust and norms of community" (Chapman, 2004, p. 301). Trust is defined as "the extent to which one is willing to ascribe good intentions to and have confidence in the words and actions of other people" (Dietz and Hartog, 2006, p. 559). Some studies describe trust as a "psychological state compromising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another" (Rousseau, Sitkin, Burt, and Camerer, 1998, p. 395).

Trust is also described in some studies as "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control the other party" (Mayer, Davis, and Schoorman, 1995, p. 712). Further, distinguish between trust and trustworthiness: trust is an action that the trustor takes while trustworthiness is a quality that trustee has. They add that a party may consider the other party as trustworthy but he/she may not indeed trust the second party (Mayer, Davis, and Schoorman, 1995).

As described earlier, social networks have value and that value is generated through trust and reciprocity among members of a social group. Trust and reciprocity are in that sense interrelated when acts of reciprocity lead to an increase in the level of trust. Both trust and reciprocity become the necessary 'glue' that form social capital and enable network structure.

### **Blog and social capital**

People engage in blogging for various reasons. One reason could be that it is required within an organization and in the course of doing that social interaction is enhanced. Alternatively, blogging may be done more purposefully when an individual wants to alter the mode of an existing social interaction. For example, a group of people involved with a community event may now decide to use blog as a new means of interaction. The purposeful adoption of blog is also done by individuals who are not comfortable with face-to-face interaction but are interested in taking part in conversation about a social issue or a social cause. The focus of this study is on the outcome of blog use; how blog usage influences social capital and its components rather than the intent behind the practice.

The use of computer-mediated communication to supplement, and in some cases, replace the traditional physical communication has increased in recent decades owing to the advances in the technology. The Internet has enabled individuals to network and socialize beyond the boundaries of local neighborhood, workplace, and family. Whether the new communication technologies produce a durable and more advanced gamut of civic engagement is a subject of debate in a variety of disciplines including social sciences, human resource management, marketing, information systems, and others.

Information systems researchers, among others, are faced with important research questions that address the extent to which these communication technologies influence civic duties and social responsibilities. Information systems help the formation of social capital by providing the infrastructure for collective conversation, action, and an interaction space which can facilitate the creation of new knowledge (Syrjanen and Kuutti, 2004). When computer networks such as the Internet help to link people, as well as machines, they become social networks (Wellman, 2001). Three ways are suggested in which the Internet influences social capital: it may *transform social capital* (Internet changes the nature of how social capital is formed); it may *diminish social capital* (Internet reduces face-to-face communication and in turn reduces social capital); or it may *supplement social capital* (Internet provides additional communication channels). Empirical evidence from survey data suggests that the Internet would supplement rather than diminish or transform social capital in the short-term (Quan-Hasse and Wellman, 2004).

Some have argued that virtual communities do not increase social capital because they do not foster a network of face-to-face relationship (Blanchard, 2004) while others maintain that the Internet neither destroys nor creates social capital (Uslaner, 2000). Nevertheless, Uslaner suggests that people perform everything on the Internet as they do in real life; they shop, get news, plan vacations, and most importantly talk with friends through instant messaging or email. The debate for the effect of Internet on social capital continues.

Using a blog is the first step to join the virtual blogging community. Bloggers normally gravitate to a small number of blogs that interest them personally. Blogs are great tools to express opinions and exchange ideas openly. As the popularity of blog continues to grow due to its ease of use and interactivity (Du and Wagner, 2006), the potential effect of blog on social capital needs to be examined.

### The Study

Blog is a new concept and as such there is not a universally accepted definition for it. As noted earlier, different authors categorize blogs into different types depending on the context of their study. In this study, we define blog as *an informal online dairy with chronological entries that are typically short and often include personal opinions, news summaries, and links to other sites and blogs.*

In this study, we also adopt Putnam's (2000) definition of social capital, applicable to community with both tight (bonding) and loose (bridging) social connections. We treat the Blogosphere as a virtual community and define blog use as the level of interaction that an individual has in the Blogosphere. In the Blogosphere, individuals interact with each other using blogs; some own a blog, some only read blogs, and others read and post comments on blogs.

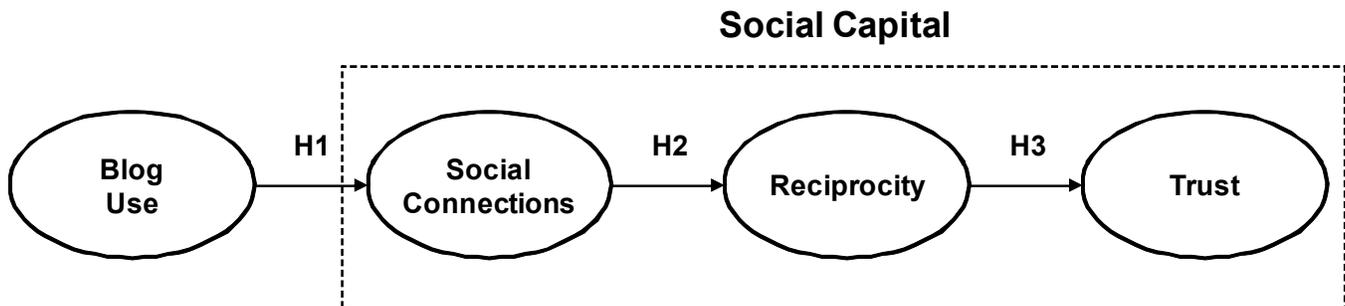
In one way or the other, they are active participants in the Blogosphere.

Putnam (2000) suggests that network, norm of reciprocity, and trust are elements of forming social capital. Blog facilitates social connections and that in turn leads to reciprocity and trust among blog users. These three elements of social capital are shown in the dotted box in Figure 1. Social connections are generally examined through the mechanism and the complexity of social networks. Within the context of the Blogosphere, we refer to social connection as *any kind of communication among bloggers to socialize.* This includes face-to-face, by phone, by email, through Internet, and via blogs.

Reciprocity is action oriented. Therefore, it can be discussed based on actual behavior observed or willingness to act. Since there is no geographic boundary, blog greatly extends the effects of reciprocity. Based on the literature on trust and reciprocity, Berg, Dickhaut, and McCabe (1995) implicitly argue that people reciprocate to keep a trust or simply because they were trusted. Given this, one would expect that the act of reciprocity will precede an initial level of trust.

Within the social capital literature, trust is usually discussed from an individual's perspective in relation to the community. However, there are different issues to consider in the Blogosphere. Blogs allow its users to remain anonymous. The concept of trust then needs to include the content and information of the blog. Traditional communities are characterized by certain tangible, physical attributes, and it is easier to relate the concept of trust to people or to a community. The Blogosphere is largely virtual and intangible; it is harder to consider the concept of trust because of the lack of a focal point. A blog can be written and comments can be posted on it by someone living next door or the other side of the world.

Figure 1. The relationship model



Because there are practically no barriers for anyone to express themselves in the Blogosphere, there are many new issues that would affect how a blog reader is willing to believe or trust the contents of blogs. We therefore limit our conceptualization of trust to people's willingness to believe in the contents on blogs and other blog users.

Based on social capital theory, Putnam (1995) suggests that the more we connect with other people, the more we trust them and vice versa. Kavanaugh, Reese, Carroll, and Rosson (2005) also suggest that social networks and groups help build trust among members. They suggest that trust among a community member will increase as people communicate more and get to know each other better. However, Calibourn and Martin (2000) found limited evidence in support of the idea that belonging to a group makes individuals more trusting. Nevertheless, literature tends to support that social networks positively influence the level of trust among individuals.

In summary, based on the review of literature, our research model (Figure 1) suggests that blog use will increase social connections and that in turn will lead to an increase in the level of reciprocity among users. An increase in the level of reciprocity is expected to enhance trust among users. This process chain is expected to ultimately increase social capital among blog users. Thus we propose the following three hypotheses:

**Hypothesis 1: Blog use will increase social connections.**

**Hypothesis 2: An increase in social connection among blog users will lead to an increase in the level of reciprocity among them.**

**Hypothesis 3: An increase in the level of reciprocity will lead to an increase in trust among blog users.**

## Methods

### Survey design

In order to test the model we developed an online survey for blog users. A review of related literature was carried out to ensure that a comprehensive list of items that would measure dimensions of social capital and blog usage is included in the survey. Notable works in sociology and behavioral science (Putnam, 2000; Wellman, Quan-Haase, Witte, and Hampton, 2001; Onyx and Bullen, 2000; Calibourn and Martin, 2000), marketing research (Lang, 2005; Burger, 2005), human resource management (Ross, 2005),

public relation (Smudde, 2005), and journalism and media (Johnson and Kay, 2004) were reviewed. This literature, especially studies of behavioral science and journalism influenced the design of our survey.

Drawing on this literature, we generated a 54-item questionnaire to measure the perceived impacts of blog use on social capital. Examples of social connection questions include: 'I feel that I belong to a community of bloggers', 'I like to be in touch with other bloggers whom I read their blogs, through channels other than blog'. Examples of trust include: 'When I need information to make an important decision, I can trust information that I find on a blog', 'I believe that most blogs can be trusted', 'I feel safe to express my ideas in my blog'. Majority of the items are modified or created from existing literature and follow their original design as reflective items. However, to capture our action orientation for reciprocity, we created formative items where evidence of the actions signifies level of reciprocity. Examples of reciprocity include: 'Have you ever helped to elaborate a special issue or concern in the blogosphere?' and 'Have you ever been asked by other bloggers for assistance?' These items represent potential reciprocating activities that are causes of reciprocity and are not expected to correlate (Jarvis, MacKenzie, and Podsakoff, 2003; Petter, Straub and Rai, 2007). We recognize that five items may not be sufficient to completely define acts of reciprocity in the Blogosphere. Nevertheless, as this is an exploratory study, we elect to keep the number of items small in order to improve response rate.

The survey also included questions of demographics and the level of blog use. Blog use was measured by questions about the frequency of interaction, whether the respondent owned a blog, and whether the respondent actively interacted with the Blogosphere. Examples of blog use include: 'I have my own blog', 'I read others blog', 'I read others blog and I frequently post comment on them'. In all, we developed four items for blog use, six items for social connections, twelve items for trust, and five items for reciprocity. All reflective questions are measured with a 5-point Likert type scale where 1 denotes strongly disagree and 5 for strongly agree. The formative items for reciprocity are measured with binary scale of "yes" or "no". Some open-ended questions are also included in the questionnaire to solicit additional qualitative feedback from respondents.

The survey was sent to 10 bloggers and blog readers for pilot test. The intent was to ensure that the language (English) was conventional and easy to understand by general Internet and blog users and to assess whether it captured important aspects to

blogging. The pilot test resulted in minor adjustments to the survey.

### Sample characteristics

We used [QuestionPro.com](http://QuestionPro.com) to develop the survey and collect data online. This is a commercial provider with flexible terms and reliable service. To recruit respondents, we first asked 10 bloggers to put the announcement of our survey in their blogs. We also posted announcement of our study as comments on approximately 200 randomly selected blogs that we found as we surfed the Blogosphere. We also promoted the study by sending an email to *ISWorld* listserv.

In a period of 5 weeks, 1377 people visited our survey web page, 598 started the survey and 346 people finished it. Twenty incomplete responses were discarded. Of the 326 usable responses, 51.5% were male and 45.7% were female; 2.8% not identified. Most respondents (68.1%) were between ages 18 and 35. About half the respondents (49.1%) had graduate degrees followed by those who had bachelor degrees (28.5%). The sample consisted of 36.8% Americans and 34.7% non-Americans.

A total of 69.9% of respondents owned a blog and all of them said they were blog readers as well. Most respondents (58.3%) read blogs daily. Of those respondents who owned a blog, 18.7% said they updated their blogs weekly followed by 17.8% daily and 17.5% more than once a week. See Table 1 for statistics on respondents.

### Analysis and Results

To test our model depicted in Figure 1, we used Partial Least Squares (PLS-Graph), a structural equation modeling tool that utilizes a component-based approach to estimation. PLS is a least squares estimation procedure, allowing the flexibility to easily represent both formative and reflective latent constructs, while placing minimal demands on measurement scales, sample size, and distributional assumptions (Chin, 1998).

We define the measurement model as follow: blog usage, Social connection, and Trust items are designed to capture the extent the respondent feel about the constructs and therefore are modeled as reflective measures of their perspective constructs. Items for Reciprocity are designed as indicators of whether reciprocal action has taken place and therefore are modeled as formative measures in the PLS model.

**Table 1. Respondents characteristics**

	Frequency	%
<i>Gender (n=317)</i>		
Male	168	51.5
Female	149	45.7
<i>Age (n=317)</i>		
18 to 25	107	32.8
26 to 35	108	33.1
36 to 45	60	18.4
45 to 65	38	11.7
65+	4	1.2
<i>Ethnicity (n=313)</i>		
White	120	36.8
African-American	5	1.5
Hispanic	5	1.5
Asian	70	21.5
Non-American	113	34.7
<i>Education (n=318)</i>		
High School	46	14.1
Diploma		
Associate	19	5.8
Degree		
Bachelor	93	28.5
Degree		
Graduate	160	49.1

The model was evaluated using PLS to examine internal consistency or reliability and convergent and discriminant validity. Internal consistency (ICR), similar to Cronbach's alpha, is a part of normal PLS output, and a level of 0.7 or higher reliability was considered adequate in this study (Agarwal and Karahanna, 2000). We examined convergent and discriminant validity using two criteria. First, the square root of the average variance extracted (AVE) for a construct should exceed the correlation between that and other constructs, and it should be greater than 0.7. Second, standardized item loadings should be greater than 0.7, and items should load more highly on the primary construct than other constructs (Agarwal and Karahanna, 2000). For reflective measures, we examined cross loadings by calculating the correlations between latent variable component scores and the manifest indicators of other latent constructs (Chin, 1998; Yi and Davis, 2003).

Initial analysis suggests several items with low loading. An iterative process was used to eliminate items that had low loading, one at a time, until all item loadings were at the acceptable level. For formative items, weight and statistical significance, using t-statistics generated from bootstrapping, were examined to determine the contribution of individual items to the construct.

Low weight indicates no contribution to the construct and can be candidate for removal. Using these criteria, two items ('Have you ever been asked by other bloggers for assistance' and 'Have you ever initiated a special issue or concern in the blogosphere') were removed for the norm of reciprocity construct. Although we recognize that removing these items may affect the conceptual definition of reciprocity in our study, we decided that at this early stage of this research, it is important to remove these two items based on our analysis and allow future research to determine the efficacy of the removed items. Three items of social connection measures and one item of trust measures were eliminated because of low loadings on their respective latent construct.

Table 2 provides statistics on reliability, convergent and discriminant validity, and correlations for latent constructs in the model. All reliability scores were greater than 0.7, exceeding minimal reliability criteria (Table 2). Results shown in Table 2 also show that the square root of the average variance extracted for each construct was greater than 0.7 and greater than the correlation between that construct and other constructs, suggesting a strong evidence of convergent and discriminant validity.

One additional method to establish convergent and discriminant validity is to examine cross loading of

items. Since PLS-Graph does not provide this information, it needs to be generated manually. We used Microsoft Excel to read and edit the rescaled data matrix, which is the output of PLS measurement model run, into 326 rows (the number of respondents) and 20 columns (17 items plus three reflective factors). Pearson correlations were computed between the three factor scores and 17 rescaled item scores to obtain the factor structure matrix of loadings and cross-loadings shown in Table 3.

**Table 2. Reliability, convergent and discriminant validity, and correlations**

Latent Constructs	ICR	Blog Use	Social Connection	Trust
Blog Use	0.772	[0.729]		
Social Connection	0.810	0.459	[0.769]	
Trust	0.943	0.095	0.195	[0.775]
Reciprocity*		0.341	0.517	0.203

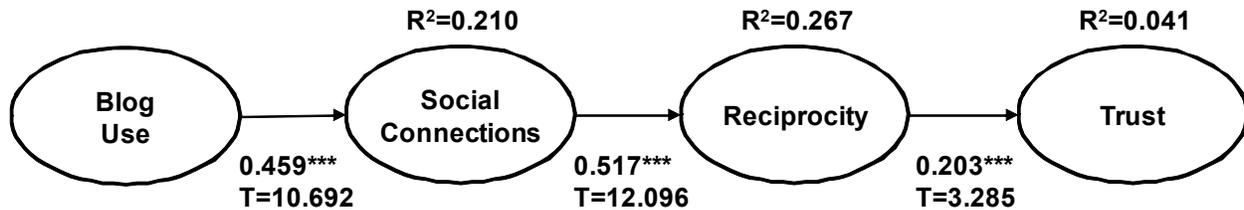
ICR: Internal consistency or reliability (should be >0.7). Diagonal elements (in bracket) are square root of average variance extracted (AVE). Off-diagonal elements are correlations between latent constructs (for convergent and discriminant validity, they should be greater than 0.7 and larger than off-diagonal correlations).

\* ICR and AVE not appropriate for formative construct, only correlations are reported.

**Table 3. Reflective item loadings and cross-loadings, and formative item weights and significance**

	Blog Use	Social Connection	Trust	
<b>Blog Use</b>				
WU1 Owns blog	<b>.717</b>	.327	.001	
WU2 Read and post on other's blogs	<b>.786</b>	.368	.080	
WU3 Frequency of reading blogs	<b>.681</b>	.305	.129	
<b>Social Connection</b>				
SC1 Feel belonging to a community of bloggers	.501	<b>.872</b>	.190	
SC2 Keep in touch through non-blogs	.300	<b>.804</b>	.141	
SC3 Chat via Internet	.171	<b>.608</b>	.100	
<b>Trust</b>				
T1 Feel safe to express ideas in blog	.150	.226	<b>.706</b>	
T2 Most blogs can be trusted	.101	.164	<b>.822</b>	
T3 Trust blog more if know about the writer through others	.008	.107	<b>.726</b>	
T4 Trust a blog more if updated regularly for a long time	.029	.151	<b>.728</b>	
T5 Can trust information on blog to make decisions	.091	.179	<b>.822</b>	
T6 Most people can be trusted	.000	.124	<b>.804</b>	
T7 Most people are honest	.010	.113	<b>.801</b>	
T8 Blog can be independent of the owner's affiliations	.070	.171	<b>.691</b>	
T9 Blogs are useful in evaluating their owners	.090	.086	<b>.801</b>	
T10 Evaluate people through their blog	.135	.196	<b>.817</b>	
T11 Evaluate bloggers based on own knowledge of the issues	.035	.116	<b>.787</b>	
<b>Reciprocity</b>			<b>Weight</b>	<b>t</b>
R1 Have you ever helped to elaborate a special issue or concern in the blogosphere?			.612	7.705
R2 Have you ever joined a campaign through blog?			.376	3.563
R3 Have you ever provide assistance to other bloggers?			.326	2.771

Figure 2. PLS result for the proposed model



The factor structure matrix (Table 3) shows that all items, except WU3 and SC3, exhibit high loadings of greater than 0.7 on their respective constructs, no item loaded higher on non-primary constructs. In short, the self-report measurement instruments exhibit strong psychometric properties and support testing of major part of the proposed structural model.

The structural model and the hypotheses were tested by examining path coefficient which is similar to standardized beta weights in a regression analysis and their significance levels (Yi and Davis, 2003). As is shown in Figure 2, all path coefficients are significant at 0.01 level and all are supported by t-statistics value of greater than 2. This suggests our research model and hypothesis is supported by this data. The  $R^2$  are high for both social connections and reciprocity. This indicates blog use and social connection does explain large portion of variances. The weak  $R^2$  for trust of 0.041 indicates that there are a lot more factors affecting trust among blog user other than reciprocity.

### Other findings and discussion

It has been argued that blogs are created by people who share interests and who like to communicate with like-minded individuals (Silva, Mousavidin, and Goel, 2006). We examined this claim through correlation between two questions that asks about the tendency of blog readers to read about their issues of interest and the tendency of blog keepers to write about their issues of interest. The correlation between these two items is 0.425 ( $p < 0.01$ ), suggesting that individuals who tend to read blogs that discuss their concerns and issues of interest tend to also write about those issues and communicate with other like-minded people about them.

We also included a set of questions in the survey relating to reasons for which an individual keeps a blog. Factor analysis of these items suggests two factors that explain 66% of the variance. We labeled the first factor '*the need to socialize*'; individuals keep a blog to expand their network of friends and to socialize. The second factor is labeled '*the need to*

*express ideas*'; individuals want to talk about their concerns - as one respondent commented, writing in a blog is mostly a form of self-expression. Table 4 shows factor loadings for these items.

Table 4. Factor loadings of items that describe 'reasons to keep a Weblog'

	Loadings
<b>Factor 1</b> – I keep a blog ...	
to expand my network of friends.	0.875
to socialize.	0.844
because I want to get peers' attention.	0.736
for entertainment.	0.591
<b>Factor 2</b> – I keep a blog ...	
to express my thoughts and ideas.	0.873
because I enjoy writing.	0.798
because I feel concerned about issues that I need to write about.	0.765

The majority of respondents (blog users) were college graduates and about half had graduate degrees. We recognize that there is a potential bias from this seemingly high level of well educated respondents and acknowledge the limitation on the generalizability of the findings. Data does not suggest a significant difference between male and female respondents. A significant number of respondents were non-American, suggesting no geographic boundaries. Further, non-American bloggers equally helped to promote the survey by linking it to their sites. We also found that respondents frequently updated their blogs; Silva, Mousavidin, and Goel (2006) suggest that frequent update is a factor in blogs' popularity and related to its life cycle.

Blog users are socially active people. About half the respondents (49.1%) helped to elaborate a special issue or concern in the Blogosphere and 32.8% of them initiated elaboration of a special issue or concern. Also, 39.3% of respondents joined a campaign through blogs. The majority of blog users said they knew in which blog they can find needed information; suggesting that the respondents were sophisticated Internet users and quite familiar with the Blogosphere.

About half of the respondents (45%) stated that they had met other people through blog and 12. 6% stated that they have dated people they met through blog; not only do they use blog to communicate but also to meet each other. Responses to the open ended question, “how many friends you have made through blogs”, range from zero to 100. Respondents also answered this question with phrases such as “dozens”, “a lot”, “many”, “numerous”, “too many to count”, and “several hundred”.

Responses to a similar question, “how many people did you know through blog”, range from zero to 200 and included phrases such as “about hundred”, “dozens”, “many”, “over 200”, “too many too count”, “several thousands” and some humorous ones like “can I count how many stars there are in the sky instead” or “Gosh – Dozens and Dozens”. Responses to the last open ended question, “how many people have you personally met through blogs?” range from zero to 100 and included phrases such as “several thus far”, “more than 50”, and “too many to keep track of, got a job because of Blog”.

Majority of respondents (52. 8%) stated that they have assisted other bloggers when asked; 52. 1% of respondents said they had been asked by other bloggers for assistance. This suggests an established norm of reciprocity, an essential component of social capital, in the bloggers community.

We also received many comments about blogs in general. A representative sample of those comments is provided in table 5. These quotes support our findings that blog users maybe well educated and that they like to communicate more with other users. These quotes also suggests that blog users value this phenomenon and they believe that this new form of communication is useful and powerful in terms of being a medium for expressing ideas and opinions.

Influenced by the work of Ross (2005), we included two items in our survey to assess the effect of blogs on professional activities. We found that 6. 7% of respondents tried to hire someone based on what they have read on his/her blog. Also, 12. 3% of respondents said they have received a job offer or were invited to an interview because of their blog. This suggests that blogs may be a good resource for a recruiter to hire and a good marketing tool for job seekers.

Finally, a word of caution is appropriate. This is an exploratory study and a first step toward a better understanding of the relationship between blog use, a rapidly growing communication medium, and social capital.

**Table 5. Sample respondent comments**

- 
- Blogs have changed the way I work and socialize. I generally find everything, from current events (news) to cooking recipes through blogs or links to websites that were posted on blogs.
  - I have owed many things from writing my personal blog. I have become a ‘web developing’ teacher and a journalist by lessons I learned and experiences I got from Blogging.
  - I believe that blogs are an essential and valuable part of society. They allow people who would not normally have a voice in American society, in particular, to speak and be heard by others who have the same feelings, opinions, problems, experiences, etc.
  - I think blogs are a great way for people around the world to communicate and share information and ideas. I also find them to be therapeutic and mind-broadening.
  - The best thing about blogs is bringing people together over a common interest. I learn a lot from bloggers and commenters I have come to know and trust.
- 

We encourage follow-up studies that more specifically examine questions related to use and effect of blog. For example, is blog only liberating the social networks from the constraints of physical space or is it influencing the structural, relational, and cognitive dimensions of social capital? What are good measures of blog or social capital phenomena? Quan-Hasse and Wellman (2004) suggest that the Internet leads to new forms of social capital that cannot be measured using current forms of measurement. They suggest researchers develop new forms of measurement that complement existing ones and that help measure the full impact of Internet on social capital. These and other questions suggest a potentially rich research domain.

## Conclusion

In this study we examined the influence of blog use on social connection and in turn on norm of reciprocity and trust in community of bloggers. We found a positive and significant relationship between blog use and social connections as well as a positive and significant relationship between social connections and reciprocity. We also found that norm of reciprocity directly influences trust in blog users. Results of this study suggest that Weblog use can increase social capital in the Blogosphere. Blogs provide a revolutionary form of communication via Internet. There is a clear need for research to explore and examine the impact of this technology on individuals, organizations, and the society. The exact nature of how blog can help promote individual and

organizational goals is still undiscovered and needs research. The current research contributes to this issue by examining how blog influence social capital, reciprocity, and trust.

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