

THE INFLUENCES OF SOCIAL SELF-EFFICACY ON SOCIAL TRUST AND SOCIAL CAPITAL – A CASE STUDY OF FACEBOOK

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ABSTRACT

Facebook is currently the most popular social networking service in the world. With such tremendous influence on community networks, Facebook has been attracting considerable attention both from the media and academia. A review of the literature indicates that most researchers are concerned primarily with the influence of personal traits on online interactive behavior. This study began from the premise that self-efficacy, the confidence of individuals to function in an online-community, is a key element influencing participation in on-line social networks. This study attempted to establish a model of the social traits of Facebook users, and our results indicate that social self-efficacy has a positive influence on social trust; social trust has a positive influence on social capital, and social trust mediates the relationship between social self-efficacy and social capital.

Keywords: Facebook, Social self-efficacy, Social trust, Social capital, Web 2.0

INTRODUCTION

Since the introduction of Web 2.0, Internet applications of joint-creation and sharing such as blogs, forums, and social networks have fundamentally altered the way that information is collected and had a profound influence on learning and life-styles (Chen et al., 2011; Cheng, Liu, & Shieh, 2012; Hou, 2010; Liu & Chang, 2010; Liu, Ho, & Song, 2011; Liu, Lin, Jian, & Liou, 2012; Liu, Shih, & Tsai, 2011; Tilfarlioglu, 2011). The evolution of information and communications technology and its influence on the development of social communities and interpersonal interaction have become a popular domain of research in recent years (Chang et al., 2011; Liu, 2007; Liu & Lin, 2007; Liu et al., 2011; Isman, 2011).

Online interpersonal interaction becomes an important aspect of social activities, and its influence on the social life of individuals continues to grow. The most comprehensive integrated online interpersonal platform is the so-called “social network service,” or SNS. In addition to providing an integrated platform on which to make friends, SNSs also allow users to display personal information in an open or semi-open manner, and seek out friends known from social settings in the real world. These “networks” focus on the fact that users also maintain a social life beyond the internet, and join networks not only to make new acquaintances but to remain in touch with current friends. This is the fundamental difference between SNSs and previous social websites (Boyd & Ellison, 2007). SNS websites establish an online interpersonal platform by combining user content with a larger community. On the one hand, SNSs maintain the characteristics of online media, including synchronous and

asynchronous communication; on the other hand, they cannot be criticized for hindering the development of normal social relationships resulting from excessive time spent on the internet.

Facebook, which emerged in 2004, is currently the most popular SNS in the world. According to published statistics, Facebook has more than 800 million active users, each of whom has an average of 130 friends (Facebook, 2012). According to CheckFacebook.com, more than 800 million people have Facebook accounts, accounting for roughly 1/10 of the global population. It should come as no surprise that many researchers look to Facebook for the subject of community studies (Mazman & Usluel, 2011).

Due to the immense influence of Facebook on community networks, related coverage and studies in the media and academia cover a broad range of topics, including privacy (Dwyer, Hiltz, & Passerini, 2007; Jones & Soltren, 2005) social networks and interpersonal relationships (Ellison, Steinfield, & Lampe, 2007; Gangadharbatla, 2008; Hewitt & Forte, 2006; Lampe, Ellison, & Steinfield, 2006), motives and experiences with regard to access (Hart et al., 2008; Joinson, 2008; Lampe et al., 2008), e-portfolios (Back et al., 2010; Barbera, 2009), and educational applications (Mazman & Usluel, 2010; Valenzuela, Park, & Lee, 2008).

A review of the literature indicates that most studies are concerned with the influence of personal traits on online behavior. Mehdizadeh (2010) studied 100 college students and discovered that those with a higher level of narcissism and lower self-esteem have more self-promotional content. In a study of 237 college students, Gangadharbatla (2008) investigated how personal factors influence SNSs, discovering that those factors with stronger internet self-efficacy, a need to belong, and collective self-esteem have a more positive attitude towards SNS. Ross et al., (2009) studied 97 college students, discovering that the “Five-factor Model of Personality” is not as influential with regard to the use of Facebook as indicated in other studies. Despite disparities in the findings, most research has clearly indicated that the use of Facebook is positively correlated with the motivation to communicate. However, research into the influence of social traits on the use of Facebook is somewhat lacking.

Facebook users function as an online community, in which the models of interpersonal interaction influence the behavior of others. In the present study, we believe that a key issue is whether individuals in an online-community are confident in their ability to interact in this environment, referring to this trait as social self-efficacy. Social capital can be used as an indicator with which to evaluate personal power or resources in an online-community. Lin (2001) believes social capital is a resource embedded in the social network, and a user can access and use this resource through personal actions. Factors such as friendship and respect also empower individuals to take advantage of social privileges and acquire personal resources. In such relationships, Inkpen and Tsang (2005), Nahapiet and Ghoshal (1998), and Tov and Diener (2008) pointed out the significance of the relationship linking enhanced social capital and social trust. The most important and fundamental condition for interpersonal interaction is trust, and this applies both in the real world and in virtual interactions. Therefore, in this study, we treat social trust as a potential mediating factor.

In summary, this study is an attempt to establish a model of the social traits exhibited by Facebook users, assuming that social self-efficacy has a positive influence on social trust, and social trust has a positive influence on social capital. The framework of this study is shown in Figure 1.



Figure 1. Hypothesized model of this study

LITERATURE REVIEW

Social Self-Efficacy

Bandura (1977) was the first to propose the theory of self-efficacy, in which the belief of individuals in their ability to organize and implement actions is known as self-efficacy. According to this theory, self-efficacy indicates the level of self-confidence possessed by an individual enabling them to deal with stressors. As such, self-efficacy can be treated as a resource for coping with stress (Jerusalem & Schwarzr, 1992).

The self-efficacy theory is ubiquitous in research today, having been modified and applied in a wide range of domains, such as teacher efficacy (Topkaya, 2010; Tschannen-Moran, Hoy, & Hoy, 1998) or student

self-efficacy in different learning subjects (Liu & Lin, 2010; Liu et al., 2010). The interpretation of social self-efficacy adopted in this study is based on the self-efficacy scale by Gecas (1989), which was modified from the scale proposed by Sherer et al., (1982). Social self-efficacy is the belief of an individual in their ability to initiate social contact and develop new friendships. It is commonly applied in domains such as adult social interaction, counseling for college students, health psychology, and social interaction among students studying abroad (Fan et al., 2010; Hagedoorn & Molleman, 2006; Lin & Betz, 2009; Wei et al., 2005).

We believe that the confidence of individuals to interact with one another and make new friends (Gecas, 1989) in an online environment influences their attitude towards the community and the means by which they behave in such an environment, such as Facebook.

Social Trust

Many scholars believe that trust may reduce interpersonal tension and conflict and promote intra-community collaboration, cohesiveness, and identification (Gambetta, 1988; Mistzal, 1996); as well as enhance interpersonal harmony and cooperation (Coleman, 2000; Fukuyama, 1995; Leana & Van Vuren, 1999). Newton (1997) indicated that social trust can be divided into “individuals” and “the whole”: researchers on individuals are mostly social-psychologists who treat social trust as a “core personality trait of individuals,” related to other personality traits such as optimism, belief in cooperation and confidence in the belief that individuals can resolve their differences and live harmoniously together. Researchers on “the whole” treat social trust as a social trait instead of a personal attribute (Fukuyama, 1995; Putnam, 1993); the fact that an individual participates in a culture of trust or social system, in which attitudes or behaviors related to trust spread throughout the entire society.

Regardless of whether a study is concerned with “individuals” or “the whole,” there is no doubt that social trust influences communities, establishing a bridge for interpersonal interaction (Wu et al., 2010). Hsu et al. (2007) also pointed out that trust is correlated with the self-efficacy in knowledge-sharing. Based on the above, we propose the following hypothesis:

H1: Social self-efficacy has a positive influence on social trust.

Social Capital

The term “social capital” was first coined in a study of community, in which it was believed that social capital may enhance interpersonal networks, by providing a foundation for trust, collaboration, and group activities (Jacobs, 1965). Putnam (2000) believes that social capital focuses on the interactions of intra-community members, mutual assistance, mutual trust, and behavior norms, improving the overall development and performance of a community. In an online-community, individuals share interests or related objectives with others (Ellison, Heino, & Gibbs, 2006; Horrigan, 2002). These new connections may lead to increased social capital.

Putnam (2000) proposed two types of social capital: bridging and bonding. “Bridging social capital” is accommodative. It occurs in social networks linking individuals of different backgrounds, providing opportunities for the exchange of new information or resources. In contrast, “bonding social capital” can be monopolized. It occurs among personal acquaintances such as family members or close friends who provide mutual support for one another, both emotionally and physically. The diversity of these social bonds and social capital is the result of strong interpersonal connections, even when they do not have a strong common background.

In this study we treat social capital as the overall outcome of one’s interactions with others on Facebook, manifesting itself in the ability of individuals to exploit the resources available on Facebook and develop relationships. Social capital is influenced by many factors (Decker, 2007; Ellison, Steinfield, & Lampe, 2007), among which, the effect of social trust on social capital has been addressed in related studies. Huang (2003) pointed out that trust provides a solid foundation for cooperation, as observed in the mutual trust exhibited by team members. The need to cooperate elicits human capital and maximizes the strength of the team. In an educational research report, Yamamura (2010) suggested that social trust can raise social capital, which in turn, enhances the quality of education. We believe that social trust is one condition of social capital, and thus propose the following hypotheses:

H2a: Social trust has a positive influence on bonding social capital.

H2b: Social trust has a positive influence on bridging social capital.

Finally, under the above-mentioned conditions, we believe that there may be a mediating effect between social self-efficacy and bonding social capital, and between social self-efficacy and bridging social capital, and therefore formulate the following hypotheses:

H3a: Social self-efficacy has a mediating effect on bonding social capital.

H3b: Social self-efficacy has a mediating effect on bridging social capital.

RESEARCH METHOD

Sample

We adopted an online-questionnaire survey, stating on the first page that a person may only fill out the questionnaire if he/she has been accessing Facebook for at least 3 months. Our survey was conducted from May to July, 2010; 453 scales were distributed, and 415 valid samples were returned (response rate was 92.16 %), 152 respondents were males (36.5%) and 263 were females (63.2 %). As for education, most respondents were at the college level (52.4 %), and the fewest were in junior high school (3.4 %); in terms of experience with Facebook, most had been accessing it for 7 to 12 months (38.2 %), and 14.7 % had been accessing it for 13 to 18 months. Finally, most participants spent 1 to 5 hours on Facebook per week (36.8 %), while only 1.7 % spent 26 to 30 hours per week.

Measures

Social Self-efficacy Subscale (SSES). We measured social self-efficacy using six-items from the scale modified by Sherer et al. (1982), to evaluate the belief of individuals in their own social competence with regard to Facebook. One sample item was “I quickly understand how to interact with others through Facebook.” We employed a 5-point Likert type scale ranging from 1 (strongly disagree) to 5 (strongly agree) to answer these questions. In Sherer et al. (1982), SSES’ coefficient alpha was .71, and we adopted the four items with the highest factor loading, with Cronbach's α of .71. The questionnaire is listed in appendix.

Social Trust. Six items from Rosenberg’s (1956) Faith in People scale were used to measure the degree of interpersonal trust exhibited on Facebook. One sample item, “Generally speaking, would you say that people with whom you interact on Facebook can be trusted?” We employed a 5-point Likert-type scale ranging from 1 (never) to 5 (all of the time). In Rosenberg’s study (1956), the Cronbach’s alpha was .74, and we adopted the three items with the highest factor loading, with Cronbach's α of .66.

Social Capital. Social capital was assessed using the scale developed by Williams (2006), with a Cronbach’s alpha of .87. Bridging social capital was used to evaluate how individuals of different backgrounds access social networks, and bonding social capital was used to evaluate whether individuals who provide mutual support have stronger interpersonal relationships. Originally, bridging social capital and bonding social capital comprised 10-items. In our study, we adopted the five items for bridging social capital and four items for bonding social capital with the highest factor loadings and Cronbach's α of .81 and .75, respectively. We employed a 5-point Likert type scale ranging from 1 (strongly disagree) to 5 (strongly agree) for these questions.

RESULTS

Reliability and Validity

Confirmatory factor analysis (CFA) was conducted on the four constructs. Results showed a reasonable fit for the model, GFI= 0.93; AGFI=0.90; CFI=0.97 (Bagozzi & Yi, 1988). Composite reliability (CR) was between .70~.78, indicating good composite reliability (Bagozzi & Yi, 1988). In addition, the factor loading of all items was higher than .5, reaching the level of significant for social trust (0.58-0.67), social self-efficacy (0.62-0.65), bonding social capital (0.57-0.79), and bridging social capital (0.65-0.72), indicating that each construct had convergent validity (Anderson & Gerbing, 1988).

To assess discriminate validity, we conducted a series of χ^2 difference tests on the factor correlations among all constructs (Anderson & Gerbing, 1998). This was done for one pair of variables at a time by constraining the estimated correlation parameter between them to 1.0 and performing an χ^2 difference test on the values obtained for the constrained and unconstrained models (Anderson & Gerbing, 1998). The resulting significant difference in χ^2 indicates that the two constructs were not perfectly correlated and that discriminate validity was achieved.

A Chi-square difference test shows that our $\Delta\chi^2$ was between 288.08 and 26150.92, indicating a significance difference between the value of the unconstrained model and that of the constrained model, indicating good discriminant validity between each construct.

Correlation Analysis

Table 1 presents the mean, standard deviation, covariance and correlations among the study variables. The mean of social-efficacy was the highest of the four constructs. This indicates that our test subjects had a high degree social-efficacy on Facebook. Further, in terms of the correlation between each construct: social-efficacy and other constructs all showed a significant positive correlation, indicating a higher level of social-efficacy on Facebook leads to a higher level of social trust, bonding social capital, and bridging social capital; secondly, social trust had a significantly positive correlation with bonding social capital and bridging social capital, indicating a higher level of social trust leads to better bonding social capital and bridging social capital; lastly, bonding social capital and bridging social capital were significantly and positively correlated, indicating that with more bonding social capital are better able to improve bridging social capital.

Table 1. Covariance coefficient matrix of construct and correlation coefficient matrix

Construct	Mean	SD	1	2	3	4
Social trust	3.271	0.775	1.000	0.246	0.268	0.416
Social self-efficacy	3.939	0.718	0.442***	1.000	0.118	0.237
Bonding social capital	3.015	0.659	0.525***	0.249***	1.000	0.304
Bridging social capital	3.230	0.789	0.681***	0.418***	0.585***	1.000

*** $p < .001$; The lower diagonal is the correlation coefficient; the upper diagonal is the covariance coefficient.

Hypotheses Test

We analyzed the data using structural equation modeling with maximum likelihood (ML), utilizing LISREL 8.80. For our analytical strategy, we assessed the overall model fit, and then conducted an internal model test when all fit indices were passed. Following Bagozzi and Yi (1988), we evaluated the theory models from basic fit indices, overall model fit, and structural fit. In basic fit indices: the factor-loading of each latent construct’s measure index reached the level of significance exceeding 0.5. Further, there was no negative error variance in any of the observed variables. Therefore, this model met the basic fit standard. In overall model fit: We adopted the sorting method proposed by Hair, Tatham, Anderson and Black (1998), including absolute fit measures, incremental Fit Index (IFI) and parsimonious fit measures. The results were: GFI = 0.91, AGFI = 0.89 (close to .90), RMSEA = 0.066 (lower than 0.08), SRMR = 0.073 (lower than 0.08), CFI = 0.96 (greater than 0.95), NNFI = 0.96 (greater than 0.90), PNFI = 0.81, PGFI = 0.69, all greater than 0.50, and Normed Chi-Square=2.79, which was lower than the standard value of 3 (Anderson & Gerbing, 1988), indicating that our model met the overall model fit. Internal structural fitness of the model: The above shows that the individual reliability of social trust, social self-efficacy, bonding social capital and bridging social capital was greater than 0.5, and composite reliability of the latent variable was between 0.57 and 0.82.

As shown in Figure 2, social self-efficacy was positively associated with social trust $r(\gamma_{11} = .13; p < .05)$, supporting H1. Hypothesis 2a predicted that social trust would have a positive impact on bonding social capital $(\beta_{21} = .94; p < .0001)$, supporting H2a; Hypothesis 2b stated that social trust would be positively related to bridging social capital $(\beta_{22} = .92; p < .0001)$, supporting H2b.

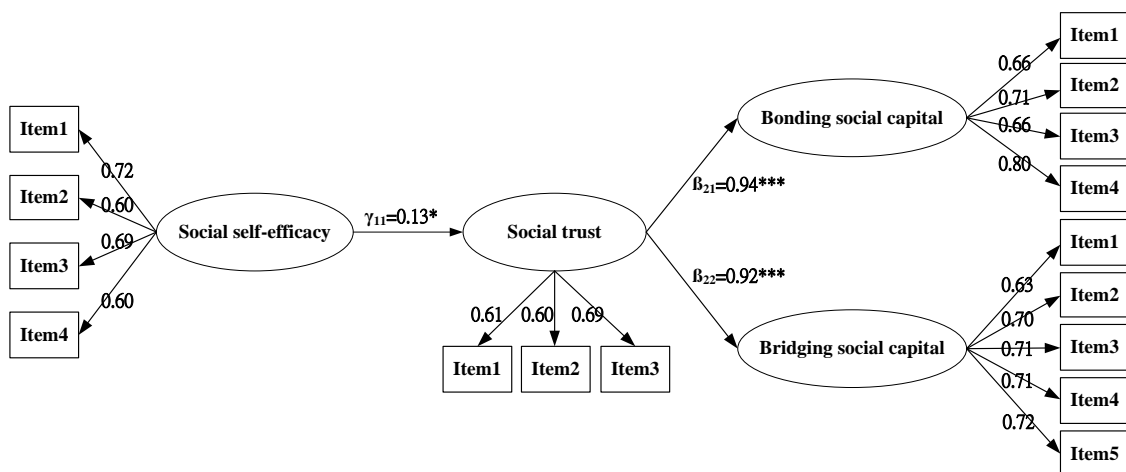


Figure 2. Path analysis

The total effect of social self-efficacy on bonding social capital was .12 ($p < .05$) (derived entirely from indirect

effect). Results indicate that social trust mediates the relationship between social self-efficacy and bonding social capital, supporting hypothesis 3a. Meanwhile, social self-efficacy to bridging social capital was .12 ($p < .05$) (derived entirely from indirect effect), supporting hypothesis 3b. This means that social trust mediates the relationship between social self-efficacy and bridging social capital. From this model, it illustrates that the individual's social self-efficacy affects their social trusts, thereby influencing their social capital on Facebook environment.

DISCUSSIONS

Facebook is currently the most popular social website in the world. Many studies have been conducted on Facebook, and some researchers have even discussed how personal traits influence user habits and perspectives with regard to Facebook (Gangadharbatla, 2008; Mehdizadeh, 2010; Ross et al., 2009). In this study, we believe that social traits are more important than individual internal traits, for their influence on interpersonal interactions within a community such as Facebook. Following a review of past literature, we hypothesized that social self-efficacy has a positive influence on social trust, and social trust has a positive influence on social capital.

From the results of our analysis, it is clear that social self-efficacy has a positive influence on social trust, indicating that in an online community, individuals possess the confidence to interact with others, make new friends, and establish a good sense of social trust among those with whom they interact. Social trust is the most fundamental requirement for interpersonal interactions, and particularly so in an online-community because deception is so much easier where people do not meet face-to-face. Therefore, an important question is how to improve social self-efficacy in online communities. Further, in this hypothesis, social self-efficacy was treated as the cause and social trust as the result; however, other studies on causality obtained results different from ours (eg. Hsu et al., 2007). Therefore, the relationship between the two variables of social self-efficacy and social trust deserves further discussion.

Further, social trust has a positive influence on social capital, indicating that in an online community, social trust is an important issue, allowing interpersonal interaction because relationships and power can only be acquired through trust. As indicated by Putnam (2000), social capital focuses on the interactions of members within a community, mutual assistance, mutual trust, and behavior norms improving the overall development and performance of the community. Therefore, those with greater social capital in the online community of Facebook not only have more friends, but also more mutual interactions, thus enjoying the ability to influence others.

This paper continues the exploration of social capital, further examining the theory that social trust mediates the relationship between social self-efficacy and social capital. From the perspective of social interaction and computer mediated communication, this implies that, in a virtual community, mutual social trust is essential. Revealing the social self-efficacy of an individual will produce positive feedback in a virtual internet community particularly for emotional connectedness and intellectual exchange. In other words, when an individual reveals their social self-efficacy, they gain social capital from the interactions in which they participate.

CONCLUSIONS

A highly interactive online-community is actually an extension of the social interactions taking place in the real world. As Facebook is now the most popular social network service, it is important to discuss and analyze its specific social interaction models. In this study we have shown that social self-efficacy has a positive influence on social trust, and social trust has a positive influence on social capital. The conclusions of the study show also that either a rational model construction or a consequential application to teaching could provide relevant references to researchers and teaching/education or media practitioners.

In addition, the research further explored several additional dimensions. First, this study features the Facebook social utility as a sample survey, indicating that all interviewees have social networking experience; therefore, a thought-provoking issue targeted the comparison of community between the study results and practical life. Second, this research concluded social characteristics influence the fact that students use Facebook to learn and guide relative studies. On the other hand, according to the motivation for the research as well as the literature review, several researches have been conducted to explore whether the individual factor does affect such interaction. Further discussion is worth highlighting that those individual and social factors that can be included to determine their interactive relationship. Third, comparing this study to other studies of social capital, it would be a benefit to re-define social capital as either a “social network environment” or an “education-driven social network. Fourth, in terms of raising the issue of privacy on Facebook, it might be thought provoking to value such interaction in terms of its individual and social influence. Fifth, there can indeed be more than one factor that influences social trust and social capital. This is a limitation of the current research that can definitely

benefit from future study.

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APPENDIX

Social Efficacy

1. I feel completely capable of using almost all currently available Facebook. (Negative)
2. I am confident I will learn how to use Facebook that are due to come out.
3. I find changes in technologies very frustrating. (Negative)
4. I quickly figure out how to use Facebook.

Social Trust

1. Generally speaking, would you say that people with whom you interact on Facebook can be trusted?
2. People try to be fair on Facebook.
3. People try to be helpful on Facebook.

Social Capital - Bonding Subscale

1. There is someone online I can turn to for advice about making very important decisions.
2. There is no one online that I feel comfortable talking to about intimate personal problems. (Negative)
3. The people I interact with online would be good job references for me.
4. The people I interact with online would share their last dollar with me.

Social Capital - Bridging Subscale

1. Interacting with people online makes me want to try new things.
2. Interacting with people online reminds me that everyone in the world is connected.
3. I am willing to spend time to support general online community activities.
4. Interacting with people online gives me new people to talk to.
5. Online, I come in contact with new people all the time.