Exploring the Gender Differences of Trust on Online Knowledge Sharing Behavior

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Abstract: Online knowledge sharing is one of the important processes in knowledge creation especially with the radical development of social media. This study aims to explore gender differences in online knowledge sharing process by utilizing an online knowledge sharing model. Conducted with a questionnaire instrument, this study collected completed questionnaires from 492 high school graduates who answered their most frequent used social media, activities and opinion. Overall, perceived online attachment motivation did not have significant relationship with online knowledge sharing, as it was fully mediated by perceived online relationship commitment. In the male group, perceived online relationship commitment (β=0.47, $p<0.001$) has a stronger effect than trust (β=0.39, $p<0.001$) on online knowledge sharing behavior; while in the female group, trust (β=0.46, $p<0.001$) has a stronger effect than perceived online relationship commitment (β=0.41, $p<0.001$) on online knowledge sharing behavior. Implications on the gender differences are discussed.

Keywords: perceived online attachment motivation, perceived online relationship commitment, online knowledge sharing behavior, trust, social media

1. Introduction

Social media is a new area in which all people in the globe spent tremendous time daily to interact with each other. Social sites, such as Facebook, Weibo, twitter and blogs, are platforms that allow people to communicate with friends. These platforms are free and open to anyone who registers as a member. Specifically, as of November 2013, there were more than 1.19 billion active users of Facebook (Facebook, 2013). On the other hand, prior studies emphasize on channels' characteristics as well as the task that serve the social functions often at business level (e.g., Dickey et al, 2006). It seems that there are not many studies on interpersonal relationship and trust in the context of gender differences which would be important factors in the knowledge processes as knowledge exchange involve not an individual but both parties in the communication process. Therefore, the research objective of this proposal is to explore the factors affecting knowledge sharing. The research questions: RQ1. What are the key determinants of online knowledge sharing? RQ2. What are the gender differences between these factors? It starts with a review on literature review, identifies the factors that possibly affect the online knowledge sharing behavior under social media environment. The next section writes about the model and hypotheses development. There will be the methodology section which talks about the instrument used to collect the data. The last section will be the discussion as well as the limitation of the study.

2. Literature Review

2.1 Online Knowledge Sharing Behavior in the Context of Social

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Online knowledge sharing behavior is explored in the prior studies in different aspects. From a simple review, there are myriad of studies that put emphasis on channels and tasks' perspectives rather than individual characteristics, for instance, interpersonal relationship. In the previous studies, they highlight the significance of file and video sharing through Youtube (e.g., Lange, 2008). They are mostly related to channels' functions. On the other hand, there are also studies that shed light on social functions at the organization level in which they told us about the shared understanding perspective in a shared workplace (e.g., Dickey et al., 2006). There are only a few previous studies talking about relational strategies, social network participation and political engagement (e.g., Valenzuela et al., 2009) that fall into the categories of public relations but not examining the interpersonal relationship specifically. From the review, there is only one study that examines the role of self-disclosure in relationship development on the Internet in the context of three cultures (Yum & Hara, 2006). Therefore, it is worth trying to explore in the social media where people disseminate information frequently. Ma & Yuen (2011a) defined online knowledge sharing behavior (OKSB) as "the online communication of knowledge so that knowledge is learned and applied by an individual" (p.212).

2.2 Perceived Online Attachment Motivation and Perceived Online Relationship Commitment

Ma & Yuen (2011a) defined perceived online attachment motivation (POAM) as "the degree to which an individual believes that he or she can improve his or her social interaction and sense of communion with others on an online learning platform," and perceived online relationship commitment (PORC) as "the degree to which a learner tends to continue with an established relationship in an online learning environment" (p.119). As relationship commitment is a social context could be outside the classroom but could facilitate their communication through social media platforms. However it should be noted that individuals may not always be accepted into relationship, and may instead be ignored, excluded or rejected by others. Specifically, studies found that ignored individuals feel bad and lose a sense of belonging, both in the physical world (e.g., Smith & Williams, 2004) and on the Internet (e.g., Williams et al., 2000). These findings are consistent with the observations in online learning research of online participants who feel isolated or lonely (Lofstrom & Nevgi, 2007). This element of universality is also the fundamental value of social media platforms, once they participate into the relationship that built up within the platform, they tend to keep on with this established relationship and exchange information with their circles of friends.

2.3 Trust and Online Knowledge Sharing Behavior

Trust is a common factor which we often found in previous studies (e.g., Chan & Ma, 2013). Trust is thoroughly tested in the context of online shopping. There is study that puts emphasis on the importance of building trust on consumer generated review sites (e.g., Matzat & Snijders, 2012). Studies also examine the users' perceived interactivity as well as perceived web assurance particularly (e.g., Wu, Hu, & Wu, 2010). The mentioned studies focus largely on the channel's characteristics. While Barber (1983) defined trust as "people have of each other, of the organizations and institutions in which they live, and of the natural and moral social orders, that set the fundamental understanding for their lives". Social media platforms are is also considered as the virtual world for people to put trust on to build up another social circle. Trust is also defined as "the willingness of a party, instructor, to be vulnerable to the actions of another party, trustee based on the expectation that the other, trustee will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party, trustee" (Mayer, Davis, & Schoorman, 1995). Trust's constructing factors include benevolence, integrity and ability. Existing literature on the topic of trust focuses largely on how trust could be created but neglect the prominent effect that brings after trust is generated. In this research, it will possibly help to explore more of the aspect of how online knowledge sharing behavior could be enhanced.

2.4 Gender Differences on Online Knowledge Sharing Behavior

It is notable to see that gender differences were well explored by the previous studies in different context (e.g., Ma & Yuen, 2011b). First, it was discussed in forum communication and it is found that,

emotional difference between the two genders, previous literature has found that women tend to express more intensely positive emotions such as happiness, love, and life satisfaction than men (Zhang, Dang & Chen, 2013). This suggests that women are more willing to share their own feelings in an online platform. Also, study also stated that women, compared to men, are generally more frequent computer-mediated communication users. Compared to men, women prefer and more frequently use text messaging, social media, and online video calls (Kimbrough, et al., 2013). The female groups of interviewees were reflected in the study that they are more socially interactive in the web and the frequency is higher. In addition to that, for the online shopping, when trust emerges, it has a stronger influence on the shopping intentions of women than men. While females have the trust for the platforms, they would likely to interact or even purchase from the online platforms (Awad & Arik, 2008).

Therefore, we proposed the below hypotheses to be tested in this study:

H1: The perceived attachment motivation of an individual user on a social media platform will have a positive effect on his or her perceived online relationship commitment on the social media platform.

H2: The perceived online attachment motivation of an individual user on a social media platform will have a positive effect on his or her on the social media platform.

H3: The perceived online relationship commitment of an individual user on a social media platform will have a positive effect on his or her knowledge sharing behavior on the social media platform.

H4a: The perceived trust of an individual user on a social media platform will have a positive effect on his or her knowledge sharing behavior on the social media platform.

H4b: The perceived trust of an individual user on a social media platform will have a positive effect on his or her perceived online relationship commitment on the social media platform.

3. Methodology

3.1 Background, Subjects & Data Collection

In this study, the subjects whom were explored are all secondary student graduates using social media tools. The study implemented a survey instrument to 492 high school student graduates when they queued and applied to a local university in Hong Kong. It was believed that a study of these subjects would not only provide a profound understanding of the heavy social media users, but also brought insights to explore the use of social media among the mass population. The questionnaires were printed and distributed to high school graduates who were queued and applied to a local university. After they finished all the application procedures, they were distributed a hardcopy of a questionnaire and were requested to complete the questionnaire voluntarily before they left. Most of the students spent less than 10 minutes to complete and to return the questionnaire right after. Over the three day survey period, a total of 492 completed questionnaires were collected.

3.2 Measurement Items

The questionnaire was designed to adapt previously validated scale. Specifically, five items of perceived online attachment motivation (POAM), five items of perceived online relationship commitment (PORC), and five items of online knowledge sharing behavior (OKSB) (Ma & Yuen, 2011a); nine items of trust (TRUST) (Bhattacherjee, 2002) were included in the questionnaire. All items were measured on a 7-point Likerts' Scale, with 1 as strongly disagrees and 7 as strongly agree. Subjects were also asked their self-reported usage on mostly commonly used social media. They were divided into three categories, including frequency per month, duration per month, duration of each login. The degree of current usage of computer was measured in 7-point Likert's Scale. At the same

time, subjects were asked to state demographic data in the first part of the questionnaire, including sex, age range, net knowledge and how many years they start to surf the net.

4. Findings

4.1 Descriptive Summary of Respondents and Observed Variables

There were 135 male (27.4%) and 357 female (72.6%), with mean age of 18.44. Their most frequently used social media was Facebook (88%) while others altogether were 12%. Online social media use descriptive statistics of the respondents are presented in Table 1 and variables in Table 2.

Table 1. Descriptive statistics of the respondents (N=492)

In the last week,…	*M* (1-10) (*SD*)
how often did you visit there?	7.16 (2.193)
how often did you use the message inbox there?	4.37 (2.532)
how often did you chat there?	4.15 (2.476)
how often did you make comment(s) there?	4.08 (2.391)
how often did you upload photo(s) there?	3.49 (2.466)
how often did you share news there?	3.39 (2.283)
how often did you post messages to all friends there?	3.27 (2.331)
how often did you edit your profile there?	2.86 (2.056)
how often did you share music there?	2.44 (2.094)
how often did you upload video(s) there?	1.95 (1.674)

4.2 Reliability and Validity Testing of Variables

We tested the instrument by its reliability and validity. Cronbach's alpha is generally the most appropriate type of reliability measure for survey research that involves a range of possible answers for each item (McMillan & Schmacher, 1989). All constructs satisfied the criteria of reliability and supporting internal consistency (alpha>0.70) as suggested by prior literature (Nunnally & Berstein, 1994). Discriminant validity is demonstrated if an item correlates more highly with items within the same factor than items in a different factor. The factor components were then analyzed by confirmatory factor analysis. All factor loadings were listed in Table 2 and were found significant. Measurement models for each construct were tested and all exhibited good goodness-of-fit indices.

4.3 Model testing Results

LISREL is a software product designed to estimate and test statistical models of linear relationships among latent and manifest variables using Structural Equation Modeling. It is an extremely powerful structural equation modeling technique that has been used extensively in research (e.g., Ma & Yuen, 2011a). LISREL was then used to analyze the survey and to perform the analysis towards model testing. The model fits the data well with Chi-square to degree of freedom ratio 2.895 (suggested <3); Standardized Root Mean Square Residual (SRMR) 0.058 (suggested <0.08 when N>250, number of observed variables > or = 30); Root Mean Square Error of Approximation (RMSEA) 0.061 (suggested <0.7); CFI 0.92 (suggested >0.90 where the goodness-of-fit indices were exceeded the threshold suggested by prior literature (Hair et al., 2010, p.672).

For both the male and female groups, Perceived Online Attachment Motivation had no direct significant effect on Online Knowledge Sharing Behavior, but fully mediated by Trust and Perceived Online Relationship Commitment. The total indirect effect from Perceived Online Attachment Motivation to Online Knowledge Sharing Behavior was 0.21 (=0.45*0.47) via Perceived Online Relationship Commitment.

Table 2. Descriptive statistics and confirmatory factor loadings of the constructs

	Min	Max	Mean	Std. Dev.	Cronbach's Alpha	Factor Loadings
Perceived Online Attachment Motivation (POAM)						
POAM1	1	7	3.52	1.366	0.879	0.73***
POAM2	1	6	3.25	1.271		0.75***
POAM3	1	7	3.46	1.313		0.84***
POAM4	1	7	3.85	1.405		0.79***
POAM5	1	7	3.76	1.362		0.79***
Perceived Online Relationship Commitment (PORC)						
PORC1	1	7	4.00	1.441	0.879	0.82***
PORC2	1	7	4.01	1.384		0.85***
PORC3	1	7	3.79	1.327		0.86***
PORC4	1	7	3.37	1.431		0.65***
PORC5	1	7	3.64	1.366		0.76***
Online Knowledge Sharing Behavior (OKSB)						
OKSB1	1	7	4.21	1.240	0.898	0.78***
OKSB2	1	7	4.28	1.233		0.83***
OKSB3	1	7	4.12	1.224		0.83***
OKSB4	1	7	4.10	1.183		0.85***
OKSB5	1	7	3.95	1.148		0.81***
Trust (TRUST)						
TRUST 1	1	7	3.97	1.149	0.867	0.82***
TRUST 2	1	7	4.13	1.172		0.70***
TRUST 3	1	7	4.38	1.112		0.70***
TRUST 4	1	7	4.07	.997		0.70***
TRUST 5	1	7	3.65	1.234		0.47***
TRUST 6	1	7	3.85	1.034		0.56***
TRUST 7	1	7	4.40	1.127		0.59***
TRUST 8	1	7	4.28	1.121		0.60***
TRUST 9	1	7	4.19	1.118		0.58***

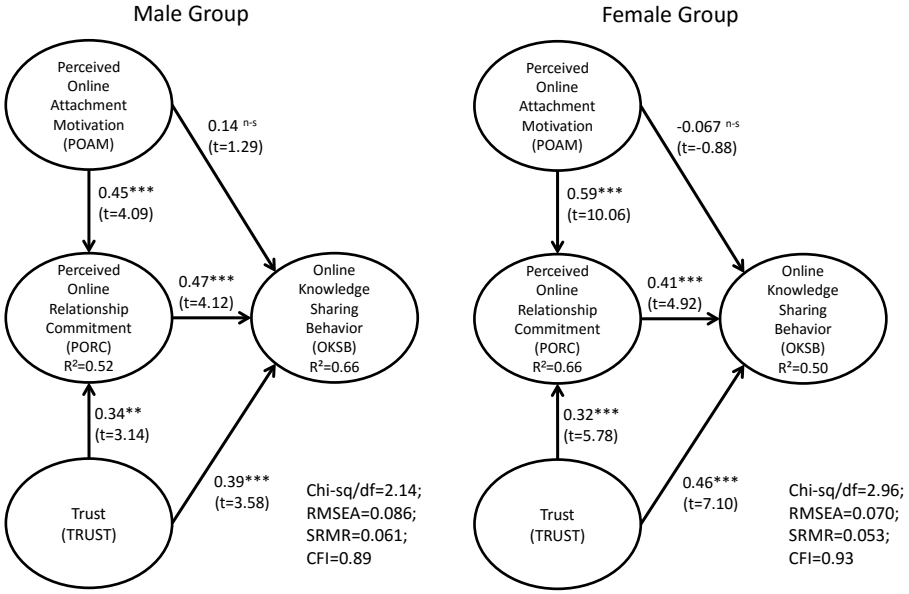
Perceived Online Relationship Commitment had a significant, direct and positive effect on Online Knowledge Sharing Behavior related to the use of social media, with a stronger standard path coefficient in the male group (β=0.47, $p<0.001$) than in the female group (β=0.47, $p<0.001$). Trust had a direct and significant positive effect on Online Knowledge Sharing Behavior, with a stronger standard coefficient in the female group (β=0.46, $p<0.001$) than in the male group (β=0.39, $p<0.001$).

5. Discussion

5.1 A Stronger Relationship between Perceived Online Attachment Motivation and Perceived Online Relationship Commitment from the Female Group

Take Facebook as an example; once they accepted your friend request, they deem you are one of their close friends that could check out their latest information. In this way, the serious they look at the circle of friends, they are more inclined to develop a long term relationship online. With more information shared with others, the updates will retain the eyes of the audiences and that leads to a longer

relationship (Zhang, Dang & Chen, 2013). Whereas, for men, what they share may not be too personal that could easily trigger off emotional attachment, what they share maybe the up to date news report or share somethings that they particularly interested in, say football matches results, tips for jobs, etc. In this way, female group once has a stronger and intensive social interaction, the more willing to develop their long term attachment with others online.



*p<0.05, ***p<0.001

Figure 1. Model testing results and path coefficients of the overall model.

5.2 Female Group's Trust on Social Media Platforms has a Stronger Factor in Predicting Online Knowledge Sharing Behaviour

It is of utmost importance to see that the female's trust helps put forward the online knowledge sharing behavior. Again, as discussed previously, trust's constructing factors include benevolence, integrity and ability (Mayer et al., 1995). Women, in the previous study, especially in the context of shopping behavior, while trust appears, they would more likely to purchase online. Once they trust the platforms, they will more frequently update the news of their life, including pictures and daily feelings. On the other hand, they will chit chat with the friends through the platform, including the instant messaging or through inbox. For the men, they share the knowledge with others, yet their behavior is not as impactful when comparing with women because they are less likely to use different method. E.g. online video calls and messaging to share what they thought (Kimbrough et al., 2013).

5.3 Male group, the Perceived Online Relationship Commitment has a Stronger Factor to Online Knowledge Sharing Behvaiour

Perceived online relationship commitment refers to what extent you want to retain a relationship with others. While users thought that they could maintain a longer relationship with friends, their knowledge sharing behavior will be ignited. From the previous study, they largely looked at it as a functional base, but here, we could see from the interpersonal perspective. Men, who are more willing to share their expertise and interests with their comrades, once they confirm the "long term friends/long term network", they not only could maintain the social network, but also being benefits in sharing what they would like to tell the others.

5.4 Limitations and further studies

In this study, the subjects are all high school graduates; the social media platform most frequently used is highly concentrated on one platform, Facebook; the use of social media is more confined to young adults and social use. The generalization of the results would need further studies in other subject domain, social media platforms, and online knowledge sharing context. Secondly, there may be other social and cultural factors that may have effect on the use of these subjects, for example, peer influence may appear as a relevant construct to young adults' behavior. Further studies may gain a wider perspective to understand the online knowledge sharing phenomenon by extend the model to include factors in social and cultural perspective.

6. Conclusion

This study examined the key determinants to online knowledge sharing, especially from the perspective of interpersonal relationship. The findings confirmed the significant relationships between perceived online attachment motivation and perceived online relationship commitment.

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Appendix

Perceived Online Attachment Motivation (POAM) (Ma & Yuen, 2011a)	
POAM1:	If I feel unhappy or kind of depressed, I usually try to around other members using the social media to make me feel better.
POAM2:	I usually have the greatest need to have other members using the social ILN around me when I feel upset in learning (subject).
POAM3:	I often have a strong need to be around other ILN users who are impressed with what I am like and what I do in (subject).
POAM4:	I mainly like to be around other ILN users who think I am an important, exciting person in learning (subject) together.
POAM5:	I often have a strong desire to get other ILN users around to notice me and appreciate what I am like in learning (subject) together.
Perceived Online Relationship Commitment (PORC) (Ma & Yuen, 2011a)	
PORC1:	I am committed to maintaining my relationship with other members using the ILN to learn (subject).
PORC2:	I want my relationships with other members using the ILN to learn (subject) to last for a very long time.
PORC3:	I feel very strongly linked to my relationship with other members using the ILN to learn (subject).
PORC4:	I would feel very upset if my relationship with other members using the ILN to learn (subject) were to end.
PORC5:	I seek the long-term future of my relationship with other members using the ILN to learn (subject).
Online Knowledge Sharing Behaviour (OKSB) (Ma & Yuen, 2011a)	
OKSB1:	The advice I receive from other members using the ILN has increased my understanding of (subject).
OKSB2:	The advice I receive from other members using the ILN has increased my knowledge of (subject).
OKSB3:	The advice I receive from other members using the ILN allows me to complete similar tasks in (subject) more efficiently.
OKSB4:	The advice I receive from other members using the ILN allows me to improve the quality of similar work in (subject).
OKSB5:	The advice I receive from other members using the ILN allows me to conduct similar (subject) tasks with greater independence.
Trust (TRUST) (Bhattacherjee, 2002)	
TRUST1:	Social Media has the skills and expertise to perform transaction in an expected manner.
TRUST2:	Social Media has access to the information needed to handle transactions appropriately.
TRUST3:	Social Media has the ability to meet most customer needs.
TRUST4:	Social Media is fair in its conduct of customer transactions.
TRUST5:	Social Media is fair in its use of private user data collected during a transaction.
TRUST6:	Social Media is fair in its customer service policies following a transaction.
TRUST7:	Social Media is open and receptive to customer needs.
TRUST8:	Social Media keeps its customer's best interest in mind during most transactions.
TRUST9:	Social Media makes good-faith efforts to address most customer concerns.

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