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UNDERSTANDING USER INTENTION TO CONTINUE SHARING KNOWLEDGE IN VIRTUAL COMMUNITIES

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Abstract

This paper introduces the research model of user intention to continue sharing knowledge in virtual communities. The model is built upon Batson's framework of the act for the public good. Since the focus of this study is on the continued use of virtual communities, the model also takes user evaluation process into account and includes some important constructs (disconfirmation, satisfaction, and knowledge self-efficacy) to explain the continuance behavior. An online survey was conducted and a total of 315 completed questionnaires were collected. Among the 315 respondents, 60 respondents have participated and shared knowledge in a virtual community. The research model explains 62% of the variance. The results also provide strong support for the existing theoretical links, as well as for those newly hypothesized in this study. Implications for current investigation for both research and practice are provided.

1   INTRODUCTION

The Internet and web connectivity has greatly improved the popularity of computer-mediated communication technologies, including email, discussion forum, instant messengers, internet chat, video and audio streaming, podcasting, video and audio conferencing, weblogs, and wikis. Many virtual communities have adopted one or more of these computer-mediated communication technologies to create online social spaces for knowledge exchange among their members. These different community tools enable individuals with specific interests to share knowledge by posting questions and answers and debating issues based on shared interests (e.g., discussion forum), telling stories of personal experiences (e.g., weblogs), and collaborative editing (e.g., wikis) (Wagner and Bolloju 2005).

However, the creation of an online social space (e.g., virtual community) does not guarantee that knowledge exchange will actually take place. The success of a virtual community depends primarily on whether members are willing to continue to stay and use the community, as well as to share and adopt knowledge. Gu and Jarvenpaa (2003) urged that "*without contributions, the board will wither away (p.110)*". Obviously, if there are a lot of participants who are willing to stay and contribute their knowledge in the virtual community, this will improve the likelihood of connecting to individuals who are able and willing to help. The motivation of this study is to better understand the sustainability of virtual communities, specifically, user intention to continue sharing knowledge. Given the limited

research in the area of information systems continuance, this study seeks to examine the factors that shape user continuance of knowledge sharing behavior.

The rest of this paper is organized as below. The next section provides a review on the literature related to knowledge sharing behaviors. The third section describes the research model and hypotheses. Then the research methodology is described. The last section summarizes the findings and discusses the implications for both research and practice.

2 THEORETICAL BACKGROUND

Wasko and Teigland (2004) were one of the first to introduce theories of collective action into Information Systems research and applied the theories to explain knowledge sharing behavior in electronic networks of practice. In the following sections, the concepts of public goods, social dilemmas, and collective action are presented. Batson's framework of the act for the public good is then introduced and explained in the study of knowledge sharing behavior in virtual communities.

2.1 Public Goods, Social Dilemmas, and Collective Action

A public good is characterized as *"a shared resources from which every member of a group may benefit, regardless of whether or not they personally contribute to its provision, and whose availability does not diminish with use"* (Cabrera and Cabrera 2002, p. 693). The fundamental problem of public goods is that individual just consumes them without contributing to the group. This results in a social dilemma situation. Social dilemmas occur whenever an individual attempts to maximize self-interest and make a rational decision. In the electronic networks of practice, everyone can access and consume the knowledge without making any contribution. There is a tendency for individuals to refuse to contribute and free-ride. Wasko and Teigland (2004) however urged that though public goods are subjected to social dilemmas, they are often created and maintained through collective action. In other words, public goods are still shared and contributed voluntarily with the cooperation of individuals. In social psychology literature, Batson (1994) proposed a framework to explain why individuals act for the public good.

2.2 Batson's Framework of the Act of Public Good

Batson (1994) argued that there are four motives for individuals to act for the public good, they are: (1) Egoism: Serving the public good to benefit oneself. Researchers in psychology, sociology, economics, and political sciences assume that all human actions are ultimately directed toward self-interest. Material, social, and self-rewards (e.g., monetary reward, praise, esteem enhancement) and avoidance (e.g., fines, censure, guilt, shame) are the most obvious self-benefits that drive individuals to act for the public good. (2) Collectivism: Serving the pubic good to benefit a group. The act for the public good is for the group benefits, as the self shifts from personal self to collective self. This is the most widely accepted social psychology theory of group behavior. (3) Altruism: Serving the public good to benefit one or more others. The motive for the public good can be linked to empathic emotion. Empathy (feelings of sympathy, compassion, tenderness, and the like) is a source of altruism. Some researchers have showed that feeling empathy for a person in need leads to increased helping of that person (Eisenberg and Miller 1987). (4) Principlism: Serving the public good to uphold a principle. The motivation is to uphold some moral principle, such as justice or the utilitarian principle of the greatest good for the greatest number. Gorsuch and Ortherg (1983) found that in moral situations, people reported their intentions to act out of their sense of moral responsibility.

2.3   Applying Batson's Framework in Knowledge Sharing

Research on knowledge sharing behavior has been receiving a lot of attention in Information Systems research recently. A number of key papers on knowledge sharing in the field are reviewed and analyzed in terms of Batson's framework. Table 1 summarizes a number of factors of knowledge sharing that identified in the literature.

Perspectives	Factors	References
Egoism	Extrinsic rewards	Bock et al. (2005), Wasko and Faraj (2000)
	Image	Kankanhalli et al (2005)
	Organizational reward	Gu and Jarvenpaa (2003), Kankanhalli et al (2005)
	Reciprocity	Bock et al. (2005), Constant et al. (1994), Gu and Jarvenpaa (2003), Kankanhalli et al (2005), Wasko and Faraj (2005)
	Reputation	Constant et al. (1994, 1996), Wasko and Faraj (2000), Wasko and Faraj (2005)
	Self-interest	Constant et al. (1994)
Collectivism	Social identity	Gu and Jarvenpaa (2003), Kane et al. (2005)
Altruism	Enjoyment of helping others	Constant et al. (1994, 1996), Kankanhalli et al (2005), Wasko and Faraj (2000), Wasko and Faraj (2005)
Principlism	Normative Commitment (Moral obligation)	Constant et al. (1996), Cabrera and Cabrera (2002), Wasko and Faraj (2005)

Table 1. Key Factors of Knowledge Sharing in Previous Studies

The analysis of the key literature in the field demonstrates that egoism is the most widely adopted perspective in understanding knowledge sharing behavior. The perspectives of collectivism and principlism in explaining knowledge sharing behavior are not very well understood in the field. However, these two perspectives have been widely used in other fields to examine social behaviors. Underwood et al (2001) examined the role of social identity on sports marketplace, in particular, the role of consumer commitment and emotional involvement (collectivism) on brand equity. Knowledge sharing in electronic network of practice is definitely a social behavior and social factors are particularly important in this line of research.

3   RESEARCH MODEL AND HYPOTHESES

Figure 1 depicts a research model explaining user intention to continue using a virtual community for knowledge sharing.
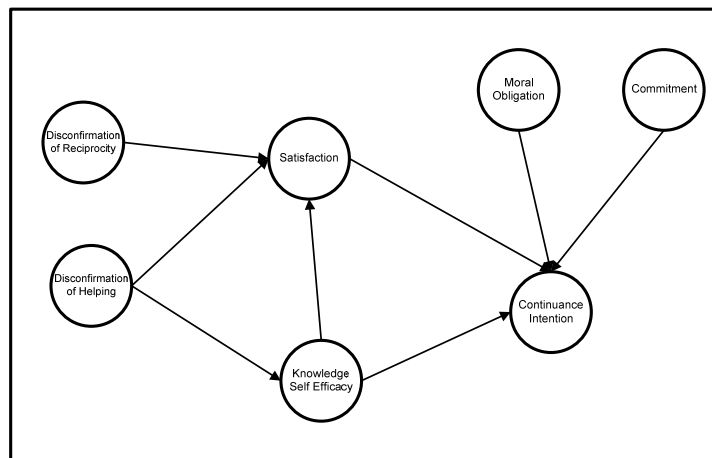

Figure 1. Research Model

Knowledge is commonly conceived as a public good. Knowledge sharing can be regarded as a public-good phenomenon. Batson's framework of the act for the public good is adopted to explain knowledge sharing behavior. In the following sections, the four motives and their relationships with Intention to continue sharing are discussed.

3.1 Intention to Continue Sharing Knowledge

Knowledge sharing is a necessary component of knowledge management. It embeds the notion of "*willingness to share*" or "*voluntary act of making information available to others…*" (Davenport 1995, p.5). This study focus on the continuance behavior and adopts a similar conceptualization of IS continuance intention and defines *"Intention to continue sharing knowledge"* as *"the likelihood a user will continue sharing knowledge in a virtual community"*.

3.2 Collectivism – Commitment (Sense of Belonging)

"*Collectivism is motivation with the ultimate goal of increasing the welfare of a group or collective*" (p. 605, Batson 1994*)*. Explanations of action for the public good in terms of collectivism can be linked to social identity theory (Tajfel 1978). There are three components of social identity, and emotional social identity is particularly important in the context of virtual communities. Emotional social identity refers to a sense of emotional involvement with the group, which is characterized by identification with, involvement in, and emotional attachment to the group. This concept is also closely related to sense of belonging and affective commitment. Research in organization behavior found that affective commitment to an organization will lead to higher levels of participation or coproduction (Mowday et al. 1982). Bagozzi and Dholakia (2002) argued that members with an intrinsic connection toward other members, and a collective sense of separation from nonmembers are more willing to share information and resources with other members. Therefore, it is believed that when a user has a strong emotional bond to the virtual community, he/she will have a higher likelihood to continue sharing knowledge. The hypothesis is:

H1: Commitment to a virtual community relates positively to intention to continue sharing knowledge in a virtual community.

3.3 Principlism – Moral Obligation

"*Principlism is motivation with the ultimate goal of upholding some moral principle, such as justice or the utilitarian principle of the greatest good for the greatest number*" (p. 608, Batson 1994). Explanations of action for the public good in terms of principlism can be linked to normative commitment (Allen and Meyer 1990). Normative commitment refers to the sense of moral obligation toward the organization. Organizational studies suggest that employees with strong normative commitment remain with the organization because they feel they ought to do so (Allen and Meyer 1990). In the context of electronic networks, researchers found that users participate and help others due to moral obligation (Wasko and Faraj 2000). In the current study, it is believed that when a user has a strong sense of moral obligation to the virtual community, he/she will have a higher likelihood to continue sharing knowledge. Therefore, the hypothesis is:

H2: Moral obligation to a virtual community relates positively to intention to continue sharing knowledge in a virtual community.

3.4 Egoism - Reciprocity

"*A motive is egoistic if the ultimate goal is to increase the actor's own welfare*" (p. 604, Batson 1994). Explanations of action for the public good in terms of egoism can be linked to personal

motivational theories, as well as social exchange theory (Blau 1964). Reciprocity is conceived as a benefit for individuals to engage in social exchange. People have an expectation that their contribution will result in returns in the future. In knowledge sharing literature, researchers found that knowledge sharing is facilitated when people who share knowledge in virtual communities (any electronic network of practices) believe in reciprocity. There is a positive relationship between reciprocity and knowledge contribution intention (Kankanhalli et al. 2005, Wasko and Faraj 2005).

The current study goes beyond the initial adoption and focuses on the continuance behavior in electronic networks of practice, particularly continuous knowledge sharing in virtual communities. It is believed that after several interactions with other users in the virtual community, users are able to compare their expectations with the actual experiences of using the virtual community. Specifically, they can evaluate whether reciprocity has actually been occurred. According to the expectation confirmation theory (Oliver 1976), if the actual experience falls below expectation, it results in a negative disconfirmation, while if the actual experience exceeds expectation, it results in a positive disconfirmation. Disconfirmation will result in satisfaction, and satisfaction will lead to continuance intention (Bhattacherjee 2001). Applying this argument to the current investigation, it is believed that if the gap between a user's expectation and actual reciprocal experience is large, the user will feel satisfied (dissatisfied) with the experience with the virtual community, and in turn he/she will have a higher likelihood to continue (discontinue) to share knowledge. In other words, if the users find that they can receive the reciprocity as they expected, they will feel satisfied and in turn they will have a higher chance to continue sharing knowledge in the virtual community. Thus, in this study, the hypothesis is:

H3: Users with a higher confirmation (positive disconfirmation) of reciprocity in the virtual community relates positively to satisfaction with the experience with the virtual community.

H4: Satisfaction with the experience with the virtual community relates positively to intention to continue sharing knowledge in the virtual community.

3.5   Altruism - Enjoyment of Helping and Helping Behavior

"Altruism is motivation with the ultimate goal of increasing the welfare of one or more individuals other than oneself" (p. 606, Batson 1994). Explanations of action for the public good in terms of altruism can be linked to empathic emotion (Batson 1991). Enjoyment in helping has been frequently cited as an important factor that determines user willingness to share or contribute knowledge in electronic networks of practice or online social spaces (Hennig-Thurau et al, 2004, Kankanhalli et al. 2005, Wasko and Faraj 2005). People are willing to help others to solve challenging problems because answering questions provide them with feelings of pleasure (Lakhani and Von Hippel 2003).

In this case, the goal is to help others and it is the motivation for them to contribute. Since the focus of this study is user continuance behavior in virtual communities, after users have several interactions with other users, they are able to judge whether their contributions are helpful to others. Users first form an expectation about the outcomes of their helping behaviors, for instances, they expect their messages would be helpful to others. After their interactions with other members in the virtual community, they will compare their expectation with the actual experience, that is, to evaluate whether their messages are really helpful to others. If there is a positive disconfirmation (their messages are more helpful than expected), users will feel satisfied. On the other hand, if there is a negative disconfirmation (their messages are less helpful than expected), users will feel dissatisfied. Thus, the hypothesis is:

H5: Users with a higher confirmation (positive disconfirmation) of helping others in the virtual community relates positively to satisfaction with the experience with the virtual community.

It is also believed that if users have a positive disconfirmation with helping in the virtual community, their knowledge self-efficacy will be increased. In this study, knowledge self-efficacy refers to people believing their knowledge can help other members in the virtual community. This definition is built

upon the social cognitive theory (Bandura 1986). Bandura (1986) suggested that the motivations of performing a behavior do not stem from the goals themselves, but from the self-evaluation that is made conditional on their fulfilment. If the users found their knowledge is helpful to other members in the virtual community, it will enhance their confidence that their knowledge is able to help other people. Therefore, the hypothesis is:

H6: Users witha higher confirmation (positive disconfirmation) of helping others in the virtual community relates positively to knowledge self-efficacy.

Compeau and Higgins (1995) suggested that self-efficacy judgments are related to the emotional responses of the individual. Studies in psychology have demonstrated that self-efficacy was significantly related to affect (or emotional responses) because people prefer and enjoy behaviors that they feel they are capable of performing. Applying this argument in knowledge self-efficacy, if a user has a higher degree of knowledge self-efficacy, he/she will be more satisfied about his/her experience with the virtual community. Thus, the hypothesis is:

H7: Knowledge self-efficacy relates positively to satisfaction with the experience with the virtual community.

Research on knowledge management has already suggested the importance of knowledge self-efficacy on people's intention to share knowledge (Bock et al. 2005, Cabrera and Cabrera 2002, Kankanhalli et al. 2005). It is believed that knowledge self-efficacy will have an important impact on user intention to continue sharing knowledge in a virtual community. The hypothesis is:

H8: Knowledge self-efficacy relates positively to intention to continue sharing knowledge in the virtual community.

4   METHODOLOGY

The research model was empirically tested in a real virtual community, Hong Kong Education City (www.hkedcity.net). Hong Kong Education City (HKed City) is a leading and one-stop education portal with a vision to build Hong Kong into a learning city. Details about the measures, data collection method, and survey responese are discussed in the following sections.

4.1   Measures

The measures of the constructs in the current study are listed in Appendix A. A multi-item approach was used. That means each construct was measured by a few items for construct validity and reliability. A slider scale was used in this study and provided a continuous scale from 0 to 100 or -50 to 50 (See Figure 2). Respondents either clicked or dragged the slider to indicate their preference point.
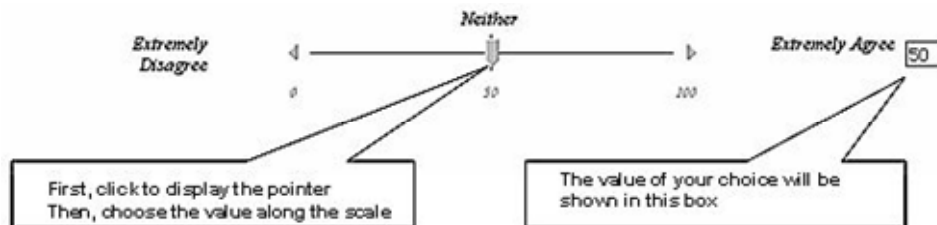

Figure 2. The Slider Scale

4.2   Data Collection

The target respondents of this study were the teachers who have used the HKed City. Since HKed City did not provide any assistance in this study, we were not able to contact their members directly. In order to reach the respondents, an invitation email with the URL to the online questionnaire was sent to both primary and secondary school teachers. To increase the response rate, an incentive of three USB flash drives and thirty book coupons were offered as lucky draw prizes. The reminder emails were also sent a few weeks after the first invitation email.

4.3   Survey Responses

A total of 315 responses were collected in this study and 60 of them have contributed in the virtual community before. Among the 60 contributors, 72% were male and 28% were female. About 22% were aged 21-30 and only 8% were aged 51 or above. 72% were secondary school teachers and 28% were primary school teachers, and 22% had more than 20 years teaching experiences. In terms of the usage behavior in the virtual community (HKed City), about 40% had less than 2-year experience with the virtual community, but over 40% of them used it every week. The nonresponse error estimation was conducted and we did not find the error exists in this study.

5   DATA ANALYSIS AND RESULTS

Following the two-step analytical procedures (Hair et al. 1998), the measurement model is first examined and then the structural model is assessed.

5.1   Measurement Model

Convergent validity, which indicates the extent to which the items of a scale that are theoretically related to each other should be related in reality, was examined using the composite reliability (CR) and the average variance extracted (AVE). The critical values for CR and AVE are 0.7 and 0.5 respectively (Fornell and Larcker 1981). As shown in Table 2, all CR and AVE values meet the recommended thresholds and all item loadings are higher than 0.70.

Discriminant validity is the extent to which the measure is not a reflection of some other variable. It is indicated by low correlations between the measure of interest and the measure of other constructs that it is not theoretically related to(Fornell and Larcker 1981). Evidence about discriminant validity can be demonstrated when the square root of the average variance extracted for each construct is higher than the correlations between it and all other constructs. Table 3 shows that the squared root of average variance extracted for each construct is greater than the correlations between the constructs and all other constructs. The results suggest that an adequate discriminant validity of the measures, except that the correlations between Disconfirmation of reciprocity and Moral obligation, Disconfirmation of reciprocity and Commitment, and Moral obligation and Commitment are relatively high. To better clarify the discriminant validity of these few constructs, an additional series of confirmatory factor analyses are conducted following Segars and Grover's approach (1993). This additional test suggested that the measures in this study do not suffer from the problem of discriminant validity.

Construct	Item	Loading	t-value	Mean	St.Dev
Continuance Intention	CI 1	0.99	236.09	66.22	21.71
CR=0.99, AVE=0.98	CI 2	0.99	195.47	66.27	22.41
Disconfirmation of Reciprocity	DRECIP 1	0.89	14.46	18.83	18.05
CR=0.95, AVE=0.85	DRECIP 2	0.94	58.81	17.27	18.72
	DRECIP 3	0.93	27.77	15.33	17.41
Disconfirmation of Helping	DHELP 1	0.96	63.55	18.65	15.01
CR=0.97, AVE=0.92	DHELP 2	0.97	164.61	18.25	15.91
	DHELP 3	0.95	53.05	16.78	17.24
Satisfaction	SAT 1	0.89	17.10	19.80	15.62
CR=0.97, AVE=0.88	SAT 2	0.95	49.39	19.60	17.17
	SAT 3	0.96	44.36	18.85	17.25
	SAT 4	0.95	48.50	19.15	16.84
Moral Obligation	MO 1	0.90	42.80	19.37	18.97
CR=0.91, AVE=0.78	MO 2	0.82	9.66	19.70	19.30
	MO 3	0.93	33.55	15.77	22.10
Commitment	COMMIT 1	0.90	32.25	6.58	20.35
CR=0.95, AVE=0.80	COMMIT 2	0.92	21.89	9.48	17.29
	COMMIT 3	0.80	8.53	2.92	21.51
	COMMIT 4	0.92	28.90	7.45	19.19
	COMMIT 5	0.90	36.93	5.45	20.31
Knowledge Self Efficacy	SE 1	0.88	13.28	14.72	20.68
CR=0.95, AVE= 0.90	SE 2	0.93	57.67	19.82	17.89
Note: CR - Composite Reliability, AVE - Average Variance Extracted					

Table 2. Psychometric Properties of Measures

	CI	DRECIP	DHELP	SAT	MO	COMMIT	SE
Continuance Intention (CI)	**0.99**						
Disconfirmation of Reciprocity (DRECIP)	0.77	**0.92**					
Disconfirmation Helping (DHELP)	0.49	0.68	**0.96**				
Satisfaction (SAT)	0.54	0.69	0.71	**0.94**			
Moral Obligation (MO)	0.75	0.79	0.64	0.63	**0.88**		
Commitment (COMMIT)	0.72	0.75	0.55	0.60	0.80	**0.89**	
Knowledge Self Efficacy (SE)	0.38	0.65	0.72	0.67	0.54	0.51	**0.95**
Notes: Shaded diagonal elements are the square root of AVE for each construct Off-diagonal elements are the correlations between constructs							

Table 3. Correlation Matrix and Psychometric Properties of Key Constructs

5.2   Structural Model

Figure 3 presents the overall explanatory power, estimated path coefficients (all significant paths are indicated with asterisks), and associated t-value of the paths of the research model. Test of significance of all paths were performed using the bootstrap resampling procedure.
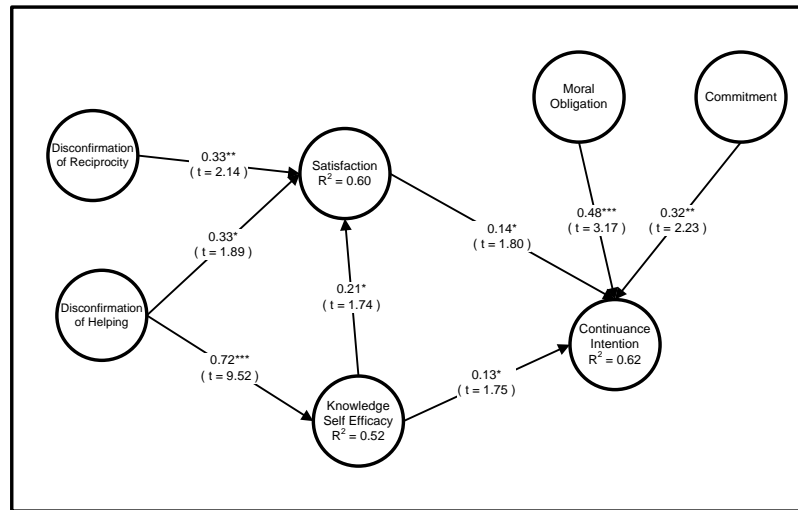

Figure 3. Result of the Research Model (Note: *p<0.10, **p<0.05, ***p<0.01)

The result shows that the exogenous variables explain 62% of the variation in *"Intention to Continue sharing Knowledge in a virtual community"*, 60% of the variance in *"Satisfaction"* and 52 % of the variation in *"Self-Efficacy in Knowledge Sharing"*. All the structural paths are found statistically significant in the research model. The two social factors, commitment and moral obligation have the strongest impact on Intention to continue sharing in the virtual community, with path coefficient at 0.32 and 0.48 respectively. Satisfaction and knowledge self-efficacy also have significant impacts on Intention to continue sharing, the path coefficients are 0.14 and 0.13 respectively. Knowledge self-efficacy in turn exhibits an important impact on satisfaction with path coefficient at 0.21. Disconfirmation of reciprocity and disconfirmation of helping are found significant to satisfaction and both have a path coefficient at 0.33. Finally, disconfirmation of helping affects knowledge self-efficacy significantly, with path coefficient at 0.72

6   DISCUSSION AND CONCLUSION

The motivation of this study is to understand user intention to continue sharing knowledge in virtual communities. The research model extends Batson's framework of the act for public good in the context of IS continuance. Apart from the direct impacts of commitment (collectivism) and moral obligation (principlism), the model also takes user evaluation process into account and includes disconfirmation, satisfaction, and knowledge self-efficacy to explain user continuance behaviour. The measurement model is confirmed with adequate convergent and discriminant validity of all measures, and the structural model explains 62% of the variance. All path coefficients are found statistically significant in this research model.

Moral obligation has the strongest impact on user intention to continue sharing knowledge. This is consistent with Wasko and Faraj's (2005) argument that people contribute and help others in the network-based communication media are out of their moral obligation. However, moral obligation only represents one theoretical perspective in understanding user knowledge sharing behaviour. The

current study further contributes the existing literature by integrating the constructs from other different theoretical perspectives. For instance, Batson's framework suggests that the act for the public good is more than just moral obligation. In addition, this research model captures user evaluation of their helping behaviours as well as the reciprocity. User satisfaction and knowledge self-efficacy are other important factors that contribute to user continuance of knowledge sharing in virtual communities.

This study contributes to existing virtual community research in several ways. First, this study adds to the limited studies done with virtual communities of professional groups and allows future research to build on it. This study also allows operationalization and validation of instruments in the research model. Finally, this study is one of the very few studies that focuses on and incorporates social factors to explain the continuance behaviour in virtual communities. The research model integrates diverse theoretical perspectives and explains user intention to continue sharing knowledge in virtual communities. Apart from the theoretical contributions, the results of this study also provide some insights to community designers for building a sustainable virtual community. Table 4 highlights the important factors and some suggestions.

Key Factors	Goals	Guidelines
Moral Obligation	To promote the norm of knowledge sharing in the virtual community	Providing guidelines of using the virtual community with the emphasis on the obligation of knowledge exchange among members in the community.
Commitment	To build a sense of community among members	Giving members an option to post their personal profiles, as well as expertise, and experience in a specific area.
Knowledge Self-Efficacy (Disconfirmation of helping behaviour)	To indicate to the contributors that their contributions makes a significant difference to the community	Providing a mechanism where people who have provided useful suggestions to other members are identified and informed that they have helped others. Connecting knowledge contributors and adopters so that the adopters can show their appreciation for the knowledge received.
Satisfaction (Disconfirmation of helping behaviour and reciprocity)		

Table 4. Some Suggestions for Virtual Community Designers

In interpreting the results of this study, one must pay attention to a number of limitations. The first bias might have been introduced by the omission of important variables. The theoretical model accounts for 62% of the variance in continuance intention and this suggests that some important predictors may be missing. A second threat to validity may be common method bias, as this study only uses one single questionnaire to measure all constructs included. A third potential bias is related to the sample frame and response rate. Compared with the number of emails that are sent, the number of responses is relatively low. There are a few reasons that lead to the relatively low response rate in this study: (1) The sample frame complied in this study is relatively large as it contains both users and non-users of Hong Kong Education City. (2) The invitation is sent in mid May. It is still the academic period and most teachers are very busy with their work. (3) The length of the questionnaire is a bit too long. Past research demonstrated that survey length is negatively related to the response rate. (4) Respondents may be being oversurveyed. There is an increase in the number of requests of online survey, and this may be the reason of lower response rate. (5) Similarly, there is an increase in unsolicited emails to Internet users. Information overload causes them to develop ways for dealing with emails (e.g., using filtering software) and discourage them from reading unsolicited emails. (6) Respondents may have a perception that the chance of winning the lucky draw prize is low. The incentive may not be attractive enough to draw their interest to participate in this study.

Finally, care must be taken when extrapolating the findings to other types of virtual communities. This study represents one type of professional group where the participants usually share some common

interests, background, and goals to participate and collectively contribute to the professional knowledge. It would be interesting to compare this finding with the studies in other types of virtual communities in future research.

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Appendix A

Continuance Intention (Modified from Bagozzi and Dholakia 2002)	
CI 1	Please express the degree to which you might intend to continue sharing in the Teachers' Channel in the next few weeks. (Extremely Unlikely/ Extremely Likely)
CI 2	I intend to continue sharing in the Teachers' Channel in the next few weeks. (Extremely Disagree/ Extremely Agree)
Disconfirmation of Reciprocity (Modified from Kankanhalli et al. 2005)	
DRECIP 1	Compared to my initial expectations, the level of reciprocity (i.e., get back help when I need) in the Teachers' Channel is (Much worse than expected/ Much better than expected)
DRECIP 2	To what extent does the degree of reciprocity (i.e., somebody responds when I am in need) occurring in the Teachers' Channel meet your original expectations? (Far below my expectation/ Far above my expectation)
DRECIP 3	How big is the difference between what you expected when you are giving an answer to others and what the reciprocity actually occurred in the Teachers' Channel? (Far below my expectation/ Far above my expectation)
Disconfirmation of Helping (Modified from Kankanhalli et al. 2005)	
DHELP 1	Compared to my initial expectations, the helpfulness of my answers in the Teachers' Channel is (Much worse than expected/ Much better than expected)
DHELP 2	Compared to my initial expectations, the helpfulness of my response on helping other people to solve problems in the Teachers' Channel is (Far below my expectation/ Far above my expectation)
DHELP 3	How big is the difference between what you perceived the helpfulness of your answers to be and how they actually helped others in the Teachers' Channel? (Far below my expectation/ Far above my expectation)
Moral Obligation (Bosnjak et al. 2005)	
MO 1	My conscience calls me to contribute and share in the Teachers' Channel. (Extremely Disagree/ Extremely Agree)
MO 2	My decision to share or not in the Teachers' Channel is fully in line with my moral conviction. (Extremely Disagree/ Extremely Agree)
MO 3	I feel morally obliged to share in the Teachers' Channel. (Extremely Disagree/ Extremely Agree)
Commitment (Algesheimer et al. 2005)	
COMMIT 1	I am very attached to the Teachers' Channel community.
COMMIT 2	Other Teachers' Channel community members and I share the same objectives.
COMMIT 3	The friendships I have with other Teachers' Channel community members mean a lot to me.
COMMIT 4	If Teachers' Channel community members planned something, I would think of as something "we" would do rather than something "they" would do.
COMMIT 5	I see myself as a part of the Teachers' Channel community.
Knowledge Self Efficacy (Modified from Kankanhalli et al. 2005)	
SE 1	I have confidence in my ability to provide knowledge that others in the Teachers' Channel consider valuable. (Extremely Disagree/ Extremely Agree)
SE 2	I have the expertise needed to provide valuable knowledge for Teachers' Channel. (Extremely Disagree/ Extremely Agree)