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Recommended Citation

Cheung, Christy M.K; Lee, Matthew K.O; and Rabjohn, Neil, "Maintaining a Virtual Professional Community Through Positive Word of Mouth" (2007). *PACIS 2007 Proceedings*. 39.

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37. Maintaining a Virtual Professional Community Through Positive Word of Mouth

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Abstract

To better understand the sustainability of a virtual professional community, the authors develop and test a research model of user intention to recommend the community to others. Specifically, intention to spread positive word of mouth is proposed to be determined by satisfaction, commitment, and group norm, with satisfaction and group norm positively impacting commitment. Using data obtained from users of a virtual professional community (an educational portal), the results supported nearly all hypothesized relationships. Only the relationship between satisfaction and commitment was not found to be significant. The authors conclude with a discussion of the findings and implications for both theory and practice.

Keywords: Word-of-Mouth, Social Influence, Satisfaction, Virtual Community, Knowledge Management

Introduction

Virtual communities are computer-mediated spaces that facilitate an integration of content and communication with an emphasis on member-generated content (Hagel and Armstrong 1997). This definition highlights two key characteristics of virtual communities: (1) *Computer-mediated spaces*. Virtual communities are not bound by any geographical boundary as its activity is supported by computer-based information technology (e.g., email, discussion forums, blogs). (2) *Member-generated content*. The content of the community is created as members communicate, discuss, and share information with each other.

The various features of virtual communities open up new opportunities for individuals who share the common interest of generating and sharing knowledge with other members. Prior research has already confirmed that virtual communities play an important role in enhancing knowledge acquisition and knowledge exchange (Baker-Eveleth et al. 2005, Wasko and Teigland 2004, Wenger 1998). With the proliferation of information and communication technologies, there are increased opportunities for knowledge exchange upon which professional groups using virtual communities can capitalize. A virtual professional community (VPC) is ultimately a virtual community in which professionals with common interests and professional backgrounds who share a common desire to share industry knowledge may do so.

Recent studies have begun to examine the challenges of maintaining active participation among the members of virtual communities (Sangwan 2005, Tiwana and Bush 2005). The benefits of these virtual communities can only be achieved when there are a significant number of participants who are willing to stay and exchange knowledge with other members. Additionally, research on brand community management suggests that it is vital to establish perpetual member attraction through positive word of mouth in order to establish the long-term success of a community (Algesheimer et al. 2005). In the context of virtual professional communities, this point refers to what drives members' willingness to spread the word of their positive experiences with virtual professional communities to their colleagues and friends.

In an attempt to enrich existing literature on the sustainability of virtual communities, we have developed and empirically tested a research model that examines member intention to recommend the community through positive word of mouth. In the next section, we describe our theoretical background and then our research model and hypotheses. Afterwards, we report the research method and data analysis. Finally, we discuss the implications for research and practice of this study.

Theoretical Background

In this study, we specifically examine the factors that drive members' recommendation intention. The research model is built upon literature on relationship marketing and social influence.

Relationship Marketing

The concept of relationship marketing was first introduced by Berry (1983), and it refers to "*all marketing activities directed toward establishing, developing, and maintaining successful relational exchanges (Morgan and Hunt, 1994, p.23)*". Keeping consumers happy in order to maintain a long-term relationship with them is a sensible business strategy. Prior studies in marketing discerned that consumer retention is an effective marketing strategy encompassing both defensive and offensive perspectives. From a defensive perspective, loyal consumers purchase higher volumes at higher margins (Reicheld 1993) and maintain their usage of a service even when prices increase (Bolton and Lemon 1999). From an offensive perspective, retained consumers attract new consumers through positive word of mouth, thereby increasing market share (Reicheld and Sasser 1990). Loyal consumers may also help the firm to sustain premium pricing tactics and validate the firm's good reputation to new consumers (Zeithaml 2000). Relationship marketing has received remarkable attention in the offline marketing environment, and research on relational constructs in the online environment has just recently been considered (Balabanis et al. 2006). In the highly competitive electronic environment, companies have to genuinely develop customer relationship strategies and effectively manage their online customer experience. According to Reichheld and Shefter (2000), acquiring new customers can cost as much as five times more than retaining existing ones. Conversely, a 5 percent increase in customer retention can result in a profit increase between 25 to 85 percent. Peppers and Rogers (1999) point out that, "*Relationship marketing has only recently become practical and cost-efficient on a large scale because of database technology and the Internet*". (p.122)

Social Influence

Social influence has been widely used to explain group and collective behavior (Bagozzi and Dholakia 2002). Prior Information Systems studies primarily consider only one aspect of social influence, namely subjective norms, which reflect social pressure from influential peers (friends, family, boss) to perform a behavior. However, in the light of group activity (group

behavior), it is important to take other types of social influence into account. Kelman (1974) proposed three modes of social influence, including compliance (subjective norms), internalization (group norms), and identification (social identity). As mentioned before, the social influence that underlies subjective norms reflects the influence of expectations from close individuals and represents what Kelman terms “compliance”. The second mode of social influence characterized by group norms is similar to the term “internalization” as suggested by Kelman (1974). Internalization is the adoption of a decision based on the similarity of one’s values with the values of other group members. The third mode of social influence, identification, refers to the self-awareness of one’s membership in a group, as well as the emotional and evaluative significance of this membership (Tajfel 1978). All three modes of social influences might function to different degrees depending on the circumstances; however, they are important factors in determining group behaviors.

Research Model and Hypotheses

Figure 1 depicts the research model we use to explain user intention to recommend the virtual professional community to others. Definitions and interrelationships of the constructs in the research model are addressed in this section.

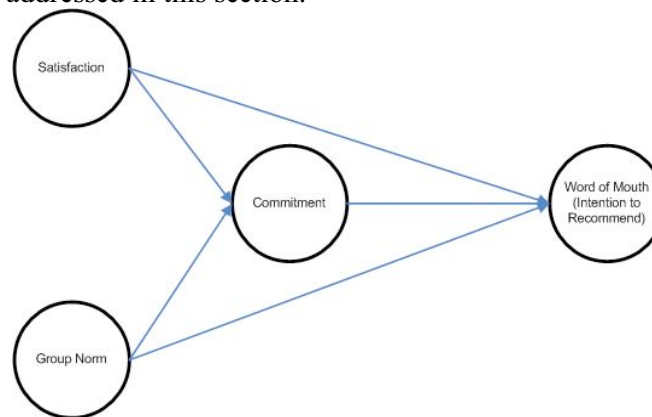


Figure 1: Research Model

Word of Mouth (Intention to Recommend)

Positive word of mouth refers to all informal communications between a customer and others concerning their positive evaluations of goods or services (Anderson 1998). Brown et al. (2005) suggested that word of mouth may be among the most important concepts in the relationship marketing paradigm. Indeed, the relationship marketing paradigm has expanded from simply business-to-business relationships to higher education institutions and membership management. In the current study, the relationship marketing paradigm is applied to the context of virtual professional communities. Specifically, user intention to recommend the virtual professional community is explained in terms of both relational constructs and social influence factors. If more members are willing to promote a virtual community through positive word of mouth, there is a higher chance that members can connect to each other, share and exchange knowledge, and ultimately sustain the virtual community. Thus, in this study, intention to spread positive word of mouth is defined as “*the likelihood that a user will recommend the virtual community to others*”.

Satisfaction, Commitment, and Group Norm as Antecedents of Word of Mouth

Satisfaction is one of the most important concepts in marketing and has attracted a great deal of research interest in the past few decades. Past research argued that a satisfied customer will

tell three to five other people of his or her experience (Heskett, et al. 1994). It is widely held that satisfied customers will engage in word of mouth favorable to the firm (Oliver 1980, Reichheld and Sasser 1990). Brown et al. (2005) argued that when a marketer delivers ample satisfaction to consumers, consumers are expected to spread positive word of mouth. Building upon previous studies, satisfaction with a virtual professional community is defined as “*an affective state resulting from user evaluation of his/her overall experience with a virtual professional community.*” In addition, it is believed that when a user is satisfied with his usage experience with a virtual professional community, he/she will have a higher likelihood to recommend it to others. Therefore, the hypothesis is:

H1: User satisfaction with a virtual professional community positively effects intention to recommend the virtual professional community.

In recent years, commitment has become a key variable of interest in relationship marketing studies (Gundlach et al. 1995, Hennig-Thurau et al, 2002). Most studies in this area take a uni-dimensional approach to examining the commitment construct. Commitment is generally defined as “*an enduring desire to maintain a valued relationship*” (p.316, Moorman et al., 1992). This conceptualization of commitment is grounded upon emotional bonds or positive emotional attachment (Allen and Meyer 1990), which some researchers have characterized as affective (or emotional) social identity (Bagozzi and Dholakia 2002, Dholakia et al. 2004). Building upon this line of research, commitment in a virtual professional community is defined as “*A sense of emotional involvement with the virtual professional community, which is characterized by identification with, involvement in, and emotional attachment to the community.*” Current research finds that affective commitment is positively related to word of mouth activities (Harrison-Walker 2001) and it is believed that this relationship will be held in the context of virtual communities. Thus, the stronger the sense of emotional involvement or attachment to the virtual professional community is, the higher the likelihood that the user will recommend the community to others via word of mouth. The hypothesis is:

H2: Commitment in a virtual professional community positively effects intention to recommend the virtual professional community.

Group norm refers to *the adoption of a decision based on the similarity of one’s values with the values of other group members* (Kelman 1974). In the domain of virtual communities, there are three possible ways to make group norm known to users. First, users may actively seek out the groups’ goals, values, and conventions when they first join a virtual community. Second, users may slowly come to discover the values of the group through socialization and repeated interactions with other members in a virtual community over a period of time. A final way is that users may learn the norms beforehand and join a virtual community based on their perceived congruence with the group norm. Mayer and Schoorman (1998) urged that an individual with high affective commitment will have a higher motivation to actively engage in behaviors that would help the employing organization achieve its goals. In regards to this study, if the user realizes that he/she shares common goals with other users in a virtual professional community, the user will have a higher intention to recommend the community to others. Thus, the hypothesis is:

H3: Group norm to a virtual professional community positively effects intention to recommend the virtual professional community.

Interrelationships between Satisfaction, Commitment, and Group Norm

Relationship marketing literature has suggested that when customers have a high level of satisfaction with the company, commitment-inducing emotional bonds to the company/firm will be created (Hennig-Thurau et al. 2002). Mohr and Spekman (1994) empirically

demonstrated the significant relationship between satisfaction and commitment. In the online setting, Bauer et al. (2002) and Wulf et al. (2006) also found a strong positive effect of satisfaction on user commitment in electronic commerce. It is thus believed that this relationship will be held in a virtual professional community. When users are satisfied with their usage experience with a virtual professional community, they will have a higher emotional bond with the community. Thus, the hypothesis is:

H4: Satisfaction with a virtual professional community positively effects commitment in a virtual professional community.

A stronger group norm is expected to lead to a stronger social identity in virtual professional communities. According to Hogg and Abrams (1988) and Dholakia et al. (2004), members in a well-defined group structure where the goals are clearly established and shared are more likely to identify with their membership. In the current study, if a user has an easier ability to learn and accept the group norms of the virtual community, he/she will better identify with a virtual community.

H5: Group norm to a virtual professional community positively effects commitment in a virtual professional community.

Research Method

In this study, the research model is tested on an educational virtual community. Hong Kong Education City (www.hkedcity.net) is a leading, one-stop education portal with a vision to foster the learning culture of Hong Kong. This online education portal plays an important role in promoting quality education and the use of information technologies in education for schools, teachers, students, parents, and the public. The focus of this study is on knowledge exchange among professionals, thus the current investigation will only focus on the continuance of the websites' virtual professional community, "The Teachers' Channel". Details about the measures, data collection method, and survey responses are discussed in the followings.

Measures

The measures of the constructs in the current study are listed in Appendix A. Each construct is measured by a few items for construct validity and reliability. A slider scale is used in this study and provides a continuous scale from 0 to 100 or -50 to 50 (See Figure 2). Respondents could either click or drag the slider to indicate their preferred point.

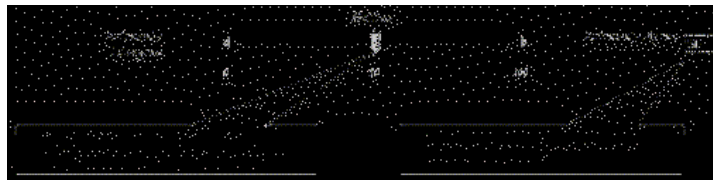


Figure 2: The Slider Scale

Data Collection

The target respondents of this study are the teachers who have used the HKed City. In order to reach the respondents, an invitation email that contained the URL to the online questionnaire was sent to Hong Kong teachers (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. Reminder emails were also sent a few weeks after the first invitation email.

Survey Responses

A total of 315 responses were collected in this study. Among the 315 respondents, 54% were male and 46% were female. About 30% were aged 21-30 and only 8% were aged 51 or above. 66% were secondary school teachers and 34% were primary school teachers. 16% of the respondents had more than 20 years teaching experience. Regarding the usage of the virtual community (HKed City), 53% had less than 2-years experience with the virtual community, but over 35% of them had used it at least every week. We conducted the non-response error estimation and did not find the resulting value to be significant in this study.

Data Analysis

The research model was analyzed using Partial Least Squares (PLS). The PLS procedure (Wold, 1989) is a second-generation multivariate technique which has been garnering interest and use among researchers. PLS assesses the measurement model and structural model simultaneously in one operation and has the ability to model latent construct under conditions of non-normality. Following the two-step analytical procedures (Hair et al. 1998), the measurement model was first examined and then the structural model was assessed.

Measurement Model

Composite reliability is the measurement for internal consistency. A composite reliability of 0.70 or above and an average variance extracted of more than 0.50 are deemed acceptable (Fornell et al., 1987). Table 1 summarizes the factor loadings, composite reliability, and average variance extracted from the measures of the research model. All items have significant path loadings at the 0.01 level and reach the recommended levels for composite reliability and average variance extracted.

Discriminant validity is the extent to which the measurement 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 (Fornell and Larcker 1981). Evidence about discriminant validity can be demonstrated when the squared 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. Table 2 presents the correlations between the constructs and the square roots of average variance extracted. The results suggested an adequate discriminant validity of the measurements.

Structural Model

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

Table 1: Psychometric Properties of Measures

	Item Loading	Standard Error	T-statistics
Satisfaction (CR = 0.932, AVE = 0.773)			
SAT1	0.856	0.027	31.543
SAT2	0.904	0.023	39.956
SAT3	0.897	0.022	41.504
SAT4	0.868	0.028	31.067
Group Norm (CR = 0.930, AVE = 0.815)			
GN1	0.879	0.027	32.181
GN2	0.931	0.011	84.728
GN3	0.899	0.017	54.429
Commitment (CR = 0.948, AVE = 0.784)			
COM1	0.872	0.019	45.211
COM2	0.874	0.016	53.690
COM3	0.887	0.020	43.878
COM4	0.873	0.025	35.395
COM5	0.909	0.013	68.734
Word of Mouth (Intention to Recommend) (CR = 0.924, AVE = 0.859)			
WOM1	0.926	0.012	79.812
WOM2	0.927	0.013	73.843
Note: CR - Composite Reliability, AVE - Average Variance Extracted			

Table 2: Correlation Matrix of the Constructs

	SAT	GN	COM	WOM
Satisfaction (SAT)	0.879			
Group Norm (GN)	0.588	0.903		
Commitment (COM)	0.461	0.765	0.885	
Word of Mouth (WOM) (Intention to Recommend)	0.595	0.643	0.609	0.923
Note: Diagonal elements are square roots of average variance extracted				

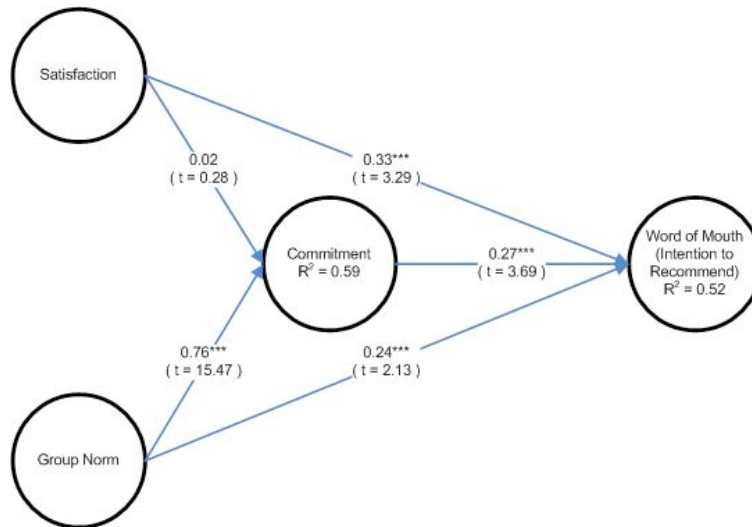


Figure 3: Result of the Research Model (Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$)

The result shows that the exogenous variables explain 52% of the variation in “*Word of Mouth (Intention to recommend)*”, and 59% of the variance in “*Commitment*”. All the structural paths are found to be statistically significant in the research model, except for satisfaction to commitment. Among the three key factors, satisfaction has the strongest positive impact on member intention to recommend the virtual professional community to others, with path coefficient at 0.33. Commitment and group norm also have significant impact on member intention to recommend, with path coefficients at 0.27 and 0.24 respectively. Hypotheses 1, 2, and 3 are all supported. Group norm has very strong impact on commitment, with path coefficient at 0.76, while satisfaction does not have any significant impact on commitment.

Discussion and Conclusion

This study is one of very few empirical examinations of concepts from relationship marketing and social influence literature in the context of virtual professional communities. We explain member intention to recommend the virtual community to others via positive word of mouth in terms of satisfaction, commitment, and group norm. These are the most commonly studied constructs in relationship marketing and social influence literature. Recent studies on virtual communities have started to investigate user behaviour, specifically user continuance in virtual communities (Sangwan 2005, Tiwana and Bush 2005); however, some membership management literature tells us that it is important to consider both member retention and member attraction so as to maintain long-term success.

The results of this study are quite consistent with previous literature on relationship marketing. In particular, satisfaction has the strongest impact on positive word of mouth. It is widely held that satisfied customers will engage in word of mouth favorable to the firm (Oliver 1980, Reichheld and Sasser 1990). This relationship is further confirmed in the context of virtual professional communities. When members are satisfied with a virtual professional community, they have a higher likelihood to spread their positive experience to others. Our study also suggests that commitment and group norm are important in determining positive word of mouth. The concept of commitment is not just important to relationship marketing, but also shares some similarities to affective social identity (Bagozzi and Dholakia 2002) in social influence literature. Our result suggests that members’ emotional attachment to the community has a strong impact on positive word of mouth. Group norm,

another key concept in social influence literature, also exhibits a significant impact on positive word of mouth. The key concepts from social influence literature deserve further attention in the study of social computing technologies both in general and virtual communities.

This study contributes to existing virtual community research in several ways. First, this study adds to the limited studies done on virtual communities of professional groups and allows future research to build upon 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 continuance behaviour (intention to recommend) in virtual communities. The research model integrates theories from relationship marketing and social influence and explains user intention to recommend virtual communities. Apart from the theoretical contributions, the results of this study also provide some insight into community designers for building a sustainable virtual community. Here are some guidelines:

- Satisfaction plays an important role in determining member intention to recommend virtual professional communities to others. Virtual community moderators should evaluate member satisfaction levels regularly, and enhance member usage experience with the community.
- Factors regarding social influence, commitment and group norms also have key impacts on member intention to recommend virtual professional communities. Virtual community moderators should wisely use the special features of their community, such as user profile, picture, and presence awareness, to promote both group norm and commitment to the community.

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 52% of the variance of intention to recommend. 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 that this study is specific only to Hong Kong and results may vary between countries and regions given differences in culture and online behaviour. 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 their professional knowledge. It would be interesting to compare this finding with studies in other types of virtual communities in future research.

In conclusion, this is one of the very first studies to investigate virtual professional communities from the membership management perspective. Specifically, we focused on the factors that drive member intention to spread positive word of mouth. We believe that better knowledge exchange can take place when there are more members who are willing to join and continue participating in virtual professional communities.

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Appendix A

Commitment (Algesheimer et al. 2005)

1. I am very attached to the community of [HKed City].
2. Other community members and I share the same objectives.
3. The friendships I have with other community members of [HKed City] mean a lot to me.
4. If community members of [HKed City] planned something, I would think of as something “we” would do rather than something “they” would do.
5. I see myself as a part of the community of [HKed City].

Group Norm (O’reilly and Chatman 1986)

1. The reason I prefer [HKed City] to others is because of what it stands for, its values.
2. My attachment to [HKed City] is primarily based on the similarity of my values and those represented by [HKed City].
3. What [HKed City] stands for is important to me.

Satisfaction (Bhattacharjee 2001)

1. How do you feel the overall experience with [HKed City]?
 - a. (Scale: Extremely dissatisfied (-50) and Extremely satisfied (50), with Neither(0) in the middle)
 - b. (Scale: Extremely displeased (-50) and Extremely pleased (50), with Neither(0) in the middle)
 - c. (Scale: Extremely frustrated (-50) and Extremely contented (50), with Neither(0) in the middle)
 - d. (Scale: Absolutely terrible (-50) and Absolutely delighted (50), with Neither(0) in the middle)

Intention to Recommend

1. Based on your personal experience with [HKed City], how likely would you be to recommend it to someone you know? (Scale: Very Unlikely (-50) and Very Likely (50), with Neither(0) in the middle) (Colgate and Danaher 2000)
2. If a friend were looking for an online educational community, how likely is it that you would recommend [HKed City]? (Scale: Definitely would not (-50) and Definitely would (50), with Neither(0) in the middle) (Brown et al. 2005)