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2009

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### Recommended Citation

Yu, Chia-Ping and Wu, Ji-Tsung Ben, "Toward a Community-oriented Development of Internet Platforms: a Qualitative Case Study" (2009). *AMCIS 2009 Proceedings*. 688.

<http://aisel.aisnet.org/amcis2009/688>

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# Toward a Community-oriented Development of Internet Platforms: a Qualitative Case Study

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## ABSTRACT

In this study, we seek to identify the development process of the virtual community. This study investigates the development process of two virtual communities: HSC (Home-stay Community) and UTC (University Teaching Community). This case study has produced two major findings. First, the sets of values established in a virtual community are related to the particular system functions employed in that community. While HSC members use blogs to collect related information and utilize forums to make bi-directional communication, UTC members seldom access blogs or edit Wiki pages. Second, motivation leads participants to join their community and to shape its boundaries.

The information sharing process is shown to be an effective way of improving community development in the virtual context. Thus, managers are advised to pay attention to active and strongly-motivated players in the virtual context. Future studies may enrich the current investigation by focusing upon the relevant business models.

## Keywords

Virtual community, information sharing process.

## INTRODUCTION

Virtual communities are becoming increasingly important instruments for creating collaborative and information sharing opportunities among individuals who are geographically dispersed. These communities share common characteristics that enable members to hold discussions with others, to sense the feelings of others and to form personal relationships on the web. For this reason, Rheingold (1993) used the term “virtual community” to connote the intense feelings of camaraderie, empathy and support that they observed among people in online spaces. In other words, interactions in the virtual community involve the information sharing, the seeking of support and the building of cohesiveness among people in the virtual context. For example, in the web 2.0 environments, Wiki pages permit and encourage the editing of shared pages, where participants focus on incremental information sharing. Wikipedia uses community vetting from other websites in that users are able, and indeed are expected, to incrementally improve each others’ contributions. Some volunteer editors take on the responsibility of being notified automatically when there are certain controversial entries. Wikipedia articles can also easily be organized through the linking by users to other Wikipedia articles or to external pages on the World Wide Web (Pfeil, et al., 2006).

As a consequence of this shift in technology, management should be deeply involved in the development of the virtual community. At the same time, the virtual communities are dynamic and meaningful systems in which language, actions, cultures and norms fuse into a discursive process and product. Even with the best technology and access to the richest warehouses of relevant information, it is often still the motivation of participants that determines the success or failure of virtual communities (Kalling, 2003; Van den Hooff & Van Weenen, 2004; Hendriks, 1999; Hlupic et al., 2002; Hall, 2001; Hinds & Pfeffer, 2003; Kalling, 2003; Yu & Chu, 2007). As Internet forums become an alternative choice for the virtual community experience, there is increasing interest in understanding just how participant coordination is being addressed. Thus, an important consideration in any virtual community is how to motivate an individual to contribute related information and to share within their community information that they believe to be valuable to themselves.

In this study, we seek to identify the development process of the virtual community in order to further the development of theory in this particular field. To investigate the development process and motivation of virtual community members, this study adopts the case study method to reveal the dynamic process present in virtual communities. Observation of the coordination activities in the virtual communities reveals the information-sharing process to be instrumental in creating the image of the virtual community and reflecting the ideas of the participants (Shulman, 1986; Davis, et al., 2005; Yu & Young, 2008). As the variety of virtual communities grows, there are increasing chances to provide knowledge workers with their own learning. As a consequence, it is becoming ever more challenging for system providers, managers, and platform

designers to provide an efficient and smooth sharing mechanism and to develop their own creativity in the virtual communities.

## THEORETICAL BACKGROUND

In the virtual community, membership is defined by a sense of belonging, and participants are gratified to know that they have personally contributed to the generating of new knowledge. These types of virtual community share common properties which can lead to the forming of webs of personal relationships in cyberspace when people share in public discussions that involve human feelings over extended periods of time (Alavi & Keen, 1989; DeSanctis, 1998). Common histories and values are shared, which can lead to the identification of group boundaries and behavior codes as well as anticipation of the behavior of others. It can also lead to identification of those who do not belong, or who are new, to the community (Rheingold, 1993; Smith & McLaughlin, 1997). One specific application of such virtual collaboration is the phenomenon of Wikis, which provide a way to work collaboratively to create web content that is usually created by individuals. As such, Wikis facilitate new ways of social collaboration online (Raman, et al., 2005; Wanger & Bolloju, 2005). Collaborating participants are those who contribute actively to the Wiki site, where each contributor can revisit the pages s/he has edited and check the progress of the site. Wikis use bidirectional indexing to represent and organize related information. Versions and history of changes are provided and facilities are available for rollback. Thus, although these sites are inherently open to the public for contributions editing, most tools encourage the restricting of Wikis to a closed group of users. The sharing of knowledge whenever it is needed and wherever it is located (Pfeil, et al., 2006), which is a principal feature of Wiki collaborations, is also a primary characteristic of computer-supported collaborated work (CSCW). Wanger and Bolloju (2005) suggest that guidelines for effectiveness editing are important and the wiki user interface is the main obstacle for users. Raman, et al. (2005) had conducted a case study on using wiki for teaching and learning. They suggest that the training on the effective use of wiki and the motivation to use wiki for knowledge discovery are very important.

Once a community is formed, it grows through continual interaction. With a group identity, individuals enjoy the benefits of community membership by experiencing a greater sense of wellbeing and happiness, and by having a larger and more willing set of others to call on for support in times of need (Yu & Young, 2008; Yu & Liu, 2008). Successful cooperative groups depend on each member taking an active role in assuring the group functions efficiently and effectively. As an illustration of this, some members of the virtual community encourage the free provision of advice and information, leaving open the question of why some individuals do not know each other (Lampel, & Bhalla, 2007). Other participants of the virtual community highlight two or three main ideas or significant insights from their group's discussion (Fisher & Coleman, 2001-2002). In addition, several members provide valuable information which is also collected by specialized intermediaries to evaluate new information. The information that is collected in the virtual community helps members to access valuable knowledge, and attracts individuals to engage in the virtual community on a daily basis. Through these discussions and the information exchange process in the virtual community, members may develop a sense of real group identity in cyber space which brings to life the character of their community, and enables participants to engage in their community. Thus, trust occurs when one has enough information about others to understand them and accurately predict their likely behavior (Lewick & Bunker, 1996). However, trust appears to be very fragile and temporal in the virtual community, because there is insufficient time for the virtual teams to build their trust on the first hand information, (Jarvenpaa & Leidner, 1998; Meyerson, et al., 1996).

In cyber space, virtual community members interact through asynchronous technology and computer media, criticized as "lean" and unable to transmit the full range of verbal and non-verbal cues necessary to support strong interpersonal ties (Rafaeli & Sudweeks, 1997). Communicating through text makes virtual groups low in "social presence", given the absence of seemingly necessary social context cues, like eye contact (Rheingold, 1993). A main concern is that a virtual group is deficient, when compared to a face-to-face group, in social context cues, such as facial expression, posture, dress, social status indicators and the human voice (Sproull & Kiesler, 1991). With these limitations, knowledge presentation or data quality may be questioned (Constant et al., 1996; Bock, et al., 2005). However, when computer networks are used to coordinate a professional group, there is greater potential for growth than there is among isolated local groups. Such virtual communities represent their social context or community history in their forum or blog. These data provide rich and comprehensive information about the context of a specific virtual community and individual members. As a consequence, it is important to know who shares the information, how information sharing occurs within the virtual community, and what sharing means to the members of the group. When this is clear, members are able to understand each other and to develop stronger connections within their specific community.

## CASE STUDY

The study investigates two cases. The reasons for investigating the particular cases chosen are twofold: first, one of researchers of this study is involved in the creating, operating and maintaining of these communities, which is of considerable value in the process of a longitudinal study and in-depth observation. Second, these two communities were created around the same time and use the same technology. Third, these two communities are important virtual communities in Taiwan, these two communities being the first two virtual communities in Taiwan to provide wiki for both home-stay owners and players and for university instructors. Although there are other similar virtual communities, most of the related virtual communities are BBS- or web-forum based.

### Case 1: Home-stay Community( HSC )

In December 2006, a web 2.0-based virtual community was set up for home-stay owners and players, consisting of Wikis, blogs and a discussion forum. Home-stay players, many of whom were regular internet users, were invited to share their experiences on living in home-stays, as their experiences of home-stay could easily be shared on the Internet. Although many web users shared their experiences on their own blog and web forums, they tended not to be motivated either to share experiences or to maintain the content once they had joined the home-stay community. The home-stay participants came from the e-mail community, BBS community, or the physical professional HSC community. By the end of the December 2008, there were approximately 251 registered members, 818 Wiki pages, 55 web logs and 123 discussion posts in the HSC.

Members used Wiki pages and collected blogs to provide information about home-stay. Some members utilized web logs to post news or advertisements about personal traveling experiences and their own home-stays. There were also discussion forums for home-stay-related discussion. The active participants contributed related information to a repository in HSC, from which information seekers retrieved information. In this virtual community, most of the information sharing activities took place on Wiki pages. Furthermore, when the players required more detailed information or were unable to find the appropriate information, they posted questions on the forum. Indeed, the HSC was the platform for communication between information providers and seekers, with information seekers retrieving information from the repository. This kind of information sharing attracted new participants and motivated them to contribute related information to the HSC.

In the initial stages of the forming of the HSC, content was limited and the technology was new to the members. While the community managers expected players to edit their particular Wiki pages, this type of page was relatively strange to these members. In our interviews, one home-stay owner complained: *"I want to post photos to attract players. However, it is difficult for me to post photos on the Wiki page and the way to edit the Wiki page is very unnatural to me."* Player Amy complained: *"..... it is difficult for me to share my experience on Wiki pages. I'm not used to the Wiki syntax. After I messed up the format of one Wiki page, I stopped editing the pages....."*

To attract individuals to join the community, home-stay owners suggested that the community manager should collect home-stay links and photos on Wiki pages, instead of expecting players to write their blogs on the platform. Owner Joe stated: *"Most players are interested in information on blogs written by players who have experienced home-stay much more than information provided by owners. Most potential players read blogs from old players before they come to my HSC. ....Therefore, I actively collect blog links and post comments on old players' blogs to thank them for their visits. ...."* From the interview data, it was clear that the community manager had been actively assisting home-stay owners to post photos and collect blog links on the Wiki pages since December 2007.

In order to expand this HSC, the management promoted this community on several BBS and web-forum based communities, and attracted home-stay owners to frequently update and provide related information in this community. Some owners actively maintained their specific Wiki page and promoted this information amongst their players and other owners. After January 2008, more home-stay owners and players joined the community. By the end of 2008, there were 591 visits per day, with 1653 pages visited and 44 home-stay community members editing their own Wiki pages.

In the HSC, the community manager and the home-stay owners actively maintained all the Wiki pages. When the home-stay owners visited this community, they would usually create a home-stay Wiki page, which required the completing of basic home-stay information. Owners were able to create a blog for home-stay related news or update blog links. When the wiki page was created, the index Wiki page was also updated. The community managers collected photos and links from related communities for a new home-stay Wiki page. Some home-stay owners actively collected and maintained home-stay information; for example, member John had edited the Wiki page for his home-stay a total of 106 times. On those Wiki pages, 15 related blogs had been collected. Some home-stay owners acted as passive information providers. For example, Mary edited the Wiki page for her home-stay only 3 times after registering at HSC.

## Case 2: the University Teaching Community (UTC)

In December 2006, a web 2.0-based virtual community was set up for university instructors, the purpose of which was to discuss teaching-related issues. By the end of 2008, this community consisted of approximately 146 registered members with 381 Wiki pages, 10 web logs and 570 discussion posts in UTC. Wiki pages were used to index teaching-related Wiki pages, including related information and URLs for teaching methods, related information and URLs for special groups such as new teachers, teaching assistants, etc. Some members used web logs to post teaching news or their own teaching experiences.

In order to share information, instructors were invited to share their experiences on teaching. Out of the 6 instructors initially invited to join UTC, only one instructor continued as an active participant. The majority neither wrote a blog nor edited their wiki page to share their experiences. Community managers sent personal invitations via e-mail to recruit more instructors to join UTC, but with limited response. Most instructors used the platform to collect or download the information needed by them. According to Site-meter, there were 49 visits per day, with 134 pages being visited daily.

According to those interviewed, the limited content deterred people from joining the community, and the new technology excluded non-technical instructors. For example, one instructor stated: *"I share teaching experiences with my colleagues all the time. The only chance I use the Internet is to receive e-mail. I don't participate in any virtual community at all..."* Moreover, there were not enough incentives for instructors to participate in the community. Instructor Peter stated: *"...I don't know the reason to post or join the discussion in this community, either. It seems to me that my participation doesn't matter. I don't know what to share because I don't know who my audience is."*

The community managers decided to invite teaching assistants to join the community. In contrast to the instructors, teaching assistants became active participants. Most teaching assistants were familiar with information sharing on the Internet or the electronic platform, being used to communicating with others and finding answers to their questions via the Internet. They were also keen to ask questions about teaching to gain more information. One teaching assistant stated: *"I am willing to share my experiences. However, I am not sure whether my answer is correct enough to put on the Wiki page...."*

In UTC, the community managers alone actively updated the Wiki pages, with most active members in the discussion forum being teaching assistants. When the community managers read some related information, they endeavored to add the link to a related Wiki page. If there was no proper page, the community managers would create a new one. They would also summarize the discussion on the discussion forum and post it to the relevant Wiki page. On occasion, they would also reorganize Wiki pages in response to members' suggestions.

## DISCUSSION

### Information sharing process

The HSC had a clear set of common practices, which was posted on the platform for members to follow. In the HSC, the players were asked to post blogs on the platform and to link them to related home-stay Wiki pages. Players maintained their own blogs. The community managers continued to update rules and procedures for members. After the establishment of common practices for the HSC, increasing numbers of home-stay owners followed the practices to maintain their own Wiki page. In contrast, although there were guidelines and procedures written for UTC, most members did not follow them as the instructors did not agree with the guidelines. Most members interviewed have totally different opinions about what should be shared in the community. We suspect that this lack of consensus on guidelines impeded the sharing of information in UTC.

In these two cases, different technologies were utilized. In the HSC, owners collected blogs written by players and organized them on their Wiki pages. Most home-stay players adopted the culture of sharing their experiences on the web and of trusting others who were sharing their experiences. As players were able to see others' photos and previous blogs, the identity of the authors was not hidden. To overcome the lack of trust among players with respect to the information provided by the owners, it was necessary for owners to collect blogs from players. As a large number of home-stay players used to write blogs on their trips, it was easy for owners to find blogs related to their home-stays. In contrast to this, although many teachers wrote blogs, very few university instructors and teaching assistants regularly wrote blogs about their experiences and problems. Also, most players are interested in experiences from players who have stayed in home-stays.

Although most instructors shared their experiences with their colleagues, they did not share them on the web because they did not perceive there to be many people interested in their experiences of teaching a particular course. This contrasts with the willingness of many elementary and high school teachers to share their experiences on the web due to the large number of teachers teaching the same course and using the same textbooks. In the UTC, it was the community managers only who had

the responsibility of organizing the discussions and posting them on the Wiki pages. In view of the fact that only a very small number of university instructors taught the same course and used the same textbooks within the same university, there was no reason for them to share their experiences on the web. Although university professors were interested in sharing their teaching experiences, there already existed a social network for them to exchange such experiences. These instructors preferred to call someone they knew about professional questions they might have and to receive instant answers rather than posting questions on the web and waiting for a response in an unspecified time frame. In the UTC, it was the teaching assistants only who actively engaged in discussions on the web forum. For this group, especially those who were graduate students, there are existing social networks for sharing their experiences. However, in view of the fact that neither they nor the majority of their friends had extensive teaching experience, the Web forum became an important reference source for their questions about teaching. From the above observations, it is clear that the type of information needed influences the information sharing process.

### **Valuable purposes of the virtual community**

The community serves a number of other valuable purposes, including providing support and friendship, helping each other to decide how to proceed with tasks, exchanging material relevant to the specific interests of the community, and learning vicariously from one another's experience.

In HSC, we find that Wiki and blog provide a different set of values for the virtual community. Blogs provide home-stay players with rich information and context in terms of descriptions of participants' trips and the purpose of such trips. In addition, owners in the HSC create an impression of their own home-stays through Wikis and blogs which provide personalized experience sharing. Blogs are helpful in creating and maintaining customer relationship when they contain history, articles and the specific context of the home-stay. For example, one home-stay owner told us that he read a blog from a disappointed player. He wrote a response to explain the context for that incident. From this experience, he started to write blogs to tell players his thoughts about his home-stay and also collect players' blogs to support his thoughts.

The UTC allows a smaller and more focused group of people to help each other. It is a learning community where help and support are offered to each other in teaching. In particular, the main task is to help each other solve teaching problems from the material and from each member's experience. That is what helps develop the UTC into a community of practice. In many instances, it makes visible the learning that has already occurred, an example of this being the compilation of a set of procedures by members for teaching assistants to proctor examinations. It can also help improve understanding as to how to apply these procedures in practice.

### **Motivation to join the virtual community**

Most home-stay players write blogs on a daily basis. It is extremely common for them to write blogs about home-stays that they have visited. In contrast, it is unusual for university instructors to write blogs about their experiences and opinions of teaching. According to our interviews, most instructors are keen to share their experiences with others, and this can be done in the many teaching seminars held on the university campus on a face-to-face level rather than through blogs. Professors tend not to regard their experiences as being relevant to others. Moreover, as teaching experiences are somewhat implicit and process-oriented, they are difficult to express in writing. According to our interviews, some new professors prefer to ask questions through their personal network rather than in public discussion forums, believing that they can gain more precise information and deeper insight through a face-to-face discussion.

In similar vein to previous studies, these two cases show that motivation and common actions are important for the virtual community's development. Motivation to participate is the most important factor in building community.

### **CONCLUSION**

This study addressed the development process of the virtual community with regard to integrated investigation of technology, participants' behaviors and the group identification process. Comparing the community goals, sharing behavior and motivation of the home-stay and university teaching communities in cyber space, we examined the extent to which collaborative strategy enhances community development.

There are several findings from the case study. First, following the information sharing process, all members of the HSC are able to control and restructure the information that they require. All HSC participants are involved in the collection and sharing of home-stay relevant information. This enables not just home-stay owners, but also players and community managers to be both information providers and receivers. For the UTC, there is no consensus on the information sharing process. Compared to the HSC, the participation of the UTC is relatively low.

Our second finding is that the sets of values established in a virtual community are related to the particular system functions employed in that community. In addition, virtual communities provide different sets of values for members. For the HSC, members use blogs to collect related information and use the forum to engage in bi-directional communication. However, in the UTC, while members always share their experiences on the forum, they seldom access the blogs and edit the Wikis.

The third study finding is that motivation leads participants to join their community and to shape its boundaries. Because the members of the HSC are strongly motivated to join, the community is self-managing. Indeed, the number of members, relevant documents, interactions and information exchanges within HSC are increasing on a daily basis. Conversely, in the UTC, the members have little motivation to engage with one another. As a consequence, membership and interactions are both diminishing, and information updates are few throughout the UTC.

In practice, this study reminds virtual community managers of the importance of considering the effect of technique and motivation factors, and alerts them to the need to alter their operation strategy. Firstly, virtual community managers are advised to observe participants' motivation, especially those who provide/receive information. Secondly, as the information sharing process has been shown to be an effective way of improving community development in the virtual context, players should be encouraged to involve and reshape the development process of their community. Discussion and relevant information are critical for stimulating players' motivation and involvement. Thirdly, managers should pay attention to strongly motivated active players in the virtual context. When highly-motivated players maintain consistent levels of performance, they reshape and re-direct the development process of the virtual community.

## ACKNOWLEDGMENTS

This research was supported by the National Science Foundation of Taiwan under grant no. NSC 96-2416-H-032-008.

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