

온라인 커뮤니티 의식에 대한 개념적 틀과 연구시사점

Sense of Virtual Community: a Conceptual Framework and Research Issues

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목 차

I. Introduction

II. Literature Review

III. A Conceptual Framework and Propositions

IV. Implications for Future Research

V. Implications for Practice

VI. Limitations of the Study

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I. Introduction

With the rapidly broadening coverage of the Internet, *virtual community* has become an interesting topic for IT professionals and management researchers (e.g., Jones, 2000; Liu, 1999). Although the words like “cyberspace,” “the net,” “online,” and “computer mediated communications” represent different aspects of network technology, it is obvious that the Internet allows people to create a range of new social spaces in which to meet and interact with another (Kollock and Smith, 1999).

Recently, advances in information technologies such as e-mail system, video chatting and Bulletin Board Systems (BBS) contributed to the birth of uncountable groups to discuss to a range of topics, play games and even work on complex projects in cyberspace. These are examples of virtual communities, sustaining and supporting many-to-many interactions (Harasim, 1993).

In Korea, Daum Communications (<http://www.daum.net>) and the Freechal Holdings (<http://www.freechal.com>) were noticeable with regard to the activities of the virtual communities until October, 2001. Daum and Freechal were reported to have 930,000 communities and 700,000 communities within them respectively in October, 2001.

What implications does this unprecedented growth of virtual communities have on information systems (IS) community? At the individual and group level, understanding of virtual community dynamics can facilitate virtual collaboration among organizational members beyond the traditional groupware usage. In addition, this understanding provides the potential to transform the off-line, intra-organizational communities-of-practice (CoPs) into on-line, extra-organizational context. In a way, virtual communities may be cultivating a new breed of organizational workers who feel much more comfortable working on-line than their predecessors. At

the enterprise level, changing our views of an organization from a hierarchy of command and control into a network of competency-based virtual communities will lead us to a radically different set of organizational design options.

The objective of this study is to enhance the existing knowledge about the virtual community by introducing a new construct, *sense of virtual community*, and developing a conceptual framework on the sense of virtual community. We draw from the relevant literature in sociology, community psychology, communications, organizational behavior, and human-computer interaction and focus on developing a conceptual foundation for understanding the sense of virtual community. More specifically, this study intends to answer the following questions:

- How should the *sense of virtual community* be conceptualized and defined? Is there any unique property concerning the sense of virtual community as compared to that of traditional community?
- How about the conceptual framework on the sense of virtual community?
- What implications does the growth of virtual communities have on information systems (IS) research and practice?

II. Literature Review

2.1 Definition of the Virtual Community

A community is mainly characterized by the relational interaction or the social ties that draw people together (Heller, 1989). Duncan (1959) defined *the community* as "an ecological complex formed based on interdependence of the four components: people, organization, environment, and technology." Then, how can the virtual community be defined? We find that there

have been two different viewpoints on understanding and defining the virtual community in previous research. One view is to understand the virtual community as "a community extended by new information technologies," while the other is to treat it as "a new type of community fully distinguished from the traditional community."

Fernback and Thompson (1995) characterized the virtual community as "social relationships forged in cyberspace through repeated contacts within a specified boundary or place." Balasubramanian and Mahajan (2001) defined it as any entity that exhibits all of the following characteristics: (1) an aggregation of people, (2) rational members, (3) interaction in cyberspace without physical collocation, (4) social exchange process, and (5) a shared objective, property/identity, or interest between members. They seem to suggest that basic conditions of virtual communities are similar to those of traditional communities except for the use of cyberspace. Jones (2000) also argues that, as the traditional community has three components—place, population, and human interactions, the virtual community has: (1) computer-mediated space that supports group-interaction, (2) people communicating via this computer-mediated space, and (3) the interaction of users. Therefore, Fernback and Thompson (1995), Balasubramanian and Mahajan (2001), and Jones (2000) seem to adopt the notion of the virtual community as "a community extended by information technologies."

On the other hand, Rheingold (1993) defined the virtual community as "social aggregations that emerge from the Net when enough people carry on those public discussions long enough, with sufficient human feeling, to form webs of personal relationship in cyberspace." His definition does not include the need for structures, proximity of members to one another, or even the necessity for face-to-face communication, all features long associated with traditional communities (Wood

and Smith, 2001). Instead, his definition asserts that a virtual community is based on ongoing communication. Hagel III and Armstrong (1997) also defined the virtual community as “the computer mediated space where there is an integration of content and communication with an emphasis on the member-generated content.” Wellman and Gulia (1999) argued that virtual communities differ from the real life communities on the basis upon which participants perceive their relationships to be intimate. Their definitions or notions focus on ongoing computer mediated communications and follow “the new type of community distinguished from the traditional community” aspect.

Despite the subtle differences in focus, the two lines of thought on the virtual community agree on the use of “cyberspace” as the default or mandatory space for virtual community members’ interaction. We do not think such view reflects the reality of millions of diverse virtual communities operating in the real world. Some virtual communities do exist strictly in cyberspace. But in a number of other virtual communities, we find that community members engage in off-line as well as on-line interactions. This phenomenon is particularly visible in virtual communities which originated from the off-line root (e.g., fan clubs, alumni associations, communities of practice, etc.). Thus, to accommodate a broader range of virtual communities, in this study, we define the *virtual community* as “a group of people with common interests or goals, interacting predominantly in cyberspace.”

2.2 From Sense of Community to Sense of Virtual Community

We approach the *sense of virtual community* construct as the sense of community modified to be relevant to the virtual context. The *sense of community* has been defined as “the feeling of the relationship an individual

holds for his or her community” (Heller et al., 1984) or “the personal knowledge that one has about belonging to a collective of others” (Newbrough and Chavis, 1986). Others view it as “the perception of similarity to others and an acknowledged interdependence with others” (Sarason, 1974). McMillan and Chavis (1986) conducted an in-depth review of the literature and developed the psychological theory for the sense of community. According to them, the sense of community is composed of four elements: membership, influence, integration, and emotional connection. Here,

- *Membership* indicates that people experience feelings of belonging to their community.
- *Influence* implies that people feel they can make a difference in their community.
- *Needs fulfillment* suggests that members of a community believe that their needs will be met by the resources available in their community.
- *Emotional connection* is the belief that community members have and will share history, time, places, and experiences.

Among the four elements that McMillan and Chavis (1986) suggested as components of the sense of community, *membership* and *influence* are considered to be the common perception factors in both the virtual and traditional communities. However, *needs fulfillment* seems to correspond more to the antecedents of the sense of virtual community than to the sense of virtual community itself. For instance, in traditional communities such as neighborhoods, professional associations or schools, you become a member with fairly high understanding of your needs and expect that such needs are very likely to be met by your communities. So, needs fulfillment may very well be part of the sense of community which develops over time after the

membership status starts. However, in a virtual community, the prospective members do not usually have the comparable level of understanding or expectation on their needs due to the lack of their confidence in the community itself and its members. They are also more reluctant to reveal their personal information to the unspecified number of people whom they have never met. Thus, before joining a virtual community as full-fledged members, users tend to assess its benefits (their needs) more carefully. Therefore, we believe needs fulfillment (such as playfulness or usefulness), in the virtual community context, to play the role of an antecedent to the sense of virtual community.

Emotional connection is also an important factor but seems to be highly correlated to the concept of membership because “emotional connection and ties” construct tapped items to do with friendship and bonds to other community members. Thus, we decided that, of the four dimensions, *membership* and *influence* should be part of the sense of virtual community sense and need to be adjusted for the virtual context.

Next, we introduce a new dimension of *immersion*, using an expanded concept of *flow* (Csikszentimihalyi, 1975; Hoffman and Novak, 1996). Virtual community characteristics such as anonymity, addictive behaviors and voluntary behaviors (Young, 1996; Kiesler et al., 1985) imply the state of immersion, or flow experience as Csikszentimihalyi (1975) noted. Csikszentimihalyi (1975) argued that *flow* is the term used to describe the “holistic sensation that people feel when they act with total involvement” (p. 36). Researchers have used the concept of the optimal experience to study a diverse set of activities from rock-climbing and ocean-cruising to meditation and ordinary work (Csikszentimihalyi and Csikszentimihalyi, 1988). Hoffman and Novak (1996) defined the flow experience in the computer-mediated environment as “the state that occurs during network

navigation.” According to Hoffman and Novak (1996), it includes the following four dimensions: (1) a seamless sequence of responses facilitated by machine interactivity, (2) intrinsic enjoyment, (3) loss of self-consciousness, and (4) self-reinforcing. Consequently, flow is characterized by enjoyment and caused by human-machine interactions (Griffiths, 1998). We expect that the concept of *flow* to be relevant in the virtual community context because many virtual community members display totally involved (even addicted) behaviors to their community. Thus, we adopt the construct of *immersion* as an emergent property of the virtual community.

Consequently, the sense of virtual community is proposed to have the three dimensions: (1) *membership*-people experience feelings of belonging to their virtual community, (2) *influence*-people influence other members or their community, and (3) *immersion*-people feel the state of flow during virtual community navigation. We define the *sense of virtual community* as the individual’s feelings of *membership*, *influence*, and *immersion* toward their virtual community. Here, the dimensions of *membership*, *influence* and *immersion* respectively reflect the affective, cognitive, and behavioral aspects of virtual community members, as you see <Table 1>, just like the general “attitude” construct in the areas of marketing or behavioral science (Assael, 1995).

<Table 1> Sense of Community and Sense of Virtual Community

Sense of Community (McMillan and Chavis 1986)	Sense of Virtual Community (This study’s Perspective)
Membership	Membership (<i>Affective</i>)
Influence	Influence (<i>Cognitive</i>)
N/A	Immersion (<i>Behavioral</i>)
Emotional connection	Reflected in the concept of membership
Needs fulfillment	Treated as antecedents

(Note) N/A: Not Available

2.3 Virtual Community Origin

Virtual communities can be classified based on their *origin*. Although virtual communities may differ along various dimensions, such as channel characteristics (Reardon and Rogers, 1988) and social presence (Rice, 1992), the *virtual community origin*, dichotomized as *on-line originated* or *off-line originated*, provides the most clearly categorizable dimension.

For example, newsgroups and game sites belong to the on-line originated type. Class forums in universities, on-line alumni associations, and project task force sites belong to the off-line originated type. We can divide all actual virtual communities into the on-line originated type or the off-line originated one. This virtual community classification can help practitioners diagnose their virtual communities and gain useful insights.

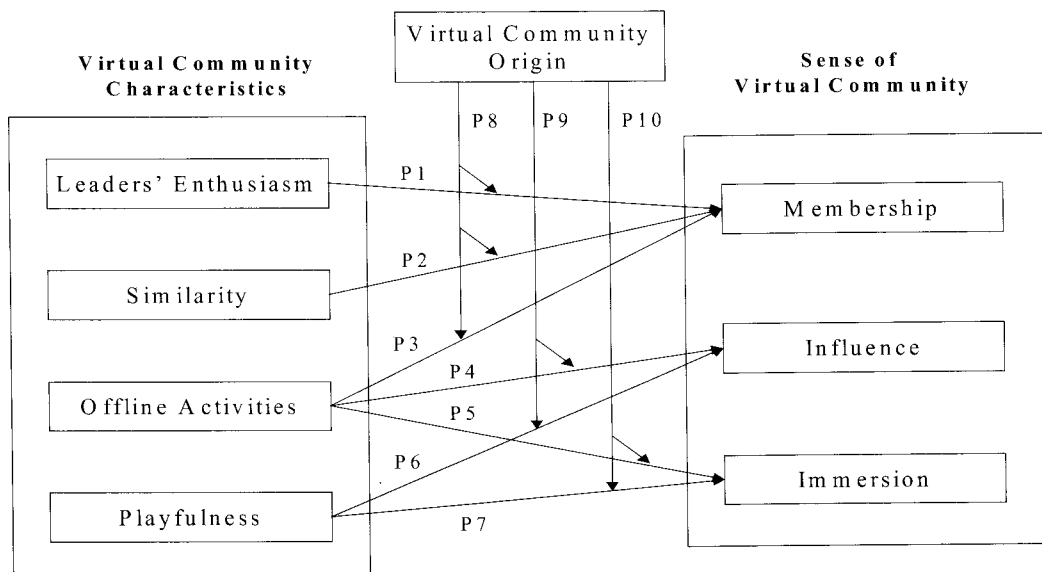
tual foundation for understanding a virtual community by introducing sense of virtual community, its determinants, and the moderating variable. A conceptual framework for this study is shown in <Figure 1>, and we provide the related propositions.

3.1 Leaders' Enthusiasm

Leaders' enthusiasm, as in the traditional community, helps members feel that the virtual community is activated and it also fosters their care and attention to the virtual community (Kim, 2000). In the initial stage, survival of virtual communities often depends on the leaders' efforts such as visioning, caring members, and devoting themselves to their virtual community. Some practitioners argue that one passionate leader can transform its members to be highly committed to the community activities. Even though leadership necessary virtual communities may differ from traditional leadership, *leaders' enthusiasm* is expected to influence members of virtual communities to feel greater *membership* toward their community.

III. A Conceptual Framework and Propositions

We concentrate our efforts on developing a concep-



<Figure 1> A Conceptual Framework

Proposition 1: There is a positive relationship between *leaders' enthusiasm* and *membership*.

3.2 Similarity

Exclusion of non-members is a characteristic of the virtual space as is in the real world. It is related to the concept of *perceived boundaries* in the real life (McMillan and Chavis, 1986). A group based on similar interests tends to exclude strangers, which keeps the community homogenous. Virtual Communities provides individuals with a means for acquiring that feeling of inclusion (Wood and Smith, 2001). At the heart of the concept of community is the quality of commonality (Fernback, 1999). Members of virtual communities are likely to perceive ownership and participate the community when they feel that the members are similar to each other in terms of value system, life style, and interests. Balasubramanian and Mahajan (2001) argue that Stable reactions and membership of members derive from a collective consciousness that is based on shared identity, beliefs, and norms. Hence, *similarity perception* is expected to reinforce *membership* within a virtual community (Sarason, 1974).

Proposition 2: There is a positive relationship between *similarity* and *membership*.

3.3 Off-line Activities

Off-line meetings can play a role in complementing the low social presence inherent of most computer-mediated environments (Lombard and Ditton, 1997). Kiesler et al. (1984) argued that balancing on-line with off-line activities is critical in sustaining a virtual community, implying that use of diverse communication channels may be effective in the computer-mediated environment. Just as community ties that begun in

person can be sustained through the online interaction, online ties can be reinforced and broadened through in-person meetings (Wellman and Gulia, 1999). While Walther (1995) argues that on-line interactions are as sociable and intimate as in-person interactions over time, we believe that off-line meetings will help facilitate the virtual community activism and lead to higher sense of virtual community.

Proposition 3: There is a positive relationship between *off-line activities* and *membership*.

Proposition 4: There is a positive relationship between *off-line activities* and *influence*.

Proposition 5: There is a positive relationship between *off-line activities* and *immersion*.

3.4 Playfulness

We also propose that *playfulness* is a useful construct for understanding individuals' evaluation and affection of virtual communities. Playfulness of virtual community refers to enjoyment from contents provided by both the community and interactions with other members. Previous research has revealed that attitudinal outcomes such as emotion, pleasure, and satisfaction result from the playfulness experience (Csikszentimihalyi, 1975; Sandelands et al., 1983). *Playfulness* will affect *flow-immersion* by human-machine interaction (Griffiths, 1998). Furthermore, *playfulness* lets members perceive *influence* on other members or on their community because it contains interactions among members or between members and their community. Consequently, when a virtual community provides entertainment value for its members in the on-line context, sense of virtual community is supposed to be increased.

Proposition 6: There is a positive relationship bet-

ween *playfulness* and *influence*.

Proposition 7: There is a positive relationship between *playfulness* and *immersion*.

3.5 Virtual Community Origin

As mentioned above, virtual communities are classified into two types: (1) on-line originated and (2) offline originated virtual communities. Most of the on-line originated virtual communities are launched based on the common interests and themes reinforced via computer-mediated communications. In the case, association with virtual communities is voluntary, and strength and kind of participation are freely chosen (Balasubramanian and Mahajan, 2001). Hence, weak ties are mostly observed in the initial stage (Wellman and Gulia, 1999). For example, both *membership* and *influence* are likely to be low in the early stage of the on-line originated virtual community. On the other hand, social relationship in an off-line originated virtual community tends to be strong even at the beginning of the community activity due to prior off-line interactions (Blumstein and Kollock, 1988). Therefore, higher levels of leaders' efforts and off-line activities are more necessary for increasing *membership* and *influence* in the case of *on-line originated* virtual communities than in the case of off-line originated virtual communities. Besides, on-line originated virtual communities are relatively homogenous in their interests and attitudes while being heterogeneous in terms of the members' age, gender, social class, ethnicity, and other aspects of their demography (Wellman and Gulia, 1999). The homogenous interests of the on-line originated virtual community members may foster a relatively high level of empathetic understanding and mutual support (Marsden, 1983). Hence, *perceived similarity* with the interests and values will affect *membership* more strongly in the case of the *on-line originated* virtual community than in the case

of the off-line originated virtual community. Additionally, since *immersion* is reinforced via frequent and intense on-line interactions among members (Young, 1996), it is unlikely that the off-line originated virtual community will incur high level of *immersion* of members who depend on the cognitive mechanisms already formed by the prior face-to-face interactions. Thus, affecting factors seem to influence *immersion* more strongly in the case of the *on-line originated* virtual community than in the case of the off-line originated virtual community.

On the basis of the above discussion, we derived the following propositions in terms of the moderating effect of the virtual community origin on the basic relationships between virtual community characteristics and sense of virtual community.

Proposition 8: The *virtual community origin* moderates the relationship between *virtual community characteristics* and *membership*.

Proposition 9: The *virtual community origin* moderates the relationship between *virtual community characteristics* and *influence*.

Proposition 10: The *virtual community origin* moderates the relationship between *virtual community characteristics* and *immersion*.

IV. Implications for Future Research

As the Internet continues to broaden its coverage world-wide, the boundaries between firms and between firms and individuals continue to disappear. More and more transactions will be processed on-line as more and more activities and relationships take place in cyber-

space. Whether our subject of interest is electronic commerce or internet-based business process innovation, we believe a good starting point is to understand how people as a group member (or a community member) behave differently in the virtual context. In this study, we conceptualized a new construct, called *sense of virtual community*. We invite other researchers to refine these new constructs and expand our research framework. We also expect different perspectives regarding our research model.

From a theoretical perspective, we believe a wider set of virtual community characteristics and additional categorization of virtual community types should be examined and validated empirically. Also, as virtual communities become mature, a longitudinal study for the relationship between their characteristics and behaviors needs to be conducted. Eventually, in addition to the individual level analysis, an empirical study at the community (or group) level which can trace the link of virtual community characteristics, behaviors, and performance will make a significant contribution to the maturity of virtual community research.

Finally, a cross-cultural study on virtual community will be valuable as well as interesting. Finding how cultural factors may affect members' behaviors in the virtual community is needed for the virtual community research to be more generalizable.

V. Implications for Practice

The most immediate beneficiaries of this study may be the millions of people who are in charge of managing and vitalizing their virtual communities. These people, often called sysops (system operators), can derive specific action calls from our study such as:

1. Check if your virtual community leaders (includ-

ing yourself) have and exhibit their enthusiasm for the community and their members. If not, nurture them to do so with proper incentives or complement the leaders with strong support staff. If neither works, replace them with new leaders.

2. Try to homogenize your community. Give up the desire of broadening your community scope. Instead, try to carve out a niche segment for your community and stick to it. Focus on loyalty and vitality than on size.
3. Plan and operate a diverse set of (scheduled or ad-hoc) off-line activities suitable for your community. Face-to-face communication can play a critical role in complementing the low social presence of the on-line activities.

For the community providers (e.g., AOL, iVillage, Daum, I love school, etc.), it may be critical to know if the individual member's loyalty to their community (sense of virtual community) extends to the community providers as well. They may also need to establish a set of criteria to evaluate the values of the individual communities for their resource allocation decisions.

Finally, for the corporate context, findings on virtual communities can be directly applicable to the managing and vitalizing of project task forces and communities-of-practice as these groups rapidly move their operating ground from the physical, face-to-face meetings to the virtual space and from intra-organizational to inter-organizational scope.

VI. Limitations of the Study

Our study were based on the community psychology literature and the results of the interviews with several sysops (system operators) of the diverse virtual communities and managers of the largest community pro-

viders in Korea such as “Daum,” “I love school,” and “Freechal.” In-depth and rigorous case studies are needed with various types of virtual communities for future research.

Next, the research model of our study may not be applicable to the commercial communities, called “brand communities” (e.g., Amazon.com) very well, because they include relatively few off-line activities and interactions between members.

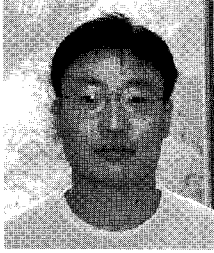
Finally, our proposed research model has much room for elaboration based on more solid background theories. We expect other researchers as well as practitioners to introduce new constructs and to discuss them with us in order to lay a conceptual foundation in terms of virtual community issues.

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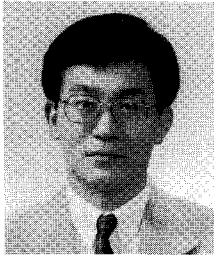
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공동저자 고준은 KAIST 산업경영학과를 졸업한 후, KAIST 테크노경영대학원에서 조직 및 전략이론을 공부하고 석사 학위를 받았으며, 현재 KAIST 테크노경영대학원 MIS 전공 박사과정에 재학 중이다. *International Journal of Human Resource Management*, *Scientometrics* 등의 학술지에 논문을 게재한 바 있으며, 미국에서 열린 ICIS 2001 (International Conference on Information Systems 2001)에서 논문을 발표하였다. 주요 연구관심분야는 온라인 커뮤니티(Virtual Community), 가상조직, 전자상거래, 동료평가 등이다.



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공동저자 김영길은 서울대학교 산업공학과에서 학사, 석사를 취득하고 미국 미네소타 주립대학교에서 경영정보시스템(MIS)을 전공하여 경영학 박사를 취득하였다. 미국 피츠버그 대학교 조교수로 재직한 바 있으며 현재 KAIST 테크노경영대학원 부교수로 재직중이다. *Communications of the ACM*, *Journal of MIS*, *Information & Management* 등의 국제학술지에 다수의 논문을 게재하였으며 주요 연구관심분야는 지식경영, 지식관리시스템, 고객관계관리(CRM) 등이다.