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Encouraging Participation in Virtual Communities

Leaders of robust, sustainable virtual communities find ways to strengthen their members' sense of social identity and motivate their participation in the community's activities.

T

he Internet revolution has led to the proliferation of virtual communities. Within organizations, many traditionally offline, face-to-face meetings and team activities (such as quality circles, six sigma teams, and communities of practice) now take place online in the form of virtual communities. Meanwhile, the growth of Internet community service providers (such as iVillage.com and Daum.net) has been phenomenal.

What do businesses need to know about them? Understanding virtual community development provides a foundation for facilitating collaboration and learning among individuals separated by physical distance and organizational boundaries. Migrating offline communities into online virtual communities has the potential to greatly improve their efficiency and ability to support the sharing of crit-

Illustration by TINOU LE JOLY SENOVILLE

ical information and knowledge in a timely fashion. And changing our view of organizations—from focused on command-and-control hierarchies to focused on networks of competency-based virtual communities—promises a radically different set of organizational design options. However, realizing this promise depends on our ability to develop and maintain communities in which individuals have both the opportunity and the motivation to participate and contribute. Here, we explore the factors that stimulate participants' posting and viewing of community content—two key activities in the ongoing dynamics of any virtual community.

A virtual community can be seen as a group in which individuals come together around a shared purpose, interest, or goal [11]. Most depend on electronic communications to support interaction among members who are not physically collocated [1]. Since a virtual community is a social network that uses computer support, rather than face-to-face interaction, for its communications, some virtual communities exist purely in cyberspace. However, in others, members engage in offline, as well as online, interaction. In order to accommodate and study a broader range of real-world virtual communities, we define a virtual community as a group of people interacting predominantly in cyberspace for their own common interests, relationship building, transactions, and fantasies [7].

Typical computer-mediated community interaction includes news and information sharing (such as what's new?, event announcements, and new books), problem solving (such as Q&A, FAQs, best practices, and discussions), and routine communication (such as email and chat). While members may also participate in telephone conversations and face-to-face meetings, such interaction is not the major portion of virtual community activity. Most activity takes the form of posting or viewing opinions, questions, information, and knowledge within the community's message boards. Consequently, posting and viewing are fundamental elements in the ongoing life of any virtual community.

Developers must simultaneously deal with communication, motivation, leadership, and technology. While these challenges are also found in offline com-

munities, communication and technology issues present special challenges for virtual communities. Foremost, a lack of social presence creates communication weakness in any virtual community. Social presence, or the degree to which the medium facilitates awareness of other people and interpersonal relationships during an interaction [5], is critical for effective communications in many social/work contexts. Since the exchange of textual information—a medium with low social presence—is still the dominant mode of communication in virtual communities, it is important for community developers to support community members with relevant graphical, textual, and video interfaces (such as avatars, graphic images, and video chat).

Second, motivating members who are physically dispersed to actively participate in their community is difficult. Also difficult for community leaders is reaching a consensus on common goals or interests among heterogeneous community members in terms of age, education, and profession [1]. The challenge for community leaders is to explore and treat the underlying needs of the community's members. Since community activities are voluntary, certain leadership roles may be especially important in the community's virtual environment. Given the voluntary social context, community leaders play an important role in developing the necessary social climate to generate community participation. Securing or developing effective community leaders is likely to be a critical success factor for the sustainability of any virtual community [10].

Finally, every virtual community faces technological challenges. An inadequate communication infrastructure increases communication costs for members and constrains community activities. The diversity of technologies and user skills among members further complicates such challenges. The table here summarizes the major types of challenges in developing and managing virtual communities with a socio-technical perspective, including the relevant theories researchers use in addressing them.

STIMULATING COMMUNITY

Virtual communities are unlikely to be sustainable unless properly stimulated. Four principles suggested in [9] characterize sustainable virtual com-

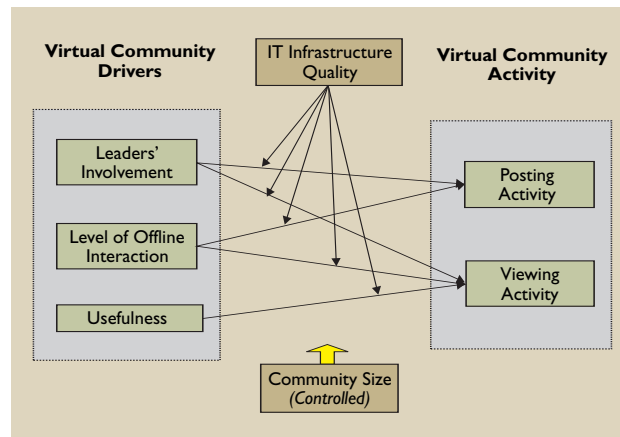


Figure 1. Virtual community stimulation structure.

munities: clear purpose or vision (such as in the “Save the Earth” club); clear definition of members’ roles (such as designing community activities based on community membership life cycle: visitor, novice, regular, leader); leadership by community moderators; and online/offline events—important since they strengthen members’ identification within the community and with one another. To run a community effectively, [12] argued that a clear vision, opinion leaders, offline interaction, basic guidelines, and useful content are required. These factors strengthen the relational ties among community members. Also, technical factors (such as a stable, high-speed IT infrastructure and software that promotes discussion) often help stimulate member participation [6]. This environment reinforces the importance of a socio-technical view that considers technical, as well as social, factors to understand and identify virtual community stimulants.

Based on prior studies [6, 9, 12] of the challenges and stimulants in virtual communities, we propose four stimulation drivers (see Figure 1): leader involvement, offline interaction, usefulness, and IT infrastructure quality.

Leader involvement is critical for building relationships and developing user-created content [4]. Leaders who promote collaboration and trust among community members with a clear vision for their communities may stimulate participation [10]. Therefore, leader involvement is needed for fostering members’ active involvement in posting and viewing community content.

Online interaction may be reinforced through face-to-face meetings; offline interaction increases the social presence of community members [5]. According to the social presence theory, awareness of the online presence of fellow members, reinforced through offline interaction, can influence online community activity. Offline interaction helps virtual community members understand, trust, and identify with one another, providing a stronger base for online community activity.

Virtual communities are sustainable only when they provide benefits that surpass the costs of membership [2]. An important element of a viable community is the ongoing provision of content that members perceive as valuable or useful [7]. Consistent with this principle, technology-acceptance models [3]

suggest that useful content leads community members to increase their active participation in the form of greater viewing and posting. We expect the perception of usefulness will trigger more frequent viewing activity by community members.

Just as physical facilities provide a context for interaction in traditional groups, the IT infrastructure of virtual communities provides a context for member interaction. When it cannot satisfy user needs, that

Category	Type of Challenge	Description	Relevant Theories
Social perspective	Communication	<ul style="list-style-type: none"> • Communication dynamics to be changed • Low social presence • Inhibition in building trust 	<ul style="list-style-type: none"> • Computer-mediated communication • Social presence
	Motivation	<ul style="list-style-type: none"> • Much effort needed to discover and manage common goals and interests of community members 	<ul style="list-style-type: none"> • Intrinsic/extrinsic motivation
	Leadership	<ul style="list-style-type: none"> • Ensuring adequate levels of community activity and membership growth • Developing supportive climate 	<ul style="list-style-type: none"> • Leadership • Team effectiveness
Technical perspective	Technology	<ul style="list-style-type: none"> • High cost for connections to Internet • Low-quality and low-speed lines for Internet connections • Skills needed for a range of computer technologies 	<ul style="list-style-type: none"> • Computer-mediated communication • User computer self-efficacy • User interface

Virtual community challenges.

context becomes a major impediment to virtual community activity. In any virtual community, satisfactory system response time is generally viewed as a necessary requirement. Additionally, user-friendly interfaces and system reliability are likely to affect how members access and use a community Web site [9]. Thus, we expect IT infrastructure quality to moderate the relationship between community drivers and the level of community activity.

Which of these drivers are most likely to stimulate a virtual community? To find out, we conducted a field survey of 77 virtual communities in Korea (see the sidebar “How the Survey Was Done”). Figure 2 outlines the significant effects of virtual community drivers on overall community activity. These results suggest that posting activity is influenced by offline interaction ($p < 0.01$) and that viewing activity is affected by perceived usefulness ($p < 0.01$). Both models were significant at $p < 0.01$ level (F -value = 16.601 and 22.563), with the predictors explaining 31.6% and 41.0% of the total variance, respectively.

IMPLICATIONS FOR LEADERS

Offline interaction and usefulness variables had appreciable effects on virtual community activity variables. Offline interaction was significantly related to posting activity, while community usefulness was significantly linked to viewing activity. The differential effects of these drivers highlight the importance of multifaceted strategies for modeling and managing the development of virtual communities.

The direct link between offline interaction and posting activity suggests that offline meetings strengthen solidarity and intimacy among community members, encouraging them to be more active in posting content online and requiring more time and mental resources than the simple viewing of existing content. According to social presence theory [5], offline interaction can motivate individuals to post content online by increasing their awareness of others in the community. According to social identity theory [8], offline interaction prompts community members to perceive “who they are in their community.” This perception can trigger online posting activity. Thus, community leaders can expect to stimulate members’ posting activity by planning offline meetings or events.

They should therefore explore integrated ways to strengthen the social identity of their community’s members, linking offline meetings to online activities. Strengthening these links involves encouraging community members to remember the physical appearance of other members or helping them match their real names with online nicknames when they meet one another in cyberspace. When offline interactions are not feasible due to geographical dispersion, the adoption of multimedia support (such as videoconferencing, PC camera chatting, and avatar chatting when hosting community forums in virtual town meetings) may give the community a sense of belonging similar to the effect of offline, face-to-face meetings.

The direct relationship between usefulness and viewing activity suggests that when community members perceive that a community and its content are useful to them, they tend to view and explore the material more often. Thus, collecting, displaying, and updating content is critical for encouraging viewing activity among community members. One way to maintain the value of the community is to introduce a peer evaluation system for posted materials. Community leaders may then filter out redundant or obsolete postings based on evaluation scores generated through such a system, along with the periodic scanning of community content. A reward system for valuable postings may also be introduced.

Contrary to our own expectations, the efforts of community leaders were not directly associated with community posting or viewing activity. We conclude that community leadership affects a more foundational building block of the virtual community, while virtual community activity (such as posting or viewing) is directly affected by individual members’ needs (usefulness) and experience (offline interaction).

The results of our survey also raise the possibility that national culture plays a significant role in the dynamics of virtual communities. For instance, the collectivist and long-term orientation of Korean culture might explain the effect of offline interaction on community activity, while perceptions of power distance and a strong sense of equality might have led to the insignificant effect of leader involvement in the virtual communities we surveyed in Korea. Consideration of cultural differences in virtual community behavior would also be valuable in expanding the

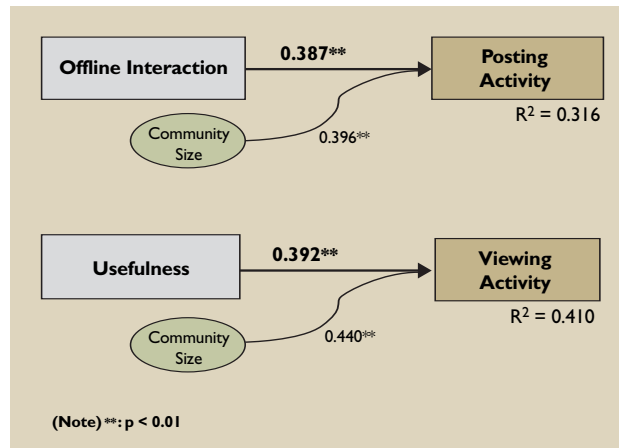


Figure 2. Analysis results.

generalizability of our findings.

Based on the result of a moderated regression analysis, we suspect that offline interaction may be more closely linked to more posting activity when IT infrastructure quality is low than when it is high ($p < 0.1$), implying a moderating role for IT infrastructure quality. This insight raises the possibility that, with respect to their effect on posting activity, offline interaction and the quality of the IT infrastructure might be effective substitutes for one another. When the quality of the IT infrastructure is low, well-organized offline events may be more important for stimulating the community than when the quality of the IT infrastructure is high.

A community’s size is another important factor in ongoing community survival [2] since we found it to be related to the amount of a community’s posting and viewing, as in Figure 2. It may be essential therefore to include many community members, especially if a community is in an early stage of its development.

CONCLUSION

These results represent a first step toward understanding the dynamics of virtual communities. A key finding is that, in any given community, the posting activity stimulant is not the same as the viewing activity stimulant. While viewing activity is

How the Survey Was Done


We conducted our survey in two phases. In the first, we developed measures of virtual community drivers based on our reviews of prior studies and refined by pilot testing in Netian.net, a small community service provider in Korea. In the second, we administered the main survey through a Web-based questionnaire system available through Freechal.com, one of the largest community service providers in Korea, with approximately half a million virtual communities. Of the 691 virtual communities in the main survey, 77 provided responses from at least three respondents with an acceptable level of inter-rater agreement. We used this sample for our analysis. All measures satisfied internal consistency reliability tests with Cronbach alpha values exceeding 0.8 and inter-rater agreement scores greater than 0.85.

Using archival data from Freechal.com, we measured each community's size (defined as total number of community members), age (defined as a community's operating time), and average monthly level (defined as numbers of postings and viewings). The average community size was 1,124 members, and average age was 11 months. Size ranged from 33 members to 7,896 members, and age ranged from two to 26 months. Community size was positively correlated with community age ($r = 0.285$; $p < 0.05$). The mean value of postings in the sample was 1,807 and that of viewings was 7,064. The sample included all four types of virtual communities identified in [7]—interests, relationship building, transactions, and fantasies.

Since virtual community driver variables were significantly correlated, we used backward stepwise multiple regression analyses to produce our results.

associated with the perception by community members of community usefulness, posting activity is influenced by offline interaction and the quality of the IT infrastructure. The differential effects of these factors highlight the importance of a diverse toolbox in a sustainable virtual community.

Without viewing and posting, a virtual community is not sustainable, yet our findings suggest that promoting these activities may require different stimuli. Future studies and community development methodologies should consider the implications of treating passive participation (viewing) and active participation (posting) as separate member choices, motivated (or hindered) by different factors. Practitioners interested in creating sustainable communities must explicitly consider the effect of their development efforts on posting and viewing, including the possibility that what promotes one may have negative consequences for the other.

As more and more virtual communities are used for collaboration, social support, information sharing, and encouraging debate [10], more complex strategies for reinforcing this activity should be explored. 

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