

December 2004

# Virtual Community: Concepts, Implications, and Future Research Directions; tables fit onto one page

Sumeet Gupta

*National University of Singapore*

Hee-Woong Kim

*National University of Singapore*

Follow this and additional works at: <http://aisel.aisnet.org/amcis2004>

## Recommended Citation

Gupta, Sumeet and Kim, Hee-Woong, "Virtual Community: Concepts, Implications, and Future Research Directions; tables fit onto one page" (2004). *AMCIS 2004 Proceedings*. 320.

<http://aisel.aisnet.org/amcis2004/320>

This material is brought to you by the Americas Conference on Information Systems (AMCIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in AMCIS 2004 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact [elibrary@aisnet.org](mailto:elibrary@aisnet.org).

# Virtual Community: Concepts, Implications, and Future Research Directions

**Sumeet Gupta**

Dept. of Information Systems,  
National University of Singapore  
sumeetgu@comp.nus.edu.sg

**Hee-Woong Kim**

Dept. of Information Systems  
National University of Singapore  
kimhw@comp.nus.edu.sg

## ABSTRACT

Virtual communities (VCs) are places on the web where people can find and then electronically “talk” to others with similar interests. Being capable of increasing stickiness of the website, VCs have potential to form future business models especially in B2C. This research presents an integrated and conceptual understanding of VCs dividing it into three parts namely, virtual community (VC) evolution and formation, VC dynamics and VC application. This research also highlights the importance of VCs in relation to its application for building trust, relationship and commitment over internet. Due to their ability to make the site sticky VCs can be of benefit to both the customer and the marketer in many ways. This research reviews the benefits VCs can provide to the vendor/host in relationship marketing, building customer relationships, enhancing store image and customer loyalty.

## Keywords

Virtual Community, Virtual Communities, Types, Core Elements, Relationship marketing.

## INTRODUCTION TO VIRTUAL COMMUNITIES

Virtual Communities (VCs) are places on the web where people can find and then electronically “talk” to others with similar interests. VCs primarily act as coffee shops rather than commerce, though there are commercial ones where people can conduct transaction, auction and commerce.

VCs play a bigger role in many aspects of a member’s life – from forming and maintaining friendships and romantic relationships, to learning, forming opinions, purchasing, and consuming products and services (Hagel and Armstrong, 1997). Practitioners are engaged in finding a suitable business model for conducting e-commerce. VCs can enhance trust among members thereby reducing risk and encouraging them for greater e-commerce participation. Also VCs can provide repeated points of contact and increase the stickiness of a website (Business Week-Harris Poll, 1997). VCs are therefore ideal tools for e-commerce, e-marketing, knowledge building and e-learning activities.

VCs have existed in some form or other for around 30 years (Ridings, Gefen and Arinze, 2002). However the extant research on VC is disintegrated. This research reviews past research on VCs and presents a conceptual understanding of this field. The objective of this research is to understand the application of VCs to e-commerce. This research is mainly applicable to web based VCs (the most mature form of the virtual community) which are characterized by well organized communication among members.

The major implication of this research is the exploration of VC application in relationship marketing, customer relationships, store image and customer loyalty. This research will be helpful for those who are planning to do research on VCs and for those who would want to further understand the benefits and application of VCs in e-commerce.

## CONCEPT OF VCs

### Core elements of VC

The Internet enables millions of people worldwide to exchange information and conduct business. In particular, the Internet’s potential for multi-way information transformation (one-to-one, one-to-many, many-to-many) provides a mechanism for forming shared interest groups or communities (Rothaermel and Sugiyama, 2001).

A virtual community is a multi-disciplinary concept, which is difficult to define, thus resulting in many definitions depending upon the perspective from which it is defined (Preece, 2000, p.3) which may be multi-disciplinary, sociology, technology, business, economic and e-commerce (Wang, Yu and Fesenmaier, 2002).

From the multidisciplinary perspective Preece (2000) defines VC as consisting of people, shared purpose, policies and computer systems. Whittaker, Issacs and O'Day (1997, p.137) identifies core attributes of VC as:

- a shared goal, interest, need, or activity which is the primary reason for belonging to the community;
- repeated, active participation, and often, intense interactions, strong emotional ties, and shared activities among participants;
- access to shared resources, and policies determining the access to those resources;
- reciprocity of information, support, and services among members; and
- shared context of social conventions, language, and protocols.

From the sociology perspective the VC is defined based on its physical features or the strength and type of relationship. Etzioni and Etzioni (1999) view VC from the perspective of bonding and culture and define it as having two attributes namely, a web of affect-laden relationships encompassing group of individuals (bonding) and commitment to a set of shared values, mores, meanings and a shared historical identity (culture). Romm, Pliskin and Clarke (1997) define VC as a group of people who communicate with each other via electronic media, such as the Internet and share common interests unconstrained by their geographical location, physical interaction or ethnic origin. Ridings et al (2002) define VCs as groups of people with common interests and practices that communicate regularly and for some duration in an organized way over the Internet through a common location or mechanism.

From the technology perspective, “techies” refer to VCs based on the software supporting them like listserver, newsgroup, bulletin board, Internet Relay Chat (IRC), or Multi-User Dungeon (MUD). These software technologies support the communication within the community, and help in creating the boundaries of the community (Lazar, Tsao, and Preece, 1999).

Hagel and Armstrong (1997) take a business perspective and define VC as a group of people drawn together by an opportunity to share a sense of community with like-minded strangers having common interest.

Balasubramanian and Mahajan (2001) take an economic perspective and define VC as any entity that exhibits all of the following characteristics: (i) an aggregation of people, (ii) who are rational utility-maximizers, (iii) who interact without physical collocation, (iv) in a social exchange process, with (v) a shared objective.

E-commerce entrepreneurs take a very broad view of community (Preece, 2000, p.5) and regard any chat or bulletin board as the basis for an online community. For them the important issue is what draws people to and holds them in a Web site, so that they will buy goods or services.

Table 1 summarizes the above definitions on the basis of the aspect of VC addressed.

Though there are a number of definitions of VC almost all of them share four components, namely community, location, bonding and a shared objective/purpose.

Community – Community refers to the group of people in the VC. Unlike traditional communities (neighborhood, town or region based) members in the VCs are not physically bound together. VCs are more concerned with human relationships like in relational communities (hobby clubs or religious groups).

Location - VC can be conceived of as a place where people can develop and maintain social and economic relationships and explore new opportunities (Wang et al, 2002). VCs are places where discussions about commitment, identity, conflict resolution, tensions between the collectives and the individual, and negotiation of community boundaries are conducted.

Bonding - The people in VC have a notion of membership (formal or informal) and they form personal relationships with others in the community (Sproull and Faraj, 1997) and sometimes they become addicted to the community (Hiltz and Wellman, 1997). Such commitment to community is the notion of bonding.

Shared objective/purpose – VCs are formed around a central purpose which may range from mere enjoyment (fantasy) to information / knowledge sharing, building relationship or transacting (Armstrong and Hagel, 1996).

Thus VCs can be basically defined as the groups of like-minded strangers who interact *predominantly* in cyberspace to form relationships, share knowledge, have fun or engage in economic transactions.

Perspective	Reference	Aspect of Virtual Community addressed by the definition								
		People	Shared Purpose	Policies	Computer systems	Social / Economic Exchange	Type of Software	Members as utility maximizers	Culture	Bonding
<b>Multidisciplinary</b>										
	Whittaker, Issacs and O’Day, 1997	√	√	√	√	√	√		√	√
	Preece (2000)	√	√	√	√	√			√	√
<b>Sociology</b>										
	Etzioni and Etzioni (1999)	√	√	√	√				√	√
	Romm et al (1997)	√	√		√		√			√
	Ridings et al (2002)	√	√	√	√					√
<b>Technology</b>										
	Lazar, Tsao and Preece (1999)						√			
<b>Business</b>										
	Hagel and Armstrong (1997)	√	√			√				√
<b>Economic</b>										
	Balasubramanian and Mahajan (2001)	√	√		√	√		√		
<b>e-Commerce</b>										
	“e-commerce entrepreneurs” Preece (2000, p.5)					√				

**Table 1: Summary of Concepts from different perspectives**

**Types of VCs**

The literature is abounding with several different classification schemas for online communities which partially represent different academic perspectives, of the technologist, sociologist or psychologist (Lazar and Preece, 1998).

Lazar and Preece (1998) presented a classification schema based on

- Attributes of VCs (Shared goal or interest, shared activities among community members, access to shared resources, support among community members, social conventions, language or protocols and population size)
- Supporting software (Listserv, Newsgroups, Bulletin boards, Internet relay chat, Multi-User dungeons or a combination of above tools).
- Their relationship to physical communities (communities based on physical communities like electronic village, communities somewhat based on physical communities like hobby-based communities including those for sports, teams or collectors, and purely online communities where members prefer anonymity like role playing communities and support communities)

- Sociological concept of boundedness (tightly bound especially those within the intranet of any company or loosely bound like most internet communities)

Based on the consumer needs fulfilled by VC, Armstrong and Hagel (1996) categorize them into four types:

- Communities of transaction primarily facilitate buying and selling of products and services and deliver information related to those transactions (e.g., wine.com).
- Communities of interest bring together participants who interact extensively with one another on specific topics such as interior design and gardening. (e.g., GardenWeb.com).
- Communities of fantasy create new environments, personalities, or stories. People can explore new identities in the imaginary worlds of fantasy (e.g., Red Dragon Inn at AOL).
- Communities of relationships are formed around certain life experiences (such as death or threatening disease) that are often very intense and can lead to the formation of deep personal connections (e.g., Cancer forum at CompuServe).

A VC can also be classified based on its objective. Table 2 shows this classification, mapping it with Armstrong and Hagel's (1996) classification. This classification brings out the motivation of the vendor in setting up VCs and the way they can obtain value from it. However, this classification is not exclusive as a VC can also be of mixed type which addresses two or more needs together.

Armstrong and Hagel's Classification	Vendor Type	Objective of the VC
Fantasy	Pure VC	Enjoyment
Interest	Pure VC	Information / Knowledge Sharing or Enjoyment
Transaction	Commercial Vendor, Online store	Sales, Auction or Information/knowledge sharing
Relationship	Direct firms or infomediaries	Relationship building, Customer service, Relationship Marketing, Information/knowledge sharing or Enjoyment

**Table 2: Classification based on objective of the VC**

### Formation and Evolution of VCs

Any community, whether traditional or virtual, evolves through five stages namely forming, norming, storming, performing and adjourning (Tuckman, 1965). In VCs, language, practices, customs and resources develop over time. As members begin to interact in the VC, the community passes through various stages of evolution. Malhotra, Gosain and Hars (1997) conducted two-year long participative longitudinal study to delineate the evolution of a typical VC. The stages of evolution based on his study are summarized in Table 3 below.

From the brief overview on core elements, types and evolution & formation of VC presented above, it can be understood that VCs have an element of bonding among the members. VCs evolve in such a way as to form ties among the members. Formation of these ties is essential for VCs to make the website sticky.

### BENEFITS OF VCs

Since VCs is a multi-disciplinary concept its benefits can also be viewed from various perspectives as below. These perspectives are not mutually exclusive. The common point of all these benefits is that VCs provide a common space for interaction.

**Technology perspective** - VCs enhance communication by providing ubiquitous cheap (mostly free) and fast communication. VCs provide file sharing, public access services, voice chat facilities, audio and video conferencing, virtual reality experience (e.g., activeworlds chat).

Stage	What is happening in the VC?
Inception	Beginning of a VC out of need or merely out of chance.
Beginning of user involvement	Formal Interaction among users/members (usually information sharing) begins.
Toward interactivity	Participants begin to influence the information content of the community and thereby initiate exchanges and drawing other contacts thus leading to growth of the community.
Growth and experimentation	The mechanisms of interaction are further refined and experimentation with additional features and evaluation of the interest generated from the users is carried on. Comments from the members are useful in modifying the design of the community according to their needs thus enhancing and growing the community.
Evidence of community: User Needs and Socialization	Till this point of time the interaction among the members is cognitive or formal. At this point of time when interaction is deep enough the members develop a shared understanding of the real world. They develop a sense of belongingness to the community.
Critical Episodes	After a period of interaction, the VC members begin to reach common understanding, form communal bonds, and construct collective identities through communication action.
From Communication to Action	At this stage the VC transforms itself from a largely self-centered entity to an entity that actively exerts influence on its environment. The affective ties are formed among the group members.
Defending community Boundaries	Besides mobilizing the political network capital of the community, members also came together to defend the boundaries of their community.
Perception of control	The members begin to feel a sense of control over the activities of the community.

**Table 3: Stages of evolution of a typical VC**

**Business perspective** - VC can help establish a leading brand, increase barriers to entry by developing critical mass, raise interest among customers for available products and services, help business benefit from word-of-mouth experiences and become advertising, sales & distribution vehicle thus allowing the organizations to develop a more responsive CRM strategy.

**e-commerce perspective** - Trust is an important factor for e-commerce to take place. VCs have trust building capabilities and hence can be a good tool for e-commerce. Members engender trust through ongoing interactions in the VC.

**Marketing perspective** - VCs offer member-customers reduced search costs, access to a broad range of information from fellow customers, economic benefits like special price, customized offers and better services. A sponsor benefits from reduced search costs, access to target group with known preferences, and a global reach. Marketers can understand each member-customer as an individual in addressing promotional messages, provide all related services at a single point, and make VC a new marketing channel for the consumers. Consumer-goods companies can enhance their brand through VCs. VCs can extend customer relationships, support a virtual workforce, aid information management and act as an engine for thought leadership.

**Sociological perspective** - Knowledge exchange is an important benefit of VC. Individuals can either give information (by posting conversations) or get information (browsing or soliciting information by posting questions or comments). As members interact in the VC, over time the VC emerges as the most authoritative and influential source of knowledge (For e.g, SeniorNet.org).

**Economic perspective** - VCs can create value by charging usage fees, content fees, transactions and advertising fees and can create synergy with other parts of the business.

**Learning perspective** - VCs can contribute to learning by stimulating continued learning and nurturing a sense of fellowship and identity, thereby distinguishing themselves from the temporary spaces of a virtual classroom. VCs provide educational institutions the ability to enhance the learning process by improving access: to special simulations and demonstrations; to a variety of knowledge databases and experts; to continuous contact with those who can contribute to the learning process and to moments for better exploration & utilization of learned material.

## **IMPLICATIONS FOR HOW COMPANIES CAN USE VC**

Depending upon the objective, a VC can be applied as a strategic tool in e-marketing; as channels for relationship marketing; as tools for developing relationship commitment, building store image and loyalty among members. An overview of how VC can be used as a strategic tool in these areas is now presented.

### **VCs as relationship marketing channels**

There are various points of contacts with the customer to implement relationship marketing like point of sale, customer service officer, postal mail, e-mail and Internet. Internet has unique capabilities which make it an efficient channel for relationship marketing. Apart from integrating three forms of communication, namely audio, video and text, Internet offers features such as interactivity, tracking personalization, customization and e-mail, coupled with customer information. Thus, it is possible to implement one-to-one marketing using Internet. For example, establishing an ongoing dialogue or a learning relationship with large numbers of customer segments or even individual customers (Zingale and Arndt, 2001, p8). As Internet becomes main marketing infrastructure, several technologies of increasing sophistication (from database driven, to intelligent agents, to collaborative filtering, to rule based) are available to deliver high levels of personalization and customization to satisfy the needs of different customer segments and individual customers (Zingale and Arndt, 2001, p18).

Though there are many benefits of Internet as a relationship marketing channel, the existing typical websites do not differentiate between prospects, first-time customers and repeat customers and consequently offer the same to everybody (Zingale and Arndt, 2001). Another issue on such websites is the non-guarantee of return of the customer to the website. Internet is an impersonal front and unless there is a way to have repeated points of contact with the customer, building long-term relationships is difficult.

VC when integrated with the organization's website has the capability to increase the stickiness of the website by retaining customers. By incorporating interaction mechanisms in VCs, VCs can help in forming deep customer relationships thus leading to effective relationship marketing. To achieve customized one-to-one marketing a clear understanding of the needs of each individual customer is essential. This requires repeated long-term interaction with the customer. Through repeated interaction it is also possible to develop differentiation among the customers, a key requirement of CRM. Vendors employ various tools integrated into their website to differentiate their customers and personalize their relationships like personalized web sites, e-mail marketing or e-mail response management. VCs by dint of their relationship enhancing capabilities (Hagel and Armstrong, 1997) can help enhance long-term relationships between the customer and the company. A VC provides repeated points of contact to the customers through various means which help in developing strong relationships over the web like facilities for interacting with other customers, posting and viewing customer reviews and informative content which draws the customer in into a new experience.

### **VC as tools for developing relationship commitment among members**

Morgan and Hunt (1994) define relationship commitment as an exchange partner believing as to warrant maximum efforts at maintaining it; that is, the committed party believes that the relationship is worth working on to ensure that it endures indefinitely. Dwyer, Schurr and Oh (1987) identify customer commitment as the last stage in the process of developing relationships between buyer and seller whereby the exchange partners have achieved a level of satisfaction from the exchange process that precludes other primary exchange partners who could provide similar benefits. Morgan and Hunt (1994) propose relationship commitment as central to relationship marketing. The common theme which emerges from various literatures (for e.g., social exchange literature - Blau 1964) on relationships is that the parties identify commitment among exchange partners as key to achieving valuable outcomes for themselves, and they endeavor to develop and maintain this precious attribute in these relationships (Morgan and Hunt, 1994). In the context of VCs such investment is in the form of information sharing, knowledge sharing or sharing personal information. When the attachment to the community becomes very strong members go beyond their normal commitment to help other members of their community (Rheingold, 1991). Such consistent behavior over a period of time makes the relationship durable and consistent.

### **VC as channels for building store image**

Keller (1993) defines store image as the perceptions of an organization reflected in the association held in consumer memory. Store image is essential for development of loyalty, store patronage, purchase intent and customer loyalty (Andreassen and Lindstad, 1998). It is an important input in the consumer decision-making process and encompasses characteristics such as the physical environment of the store, service levels, and merchandise quality. Store image is different from brand image. Brand image refers to the product and has been defined as a perception of quality associated with the name. In the context of an online store, store image is more appropriate as the online store may carry many different brands and if the customer

doesn't have a good store image, he may not buy products from that online store even if he has a good brand image. For e.g., Amazon.com has a good store image, while it carries a myriad of brands.

Formation of store image is slightly different in an online store. A customer may not be able to explore all parts of an online store as the internet store front doesn't make available the products the way one perceives in an offline store. In case of VCs, members share their experience with each other about the product. For e.g., Amazon.com provides product-reviews obtained from its customers. A customer forms his own image based on other's image and/or word-of-mouth communication depending upon his trust on other members and past experience. By enhancing positive word-of-mouth among the members and by actually providing facilities a vendor can generate positive word-of-mouth thus enhancing image of the online store.

**VC as tools for building loyalty among customers**

According to Oliver (1999) loyalty is a deeply held commitment to re-buy or re-patronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational differences and marketing efforts having the potential to cause switching behavior. In addition to purchasing loyal customer also frequently refer new customers to a supplier, providing another rich source of profits. Internet can amplify this effect through the word-of-mouth or customer referrals. In VC, members trust each other and exchange product knowledge among each other. For e.g., more than half the customers at eBay are referrals. According to Andreasson and Lindstad (1998) customer loyalty expresses an intended behavior related to the service of the online vendor. This includes the likelihood of future renewal of service contracts, customer changing patronage, customer providing positive word-of-mouth, or customers providing voice. Customers may also be loyal due to high switching barriers or lack of real alternatives. VC increases switching barriers because of relationships formed with other members.

**FUTURE RESEARCH DIRECTIONS**

Though VCs are in existence for more than three decades, academic research in VCs is a recent phenomena. Most of the researches are exploratory primarily using intepretivistic approach (case studies) and hence lack generalizability. However, researches using positivistic approach are increasing. Also, there are few conceptual studies for understanding VCs (e.g., Lazar and Preece, 1998; Romm et al, 1997).

The research issues in VC can be viewed from three perspectives namely VC evolution and formation, VC dynamics, and VC application. Table 4 presents a summary of these three perspectives.

	<b>VC Evolution and Formation</b>	<b>VC Dynamics</b>	<b>VC Application</b>
<b>Main Question</b>	Gathering people and forming the community	Increasing cohesiveness in the community	Benefiting from the community
<b>Other Questions</b>	<ul style="list-style-type: none"> <li>• Motivation to join VCs</li> <li>• Enhancing member participation</li> <li>• Understanding factor behind member's trusting other members in the VC</li> <li>• Studying the evolution of VCs</li> </ul>	<ul style="list-style-type: none"> <li>• Role of enhancing trust in VCs</li> <li>• VC characteristics leading to Stimulation of activities in VCs</li> <li>• Formation of relational ties in VCs</li> <li>• Role of personalization in VCs</li> </ul>	<ul style="list-style-type: none"> <li>• Potential of VCs in various sectors like insurance, health care, education and tourism industry</li> <li>• VC as a means of enhancing trust in e-commerce and m-commerce.</li> <li>• Platform for product development, marketing and channel management</li> </ul>

**Table 4: Research directions in VC**

**Issues related to evolution and formation of VC**

Several researchers have attempted to understand the reasons behind member's participation in online communities. They have addressed the issues like motivating factor for customers to join online communities; enhancing member's participation in VCs; or understanding development of trust in VC. Further research can explore motivating factors for qualitative information sharing in the VC, effect of culture on participation of members and benefits to the consumers in VC.

### Issues related to the VC dynamics

Many researchers have studied VC from the perspective of VC dynamics (development/evolution; nature of relationships; ties in the community or development of trust). They have addressed issues like designing of VC and factors arising during their evolution; role of trust in enhancing VC activities; understanding VC characteristics leading to stimulation of activities in VC; formation of relational ties in VC and understanding the role of personalization in e-commerce. Further research can explore the effect of vendor's effort on information and knowledge sharing in VCs and effect of member's tenure on development of 'ties' in the communities.

### Issues related to the application of VC

Recently researchers have shifted focus to the application of VC as a business model in several areas. They have addressed issues like understanding the potential of VCs in various industries like insurance, health care, education and tourism; investigation of VC business model in enhancing trust in e-commerce and M-commerce; as a platform for product development and as a product marketing and channel management tool in e-commerce. Further research can explore role of VCs in e-CRM; improving quality of knowledge sharing in learning communities; in enhancing customer participation in relationship marketing and in overcoming security and privacy issues of e-commerce.

### CONCLUSION

VCs mainly consist of a web-based community with bonding among the members of the community. VCs have evolved from simple exchange systems to the extant web-based communities. VCs have advantages over face-to-face communities in that they are larger and more dispersed in space, there is no turn taking in communication and communication can be preserved for future reference. They are mainly formed for four purposes namely, transaction, fantasy, interest and relationship. Beginning with mere participation, members tend to form strong bonds in the VC.

VCs can be beneficial to different disciplines like business, e-commerce, marketing and education. Vendors can incorporate VCs in their website. However, vendor also needs to put efforts in terms of gathering members and maintaining and enhancing their interest in the VC. VCs can be good tools for relationship marketing, building relationship commitment, enhancing store image and customer loyalty.

The research in VCs can be divided into three parts namely VC evolution and formation, VC dynamics and VC application. Though there had been numerous researches in the first two parts, there is a lacuna in the third part, where most of the studies conducted are case based and lack generalizability.

VCs tend to increase stickiness of the website. They have trust building and relationship enhancing capabilities and hence strong potential to form good business models especially in e-marketing and e-commerce.

### REFERENCES

1. Andreassen, T.W. and Lindestad, B. (1998) Customer Loyalty and Complex Services, *International Journal of Service Industry Management*, 9, 1, 7-23.
2. Armstrong, A. and Hagel III, J. (1996) The real value of on-line communities, *Harvard Business Review*, 74, 3, 134-141.
3. Balasubramanian, S. and Mahajan V. (2001) The economic leverage of the virtual community, *International Journal of Electronic Commerce*, 5, 3, 103-110.
4. Blau, P.M. (1964) Exchange and Power in Social Life, John Wiley & Sons, Inc., New York.
5. Dwyer, F.R, Schurr, P.H. and Oh, S. (1987) Developing buyer-seller relationships, *Journal of Marketing*, 51, 2, 11-27.
6. Etzioni A. and Etzioni O. (1999) Face-to-Face and Computer-Mediated Communities, A Comparative Analysis, *The Information Society*, 15, 4, 241-248.
7. Hagel, J. and Armstrong, A. (1997) Net Gain: Expanding Markets through Virtual Communities, Harvard Business School Press, Cambridge.
8. Hiltz, S.R. and Wellman, B. (1997) Asynchronous learning networks as a virtual classroom, *Communications of the ACM*, 40, 9, 44-49.
9. Keller, K. (1993) Conceptualizing, measuring, and managing customer based equity, *Journal of Marketing*, 57, 1, 1-22.

10. Lazar, J. and Preece, J. (1998) Classification scheme for online communities, *Proceedings of the Fourth Americas Conference on Information Systems*, Baltimore, MD, 84-86.
11. Lazar, J., Tsao, R., and Preece, J. (1999) One Foot in Cyberspace and the Other on the Ground: A Case Study of Analysis and Design Issues in a Hybrid Virtual and Physical Community, *WebNet Journal: Internet Technologies, Applications, and Issues*, 1, 3, 49-57.
12. Malhotra A., Gosain S. and Hars A. (1997) Evolution of a Virtual Community -Understanding design issues through a longitudinal study, *Proceedings of the Eighteenth International Conference on Information Systems*, Atlanta, Georgia, United States.
13. Morgan, R. M. and Hunt, S. D. (1994) The Commitment-Trust Theory of Relationship Marketing, *Journal of Marketing*, 58, 3, 20-38.
14. Oliver, R.L. (1999) Whence consumer loyalty? *Journal of Marketing*, 63, Special Issue, 33-44.
15. Preece, J. (2000) Online communities: Designing usability, supporting sociability, John Wiley and Sons, Chichester, UK.
16. Rheingold, H. (1991) A slice of life in my virtual community, in *Global networks*, L.M. Harasim (Ed.), MIT Press, Cambridge, MA.
17. Ridings, C.M., Gefen, D. and Arinze B. (2002) Some antecedents and effects of trust in virtual communities, *Journal of Strategic Information Systems*, 11, 3-4, 271-295.
18. Romm, C.T., Pliskin, N. and Clarke, R.J. (1997) Virtual Communities and Society: Toward an Integrative Three Phase Model, *International Journal of Information Management*, 17, 4, 261-270.
19. Rothaermel, F.T. and Sugiyama, S. (2001) Virtual Internet Communities and Commercial Success: Individual and Community-Level Theory Grounded in the Atypical Case of TimeZone.com, *Journal of Management*, 27, 3, 297-312.
20. Sproull, L. and Faraj, S. (1997) Atheism, sex and databases: the net as a social technology, in *Culture of the Internet*, Kiesler, S., (ed.), Lawrence Erlbaum Associates, Mahwah, NJ.
21. Tuckman, B.W. (1965) Developmental Sequence in Small Groups, *Psychological Bulletin*, 63, 6, 384-399
22. Wang, Y., Yu Q. and Fesenmaier, D.R. (2002) Defining the virtual tourist community-implications for tourism marketing, *Tourism Management*, 23, 4, 407-417.
23. Whittaker, S., Issacs, E., and O'Day, V. (1997) Widening the Net: Workshop report on the theory and practice of physical and network communities, *SIGCHI Bulletin*, 29, 3, 27-30.
24. Zingale, A. and Arndt, M. (2001) New economy emotion: engaging customer passion with E-CRM, John Wiley & Sons, Chichester, New York.