Chapter 4.29
Virtual Knowledge-Building Communities

Sheizaf Rafaeli
University of Haifa, Israel

Tsahi Hayat
University of Haifa, Israel

Yaron Ariel
University of Haifa, Israel

INTRODUCTION

A virtual knowledge-building community is a group of people who collaboratively produce knowledge through an online-mediated environment. The process and means for sharing and producing knowledge in such a community can be described as a place where "knowledge creation is built into the social fabric and into the technologies that support knowledge work" (Scardamalia, 2001). Virtual knowledge-building community is a unique case of a virtual community in which the processes of knowledge building are preformed through interactions between group members. In the early twenty-first century, on the Internet we observe a rapid growth in the number of virtual knowledge-building communities. These include joint authoring tools, collaborative tagging arrangements, collective recommendation aggregators, and other creative uses of the Internet. One of the most prominent forms of virtual communities involved in the practice of building knowledge, are the 'open source' communities such as the Wikipedia project (Rafaeli, Hayat, & Ariel, 2005).

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VIRTUAL COMMUNITIES

Human communities have been projected into cyberspace in the form of virtual communities. As with "real" communities, there is no consensus over the precise definitions and classifications of virtual communities (Porter, 2004). Most of the definitions can be traced back to the traditional,

sociological definition of "community" starting with Tönnies' (1959) definition of *Gemeinschaft*. Furthermore, the notion of community itself is also controversial (e.g., Rothaermel & Sugiyama, 2001).

Virtual community, also known as online community or electronic community, describes a group of people who share some common interests, and interact with each other through the Internet (or other computer-mediated communication). The term "virtual community" is attributed to Rheingold (1993) and probably first coined in his eponymous book. Rheingold defined virtual communities 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 relationships in cyberspace." Defining the term before the massive diffusion of the World Wide Web, Rheingold offered electronic mailing lists, Usenet, MUDs, MOOs, IRC and Chats as examples of virtual communities.

Hagel and Armstrong (1997) emphasize the aspect of member-generated content in computer-mediated spaces, where there is a potential for an integration of content and communication with an emphasis on member-generated content. Jones and Rafaeli (2000) propose using the term 'virtual public' instead of the more vague virtual community, thus defining "symbolically delineated computer-mediated spaces whose existence is relatively transparent and open, that allow groups of individuals to attend and contribute to a similar set of computer-mediated interpersonal interactions." Bagozzi and Dholakia (2002) emphasize the social aspect of these interactions as "mediated social spaces in the digital environment that allow groups to form and be sustained primarily through ongoing communication processes" (p. 3). In the case of virtual knowledge-building communities, the process of knowledge building is at the core of the social activities of the community.

COMMUNITY OF PRACTICE

The social aspect of virtual knowledge-building communities can be best described by the concept of 'community of practice'. Lave & Wenger (1990) have introduced the concept of 'communities of practice' to address groups of people that are informally bound together by shared expertise and interest. The term community, in this context, implies more than just a set of relationships. Learning, knowing and sharing knowledge are not abstract, and are usually not done for their own sake. A community of practice exists because it produces a shared practice as members engage in a collective process of learning (Wenger, 1998). Adapting Wenger's (2000) definitions, members' *competence* in such a community gets established over time. It can be defined by combining three elements: (1) *Joint enterprise*: understanding the community well enough to be able to contribute to it; (2) *Mutual engagement*: building the community through an interactive process; and (3) *Shared repertoire*: producing shared repertoire of communal resources (routines, vocabulary, tools etc.). Communities of practice form social collectives of individuals working on similar issues, helping each other, and engaging in a collective process of learning and sharing knowledge about their work practices (Brown & Duguid, 1991).

A community of practice is called 'virtual' when its members use the online-mediated environment for their interactions. Line, Anne and Réal (2003) claim that a virtual community of practice may use a large array of traditional media (phone, teleconference, fax, etc.) and more or less sophisticated technological tools, (such as e-mail, videoconference and newsgroups) to establish a collaborative environment and support its members' interactions.