Virtual Communities as Narrative Networks: Developing a Model of Knowledge Creation for Crowdsourced Environments

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ABSTRACT

This paper extends our understanding of knowledge creation in virtual communities of practice by examining crowdsourcing activities that enable knowledge creation in these social structures. An interpretive methodology, narrative networks analysis, is used to systematically study the narratives of discussion forums in a virtual community. The virtual community studied is voluntary for the participants, and open to anyone. Through the analysis of the narrative, a model of knowledge creation is developed that identifies types of evidentiary knowledge contributions, as well as conversation mitigators that help or hinder knowledge creation within the community. Knowledge is a primary attraction of a virtual community for many of its members, and this study aims to understand how knowledge is shared and created in such voluntary communities of practice. The model highlights elements that enhance and impair knowledge creation in this type of crowdsourced environment.

Keywords: Crowdsourcing, Discussion Forum, Knowledge Creation, Narrative Network Analysis, Virtual Community

INTRODUCTION

Over the past two decades virtual communities have become an established online phenomenon, largely created by users through incremental development processes (Baym, 1998; Rheingold, 1993). Growth of these communities was enabled by rapid advances in information and communication technology (ICT), which brought dynamism and richness to online communication (Butler, 2001). Additionally, increased mobility of the workforce, longer work hours for many professionals, and globalization have resulted in a search for a sense of community beyond traditional geographic boundaries (Horrigan, Rainie, & Fox, 2001; Putnam, 1995). Social science scholars argue that a sense of community is a prerequisite for
a successful global society (Entzioni, 1993; Maffesoli, 1996), and virtual communities have filled that need for many displaced and disenfranchised members of society, as well as those seeking a wider social network. Further, entrepreneurs eager to capitalize on the new phenomenon and grow their advertising audience, obliged those in search of a community with a variety of platforms built for sharing and communicating in an online environment. Businesses embraced virtual communities, not only to promote their products and services, but also to engage community members in co-creation and innovation (c.f. Füller, 2010).

Another role for these communities has been to disseminate knowledge about new products. Developing knowledge about newly released consumer products was traditionally the purview of organizations like Underwriters' Laboratories (ul.com) and Consumer Reports (consumerreports.org) magazine. As electronic commerce grew in the 1990s, websites such as Amazon.com pioneered the use of star rating systems to assess the performance of products. While helpful to the consumer, the overall rating (e.g. 4 of 5 stars) was the primary information conveyed to the potential buyer and interactions between the reviewers was minimal. In contrast, modern virtual communities are able to assess myriad attributes of complex consumer products and develop knowledge about the products that goes far beyond a distilled assessment on a numeric scale. Moreover, members of these communities are able to query the community for development of knowledge about specific product attributes that interest them. Given the complex social dynamics within these communities and the importance of virtual communities for consumers, manufacturers, and service providers, our research seeks to model knowledge creation processes in these emergent and self-organizing systems.

This study examines a self-organizing virtual community of practice that is dedicated to digital photography. Information contribution and knowledge creation in this virtual community are crowdsourced. The “crowd” is open to the public, but users self-select into the community based on interest level and build a reputation in the community through repeated interactions, thus creating a relatively porous boundary. From our narrative network analysis we develop a model of knowledge creation that illuminates the complex social processes underlying the creation of knowledge in these crowdsourced environments.

THEORETICAL BACKGROUND

A virtual community of practice is “an online social network in which people with common interests, goals, or practices interact to share information and knowledge, and engage in social interactions” (Chiu, Hsu, & Wang, 2006, p. 1873). Early work on communities of practice focused on communities that were limited in scale and scope, and shaped within organizational or industrial boundaries (Brown & Duguid, 1991; Wenger & Snyder, 2000). By contrast, today’s virtual communities of practice are often comprised of thousands of members with multi-dimensional online identities, rich communication media, and complex social norms. These communities develop over time through the dynamic interaction of the members and evolve along distinct paths that influence the subsequent interactions of the community, despite the constant ebb and flow of the membership (Rheingold, 1993). Moreover, virtual communities of practice largely rely on member-generated content and thus, are dependent on active member involvement and participation. This participation frequently occurs on the discussion boards or forums. While the connections in these communities are generally “weak ties” (Granovetter, 1973), the discussion boards form remarkably strong communities of practice that are characterized by well-defined social norms (Brown & Duguid, 1991).

Another element in the rise of these communities has been the emergence of rich information networks that have enabled new methods of information gathering now collectively known as crowdsourcing (Howe, 2006, 2008). The first work in this area highlighted
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