Managing Organizational Knowledge in the Age of Social Computing

V. P. Kochikar
Infosys Technologies Ltd., India

INTRODUCTION

Technology, since the days of the Industrial Revolution, has been used by large corporations, such as factories and the railways, to great advantage. Starting around the end of the 19th century, technology began to be used directly by the consumer, but remained essentially a means of satisfying a *personal* need, such as lighting or listening to music. In the past decade, as technologies such as e-mail, Web, Weblogs (blogs), Wikis, and instant messaging have become pervasive, the way technology is used by individuals has changed—it has increasingly been put to use to meet *social* needs, such as interaction, sharing, and networking. This new paradigm of technology use, and the technologies that have enabled it, may be termed social computing.

By its very nature, social computing facilitates the sharing and leveraging of knowledge residing within a community of people. In this article, we discuss how social computing can act as the primary mechanism that enables the management of knowledge within an organization.

BACKGROUND: THE DISCIPLINE OF KNOWLEDGE MANAGEMENT

There are several ingredients that go into organizational success, and leveraging assets well is one of these. As intangible assets represent a rising proportion of total assets, they have come to represent an important area of management focus. The discipline of *knowledge management* (KM) thus encompasses the organizational activities directed toward the assimilation, dissemination, harvest, and reuse of knowledge. In simpler terms, KM is the answer to the question, "How can the organization update and use its knowledge more effectively?" (Kochikar, 2000).

Some of the world's most successful organizations, be they corporate, academic, or government, invest considerably in KM, and substantial benefits have been reported across industries (Berkman, 2001; Frappaolo, 2006; Kochikar & Suresh, 2005).

Knowledge Management Review magazine's survey of 400 global corporations revealed that the following are key objectives of KM programs (KM Review, 2002):

a. Increasing organizational communication
b. Gaining competitive advantage
c. Increasing collaboration among employees
d. Improving customer relationships
e. Raising efficiency
f. Innovating
g. Learning from mistakes and successes
h. Capturing and retaining tacit knowledge

Using the framework of Nahapiet and Ghoshal (1998), these objectives can be classified as improving *financial capital* (b, e); improving *social capital* (a, c, d); and improving *intellectual capital* (f, g, h).

Each organization must fashion a KM strategy that takes cognizance of its unique competencies, aspirations, and business context. Mechanisms for organizational KM typically take the form of setting up strongly engineered governance mechanisms, focusing on four key aspects: people, processes, technology, and content (see, e.g., Kochikar, Mahesh, and Mahind, 2002).

As an exemplar, Infosys Technologies (*NASDAQ: INFY*) has had a KM program since 1999, which aims to *empower every employee with the knowledge of every other employee.* Key elements of the KM architecture include the *Knowledge Currency Unit* scheme, a comprehensive mechanism for reward, recognition, and measurement of KM benefits; *KShop*, the corporate knowledge portal built in-house; and the *knowledge hierarchy*, a four-level taxonomy of over 2000 subject areas that constitute knowledge in the Infosys context (Kochikar et al., 2002).

For more on KM and its organizational uses, see work by Davenport and Prusak (1998), Drucker, Garvin, andLeonard (1998), Nonaka and Ichijo (2006), and Nonaka and Takeuchi (1995).

BACKGROUND: SOCIAL COMPUTING COMES OF AGE

Social computing is the name given to a slew of technologies that collectively allow people to pool their knowledge, keep in touch with, and interact better with others who belong to their community.

The stellar rise in the popularity of e-mail in the 1990s (the number of users skyrocketed from a few thousand at the beginning of that decade, to several hundred million at the end of it) clearly provides a pointer to the potential that social computing has—people are eager to take up technologies that will help them meet their social needs better. For example, there are as of May 2006 a total of 39 million blogs worldwide, with 75,000 being added each day (Klein, 2006). In an academic/research sense, social computing is a relatively new field—a fact reflected in the relative paucity of books and research papers in the reference section of this article.

What has spurred this gain in the importance of social computing? While there are several reasons, two in particular stand out:

- The steady march of advances in computing that have put more computing power in the hands of the users, allowing them to use it to achieve ends that they truly consider useful;
- Network effects as encapsulated in Metcalfe's Law: As the number of users of a particular technology that supports interaction or networking increases, the benefits perceived by all users accelerate significantly, causing even more users to adopt the technology.

Technologies that commonly go by the name of social computing include e-mail,instant messaging (IM), blogs, wikis, podcasting, and really simple syndication (RSS). They also include Web sites or portals supporting a variety of social interactions (examples include Yahoo!, Myspace, Flickr, del.icio.us).

A key sign of the coming of age of a new technology bubbling up from the masses is large corporations taking note of that technology. In the common view, technology diffuses by a "trickle-down effect," that is, a new technology first finds use within large corporations and then, as it becomes more affordable, trickles down to smaller businesses and finally becomes inexpensive enough to be used by the individual consumer. While such a top-down view is valid, it hardly represents the sole mechanism of technological diffusion. Equally, technology diffuses bottom-up too (Kochikar, 2006). The Internet was for decades used almost exclusively by researchers, then by academics, and subsequently (in the early 1990s) by individuals for publishing information using personal Web sites and so forth. Even when business uses were discovered for the Internet, it was small startups such as Amazon that leveraged it best—large corporations were in many ways the last to embrace the Internet. The same pattern can be seen with e-mail, instant messaging, gaming (which began with children and teenagers and is now finding uses in business such as for strategy formulation), and several other technologies. Other examples can be found in Kochikar (2006), which enumerates a few simple pointers for foreseeing emerging technologies that are "below-the-radar." Thus, large corporations must routinely monitor technologies that have not yet become visible on the corporate radar—that is, in use with small businesses, researchers, or individuals—or else they may miss an important source from where new technologies emerge. Social computing represents precisely such a "below-the-radar" technology.

Social computing is now beginning to find uses within large corporations and has elicited considerable enthusiasm from early adopters (BusinessWeek, 2006; McAfee, 2006).

SOCIAL COMPUTING: A NEW BACKBONE FOR ORGANIZATIONAL KM

Two key principles of social computing (or social software) are that

- It is highly participatory, or allows rich interaction between diverse and possibly dispersed members of a community, and
- It is evolutionary, or supports means for constant updating by the members of the community.

Together, these two characteristics indicate a mechanism for the collaborative creation and updating of content that constantly moves in such a direction as to better reflect the knowledge, beliefs, opinions, and/or aspirations of the community. This is precisely the goal of organizational KM—leveraging the combined knowledge of the organizational community.

To wit, a great deal of what has been learned and practiced by KM thinkers and practitioners over the past few years is finding expression now in the traction that social computing is getting. There has been recognition that social computing technologies can facilitate a new approach to KM. Say Caldwell and Linden (2004, p. 1):

Personal knowledge networking and social networks give individual knowledge workers direct control over the enterprise's intellectual capital and enable a new 'grassroots' approach to knowledge management. KM can happen without a lot of explicit governance.

While conventional KM systems often act as an additional "layer" on top of existing business processes and require people to devote time specifically for creating shareable content, or making existing content shareable, social computing technologies are more organic and integrate naturally into people's work habits or social needs. Harvard Professor Andrew McAfee writes (McAfee, 2006, p. 21):