The social management of embodied knowledge in a knowledge community

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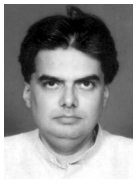

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Abstract

Purpose – *The purpose of this paper is to examine the patterns of social management of knowledge in a knowledge-community, reflecting on multiple social processes at work.*

Design/methodology/approach – *This is a social epistemological critique of management of knowledge.*

Findings – *First, knowledge communities are essentially multiple interactive social structures ranging from localization in space to emergent cross-boundary social spaces operating at micro, meso and macro-social levels. Second, patterns of knowledge management in different contexts such as organizations, groups, communities and virtual communities are predominantly social in nature and new knowledge emerges through social interactions.*

Originality/value – *The paper underscores the significance of a social-epistemological view of knowledge communities and management of knowledge.*

Keywords *Social processes, Cultural synergy, Social interaction, Knowledge management, Knowledge organizations*

Paper type *Conceptual paper*

The structure of knowledge community

The twenty-first century marks the beginning of a new human consciousness. The technological-communication revolution has transformed the fundamental structures of societies, economies and governments. The boundaries of the ''local'' are merging into the ''global'' and vice versa (Fardon, 1995; Appadurai, 1995).The meanings of concepts such as ''knowledge'', ''community'' and ''economy'' are no more objectively valid across cultures. The internet and computers have caused cultural shifts in social cognition of humanity concerning these concepts (Jasanoff, 2004; Goldman, 1999, 2002). These emerging complexities of social phenomena are not explainable in terms of a single social cause. Mannheim (1952) has traced causes of cultural changes to shifts in *weltanschauung* brought by changes in our intellectual and technological apparatus. Wittgenstein (1985) investigated the complexity of ''language-games'' and its relationship with our perception of reality. He argued that meanings and interpretations of ''concepts'' vary across ''forms'' of social life. The outpouring of new ''forms'' of social communications (Hakken, 2003) has dissolved the Cartesian-Kantian epistemic synthesis of yesteryears, when epistemic context was considered to be universal. Several writers have tried to restore this universal epistemic quality to human inquiry but with very little success (McGinn, 1999; Azzouni, 2000; Gibson, 1988; Blackburn, 2001; Groff, 2004). On the contrary, current discourse in literature demonstrate an increasing critique of an indivualistic,universalistic and objectivist descriptions of these concepts, by writers who contend that human thought and action is a socially constituted reality, hence it lacks universal epistemic context as well as relevance to diverse human cultures (Goldman, 1999, 2002; Carpendale and Ulrich, 2004; Kitchener, 2004; Nonaka *et al.*, 2001; Desouza, 2002).

The ''forces'' of science and technology, particularly internet and computers (Zimmerman and Meyer, 2005; Stevenson, 2005; Brown, 2002; Fuller, 1991) have created new social context of communications, which shape contemporary social structure of both ''knowledge'' and ''community''. These concepts are being ''reconfigured'' due to intensive social interactions with new technologies of communications (Bull, 2000). Goldman (1999) and Fuller (1991) have provided a critical analysis on the role of communication technologies in the creation, dissemination and distribution of emergent forms of social spaces characterized by knowledge revolution, cyberspace, e-mail and World Wide Web. Goldman (1999) has asserted that, ''social advance of knowledge hinges on communication''. This social advance in communication practices have led to the emergence of new forms of ''communitarian'' social experiences termed as knowledge community. The knowledge community is thus an emergent form of multiple interactive social spaces of individuals formed by new communicative practices arising out of communication technologies characterized by social reciprocation of their ''informational states'' with each other in a dynamic ''cyberspace'' (Goldman, 1999; Fuller, 1991). These informational states can relate to ideas, values, products and stories. It appears that quintessence of social ontology of knowledge community revolves around the social communication networks of people. This process of social communication is multidimensional, cross-boundary, dynamic and self-organizing. Nonetheless, it is obvious that the emergent social structures of knowledge communities have become ''de-territorialized'' and are perpetually extended and created through information networks leading to new forms of cultural creation in a computer-mediated communicative social experience (Howell, 2002; Kempny, 2002; Amit, 2002). Those who participate and exist in a knowledge community negotiate part of their cultural identity, simultaneously transcending the boundaries of their limited social space-time and internalizing some part of the larger human identity. The quantum of information received and transmitted by the members of the knowledge community across social communicative networks determines prima facie social existence of knowledge community, its structure, economy and sustainability. The members of the knowledge-community exist as information beings creating new knowledge about a business enterprise, a product or a new research and thus forming a new social communicative space-time of collective existence. Kramer (1999) underscores the significance of this ''collective'' nature of knowledge communities and comments:

''Knowledge communities can be conceptualized as groups or organizations whose primary purpose is the development and promulgation of collective knowledge. Knowledge communities are a prevalent and increasingly important form of contemporary organization. For example, all of the major social sciences are organized as knowledge communities consisting of numerous researchers whose common goal is the advancement of knowledge within their discipline. At a micro level, organizations within an industry, or even small groups within a single organization, often find it useful to participate in strategic collaborations or 'learning alliances' in order to mutually benefit from their unique knowledge and distinctive competencies.''

Kramer further articulates that knowledge communities are characteristically ''cooperative and collaborative'' in their social outlook. Nevertheless, he adds that knowledge communities suffer from ''trust dilemma'' and need to overcome this fear in order to be

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effective social entities where knowledge and research reciprocate to promote the cause of social good. However, it can be argued that, despite ''trust dilemmas'' suffered by knowledge communities in effective knowledge sharing and knowledge creation process; the social structure of knowledge communities remain through and through ''communitarian'' and ''testimonial'' transcending traditional notions of both ''knowledge'' and ''community'' and the way it was perceived by the human beings before the knowledge revolution (Kusch,2002). Moreover, knowledge communities have created new social space-time of social interactions, where cultural generality embraces cultural specificity and technology shakes hand with moral diversity (Audi, 2002; Cheater, 1995).

In addition to the social-technological context of knowledge community, Jason (1997) and Craig (1999) have underscored the significance of a ''psychological sense'' of belonging to a community. They have proposed that positive thinking, commitment, flexibility and open channels of communication can effectively build community sense. Knowledge communities also exhibit this ''psychological sense'' of cohesion, collectivity, and commonality of vision and commitment to knowledge sharing, its dissemination and creation. Alternatively, knowledge communities as non-Euclidean social structures embedded in broader knowledge patterns generated by the communicative flux of knowledge-based environment must respond to the logic of knowledge economy. These social structures are fundamentally interactive collective episteme, allowing both a ''layman'' and a ''scientist'' to encounter each other in a true human context. Concepts, ideas and values misinterpreted and miscommunicated amongst people, societies and cultures and legitimized by age old cultural stereotypes have lost their meaningfulness and relevance in the wake of dynamic knowledge states of cyberspace. It appears that knowledge communities can transform the ancient regime of human hate, killing and exploitation and show human societies a true path of liberation and harmonious collective development cherished and shared by every living soul on the earth. The nostalgia that filled the human mind with symbols of ''community'' and ''knowledge'' has finally reached a moment of total realization by humankind (Jason, 1997).

Patterns of social management of knowledge

Martens (2004) has categorized economic knowledge into symbolic knowledge communication and embodied knowledge communication. Symbolic knowledge communication reflects itself in conceptual learning. Abstract ideas and concepts characterize this kind of learning and knowledge. Martens (2004) assert that symbolic knowledge is difficult to acquire and learn. It might have an economic cost unbearable for its seekers. Hence, new ideas and concepts travel slowly across human societies. Embodied knowledge on the other hand is much easier to acquire, use and manage. This knowledge emerges in trade and new production of goods. This efficiency achieved by the embodied knowledge for the larger public good is, what Loasby (1999) states economic systems stand for, as they ''are ways of organizing human knowledge so that it can deal more efficiently with its inherent incompleteness''. The ''embodied knowledge'' is essentially instrumental, transactional in nature, and applied to satisfy human needs and thus overcome their inherent social incompleteness. In fact, all technological innovations belong to the embodied knowledge category. Martens (2004) has further stated that the wider social use and application of this knowledge can yield economic advantage to its consumers without exposing them to learn complexities of the entire process of knowledge creation behind the object, product or service.

There are three fundamental social patterns, which explain the effective utilization and management of such type of knowledge. First, embodied knowledge exchanges take place within knowledge communities and within their own organizational frameworks. This constitutes the micro social level of knowledge utilization. The knowledge communities can be of scientist, researchers, local farmers, students and business enterprises. Second, embodied knowledge exchanges occur across knowledge communities. This signifies the meso social level of knowledge utilization. At this level, two or more different knowledge communities exchange and share information on areas of mutual interest. For example, a knowledge community of architects can utilize knowledge of local environmental group in designing eco-friendly architecture for urban areas. The knowledge community of

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physicians can share their clinical insights and practices with an NGO working to create public awareness about HIV/AIDS in a local community. At this level, two or more knowledge communities socially interact to share their expertise and knowledge in their respective domains of knowledge. Societal reciprocity is quite evident at the meso-level of social interaction of knowledge communities. Third, embodied knowledge exchanges happen on a much broader level. This level of knowledge utilization emerges at the macro social exchange of knowledge across divergent knowledge communities. The divergent ideologies, religious beliefs and cultural sentiments reciprocate at this level of social exchange. World Economic Forum, World Social Forum, UN Global Compact, EFMD's GRLI are examples of such forms of knowledge communities which function across different cultures, values and societies to create global harmony and understanding.

Nonaka *et al.* (2001), Siebers (2003) Buil and Bergua (1998) have furnished critical investigations into the social patterns of management of knowledge in different contexts. Hakken (2004) Goldman (1999) Kitchener (2004), Bull (2000) Foss (2005) and Bounfour (2003) have also provided useful insights into the social utilization of new economic and social knowledge created by the new ''technologies of knowing'' (Cheater, 1995). Nonaka *et al.* (2001) have developed a very useful concept of management of knowledge at the organizational or micro social level. They have asserted that, ''what knowledge management should achieve is not a static management of information or existing knowledge, but a dynamic management of the process of creating knowledge out of knowledge'' and hence they have argued that, ''organizational knowledge creation is a continuous self-transcending process''. This can only be cultivated at organization level, if the view of knowledge shifts from static to dynamic one. The definition of knowledge as ''justified true belief, as is done in the traditional Western epistemology'', should be abandoned because it presents us with ''an absolute, static and nonhuman view of knowledge and fails to address the relative, dynamic and humanistic dimensions of knowledge'' (Nonaka *et al.* 2001). Nonaka *et al.* propose that we should interpret knowledge ''dynamic because it is dynamically created in social interactions. Knowledge is also humanistic, and it has both an active and a subjective nature''. Moreover, Nonaka *et al.* state, since knowledge is dynamic and intangible, therefore it needs a certain time and space, where it can be created. They have termed this space as ''Ba'' (roughly translated as place). By creating and managing Ba, ''an organization can manage the knowledge creating process effectively''. Nonaka *et al.* have further described the attributes of Ba in these words:

> Thus we consider ''ba'' to be a shared time and space for emerging relationship among individuals and groups to create knowledge. It can be physical (e.g., office, dispersed business space), virtual (e.g., e-mail, teleconference), mental (e.g., shared experiences, ideas and ideals), or any combination of these. It can be a shared space and time(from face-to-face to virtual) for a project team, a space for informal dialogues, a space to share experiences with customers, a space for interdivisional cooperation, or a space shared by virtual companies.

Knowledge communities operate in ''ba'' at the micro social level. The members of knowledge communities dynamically associate with fellow members, learn, and share their best practices or professional insights. Nonaka *et al.* (2001) have cited example of Seven Eleven Japan and how workers by using the four ba processes, namely; originating, dialoguing, systematizing, and exercising create and distribute effective practical knowledge of business enterprise at the sales floors of the company. The modern communicative practices such as wikis (particularly Wikipedia, a free encyclopedia,

managed and accessed by people from across the globe) and web blogs are excellent examples of ''ba'' where knowledge is continuously created, and redistributed for obvious social and economic benefits of knowledge communities. People share and exchange both tacit and embodied knowledge for mutual benefit, for economic, social and political reasons at these forums. Khalil *et al.* (2006), Buckley and Carter (2004) and Mbaatyo (2001) have also studied the management of knowledge creation at the organizational level. They have found out that proper social and cultural integration of the modern technologies of knowing into the knowledge transfer processes can bear upon the profit, and productivity of business organizations. Furthermore, the efficacy of knowledge-based environment largely depends upon the effective social interactions of the managers and the knowledge environment of the organization.

Siebers (2003) has undertaken a very insightful fieldwork into the meso-cultural level of knowledge creation and dissemination between traditional knowledge communities and contemporary forms of knowledge communities driven by modern scientifically elaborated knowledge at a Guatemala village. He has commented:

> In social terms the application of a specific body of knowledge may be rational for some while being irrational for others. The efficacy of both indigenous knowledge and modern technology would adopt a fetishsized character – expressed in meaningless quantitative terms – when delinked from the various groups of people involved and isolated from the cultural and power contexts in which they are always embedded.

Siebers has recorded that a significant pattern of social interaction exist between local Q'eqchi communities and the representatives of farmers. He has found out that farmers' representatives perceive their cultural interaction with the local Q'eqchi in a ''hierarchical'' fashion, placing the Western civilization at the top. On the other hand Q'eqchi, integrate modern agricultural knowledge with their traditional agricultural knowledge, called ''na'leb'' within their unique cultural worldview. They are not afraid of using modern fertilizers, as Siebers has observed, but are reluctant to apply these to the traditional land use patterns due to lack of trust and fear of over reliance upon urban source of their indigenous economic activity. This shows that knowledge creation and knowledge dissemination at the meso-social level might require broader understanding of the social networks working within and without knowledge communities. It is relevant to state here that meso-level social interaction require a greater deal of trustworthiness, commitment and ethical sensibility to harness the ''social capital'' of knowledge communities (McElroy *et al.*, 2006; Meyerson, 2001). Moreover, international strategic alliances in business cooperation also show a social ''context-specific'' interaction of different stakeholders in knowledge transfer processes across organizational boundaries. They learn from each other's competencies during social knowledge transfer processes (Simonin, 2004). Buil and Bergua (1998) have also explored the meso-level social interactions in the management of risk perception in the construction of a dam in the Spanish villages of Campo, Morillo deLiena, Navarri and Las Colladas. They have discovered that the cultural dimension plays a very important role in the management of risk by local communities. It is important to note that at the societal level knowledge communities are reluctant to assimilate new knowledge because of lack of trust and other political and cultural influences such as shared beliefs and values.

It is evident that the social management of knowledge in knowledge communities depends heavily on the ''veritistic'' and ''trust'' aspect of the social interactions (Goldman, 1999; Hakken, 2003). Culure, shared beliefs, values and cognitive uniformities must significantly, resonate as a part of a broader ''social informatics'' which places ''knowledge-networking'' at the core of whole process of knowledge creation, utilization and dissemination within knowledge communities as well as across different knowledge communities (Hakken, 2003). The conflicts of values can arise at the macro-level of social interaction between knowledge communities due to divergent cultures and worldviews. The external factor of growth in the knowledge-based environment of groups, organizations and nations at large would play a fundamental role in the resolution of these socio-cultural conflicts. The emergent social structures of knowledge integration, knowledge transfer and knowledge sharing would grow and enlarge because of continuous inflow of new technologies of knowing. The prevalent

shyness, anxiety and unpredictability in new knowledge-driven social exchange process would dissolve, placing trust and human good at the core (Brown, 2002; Cooke, 2001; Foss, 2005; Amit, 2002; Cheater, 1995). There is already emerging a profound and dynamic knowledge utilization pattern in knowledge-communities of developing countries due to modern communicative practices. The embodied knowledge transferred to these regions in the form of different innovative products such as cellular phone, wireless communications, internet and computers have tremendously shifted the balance of social and economic prosperity in favor of ordinary and common citizens. Two technologies in particular are note worthy to mention here, i.e. cellular and wireless phones. These technologies are rapidly reshaping the traditional social and economic structure of less developed communities of developing countries into contemporary knowledge communities, which can now seize the opportunity of health, education and prosperity within affordable low-cost budget. This has led to an improvement in the general quality of life, in terms of new economic and social advantages such as increased rate of literacy, accessibility to new sources of information and knowledge via internet and better health awareness.

In the developing countries of Asia, Africa and Latin America, knowledge communities working in areas of good governance, agricultural knowledge sharing, health awareness particularly HIV and family health, ecological crisis, gender issues, and literacy are fast growing. The governments of these developing countries are also fast responding to the globally networked knowledge economy. They are attempting to democratize their governance and liberalize their economies in order to remain relevant in an interdependent world. They are creating social conditions, which allow their citizens to engage on pressing global issue such as climate change, nonproliferation of nuclear arms and gender equality in socio-economic development of their respective societies.

It would not be out of place to discuss the role of one global and one regional knowledge community in creating social awareness about ecological issues and promoting economic development of downtrodden communities of the region. These knowledge communities are respectively Greenpeace and The Grameen Bank of Bangladesh. Greenpeace, initially started as social community to register its protest against environmental pollution caused by the industrialized North, has now transformed into a global symbol of ecological responsiveness and made its inroads into strategic political and economic development policy frameworks of Europe and North America. The Greenpeace social phenomena did not remain confined to the West European societies. It has proliferated to the entire globe. It has created global consciousness amongst divergent cultures, values and religious tradition for a responsible ecological management of the world ecology. This is fundamental to the very survival and continuity of future human generations. The ecological knowledge created and shared by Greenpeace has radically altered the modern man's view of nature as well as his social relationship to economic and technological development in decades to come. No global business corporation can operate successfully across the globe without showing a firm and tangible viewpoint on ecological responsibility.

The Grameen Bank of Bangladesh is another pertinent example of socially relevant knowledge community. Its achievement is particularly exemplary for the developing countries of the South. Dr Muhammad Yunus, founder of Grameen and now a Nobel Laureate in Peace (2006), mobilized the poor communities of the rural Bangladesh with his vision to alleviate their poverty. He poured his savings into the socio-economic uplift of the rural communities of Bangladesh. He introduced the concept of ''micro-credit'' to farmers and weavers of less developed rural areas, focusing particularly on economic empowerment. This led to a rapid economic growth of rural communities ameliorating their social and economic disparities with more privileged stratas of the society. The concept of ''micro-credit'' has gained currency and application in large countries of South Asia, India and Pakistan. Both governments and civil society are actively pursuing the implementation of micro-credit in rural communities of South Asian region to transform poverty into social opportunity for creating prosperity and equality for less developed areas.

> **"The knowledge-driven global mind thrives on more and more diverse sources of knowledge."**

It is obvious that knowledge creation and knowledge utilization by one knowledge community go hand in hand to the social advantage of diverse communities. The knowledge-based environment has become a key external factor in this regard. The dynamic social structure of technologies of knowing is reshaping everything. From statecraft to worship in a temple, every social act now constitutes meaningfulness in the flux of socially networked information world. Nothing exists outside this socially networked information world. The old Lamas of the ancient Tibet used to say that ''Nothing exists but the mind (*bodhisattva*)''. It appears that they foretold the shape of contemporary information economy, where people transact in real-time in diverse time zones. The socially networked economy as well as society constitutes the emerging form of global mind. This knowledge driven global mind thrives on more and more diverse sources of knowledge. It thrives on multiplicity of worldviews, values and beliefs. This is the very essence of emergent global existence of humanity. It is here that every human act is both local and global, because continuous flux of knowledge forces them to negotiate part of their localized existences and assume a chunk of new form of essential human identity from the emerging global mind.

The real task of the knowledge communities lies here. They can transform the world to be a more harmonious place. The place which belongs to every living soul yet beyond all sorts of ''title'' and ownership (Sen, 1982), which is the root cause of social divisions, conflicts and poverty. In the genesis of emergent knowledge communities, a hope for the ''Tao'' of knowledge creation seems overwhelming. By understanding the inherent incompleteness of human condition and its eternal quest for perfection, it might transform to a new level of global human consciousness, helping it shed its age-old phobias and paranoias about the nature of ultimate meaning of all existence, rooted in the obsolete notions of duality and objectivity. Socrates uttered many years ago that, ''All good is knowledge and all evil is ignorance''; he in fact prescribed the elixir for the social ills of our times. There is less knowledge about HIV, so people socially exclude the sufferer of HIV/AIDS. There is less knowledge about the ability of women, so people alienate them out of decision making and leading. There is less knowledge about the biological role of rivers and oceans, so people relentlessly pollute oceans and rivers. There is less knowledge about democracy and freedom, so people feel secure under authoritarianism and desist from realizing their natural liberty. The socially networked global knowledge communities can help ignorant and underprivileged people of developing countries to develop and cherish the dream of social prosperity and economic freedom at par with the developed North. It is possible that with the emergence of collective global consciousness, the cultural obstacles for sharing and distribution of each other's knowledge disappear. The knowledge environment creates those socially dynamic states where one epistemology, or one philosophy and economy become irrelevant. The inherent cultural multiplicity leads to new knowledge creation. The knowledge environment forces all human actors to reconsider their self-image in the light of a broader human collective image, surging out of the nexus of knowledge era. This broader collective human image formed of global mind lead everyone to some minimum common social themes, on which the bases of human existence depend, such as respect for other's worldview, trust and sharing.

Conclusion

Knowledge creation and its management is essentially a social activity. Knowledge communities particularly reflect the social forms of knowledge management and knowledge sharing. A ''morphological'' view of organizations, groups, communities and economies, which interprets these processes as socially organic and dynamically evolving, boundaryless, multiple, and interdependent social structures would be more in line with

the current growth of knowledge globally (Stephenson, 1995). Cyberspace and computer mediated communications have created new social structures of collective cognition among knowledge communities to create and share their socio-economically advantageous practices with each other. These new modes of social communications have greatly expanded the effective social and economic uses of embodied knowledge as manifested in much of the new technologies of knowing, which include cellular phone, internet, wireless communications etc. Knowledge communities are socially interactive knowledge spaces that can be functional at the micro, meso and macro social levels. It is again the knowledge communities that are dynamically driving the developed and developing countries to share their knowledge repositories, in order to promote the shared values and divergent worldviews, for a better global civilization.

Knowledge-based environment along with the culture of the knowledge communities shape their pragmatic value. Social interactions at various levels of knowledge communities can significantly influence the increase or decrease in their respective social capital. Moreover, the dynamic growth of knowledge communities heavily depends upon the social structures of trust, sense of community, commitment, shared vision, and continuous spirit of knowledge creation. Overcoming social digression (inequalities, conflicts on knowledge capital rights) at the meso-social levels of knowledge communities and at the macro-social level (global) is possible by the increased social interactions between the actors involved in the socially networked transfer of knowledge.

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