KM Culture in IT Industry

C.S.Senthil Raja[1], V.Siva Kumar[2] & Dr. R. Krishnaveni[3]

Abstract

The concept of Knowledge Management (KM) receives high strategic attention across multiple sectors. In the engineering area, KM is specifically relevant due to the knowledge intensive character of the domain. The new product development process, which is an innovative and a non-repetitive process par se, is especially interested in learning from the lessons of the past.

It is in this context that this study was designed to examine and understand the cultural aspects that are needed in IT industry with respect to KM practices. Also it focuses on how to create organizational climate for managing and motivating knowledge workers.

Keywords: *Knowledge Management, KM Culture, Knowledge Sharing, IT Industry.*

Introduction

Zack (1999) argues that knowledge is the fundamental basis of competition. Hence organizations should align their strategy with their core competence and allow it to grow to achieve their goals. He further argues that companies having superior knowledge are able to co-ordinate and combine their traditional resources and capabilities in creative and distinctive ways and provide more value to their customers.

Knowledge Management is defined as " Management of organizational knowledge for creating business value and generating a competitive advantage" (Tiwana, 2000). It consists of process that facilitate generating, sharing, using and storing knowledge. A KM system should facilitate people to think through what kind of knowledge they need to have to improve their role performance and contribute towards vision, mission and goals to the organization. Also it should help people in touch with what kind of knowledge is available with them individually and collectively as a group. It should motivate people to deposit existing tacit knowledge in knowledge repository and to share existing tacit knowledge with others.

It is in this context that this study was designed to examine and understand the cultural aspects that are needed in IT industry with respect to KM practices. Also it focuses on how to create organizational climate for managing and motivating knowledge workers.

Student, PSG IM, Coimbatore.[1], Student, PSG College of Technology, Coimbatore.[2]
Asst. Professor, Dept. of Management Sciences, PSG College of Technology, Coimbatore.[3]

Organizational Culture

'Culture' is a term that encompasses the values, attitudes and behaviors of an organization. Organizations are communities of individuals and each enterprise has a distinct culture which describes how people relate to one another (Goffee & Jones, 1996). In other words, as one focus group member described it, "culture is how we do things around here".

Culture is important in organizations because it can powerfully influence human behavior and because it is extremely hard to change (Kotter, 1996). It exerts its influence in numerous invisible ways — from the kinds of people who get hired, to the types of questions and comments that are tolerated, the formal and informal expectations made of staff, the focus of reward systems, how people interact, and when they ask for help (Gupta & Govindarajan, 2000). As Figure 1 shows, culture is an overarching mechanism in an organization which constrains all other aspects of organizational life and limits what is considered desirable, possible and practical to do. Needless to say, an organization's culture will therefore affect its knowledge management initiatives and will predispose employees towards particular forms of behavior in knowledge -sharing.

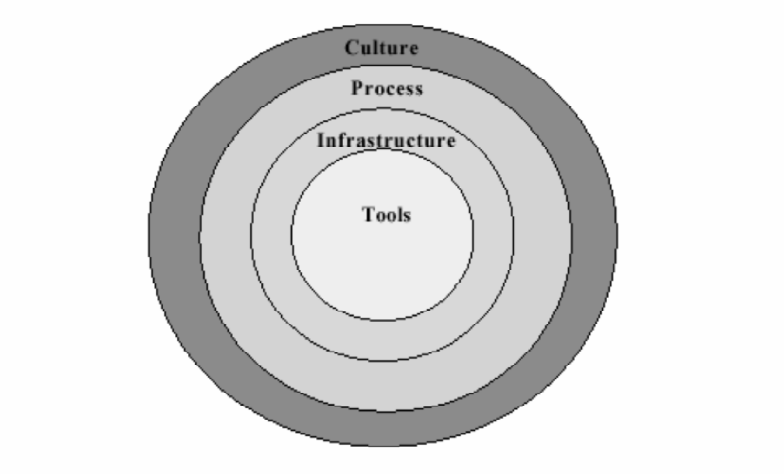


Figure 1. Culture Influences Activities in All Aspects of the Organization

It is unfortunate that very little attention has been paid to date to understanding organizational culture and its role in organizational change. Many organizational leaders have had little or no education in the dynamics of culture and their mechanistic view of how organizations function has left them with a significant "blind spot" where culture is concerned (Kotter, 1996). As a result, academics and practitioners alike are just beginning to learn about its depth and pervasiveness and to experiment with ways to influence it.

Organizational culture does not exist in a vacuum. It is shaped by the social culture in which the organization resides. Thus, a multinational organization's culture may vary somewhat from country to country. Similarly, while it shapes them, organizational culture does not completely define the cultures of different business units or functional units. As a result, an R& D function may have an observably different culture from sales and marketing. Furthermore, culture is dynamic. It changes over the life of an organization as it moves from start-up to maturity and it changes over time (although not always in ways leaders understand or can manipulate), much as our societal culture does. Therefore, what is meant by "culture" can be difficult to pin down and this makes it challenging for leaders to work with.

Social Culture →Organizational Culture →SBU Culture →Individual Culture

Before a cultural change such as knowledge -sharing, can be effected, an organization's current culture must be understood.

All organizational cultures tend to vary along two dimensions: sociability and solidarity. These dimensions capture much of what we know about organizational culture (Goffee & Jones, 1996). Sociability refers to the emotional and non-instrumental relations which exist within an organization, i.e., the friendliness among members of a community. Sociability makes work enjoyable, fosters teamwork, promotes information sharing, and creates openness to new ideas. Solidarity refers to the degree to which members of an organization share goals and tasks. It makes it easy for them to pursue shared objectives quickly and effectively, regardless of personal ties and generates strategic focus, swift response and a strong sense of trust.

Knowledge Management

Knowledge Management is defined as "Management of Organizational knowledge for creating business value and generating a competitive advantage" (Tiwana, 2000). It consists of processes that facilitate generating, sharing, using and storing knowledge.

KM system is a software tool that facilitate people to think through what kind of knowledge they need to improve for their role performance and contribute towards the Organizations' vision, mission and goals. Also a KMS should help people to be in touch with the knowledge available with them and collectively as a team / group.

KM in IT Industry

The demand for IT services in India is increasing exponentially. The revenues are increasing with high-end value chain services. As the value chain scales up, the skill set needed hae changed from simple coding / testing skills to more value added skills like project management, risk analysis, architecture design etc., Another important factor to be considered is speed as the development time is reduced rapidly. The IT industry is incorporating drastic changes especially in terms of technology.

Software development has become more demanding, time-to-market has shortened, application complexity has increased and quality expectations are higher with a cheaper cost. Object-oriented programming was developed as the practice of reusing sections of software code multiple times on the same project, or on multiple projects brought about reduction in time to market. However code reusability alone will not be enough. There is a push and pull of reusing the experiences gained on the previous projects and previous organization if any. These include requirements, design and other software documentation as well as design method tools, software best practices, technologies, lessons learned, various models, resource, product, process, quality and cost models, measurement plans and data. This reuse can be accomplished by storing the experience in an organizational memory. To collect all these data and organize them in a meaningful way requires an organizational memory, or commonly known as experience factory in the IT industry.

Knowledge Worker

Effective use of knowledge for improving a product, process and performance invariably requires a knowledge worker. A knowledge worker needs to define what kind of knowledge would facilitate improving performance. A knowledge worker is in need of access to relevant and valid knowledge. For explicit knowledge, knowledge worker should reach to an in-house or external knowledge repository to have access to relevant knowledge. For implicit / tacit knowledge, then knowledge worker should reach another knowledge worker who possibly has that knowledge. If the required knowledge is not available within or outside the organization, then the knowledge worker should create it of his own. Thus knowledge management is invariably linked with managing knowledge workers and knowledge management system in an organization.

Problems in KM

Based on the study, some of the problems and barriers in implementing and institutionalizing KM systems are:

- Knowledge worker will not have an attitude of sharing the knowledge. He wants to maintain his core competency in the organization.
- The Top management will not support in terms of money, time, experience etc.,
- An effective Knowledge Management system can be built only with specialists from different functional areas combined with IT people. But associating cross-functional teams is a difficult job.
- The organization hierarchy hinders the information flow from lower levels to higher levels. It limits the contributions of people at lower levels in knowledge creation and knowledge sharing in hierarchical organizations.
- Knowledge workers were reluctant to learn from and share their knowledge with their colleagues.
- The reward system used to motivate employees is purely based on results. As

some of the activities are long-term and not easily measurable, such performance criteria and reward systems become dysfunctional for knowledge sharing and knowledge generation.

Knowledge Management Culture

In today's competitive environment the IT organizations have to adopt cultures that facilitate to expand the organizational memory, employee relationship, team synergy. As the IT industry is growing in fast pace, the organizations have to institutionalize culture that energizes for knowledge generation, sharing, storing and reusing.

(a) Knowledge Generation

Organizations should facilitate its knowledge workers to acquire skills, capabilities and competencies to generate valid knowledge. Knowledge generation needs a long-term perspective, commitment and resources. Organizations need to provide time and resources that can facilitate research and knowledge generation. Organizations can specifically provide allowances for purchasing books and journals to its knowledge workers. Similar to academic institutions, organizations can provide sabbatical to its knowledge workers for knowledge generation.

Knowledge generation is time consuming, tiring and full of uncertainties. Hence people need to get addicted to knowledge generation and should be self-motivated and should enjoy the process. Organization should give message that knowledge generation is valued activity and is expected of every knowledge worker. As a part of performance management and review, people need to be asked to comment on the new knowledge acquired, its means and how it is being used for the personal and organizational mastery.

Knowledge generation involves uncertainty and risk and people need to learn to live with it. Organizations can reduce risk and impact of uncertainty by creating a culture of care (Von krough, 1998). Von krough suggests that care in relationships give rise to mutual trust, active empathy, access to help, leniency in judgement and courage. Trust facilitates people to draw upon each other's resources and a consequence people feel empowered and comfortable to take risk and try out sharing themselves and their beliefs. Empathy facilitates active listening and being able to see a situation from other person's point of view. Leniency in judgement nurtures experimentation and risk taking, which facilitates growth. Also caring environment facilitates people to have courage to share their unique viewpoint and be different from others.

(b) Knowledge Sharing

Knowledge sharing is widely-held to be inherently necessary to the health of most enterprises. Research shows that a "willingness to share" is positively related to profitability and productivity and negatively related to labor cost (Jarvenpaa & Staples, 2000). Focus group members believed that knowledge-sharing is

positively linked to growth and innovation, bottom line savings, increased customer satisfaction, increased shareholder value and learning.

Participants described a knowledge-sharing culture as one where people share openly, there is a willingness to teach and mentor others, where ideas can be freely challenged and where knowledge gained from other sources is used. Knowledge sharing can occur through many different media: conversations, meetings, processes, best practices, databases, and questioning. Ideally, participants stated, knowledge sharing should be a corporate value, which defines how work gets done and how everyone thinks. In short, a culture of knowledge sharing goes deeper than superficial individual behaviors and captures the hearts and minds of the people in an organization.

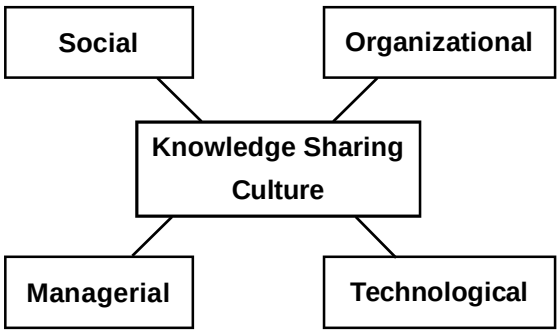
There is wide agreement that most organizational cultures currently act as barrier to knowledge-sharing and need to change to become more supportive of it (Gupta & Govindarajan, 2000). There are four key reasons why culture is seen as being at the base of how well knowledge is shared (Delong & Fahey, 2000):

- Culture shapes people's assumptions about what knowledge is important.
- Culture determines the relationship between levels of knowledge, i.e., what Knowledge belongs to the organization and what to an individual.
- Culture creates a context for social interaction about knowledge, e.g., what is sensitive, how much interaction or collaboration is desirable, which actions and behaviors are rewarded and punished.
- Culture shapes the creation and adoption of new knowledge.

Individuals in an organization tend to possess core competent knowledge. They possibly believe that they can grow faster in their careers as compared to their colleagues by having some unique knowledge. Organizations need to facilitate its knowledge workers to examine their existing beliefs about knowledge sharing. Knowledge workers must realize that their competition is not with their colleagues but with the professionals anywhere in the world. Knowledge workers must realize that knowledge sharing increases knowledge resources of the organization and it empowers the organization as well as those who share the knowledge. In spite of all, organization and individuals would need to invest in creating a culture of caring, trust and openness that facilitates knowledge sharing.

Knowledge sharing can be nurtured and strengthened with the help of communities of practices. Communities of practices are "groups of people informally bound together by shared expertise and passion for a joint enterprise". Communities of practices are created to develop members' capabilities by joint learning and to build and exchange knowledge. Eg., Java Community of practice, Open source Community of practice are some of the Communities of practice available in the organization.

There are four categories of factors, which stimulate or inhibit knowledge-sharing behavior. They are: social, managerial, organizational and technical. Ideally, they build on and interact with each other to create optimal conditions for knowledge sharing.



(a) Social

Most knowledge is shared socially. Research shows that managers get two-thirds of their information from face-to-face meetings or via the telephone and only one-third from documents (Davenport, 1994). People are five times more likely to turn to friends and colleagues for answers to their problems rather than to other sources of information (Cross & Baird, 2000). Some of the factors which have been shown to increase knowledge-sharing between people include: introducing new staff members to key people in the organization; developing a team-based structure on which a sense of community can be built; rotating key staff through the organization to build networks; locating work areas so they intersect with others; and cultivating an atmosphere of informality where people feel comfortable asking others for help (Goffee & Jones, 1996; O'Dell, 1999; Stewart, 2000).

(b) Organizational

Organizational processes and practices form a second major category of factors which influence knowledge-sharing behaviors. These factors include: recognition and incentives; the role of information in the organization; governance and accountability structures; where knowledge resources are spent; and how the organization's processes integrate knowledge. Research has repeatedly shown that organizational demographics, particularly large size and formal status differentials, have a negative influence on knowledge-sharing (Connelly, 2000; Stauffer, 1999). Training, rewards, recognition and monitoring are some of the organizational practices and processes which promote knowledge-sharing behavior. Care must be taken when designing knowledge sharing procedures, documents and methods however, that they do not become too complicated.

(c) Managerial

Motivating cooperative behavior in staff has been called one of the key managerial issues of the next few decades. This is because "creating and sharing knowledge are intangible activities that can neither be supervised nor forced out of people. They happen only when people cooperate voluntarily" (Stauffer, 1999). Middle and line managers have a great deal of influence on how organizational processes are carried out (i.e., how fairly they are perceived) and on how well sociability and solidarity are promoted within their area of influence (Schein, 2000). Furthermore, it is managers who must sanction the time for

training and sharing, who determine job assignments which can optimize or stunt learning, who must recognize and reward the sharing behaviors the organization wishes to inculcate, and who decide who to hire and promote.

(d) Technological

There is an important and synergistic relationship between IT and knowledge management. IT makes the connections possible that enable sharing, but in and of itself does not motivate it. In fact, implementing technology while disregarding the other factors which motivate knowledge-sharing will only reinforce existing behavior (Davenport, 1994). technology design for knowledge-sharing requires careful attention to the social, organizational and managerial factors which drive behaviors. Only then, can technology be effectively implemented to support and enhance those parts of knowledge-sharing behavior which are amenable to technical facilitation.

Managing Knowledge Workers

Knowledge organizations interested in attracting and retaining superior knowledge workers would need to ensure that they offer excellent opportunities for knowledge generation, acquisition and usage of its knowledge workers. Organizations aspiring to attract superior knowledge workers should position themselves as organizations, which value knowledge generation and knowledge sharing. Further they should be respected and valued by the society for their unique knowledge and its contributions for betterment of the society. Organizations should provide opportunities for continuous learning to their knowledge workers. Organizations should develop highly professional work culture and should treat knowledge workers as professional giving them necessary autonomy and freedom.

Reward Systems

Implementing reward systems can help develop a knowledge sharing culture. There are numerous ways of rewarding employees and showing that the organization appreciates employees who are willing to share their knowledge with others, and are willing to search for and use knowledge created and documented by others. A good reward system should help an organization to manage a balance between knowledge generation and knowledge usage.

Some organizations have a practice of giving extrinsic rewards for knowledge management related activities. Typically organizations keep track of how often people have accessed knowledge depository. Based on certain rules, policies those who use knowledge from and deposit knowledge in knowledge depository are given knowledge currency that can subsequently be exchanged for money or some other extrinsic rewards. Those who had deposited the knowledge are also rewarded based on how frequently their knowledge has been referred. The system also has the potential to motivate people to convert their tacit knowledge to explicit knowledge and deposit it in the knowledge depository.

Conclusion

In today's knowledge competition IT industry it is the primary duty every organizations to create a culture that promotes knowledge generation, knowledge preserving and knowledge utilization. The top management of the organization should put more effort to make the organization a more competitive one. Developing a culture which values and practices knowledge-sharing is a multi-year effort involving attention to the social, organizational, managerial, and technical components of this behavior. Organizations should nurture communities of practices, which would become reference groups for their knowledge workers. Knowledge workers are very important in the knowledge based industries. They have to be given proper training, formal and informal ways of knowledge generating, sharing and utilization practices. Also organizations have to promote the knowledge culture by rewarding knowledge workers in terms of monetary, recognition etc., Thus every knowledge IT organizations have to promote a culture that instills every employee for knowledge management practices.

References

- Heather A. Smith & Dr. James D. McKeen, - "Instilling a Knowledge-Sharing Culture", School of Business Queen's University, 2003
- Pierre A. Balthazard & Robert A. Cooke - "Organizational Culture and Knowledge Management Success: Assessing The Behavior–Performance Continuum ", Arizona State University, 2004
- Heather A. Smith & Dr. James D. McKeen, - "The Evolution of the KM Function", School of Business Queen's University, 2003
- Davenport, Thomas. Working Knowledge, Harvard Business School Press, Boston, 1998.
- Narendra M. Agrawal, "Creating Organizational culture for Knowledge Management ", IIM Bangalore Review, 2001
- Ganesh Krishnamurthy, Kiran, ' KM practices in Indian software organization", 2002.
- Nonaka, I., & Takeuchi, H. (1995). The knowledge-creating company: How Japanese companies create the dynamics of innovation. New York: Oxford University Press.
- VonKrogh, G., Nonaka, I., & Ichijo, K. (1999). Develop knowledge activists. European Management Journal 5, 474-483.