

## **The Role of Knowledge Management in IT Sector in India**

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**Abstract:** This study attempts to explore the Role of Knowledge Management (KM) in Indian IT sector by identifying a definition, components and exemplar of knowledge management adopter in IT sector. The paper undertakes critical literature review to analyse different academic research paper on KM and KM in IT sector. The result demonstrates that organization culture and suitable strategy for KM largely influence the implementation and practice of KM in IT firms of India. The findings also contribute to existing knowledge in KM and guide scholars for further research on KM in Information technology domain.

**Keywords:** Knowledge Management (KM), IT sector, Indian IT Sector, Role of KM in IT Sector.

### **1. Introduction**

In today's competitive environment, knowledge management is considered essential for the survival and growth of every organization. Today, we live in an era of knowledge-based economy. This implies that knowledge is the most crucial resource for delivering competitive strength. Hence, organizations need to build concrete knowledge management strategies. Efficiency of Innovation processes gets accelerated because of knowledge management Systems. It is being realized by the innovative organizations that Knowledge Management systems add value and provide competitive advantage to the organizations. Kamlesh Kumar Mishra and Rajesh Kumar Upadhyay (2000) have argued for well-structured methods for collaboration, well organized communication and proper coordination as highly essential. Well ordained and recognized KM system is essential for the growth and survival of such dynamic, evolving and large organizations. They have further elaborated software development is required if we want increase the knowledge about the domain area.

### **2. Literature Review**

Knowledge Management is a dynamic concept. There are various definitions of knowledge. Knowledge is thoughtful process, consciousness, or acquaintance acquired through lessons, examination, comprehension, or know-how during the course of time. Knowledge also means the strong appreciation of a theme with the capacity to use it for appropriate purpose. Bollinger and Smith (2001).

Davenport et al. (1998) define knowledge as combination of context, interpretation, reflection and experience. Knowledge is being defined as the skill to remember material or information learned before-hand which not only entails interpretation of specific facts but also encompasses analysis of complete theories in this regard. Company's competitive strength will be increased only when the company will be able to leverage its technical and business resources.

Knowledge can be defined as the application of information which is meant to be practiced for making decisions. (Widayana, L (2009).

### **3. Types of Knowledge**

#### **Explicit Knowledge**

Explicit Knowledge relate to codified information (knowledge) which should be distributed, shared and transferred from one place to another in systematic manner. Internet, best practices, emails, newsletters, manuals and reports etc. are some of the examples in this regard.

#### **Tacit Knowledge**

Since tacit knowledge resides in an individual's mind, it can be described as "know-how" and experience of the employees which is crucial to the organization. The distinction between explicit and tacit knowledge has been clearly spelt out by Polanyi (1959) (in Greeno, 1987). Tacit Knowledge refers to subjective, cognitive, and experiential learning; it is difficult to formalize as it is highly personal in nature.

#### **4. Knowledge Management**

In order to take right decision, right information should be shared to right person at the right time. Therefore, organizations are undertaking concrete efforts for dissemination of knowledge. Since companies are more geographically distributed and they are getting engaged with a number of suppliers, partners, customers and other stakeholders, there is possibility that some crucial information, potential new services, products and offerings may remain outside the supply chain. Hence, it is imperative that efficient and successful systems

and processes be put in place to ensure smooth knowledge transfer with required seriousness and alacrity. (Economist Intelligence Unit Report, 2007).

(Dalkir, 2007) describes that KM is the mechanism of gathering, managing organizational structure, people, process, technology to create value for the organization.. Knowledge Management (KM) is the process of gathering, managing and sharing employees' knowledge resources throughout organization.

A Study by Drucker (1995) states that it is the bunch of knowledge residing in the minds of its customers, employees and suppliers etc., is the crucial resource of an organization's growth, even more important than the factors of production i.e. land, labour and capital (Grossman, 2006).

Knowledge Management aids company/organization to get deeper understanding from its own practices. Abdul Kalam (2004) highlights that KM is the process of gathering, using knowledge for the decision –making process and strategic planning.

#### **5. Components of Knowledge Management**

The components of KM predominantly relate to three areas - People, Processes, and Technology. Whereas all the three factors are crucial, it is observed that the Processes and technology are relatively easier to implement as compared to 'People' factor. The problem/challenge is how to ensure full participation of all employees in true knowledge sharing, its re-usage and coordination of related efforts.

Therefore, it is imperative to honour employees with visibility, recognition and appreciation as "subject matter experts". Processes are required to be very clear, as simple as possible and well accepted and understood by the employees across the organization. Innovative and Technology based solution should be simple, user-friendly and business-focused.

#### **6. Knowledge Management Practices in different Industries/Sectors**

The business environment has witnessed intense competition with the onset of IT revolution. As technology is constantly evolving, the business organizations are not sure as to whether workable alternatives of the toady will still prove to be result-oriented tomorrow.

The knowledge management practices in various companies in India have demonstrated that effective utilization of knowledge resources will improve profitability and increase competitive advantage. Companies like Infosys Technologies Ltd, Tata Steel Ltd, Bharti Cellular Ltd and Wipro Technologies Ltd, etc are good examples where KM practices are being effectively implemented.

Tata Steel Ltd: Tata Steel introduced the concept of "Aspire Knowledge Manthan", whereby systematic collection and distribution of tacit knowledge take place. Khanna et al. (2005) has highlighted the concept of cross-fertilization of ideas which is intended to instill confidence in employees to practice result-oriented ideas.

At Bharti: KM initiatives are systematic and centered on business processes which are of critical nature. Employees are seen as change agents. Corporate intranet, KM portal facilitate collaboration among communities. Hariharan, (2005) has stated that several measures have been introduced by Bharati to monitor and assess consequences of KM on business environment.

Knowledge Management in Consulting Industry: Knowledge Management is found to be most critical process because in consulting industry the core product is knowledge only. Consultants sell business solutions and knowledge itself.

#### **7. Knowledge Management in Information Technology**

Information Technology (IT) is the most important sector since it provides the major source of Gross Domestic Product (GDP). Information technology bridges the gap between tool makers and tool users (i .e.) between the technicians who build and maintain the digital and hardware infrastructure and the people who use it as one of their primary social communication channels. In simple terms information technology means digital provider of information which are necessary for developing organization.

Many researchers have observed that IT is a vital aspect which aids in the creation of knowledge through rapid collection, storage, and exchange of knowledge. Integration of fragmented flow of knowledge, transfer of tacit knowledge, elimination of barriers is possible because of application of IT.

Knowledge Technology is considered to be a digital knowledge culture because traditionally it has depended upon the free exchange of ideas, discoveries, and credible rumors for its collective learning and advancement. Learning environment and knowledge sharing culture is most important constituent of Knowledge Management.

Innovation cannot take place without the involvement of Information technology. The facilities needed by the knowledge employees are provided through information technology. Sharing and transferring of knowledge is very effective because of Information Technology. As far as we know the field which keeps on changing every minute is the IT field. This field is good example of continuous innovations. Every day new software are being installed, every hour new updated versions of databases are available.

## **8. ROLE of IT and ITEs in India**

IT Industry in India has four major sectors namely IT Services, IT Enabled Services (ITEs), Software and Electronic Business (E-Business). The IT industry requires extensive management of Knowledge as IT industry is knowledge intensive. Capturing knowledge across different skill sets in Software companies is possible because of knowledge management. For instance, common problems can be solved if information in respect of common queries can be captured and uploaded on intranet. This may help in boosting productivity as well.

IT Companies have realized the imperative need to appreciate that knowledge is a crucial asset. Knowledge can be gathered over time and will help the organization to be effective and increase its competitiveness. IT companies need to document both critical as well as general processes as these industries are essentially knowledge intensive. Singh and Soltani (2010)

Exemplar Illustrations of KM practice in IT Sector:

Patni Computer Systems has created a knowledge centre, where all employees are allowed to learn about new technologies, conduct discussions, obtain solution of technical queries and even prepare speedy sales plans. At Patni, this apparatus has led to a decline in training time and enhancement in productivity due to effective and planned dissemination of knowledge among its employees. Bharti Cellular Limited (Hariharan, 2005) and Patni Computer Systems Limited (Kapada, 2006) have undertaken major efforts towards knowledge driven investigation and examination, utilization and capacity building.

Wipro Technologies Ltd--Wipro Technologies have accepted KM as a core necessity rather than an option. The KM initiatives unleashed by Wipro Technologies have enhanced competitive strength in the market place. (Chatzkel, 2004).

Infosys Technologies Ltd- In view of the rising customer demands, dynamic expectations of stakeholders, increased networking, Infosys has lunched five-stage knowledge maturity model (KMM) to facilitate the process of implementation of Knowledge Management. This Model includes people, business strategy, technology and processes. The roll out was carried out in a phased manner and there was no compulsion for employees for using the same. Suresh and Mahesh, (2008) observed that process of knowledge management was gradual and slow.

**TCS:** A Knowledge Management Maturity Model called 5iKM3 has been introduced by TCS (Tata Consultancy Services Limited) to facilitate effective KM within the organization.

## **9. Implementing Km**

Effective implementation will bring in a culture of innovation, change management and developing strategy for growth and competitive advantage of the organization.

Technology is an important instrument in the knowledge management strategy which consists of knowledge creation, dissemination and utilization for achievement of organizational objectives. All the service enterprises need to understand that their competitors are constantly adopting newer technologies and Knowledge Management Systems (KMSs). We can witness introduction of Siri by Apple, Google Assistant by Google, and Cortana by Microsoft. The role of KMS in developing competitive strength has been discussed by Adams and Lamont (2003).

## **10. Tools adopted by IT Companies for implementation of Knowledge Management:**

The Knowledge is acquired through technologies such as Intranets, Extranets, Groupware, Work Flow and Web Conferencing. The acquired Knowledge is stored in system such as Data Warehouse and Document Management. The stored data help the organization to take decisions by using Decision Support Systems and taking up projects through Project Management.

### **11. Critical Enablers of km**

A study by Ryan and Prybutok, (2001) argued that five critical factors namely Senior Management and leadership, Open organizational culture, Employees involvement, Teamwork and Information systems infrastructure greatly influence the KM within organization.

Contrary to Ryan and Prybutok , Davenport et al. (1998) espoused that eight critical enablers namely :Organizational infrastructure, Technology infrastructure, Shared knowledge, Knowledge-friendly culture, Balance of flexibility, Means of knowledge, Senior management support and commitment and Motivated workers facilitate effective KM process in the organization.

Helm et al., (2007) have talked about four important critical enablers namely Human Resources, Structure and Organization and Technology, Culture of Organization and Knowledge management activities in the organization.

### **12. Problems and Challenges of Knowledge Management**

Generally, knowledge resides within an organisation implicitly. With the exit of employees, organization loses the benefits of knowledge of those employees. The KM process normally face six challenges such as acquisition of knowledge, modeling of knowledge, retrieval, re-use of knowledge , maintenance and publishing of knowledge .(Shadbolt& O'Hara, 2003),

KM is an organizational approach which calls for great efforts for its implementation. On one hand, sharing of knowledge requires voluntary participation of employees and on the other hand conducive corporate culture pursued by the management. Top management support and Commitment, employee recognition, proper system of reward and incentivisation will further strengthen knowledge sharing culture. Reuse of knowledge, distribution and effective coordination are further some of the concerns in KM.

KM process witnesses problems which are predominantly cultural, managerial and information issues. Cultural dimension encompasses change management and convincing people to share and contribute their knowledge. The managerial dimension underscores the working environment and business related issues. Lastly, the Information and Technological issues relate to infrastructure requirements, data security etc.

### **13. KM AND Organization Culture**

Apart from skill and competencies of managers and employees of the organization, culture and background of the organization greatly determine the success and effectiveness of the organization. Infosys management has realized the importance of critical role of top management in building a 'knowledge based company'. IBM has been practicing a value driven culture, facilitating a collaborative environment to encourage employees to share and contribute towards organizational effectiveness

### **14. Conclusion**

Knowledge Management is considered as an essential tool to improve the competency among employees in IT companies. The present scenario is characterized by rapid changes and technological advancements. Therefore, knowledge Management should be given much needed emphasis because it is instrumental for achieving competitive strength and business orientation leading to overall success and effectiveness of the organization. Knowledge management is implemented in all organizations especially in IT companies. To conclude, KM can be described as acquiring/obtaining, creating, storing and sharing of required knowledge within organization between individuals and groups. So, it implies that knowledge management concentrate on knowledge sharing and knowledge transfer. In order to facilitate knowledge sharing the organization should have conducive knowledge culture. Knowledge Management provides the organization with best practices, cross-functional ideas and increases opportunities for innovation. As a result, Knowledge Management enables the organization to stay ahead of the competition.

### **References**

1. Davenport, T H and Prusak, L. (1998:5) Working Knowledge; 'How organizations manage what they know', Boston, MA Harvard University Press.
2. Bollinger, A.S. and Smith, R.D. (2001), "Managing organizational knowledge as a strategic asset", Journal of Knowledge Management, Vol. 5 No. 1, pp. 8-18.
3. Bukowitz, W.R. and Williams, R.L. (1999), The Knowledge Management Field book, Pearson Education, London.
4. Dalkir, K. (2007), Knowledge Management in Theory and Practice, Elsevier, Noida.
5. Davenport, T.H., DeLong, D.W. and Beers, M.D. (1998), "Successful knowledge management projects", Sloan Management Review, Vol. 39 No. 2, pp. 43-57.
6. Drucker, P.F. (1995), Managing in a Time of Great Change, Truman Talley, New York, NY

7. Economist Intelligence Unit Report (2007), "Economist Intelligence Unit Report", The Economist, available at [http://a330.g.akamai.net/7/330/25828/20070628141731/graphics.eiu.com/upload/portal/KNOWLEDGE\\_MANAGT\\_WEB.pdf](http://a330.g.akamai.net/7/330/25828/20070628141731/graphics.eiu.com/upload/portal/KNOWLEDGE_MANAGT_WEB.pdf) (accessed October 16, 2008)
8. Grossman, M. (2006), "An overview of knowledge management assessment approaches", The Journal of American Academy of Business, Vol. 8 No. 2, pp. 242-7.
9. Hariharan, A. (2005), "Implementing seven KM enablers at Bharti", Knowledge Management Review, Vol. 8 No. 3, pp. 8-9.
10. Khanna, A., Mitra, D. and Gupta, A. (2005), "How shop-floor employees drive innovation at Tata Steel", Knowledge Management Review, Vol. 8 No. 3, pp. 20-3.
11. Davenport, T. H., D. W. De Long, et al. (1998). Successful knowledgemanagement Projects. Sloan Management Review, 39, 43-57.
12. Ryan, S.D. and Prybutok, V.R. (2001), "Factors affecting knowledge management technologies: a discriminative approach", Journal of Computer Information Systems, Vol. 41 No. 3, pp. 31-7.
13. Helm, R., Meckl, R. and Sodeik, N. (2007). Systematisierung der Erfolgsfaktoren von Wissensmanagement auf der Basis der bisherigenempirischenForschung. Zeitschrift für Betriebswirtschaft, Vol. 77 No. 2, pp.
14. Cong, X., Li-Hua, R. and Stone house, G. (2007), "Knowledge management in the Chinese public sector: empirical investigation", Journal of Technology Management in China, Vol. 2 No. 3, pp. 250-63.
15. McAdam, R. and Reid, R. (2000), "A comparison of public and private sector perceptions and use of knowledge management", Journal of European Industrial Training, Vol. 24 No. 6, pp. 317-329.
16. Singh, A. and Soltani, E. (2010), "Knowledge management practices in Indian information technology companies", Total Quality Management, Vol. 21 No. 2, pp. 145-57.
17. Kamlesh Kumar Mishra and Rajesh Kumar Upadhyay, Knowledge Management- A Framework for IT Sector, HRM Review, November-2009, pp.32-37.
18. Greeno, J. (1987) "Instructional Representations Based on Research About Understanding" in Schoenfeld, A., (ed.) Cognitive Science and Mathematics Education, Lawrence Erlbaum Associates Hillsdale New Jersey U.S.A. pp 61 – 88
19. Polanyi, M. (1958) Personal Knowledge: Towards a Post - Critical Philosophy, Routledge and Kegan Paul, London U.K.
20. Abdul Kalam, A.P.J. (2004).Digital Library and its multidimensions. President of India's speech at the "Inauguration of International Conference on Digital Libraries (ICDL) – 2004, New Delhi: Feb 24, 2004. Available at: <http://www.presidentofindia.nic.in/scripts/sllatest1.jsp?id=282>
21. Chatzkel, J. (2004). "Establishing a global KM initiative: the WIPRO story", Journal of Knowledge Management, Vol. 8 No. 2, pp. 6-18.
22. Suresh, J.K. and Mahesh, K. (2008). "Managing the knowledge supply chain at Infosys", KM Review, Vol. 11 No. 4, pp. 14-19
23. Shadbolt, Nigel and O'Hara, Kieron. (2003). AKTuality : An overview of the Aims, Ambitions and Assumptions of the Advanced Knowledge Technologies Interdisciplinary Research Collaboration. Available at: <http://www.aktors.org/publications/selected-papers/01.pdf>
24. Adams,Garry,L. Lamont, Bruce T. (2003).Knowledge management systems and developing sustainable competitive advantage, Journal of Knowledge Management, 7(2), 142-154..