

Knowledge Management in IT Sector: Review of literature

¹Amar Kumar Mishra, ²Pnkaj Kumar, ³Monu Bhardwaj

¹Professor, Department of Commerce, Graphic Era Deemed to be University

²Department of Commerce, Graphic Era Deemed to be University,

³Research Scholar, School of Management, Graphic Era Hill University, Dehradun

ABSTRACT

This paper summarizes and identifies the knowledge practices followed by organisations in various industries. The types of organisations studied under this study are SMEs, IT – Sector Organisations, Manufacturing Sector Organisations, Public and Private Sector Organisations. This paper analyses and reviews KM practices across the industries, SMEs and MNCs. The paper focuses on relevance of KM and best practices that are currently incorporated by them.

Keywords: Knowledge Management, KM Practices, Competitive Advantage.

INTRODUCTION

Knowledge is as old as mankind and this concept exists ever since the mankind started (Alavi and Leidner , 1999), . Knowledge is immaterial resource of an organization, which is responsible for creating competitive advantage for the organization. As it is a result of prolonged learning process over a period of time, it becomes almost impossible to reproduce or obtain. An organization's knowledge is dependent upon its intrinsic learning activities as well as on activities of various actors outside the organization . Internationally, knowledge is being progressively known as a cause and source of sustainable competitive advantage. Human aspect and culture are indispensable facets of knowledge generation and transmission Knowledge is considered to be a lively resource and creates an impact if and only if it is utilized. It offers advantage to the organization when it regularly finds time and struggles to evaluate what it knows. Eventually, knowledge becomes a strength. Distribution of knowledge is a critical factor which means which knowledge is to be distributed at individual level and organizational level. The mechanisms used to share knowledge should be a combination of old and advanced ones. This practice of sharing knowledge should be directly linked to the performance and can be adequately rewarded. According to McDermott (1999),” knowledge is an act of huma, a resultant of thinking that is derived from experience and that is related to and passes on through communities” [According to Davenport et al. (1998),” knowledge is information combined with skill, situation, explanation and replication” . Knowledge Management refers to a set of practices and methods that organizations use in order to identify, represent and share knowledge, know-how, expertise and other forms of knowledge so that it can be reused and utilized by other members for the purpose of learning [19]. Knowledge Management is a continuous process within the organisation and flows from bottom to top [20]. When knowledge is shared within the organisation, it grows. As it is interred wined in the products, services and processes of the organisation, it becomes utmost important to extract and unleash the knowledge acquired over the years through the organisation's experience. In order to improve the

effectiveness of organisation, not only explicit but tacit knowledge has to be codified and utilized. Hence, knowledge management needs the right kind of support from system and culture. Right kind of strategy, system and structure has to be in place. People management policies and practices have to be devised, so that the organisation can build a culture of preserving the knowledge of employees, as this will result in expanding the core competencies.

Literature Review:

Sanjay K Singh [2008] [6] analysed the role of various leadership styles in determining KM practices in software industry. Psychometric instruments like knowledge management assessment tool and organisational leadership questionnaire were deployed to collect quantitative data related to the parameter cited in the study. The only parameter considered in the study was 'Leadership Style'. Indeed, leaders directly influence how the organisation handles KM practices. However, other parameters in addition to leadership styles could be considered. Additionally, the concerned employees' efforts in generating, representing, categorizing, allocating and propagating the knowledge also matters. Out of all the leadership styles, the directive style was found valuable in managing knowledge. Since, this study was limited to one organisation in northern India, the results may not be applicable across IT Industry. A study conducted by Abhilasha S. and Ebrahim S. [2010] [4] on KM practices in Indian IT companies, had an objective of finding out position of culture in mediating distribution of knowledge, finding out hurdles in production of knowledge in organisations and to shift knowledge from an employee to the organisation. 10 IT companies from northern India were considered for providing data. Explicit knowledge was fairly easy to apprehend, whereas tacit knowledge was rather difficult. KM has different perspectives for employees and organisations. KM has different perspectives for employees and organisations. Employee foresees the scope of future training and career advancement, whereas organisation anticipates how resources can be utilised effectively. The organisation drives the KM practices and builds the desired culture. The study reveals that employees do not get appropriate reward for sharing knowledge. This factor, if included in performance appraisal system, may reap benefits to the organisation. If HR practices are in sync with KM procedures, this may create best practices in KM.

In a study conducted by Shivram R and Gokulakrishnan J [2002] [7] at Infosys, they justified the relevance of KM System in organisation. After realising the need, a special committee was formulated who have created and sustained the KM System. A special architecture has been designed by the experts which is accessible to all employees. It supports multiple domains of expertise and ensures uniformity for ease of access. The authors are awarded adequately if their article is considered worthy. they are given monetary and non-monetary benefits for the valid submissions. Also, the accumulated data has to be sorted, refined and segregated for being usable. The support of higher levels of management plays a crucial role in achieving this kind of refinement.

Dasgupta et al. [2009] [2] investigated the purpose of KM in innovation through a study conducted by them by using a positivist case study approach along with survey research. NTPC was the organisation chosen for this study. The findings suggested that the concept of KM is embedded in HR practices in this organisation right from the first step. At the initial level, employees receive training. The knowledgeable and senior employees share their experience once the new employees are on board. Need based training is also carried out as and when required. Innovation is achieved

by implementing the skills acquired through training. These specific solutions are kept safe for further reference. Along with suggesting the best practices, the study recommends usage of levels or hierarchy in organisations, as it speeds up taking critical decisions. Adequate interconnection with important stakeholders facilitates easy information flow. As no comparison with external organisations is done, this can further be explored. The authors suggested the need for strong technological infrastructure for capturing tacit data and enabling easy transfer. The mindset of employees has to be aligned with organisation's goal of achieving excellence. If similar study is conducted in other organisations, various similarities or best practices can be analysed. The study also identified the existing factors and practices that yield in knowledge creation and transfer. In a similar study on two prime companies in power sector in India i.e NTPC and Powergrid by Krishna N Pandey [2014] [8], a detailed evaluation on how KM is achieved in these organisations was done. Being such big giants, the companies impact the infrastructure industry. The best practices were studied carefully as these practices could be used by other similar companies. This study had a complementary objective of understanding KM processes in these two companies along with understanding the exact mechanism that facilitates KM processes. Both these organisations had dedicated departments for proposing and setting up entire KM processes. Specific portals were set up with an intention of capturing tacit information. Strong technological infrastructure supported these KM initiatives. The knowledge collection was made smooth because of cooperation of stakeholders like suppliers, customers, traders etc. The management of collected information was enabled by portals dedicated for KM. The researcher realised that tacit knowledge is mainly shared during events like seminars, workshops, training etc. where people interact with the right intention. The concept is embedded in organisation's policy manual. Another essential factor is how well the audit is done. The study clearly highlights the impact of technology in driving and sustaining the KM efforts. Rajesh K. Pillania [2008] [9] compared the concept of KM in India with international counterparts in SMEs especially in ACM Sector. Combination of primary and secondary data was used. After undertaking a survey on international and national experts along with ACMs, the conclusions were sought. International and national experts agreed on parameters like how crucial knowledge sharing is for small organisations and that there is information overload in the name of KM. However, they differ in the opinion of having lack of information. Indian experts believe that there is no lack of information, whereas international experts believe otherwise. International experts are also of the opinion that KM is more of reinventing the wheel. KM initiatives are as important for small organisations as they are for bigger ones. In a study based on sectoral analysis on KM practices, done by Singh et al [2008] [10], different sectors of engineering industries of India were critically analysed. A careful mix of industries across public and private ownership were considered. The study was conducted on a low sample size, but the findings are very impactful. The selected sectors were same in perceiving Knowledge Management. Those sectors which scored low in this parameter did not have easy sharing and transfer of knowledge in practice, as employees feared the risk of losing job if knowledge sharing is done freely. Technological infrastructure like online portal, various analytical tools, warehouse of data etc. enabled easy access to knowledge across the chosen industries. The limitations of various sectors and the environment it offers aid the uniqueness and differences in knowledge sharing. Evidently, the study suggests that deployment strategies need to be customised as per the sector. Deepak Chawla and Himanshu Joshi [2010] [11] undertook a study in which comparison of various industries was done to find out what KM practices are in place in manufacturing industry, IT Industry, ITES and various companies related to power generation and distribution. The comparison was sought on the basis of various dimensions

of KM. These dimensions, when studied and compared, suggested that manufacturing industry in India along with power generation and distribution companies are way behind than ITES organisations. There is a perception in the mindset of people from manufacturing industry that sharing of knowledge might adversely impact their job security. The employees have to be sensitized about the importance and relevance of KM practices. The researcher also suggests that the KM processes need a boost in all the industries under study. This is directly correlated to how eagerly the employees are for adhering to the proposed practices. Not only the operational employees but the leaders play an important role in aligning KM practices with existing practices, thereby contributing to long term sustenance of the organisation.

A study undertaken by Sharmila G. et al. [2018] [12] evaluated how HRM practices impact the capacity of KM, especially in Indian IT Industry. The study was primarily done on four organisations having strong national and international presence. Being qualitative research, the authors used primary and secondary data to suggest valuable measures. The practices under study were recruitment and selection, training and development, compensation and reward and employee retention. The organisations under study, have a structured system in place which aims to provide value to the employees. The designed practices in four areas had a final aim to acquire and share knowledge. Another common factor found in all four organisations was, that social media was not being used extensively as a mode of sharing knowledge, which, if used appropriately may act as a great tool. The study suggests that certain behaviours like orientation towards learning and value creation for the organisations are going to be helpful for organisations and for the employees. Small and Medium Scale Enterprises have major challenges in aligning KM practices. Rajesh K. Pillania [2007] [3] in his study on members of ACMA (Auto Components Manufacturing Association), collected valuable insights from international and national experts. Both national and international experts in this sector are of the opinion that knowledge is not being shared on a daily basis. Employees are not eager to share knowledge, primary reason being that there is no reward mechanism associated with that. Another common factor agreed by both experts is absence of appropriate training regarding this. However, the study also suggests that international experts differ from national experts in certain aspects. National experts' opinion on lack of trust amongst employees vary from international experts. The study also suggests that understanding importance of KM is also vital for SMEs as it is not a responsibility of few 'position holders'. Sharing of knowledge can be considered a parameter for performance appraisal and training sessions related to how effectively sharing should be done can also be included in the work culture of the organisation.

In a comparative study done by Deepak Chawla and Himanshu Joshi [2010] [1] on how KM impacts Learning Organisations in Indian Public and Private sector, the findings were found useful in channelising organisation's efforts in becoming a LO. The organisations under this study undertook self-assessment by using two tools: KMAT (Knowledge Management Assessment Tool) and Learning Organisations Practice Profile. The perception of respondents from public sector was compared with those in the private sector. In the seven dimensions selected for LO, the private sector has scored considerably better. However, both public and private organisations have a change and way for making themselves better as a LO. Another important finding of the study was that there is no correlation between type of organisation, whether public or private with any of the seven dimensions considered under LO. This finding has also been supported by previous studies in addition to supporting the fact that private organisations are way ahead than public in implementing KM practices. The public organisations being better in sharing knowledge in a systematic way

supports certain dimensions of LO positively like flow of information, work practices and organisation's vision and strategies. The overall impact of these parameters on KM is positive except for its measurement. The study also suggests that public organisations can learn from private organisations in terms of promoting an open culture where knowledge sharing can be promoted. The objective of becoming a LO can only be achieved if the organisations first intend to promote KM practices.

A thorough in-depth study on already established KM system at BHEL was done by Geeta R and Alok Kumar G [2017] [5]. The study describes how BHEL understands the importance of knowledge being a vital resource which can aid the organisation in becoming superior than the competitors. Out of explicit and tacit knowledge, efforts are being put to capture tacit knowledge for the strategic advantage it offers. The vision is derived from the top management which facilitates and supports the complete process. The allocation of responsibility is on all the departments. The skilled and highly knowledgeable workforce that exists at BHEL is a result of its continuous focus and refinement of processes related to KM practices. As tacit knowledge requires willingness of knowledge holder, the authors conducted personal interactions with the stakeholders in a structured way. The organisation has identified objectives of KM, which are ease of access of knowledge to the right employee in a suitable manner; inculcating the suggestions and inputs by clients to improvise the existing processes; involvement of all departments in process improvement. The technological dimension is taken care of by a specialised team which facilitates capturing, refining and making the information available to appropriate employees. The implementation seems to be seamless as governing body comprises of top executives of BHEL. The right culture is created by involving the employees from different teams. Managing to capture information needs to focus on dimensions like where the information is located, who is the source of information and if it exists outside the organization or not. Small and Medium scale enterprises in India play a vital role in terms of contribution to its economic growth. Sujata M and Gita A [2016] [13] made an effort in assessing if KM can act as a tool for making SMEs sustainable or not. They studied how this sector is currently managing the acquired knowledge, thereby suggesting a customised model for SMEs. The major difference in KM practices between big organisations and SMEs is absence of technological resources. For SMEs, their existence depends upon their profit-making capabilities. Hence, all the attention is received by this factor. SMEs do understand the importance and potential benefits that a proper KM system will bring, but the efforts are at a very initial stage. This study has documented these efforts in terms of how KM is currently being achieved and how it is perceived for future reference. Along with explicit knowledge (government policies for this sector, workflow or procedures), tacit knowledge is not being shared as the stakeholders fear competitors may acquire the knowledge which will become a threat in the long run. They also lack required technical support. Eventually, this factor lacks priority. Although, events like regular meetings promote sharing of knowledge, but recipients do not capture it appropriately. Due to lack of processes to capture tacit knowledge, the KM practices are still not at place. The biggest obstacle is financial constraint.

The strategies used in managing knowledge in knowledge intensive business services was studied by Marco B et al. [2012] [14]. Two organisations located at geographically different locations were selected for this study i.e., Hangar Design Group from Italy and Idiom from Bangalore, India. There are similarities in working methods of both organisations. The creative method used by both is a combination of new research and existing methods. As the results received were not acceptable,

hence both organisations intended to design their specific methods. The strategy for KM in both organisations was kept formal. Again, since the results were not reasonable, a balance of fixed structure or codification and a free hand or personalised strategies were used. Both the companies adopted similar set of working rules or principles. Many of them were different. Idiom allowed employees from different disciplines working in a standalone manner. In HDG, similar kind of teams competed with each other to offer better solutions in a time-bound manner. Idiom adopted a very structured way of working which is in contrast with HDG's way of inculcating flexibility into the work flow. The study undoubtedly suggests that giving structure to knowledge enhances the efficiency of sharing knowledge. The best practices can be adopted from other organizations but nothing can replace the organisation's self-acquired knowledge.

The capabilities of an organisation in terms of its technical infrastructure plays a vital role in KM. This was studied and realised by Satyendra C Pandey and Anderw D. [2013] [15] by exploring a knowledge intensive organisation, MindTree. A detailed deep study conducted in the organisation by the researchers suggested the alignment of organisation's culture, perception and ideology of employees and the levels of management into realising KM. The first factor is how capable and organisation is culturally as it drives the functioning of entire organisation. The second factor is hierarchical structure which operationalises the flow of information amongst various levels. Third factor is technological robustness in terms of ease of access. This factor makes or breaks the KM system. Ultimately, the capacity and ability of an organisation to utilize the acquired knowledge meaningfully is the essence of right KM. The researchers realised that right type of interactions amongst employees where they exchange ideas and information in a physical space, virtual space and social space, Moreover, they need to be equipped with personal space that aids generation of ideas via creative thinking. The complete ideology in this organisation is backed up by suitable technology which makes the organisation knowledge intensive. Similar models and adaptations can be done in other industries.

Conclusion

The study based on the above reviews found significant impact of KM in IT sector. The study found that organizations that encourage KM are greatly rewarded in terms of performance by the employees. While KM has direct influence in improving the performance of employees, the indirect effect is more significant. Organizations, as such, are recommended to study the capability of their various division, inculcate the culture of KM. As per research studies, knowledge management can enhance human capital in the organization, including knowledge acquisition, creation, identification, sharing, and practice. More devotion to accepting contemporary training is necessary to recognize and remove the weaknesses and improve employees' knowledge, skill, attitude, and cooperation as an authentic way of problem-solving. To conclude this research paper, it is recommended that organizations must focus on improving KM and HC to improve OP in IT sector.

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