

Value Creation through Knowledge Sharing and Innovation in IT Industry



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Abstract: *The main aim is to review and conceptually understand knowledge sharing and innovation in the Information technology industry (IT) and its impact on organizational performance of the employees. Management of knowledge focuses on retaining of the knowledge, innovation and creation of value. It is a tool used in many organizations to improve the performance of the organization through strategic decision making. Through the help of field survey, primary data was collected and descriptive analysis and correlation analysis technique was applied to understand the association of Knowledge Management (KM) techniques with other variables identified from the study like knowledge sharing, storage of knowledge, transfer of updates, organizational learning and organizational culture etc. The findings suggest that indicators like group meetings, taking courses related to a pertinent area, activities involving team are some of the formal channels of knowledge sharing and they need to be implemented in the organization.*

Keywords: Knowledge Management, Innovation, Sharing, IT sector.

I. INTRODUCTION

Knowledge refers to understanding of concepts, facts, information, skills etc which can be acquired through learning, perceiving, discovering or by pursuing education. It can also be gained by experience. This knowledge needs to be preserved so that it could be utilized by someone else at the right time. The concept of knowledge has been used very effectively for understanding particular information if required for a specific purpose. Combination of experience with interpretation, information, and context refers to knowledge (Davenport et al.1994). Organizations must make the maximum use of the knowledge in a systematic manner in order to gain a competitive advantage against others. Managing knowledge refers to a range of practices adopted by the organisations to identify, create, update and distribute the existing knowledge for learning, innovating and adding value across the organisation. This practice is cultivated on a continual basis using the information from various sources, customers, clients, interactions with the industry etc.

KM is considered as a framework for designing the goals, processes and structure of the organisation. It refers to a integrative approach that helps in achieving organisational goals and objectives by making the best use of knowledge.

Adhering to the objectives of the organisation, KM mainly focuses on sharing the knowledge which has previously been learned, innovation, competitive advantage, value creation etc. KM provides direction and inspiration to create or sustain an organisation. The concept of KM took the momentum when the application of internet was used widely. Organizations thought of making their information accessible to everyone who are geographically dispersed but require the same information. The term KM was first used by McKinsey in 1987 for their study on handling information and its utilization after which Davenport in 1994 came up with proper definition of Knowledge Management.

The various tools for knowledge management in an organisation are databases, web based portal, Artificial Intelligence, Management Information System (MIS), Enterprise Resource Planning (ERP), E-mail, E-discussion groups, Video Conferencing, Simulation techniques, case discussion groups, chat groups etc.

- KM helps in improving the performance of the organisation by providing an advantage on the techniques and operational processes of the organisation.
- KM helps to learn from the past experiences and challenges and provides direction for strategy decision making.
- KM helps to create a vision by focusing on the knowledge retained which would not only improve the performance of the organization as a whole but also deliver value to its stake holders.
- KM encourages innovation and organisation learning.
- KM enables networking among the individuals inside the organisation as well as outside(geographically located somewhere else)

To better under the concept and importance of KM in various organisations few examples have been mentioned: The case of NUMMI (New United Motor Manufacturing Inc.) which was a joint venture between General Motors and Toyota is a very good example of Knowledge Transfer and Management. The new venture not only helped in improving the product quality but also helped in enhancing the manufacturing productivity. Multiple inputs from various sources were considered like the plant managers, service station managers, and corporate level employees and also from the former employees of General Motors. They invested strategically a business plan which would leverage valuable learning opportunities and create competitive advantage.(Andrew C. Inkpen, 2008)

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The above example suggests that various interactions and exchange of ideas, thoughts and experiences led to a network effect and created a learning system.

Xerox Corporation is yet another example which has emerged as a leader for initiating Knowledge Management practice called “Eureka”. It was a KM initiative undertaken by Xerox Corporation i.e. a system’s ability to access all information and improve the field survey efficiency. Major advantage of this initiative was it offered help to various problems and issues faced by the employees of the organization starting from technicians, field investigators, sales and marketing officers through community knowledge base. It was combined with the mobile platform and resolved the issues immediately.

A. Knowledge Management in IT sector

KM is one of those concepts which have been used most widely almost in all types of organizations. As per Lawton (2001) KM refers to deriving of the knowledge from “a deluge of information”. The concept gained its importance in the mid 1980’s when it was translated to commercial technology such as internet, search engines, data warehouses and Artificial Intelligence techniques. In the IT industry mostly developing of software involves steps to design it. Each step constitutes various possible choices which are critical in their own way as it requires a systematic process, particular tools and technique, which variables would be used, how it would be tested etc. Firstly, a company selects what products needed to be developed. Further the project manager selects a team of people who are efficient enough in their respective areas and chalks down a plan for the project. This includes selection of methods and techniques that need to be used. The software programmer decides the function and variables to be used for the software and finally the tester tests the program designed from a set of cases. So each process requires decision making which is based on knowledge and not gut feeling. When individual ideas and knowledge come together these needs to be shared and communicated at the organizational level. This is what knowledge management proposes to do. Similar type of cases, situations need to be shared in a common database which can be accessed by all in an organization whether they are geographically apart.

IT giant like Tata Consultancy Services (TCS) always explore “emerging technologies” which would create an impact on customers and society. They strive to remain ahead of the technological curve significantly contributing to research and development. TCS always depends on their KM initiatives for their consistent growth and existence. They introduced “web of participation” structure in their organisation which was a combination of industry and service practices. This KM initiative was highly appreciated by MAKE (Most Admired Knowledge Enterprises)

B. Review of Literature

According to A.Kankanhalli et al. (2003) their study offers some insights on the implementation of IT-KM initiatives practised by 12 organizations. They need to identify the various approach to be adopted across the industry context i.e. Codification approach and Personalization approach. This classification is required as it defines the competitive edges of the organizations as per the role of IT. N. Mundra, K. Gulati and R. Vashisht (2011) paper discusses about the linkage between management of the knowledge, various innovations which involve KM and development of competitive advantage. Their findings state that

standardisation of the existing knowledge in the forms of procedures should be implemented in the knowledge databases and individual knowledge should be converted to collective knowledge. This implementation of KM helps in to make decisions strategically. To compare the KM initiatives adopted by public sector and private sector organizations in India was the main objective for the study conducted by D.Chawla and H. Joshi (2010). He observed private sector organizations were statistically better in implementing the KM practices than public sector organizations. His study suggested KM dimensions needs to be improvised for leadership, business processes, culture and technology for both the sectors. “Customer Knowledge Management via social media: the case of Starbucks” this paper discussed about usage of social media platforms like Face book, Twitter, Foursquare and MyStarbucksIdea influence. Alton Chua and S.Banerjee (2013). The study found that social media tools were effective in branding and served as good instruments for marketing. The coverage helped to analyze the likes and dislikes of their preferences and choices for coffee. Starbucks followed the principle of “design with customers” (Sigala, 2012) Moreover Starbucks concentrated on deployment of Baristas who were prompt in serving their customers. According to Yacine Rezgui (2007) KM helps in promoting creation of value in an organization when the members of various team bind together under the social conditions and it becomes effective when the change management program encourages participative culture in a construction industry. In the work of Singh, Gupta, Busso and Kamboj (2019) the top management knowledge value and practices influence innovation which in turn affect the organizational performance. Open innovation refers to how the employees’ knowledge, tools and techniques and problem solving abilities could be utilized for responding to better marketing opportunities, value creating processes and developing of business growth and performance of the organization. Cairo and Hernandez (2010) discuss about the positive and negative consequences in implementation of IT in KM system. Their paper talks about the importance of KM system and developing an awareness regarding the role of IT in organization level and at society. Managers of the organization should analyze whether they are ready to acquire a system or technology along with selected architecture. Roldan, Real and Ceballos (2018) conducted a study to find out the KM performance has a mediating effect between KM performance and Organization performance and innovation. Their research model has the ability to predict values for new observation for KM performance and Organizational performance. Their study suggested investing in KM practices which helped in solving issues related to technology and development of knowledge. Razzaq, Shujahat, Hussain et.al (2018) have tried to find out the mediating effect of Organizational commitment between practices and performance of knowledge management workers and it was observed that the later has an partial mediating effect. The study was conducted for a public sector organization where the KM practices were implemented less frequently. Through usage of KM initiatives the task for the knowledge workers was improvised and the experience was used as an input to enhance several other tasks of great importance.

II. OBJECTIVES:

- ✓ To find out the impact of KM practices on the organizational performance.
- ✓ To understand the various aspects of KM and their implementation in IT sector.

III. HYPOTHESES:

H1: Storage of knowledge has a positive association with KM techniques.
 H2: KM transfers have a positive association with KM techniques.
 H3: Years of experience have a positive impact on KM sharing.

IV. RESEARCH METHODOLOGY:

The research was conducted for the employees working in IT sector giants like TCS and Tech Mahindra. The professionals who had already completed three years in the organization were selected as respondents for the study. The total sample size was 180 for both the companies and the data was collected through stratified sampling and snowball sampling technique. Physical forms as well as Google forms were distributed to the employees and data was collected from them. The response rate was 72%. The questionnaire was divided into four sections. Section A consisted of the general information of the employees, section B consisted of the policies, strategies and culture of the organization related

to KM, third section consisted of the questions pertaining to independent variables identified as sharing of knowledge in the organization, storage of knowledge, organization culture and learning etc and the fourth and final section was related to the KM techniques and initiatives implemented in the organization.

V. RESULT AND ANALYSIS:

According to the descriptive statistics 44.4% were male and 55.6% were female employees. Taken into account their educational qualification 28.9% were graduates, 53.3% had master degrees, 13.3% held degree of Professional courses and 4.4% were diploma holders. The working experience in the company was as follows: 3 to 5 years were 31.1%, 6 to 10 years were 60% and 11 to 15 years were 8.9%. Similarly when asked about whether the employees had any idea about KM practiced in their organization 73.3 % said yes while 26.7% employees responded to be no. Respondents were also asked about their opinion regarding KM to which 4.4% of the mass replied as the work which they are currently doing however it has been named differently as KM, 46.7% responded as a business strategic part of their organization, equally 46.7% said that it was something which was beneficial for their organization and 2.2% said that it was just a requirement by the management so it was implemented in the organization.

Table I – Descriptive Statistics

Items	Mean	Std Deviation
"Useful and important knowledge should be shared and put into action"	1.74	0.51
"Employees share their knowledge willingly"	1.32	0.56
"Meeting, tours, additional courses and activities are the formal channels in Knowledge sharing"	1.90	0.30
"Incentives are provided for knowledge sharing"	1.42	0.49
"The process are well-defined for creating and acquiring of knowledge"	1.16	0.36
"Much time is consumed by the employee to get relevant knowledge"	1.56	0.28
"Trust, give and take and participating openly are the major elements of knowledge transfer"	1.61	0.49
"It is feasible to learn from one another"	1.41	0.60
"Centrally the documents are stored for the ease of access"	1.16	0.36
"The information which is stored should be latest, updated and relevant"	1.56	0.50
Is the informal discussions and meetings taking place in the organization all recorded?	1.61	0.49
"Learning the values of the organization which are supported by the formal policy and statements"	1.44	0.8
"Encourage the people to understand and manage their ideological work"	1.62	0.49
"Encourage the people to participate in several learning opportunities conducted in the organization"	1.62	0.49
"Establishing a clear guideline to help the staff learn better"	1.21	0.41
"Culture to encourage good teamwork, innovation and lifelong learning"	1.44	0.50
"Hardware and Software technologies are available to support learning"	1.52	0.50
"Retention is affected by the corporate culture"	1.34	0.48



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"Sharing of knowledge and learning affects the culture of the corporate"	1.31	0.46
"KM provides a virtual platform where all employees can communicate and contact"	1.34	0.48

Mean score is highest for the item "Meeting, tours, additional courses and activities are the formal channels in Knowledge sharing" with 1.90 which signifies it should be considered by the IT companies to encourage KM in the organization.

"Much time is consumed by the employees to get the relevant knowledge" the standard deviation score is the lowest i.e.0.28 for this item which signifies the results are more consistent in nature. Some time of the working hours must be allotted to the employees to get the updates and knowledge about the process and technicalities of the working procedures in the organization.

(a) In order to prove our first hypotheses in Table I correlation analysis has been used and (r-value) comes to 0.205 and the p-value comes to 0.006 which signifies there is an association between KM techniques and storage of knowledge however the relationship is significant at 0.01 levels. The negative association implies, a lower level in one variable is associated with higher levels of another variable. Hence we reject the null hypothesis and accept the alternate.

Table II: Correlation analysis between KM techniques and storage of knowledge

		KM_tech niques	KM_stor age
KM_tech niques	Pearson Correlation	1	0.205**
	Sig. (2- tailed)		0.006
KM_storag e	Pearson Correlation	0.205**	1
	Sig. (2- tailed)	0.006	

(b) In our 2nd hypotheses (see table-III) r-value is 0.175 and has a positive correlation between KM techniques and KM transfer of knowledge however as the p-value is 0.019 which is statistically significant at 0.05 significance level we reject the null and accept our alternate hypothesis.

Table III: Correlation between KM sharing and KM transfer

		KM_tech niques	KM_tran sfer
KM_tech niques	Pearson Correlation	1	0.175*
	Sig. (2- tailed)		0.019
KM_transf er	Pearson Correlation	0.175*	1
	Sig. (2- tailed)	0.019	

(c) In our 3rd hypotheses (see Table IV) we have applied chi-square test in order to find out the association between years of experience and KM sharing and as the p-value is

insignificant we reject the null hypotheses and accept the alternate.

Table IV: Chi-square test between KM techniques and years of experience.

	Value	df	Significance value
Pearson Chi- Square	17.988 ^a	10	0.055
Likelihood Ratio	20.821	10	0.022
Linear-by- Linear Association	0.95	1	0.33
N of Valid Cases	180		

(d) In order to measure the overall impact of Knowledge Management on organizational performance a correlation analysis was performed which has been shown in Table V.

Table V: Correlation analysis between KM transfer and Years of experience.

		Org_performan ce	KM_tech niques
Org_performan ce	Pearson Correlation	1	0.155*
	Sig. (2-tailed)		.038
	N	180	180
KM_tech niques	Pearson Correlation	0.155*	1
	Sig. (2-tailed)	.038	
	N	180	180

The r-value comes to 0.155 which depicts a positive correlation and p-value is statistically significant as it is less than 0.05 hence we conclude that association exists between organizational performance and KM techniques.

VI. CONCLUSION:

The implementation of KM techniques is important for all organizations and the focus should be more on dissemination of information and sharing it on a common platform which should be easily accessible to enhance their functionality and efficacy. KM enhances on non-duplication and innovation. In this particular study data from an IT organization was taken to find out whether KM helps in value creation and the research shows that sharing of information and facilitating it, transfer of knowledge and storing play a crucial part in creation of value for the organization. The organization which is fully aware of the knowledge repositories may be able to react quickly to the external demands and utilize its resources effectively. This study also suffers some of the limitations like limited data has been collected from the respondents so it cannot be generalized as a whole also it has been collected from a particular region.

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