Employees' Perceptions towards the Knowledge Management Practices: An Empirical study at BHEL - Hyderabad

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Abstract: **This present study is aimed to understand the implementation of knowledge management process in Bharat Heavy Electricals Limited – Hyderabad. In order to examine this, various knowledge management sub-dimensions such as acquisition of information, information dissemination, knowledge storage, knowledge transfer, team work, empowerment and commitment to knowledge. These concerned sub-dimensions are able to determine the various knowledge management dimensions like, knowledge creation, knowledge transfer and storage and application and usage of knowledge. The study is also aimed to understand the role of organizational culture in deriving the firms sustainability.**

Keywords: **Acquisition of Information, Information Dissemination, Knowledge Storage, Knowledge Transfer, Application and Usage of Knowledge, Organizational Culture, Sustainability, BHEL – Hyderabad.**

1.   INTRODUCTION

Knowledge can be gained and accumulated as "information combined with experience,context, interpretation, reflection and is highly contextual".It is a high-value form of information that is ready for application to decision and actionswithin organizations.Knowledge is increasingly being viewed as a commodity or an intellectual asset. Itpossesses some contradictory characteristics that are radically different from those ofother valuable commodities (Anantatmula V.S, 2018). In this rapid changing business environment the ability tomanage knowledge is becoming more crucial in today's knowledge economy.The power of knowledge is increasingly documented as the new strategic tool in thegrowing organizations. The common pupil trends to hold knowledge towards theirorganizations knowledge as an asset to their service.Today, knowledge is considered as a great source to an organization. The creation anddiffusion of knowledge have become ever more important factors in competitiveness.

Concept of Knowledge Management

Knowledge management is that the firms manage know-how their employees haveabout its products, services, organizational systems and intellectual property.Specifically, knowledge management embodies the strategies and processes that a firmemploys to identify, capture and leverage the knowledge contained within its corporatememory.Knowledge Management is appropriate towards the basic activity of planning andimplementing our tasks in a systematic and efficient manner (Tikhomirova et al., 2018).Knowledge management is well documented that organizations with efficientcommunication linkages have higher "information flow, knowledge sharing,cooperation, problem-solving, creating, efficiency and productivity.Companies built on such well develop networks to, "produce measurable businessresults, such as faster learning, quicker response to client needs, better problem-solving,less rework and duplication of effort, new ideas and more innovation. They enjoy highersales, more profits, and superior market value".

Principle of Knowledge Management

According to the dictionary definition principle is a'fundamental truth or law as a basis of reasoning or action'.Furthermore, principles have, at least, four distinct characteristics:

➢ They are timeless. They will be just as relevant in 50 years' time as they are now.

➢ They are changeless. Whereas knowledge will change over time, principles do not change ever.

➢ They are universal. That is to say, they can be applied anywhere.

➢ They are scale able. That is, the same principles can apply to individuals, teams, organizations, inter-organizations, and even globally.

So one can say that principles, are 'the heart of the matter', the fundamental source. In thecontext of knowledge management, over many years, our KM consultants are continuallystriving to uncover these principles and apply them, at the personal, team, organization, interorganizationand global levels.We are dedicated to principle centred knowledge leadership.

According to Perez et al., 2014 knowledge management does not appear to possess the qualities of a discipline. If anything, KM qualifies asan emerging field of study. Those involved in the emerging field of KM are still vexed today bythe lack of a single, comprehensive definition, an authoritative body of knowledge, proventheories, and a generalized conceptual framework.There are a couple of reasons for this. Some regard knowledge as being virtually synonymouswith information, while others incorporate concepts such as experience, know-how, know-what,understanding, values, etc. At the risk of generalisation, the former approach tends to be morecommon in IT dominated circles while the latter is more prevalent in business managementliterature.

Second, KM has a wide range of contributors from different fields, industries, and so on,which further perpetuates different understandings of what the term actually means. Nonaka et al., 2015identify the following disciplines as being the greatest contributors to, orusers of KM: computer science, business, management, library and information science,engineering; psychology, multidisciplinary science, energy and fuels, social sciences, operationresearch and management science, and planning and development.

Looking at the definitions above, the most striking aspect should be that first definition doesnot even mention the word "knowledge". According to that definition, KM is informationfocused technological discipline. It should also be apparent that definition 2, although morenuanced than definition 1, is still far narrower in scope and far more technology-dependent thanSkyrme's definition, while at the same time also lacking the strategic element thatSkyrme implies through the term "vital" knowledge.The problem with a lack of a common definition is that each KM initiative could, intheory, have widely different goals, scope, and success criteria. The differences are so great thatto even talk of KM failures or successes is potentially misleading. Moreover, if there is a lack ofunderstanding as to what knowledge or KM represents within the firm itself, it is easy to seehow problems, misunderstandings, and widely different expectations could arise.

Therefore, when dealing with KM, keep in mind that before when you are faced withresults, advice, theories, etc. it is imperative to first understand what the author meant byknowledge management. Secondly, whenever you deal with KM in your organization, make sureeveryone is on the same page as to what KM is and hopes to achieve.

History of Knowledge Management

As great attention has received in this field in recent years; however, the root of this areacan be traced back many years. In fact, "the concept of knowledge management is nothing new.Corporation have always has some process to synthesize their experience and integrate it withknowledge acquired from outside sources like inventions, purchased patents.In modern expansion, the change in "technology speciation", explains how advances intechnological development often occur in rapid "bursts of evolutionary activity" after a smallimprovement in a technology opens the door to a wider range of application. Technologyspeciation can also be used to analyze the development of the knowledge management field (Leonard – Barton D., 2015).

"Recent developments in information technology have an important role for the suddenemergence of knowledge management. Information technology has provided new tools to betterperform the activity of building knowledge capital". Specifically, the knowledge managementfield witnessed substantial "evolution" after the introduction of Lotus Notes, which was one ofthe earliest integrated email, Database and document management applications. This softwarefor the first time allowed users to access, share information and communicate with employeesacross a global organization.Netscape's browser development and deployment of corporate intranets, which have hada substantial role for the further development of firms' knowledge management and sharingefforts, like recently, "two important areas in particular have contributed to the birth of modernknowledge management systems: communication (or network technologies) and relationaldatabase. These advanced communication technologies, which enhanced collaboration betweenproject teams. Relational databases, which allow data from different sources to be linkedtogether, have allowed firms to "link" data and knowledge from one area of the firm to another (Kakabadse et al., 2013).

These knowledge "links" allow the firm to construct knowledge "bridges" which contribute tothe firm's ability to use existing knowledge to generate new learning. Other notabletechnological advances which have played a substantial role in the development of knowledgemanagement include advances in file storage, search and retrieval technologies.Specifically, in the post-war era, the U.S. economy has undergone a dramatic structuralshift from a manufacturing-based economy to that of a service-based economy, as the servicesector now comprises 80% of U.S. employment and 63% of U.S. GDP. Since people are theprimary asset in a service organization, firms have begun to recognize that retaining theiremployees' knowledge will be increasingly important as firms grapple with how best toinstitutionalize the knowledge of their employees given the current high levels of employeeturnover. The Bureau of labor Statistics estimates that employees change jobs so frequently that54% of all employees have been with their current employer for less than four years (Hult et al., 2017).

The historical overview of the knowledge management provides the importance ofinformation technology to the field, it is important to remember that knowledge management is abusiness process. Technology is the backbone of knowledge management, but it is only one suchimportant component of an integrated knowledge management system.

Definitions of Knowledge Management

Knowledge management refers to identifying and leveraging the collective knowledgein an organization to help the organization to compete with their competitors.Knowledge management (KM) is an effort to increase useful knowledge within theorganization. Ways to do this include encouraging communication, offeringopportunities to learn, and promoting the sharing of appropriate knowledge artifacts (McInerney, C).The multidisciplinary nature of KM represents a double- edged sword. On the one hand, itis an advantage because almost anyone can find a familiar foundation on which to base theirunderstanding and even practice of KM. Someone with a background in journalism, for example,can quickly adapt his or her skill set to the capture of knowledge from experts and reformulatethem as organizational stories to be stored in corporate memory. Someone coming from a moretechnical database background can easily extrapolate his or her skill set to design and implementknowledge repositories that will serve as a the corporate memory for that organization (Fugate et al, 2019).

Knowledge Management Scenario at BHEL

Bharat Heavy Electricals Ltd is a premier Government of India undertaking and ranksamongst the top 10 power generation equipment manufacturers in the world. BHELmanufactures and supplies approximately 70% of the total power generating equipmentin India (BHEL Annual Report on Sustainability, 2020). Recognizing the importance ofchanging trends and advancements in technology, BHEL put in place a KM system in2005 to succeed internationally and gain a competitive advantage. The process involvedestablishing organisational priorities (Goel et al. 2010), adopting new technologyand creating an organisational environment of constant sharing of information andknowledge. This efficient and effective flow of knowledge among different units andsubsidiaries resulted in improved performance of various departments, and also increasedprofits. It also led to enhanced decision-making ability, increased productivity, decreasedtime to market and improved product quality. Being a technology-intensive organisation,the Research and Development Department of BHEL played a major role in setting upthe KM system in the organisation and guiding it towards achieving its goal of becominga global engineering enterprise (GeetaRana et al., 2017).

Bharat Heavy Electricals Ltd looks to continuously acquire expertise and knowledgeto deal with various organisational and technical issues and situations throughexperimentation and innovative ideas while creating conditions for the generation andapplication of knowledge which affords the organisation a competitive advantage in thenew knowledge-based economy. At BHEL, the KM process seeks to manage the flow ofknowledge from both internal and external sources. BHEL, just like any otherknowledge-intensive organisation, has three main types of capital: human capital(intelligence of employees), structural capital (intellectual property rights) and customercapital (social or relationship capital). These three types of capital are necessary to build'organisational intelligence' and contribute towards building a 'learning organisation'.Factors influencing the competitiveness of companies change with time and marketconditions. This is a fact well recognised by the BHEL management. The KM strategy ofBHEL accounts for factors such as cultural transformation, advancements in technology,content management, developing areas for application of knowledge and resources,measurement and validation of knowledge, and KM organisational structure, ensuring thea competitive advantage for the company.

Objective of the Study

This study is intended to assess the employees' perceptions towards the knowledge creation in the organization.

2. RESEARCH METHODOLOGY

The present study is case study in nature. The employees' perceptions towards the dimensions of the knowledge management is discovered. In order to attain the data for this study, the researcher applied convenience sampling method. A structured questionnaire is applied among the employees and collected the samples of 856. The concerned data is analysed for this study. Cross-tabulation analysis with Chi-Square statistics is applied the results are tabulated.

3. DATA ANALYSIS

The cross tabulation analysis towards knowledge creation revealed that there are 556 male respondents 2.52 percent of respondents said that they are extremely satisfied with knowledge creation, 45.68 percent are satisfied, 32.91 percent are with neutral opinion, 8.09 percent were dissatisfied and 10.79 percent were highly dissatisfied with Knowledge creation. There are 300 female respondents 4.67 percent of respondents said that they are extremely satisfied with knowledge creation, 46.67 percent are satisfied, 19.33 percent are with neutral opinion, 19.33 percent were dissatisfied and 10.00 percent were highly dissatisfied with Knowledge creation. The analysis further stated that there are 232 respondents who are under the age group of 25-35 yrs 3.02 percent of respondents said that they are extremely satisfied with knowledge creation, 46.55 percent are satisfied, 28.02 percent are with neutral opinion, 12.07 percent were dissatisfied and 10.34 percent were highly dissatisfied with Knowledge creation.

Table 1: Cross-Tabulation over Employees' Perceptions towards statement of Knowledge creation

Description		Total Sample n=856	Knowledge creation					Chi Square
			Extremely Dissatisfied	Dissatisfied	Neutral	Satisfied	Extremely satisfied	
Gender	Male	556	60(10.79)	45(8.09)	183(32.91)	254(45.68)	14(2.52)	36.130 df 4 p<0.05
	Female	300	30(10.00)	58(19.33)	58(19.33)	140(46.67)	14(4.67)	
Age	25-35 yrs	232	24(10.34)	28(12.07)	65(28.02)	108(46.55)	7(3.02)	1.773 df 12 p>0.05
	35-45 yrs	460	48(10.43)	54(11.74)	130(28.26)	214(46.52)	14(3.04)	
	45-55 yrs	82	9(10.98)	10(12.20)	25(30.49)	34(41.46)	4(4.88)	
	> 55 yrs	82	9(10.98)	11(13.41)	21(25.61)	38(46.34)	3(3.66)	
Level of Job	Strategic Level	205	21(10.24)	22(10.73)	58(28.29)	97(47.32)	7(3.41)	0.594 df 8 p>0.05
	Tactical Level	378	40(10.58)	46(12.17)	107(28.31)	173(45.77)	12(3.17)	
	Operational Level	273	29(10.62)	35(12.82)	76(27.84)	124(45.42)	9(3.30)	
Educational Qualification	UG	566	61(10.78)	66(11.66)	159(28.09)	261(46.11)	19(3.36)	0.367 df 8 p>0.05
	PG	229	23(10.04)	29(12.66)	65(28.38)	105(45.85)	7(3.06)	
	Others	61	6(9.84)	8(13.11)	17(27.87)	28(45.90)	2(3.28)	

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Experience	0-2 yrs	372	39(10.48)	40(10.75)	104(27.96)	178(47.85)	11(2.96)	12.980 df 12 p>0.05
	2-5 yrs	349	39(11.17)	47(13.47)	98(28.08)	157(44.99)	8(2.29)	
	5-10 yrs	45	2(4.44)	3(6.67)	12(26.67)	25(55.56)	3(6.67)	
	>10	90	10(11.11)	13(14.44)	27(30.00)	34(37.78)	6(6.67)	
Name of the Department	Design	110	10(9.09)	11(10.00)	32(29.09)	53(48.18)	4(3.64)	2.644 df 20 p>0.05
	Engineering	164	18(10.98)	21(12.80)	45(27.44)	75(45.73)	5(3.05)	
	Manufacturing	144	13(9.03)	17(11.81)	41(28.47)	68(47.22)	5(3.47)	
	Construction	95	11(11.58)	11(11.58)	26(27.37)	44(46.32)	3(3.16)	
	Testing	214	22(10.28)	25(11.68)	62(28.97)	98(45.79)	7(3.27)	
	Servicing	129	16(12.40)	18(13.95)	35(27.13)	56(43.41)	4(3.10)	

There are 460 respondents who are under the age group of 35-45 yrs 3.04 percent of respondents said that they are extremely satisfied with knowledge creation, 46.52 percent are satisfied, 28.26 percent are with neutral opinion, 11.74 percent were dissatisfied and 10.43 percent were highly dissatisfied with Knowledge creation. There are 82 respondents who are under the age group of 45-55 yrs 4.88 percent of respondents said that they are extremely satisfied with knowledge creation, 41.46 percent are satisfied, 30.49 percent are with neutral opinion, 12.20 percent were dissatisfied and 10.98 percent were highly dissatisfied with Knowledge creation. There are 82 respondents who are above 55 yrs 3.66 percent of respondents said that they are extremely satisfied with knowledge creation, 46.34 percent are satisfied, 25.61 percent are with neutral opinion, 13.41 percent were dissatisfied and 10.98 percent were highly dissatisfied with Knowledge creation.

There are 205 respondents who belong to Strategic level employees 3.41 percent of respondents said that they are extremely satisfied with knowledge creation, 47.32 percent are satisfied, 28.29 percent are with neutral opinion, 10.73 percent were dissatisfied and 10.24 percent were highly dissatisfied with Knowledge creation. There are 378 respondents who belong to tactical level 3.17 percent of respondents said that they are extremely satisfied with knowledge creation, 45.77 percent are satisfied, 28.31 percent are with neutral opinion, 12.17 percent were dissatisfied and 10.58 percent were highly dissatisfied with Knowledge creation. There are 273 respondents who belong to operational level employees 3.30 percent of respondents said that they are extremely satisfied with knowledge creation, 45.42 percent are satisfied, 27.84 percent are with neutral opinion, 12.82 percent were dissatisfied and 10.62 percent were highly dissatisfied with Knowledge creation.

There are 566 graduate respondents' 3.36 percent of respondents said that they are extremely satisfied with knowledge creation, 46.11 percent are satisfied, 28.09 percent are with neutral opinion, 11.66 percent were dissatisfied and 10.78 percent were highly dissatisfied with Knowledge creation. There are 229 post graduates 3.06 percent of respondents said that they are extremely satisfied with knowledge creation, 45.85 percent are satisfied, 28.38 percent are with neutral opinion, 12.66 percent were dissatisfied and 10.04 percent were highly dissatisfied with Knowledge creation. There are 61 respondents who belong to other category 3.28 percent of respondents said that they are extremely satisfied with knowledge creation, 45.90 percent are satisfied, 27.87 percent are with neutral opinion, 13.11 percent were dissatisfied and 9.84 percent were highly dissatisfied with Knowledge creation.

There are 372 respondents whose experience range within 0-2 yrs 2.96 percent of respondents said that they are extremely satisfied with knowledge creation, 47.85 percent are satisfied, 27.96 percent are with neutral opinion, 10.75 percent were dissatisfied and 10.48 percent were highly dissatisfied with Knowledge creation. There are 349 respondents whose experience range within 2-5 yrs 2.29 percent of respondents said that they are extremely satisfied with knowledge creation, 44.99 percent are satisfied, 28.08 percent are with neutral opinion, 13.47 percent were dissatisfied and 11.17 percent were highly dissatisfied with Knowledge creation. There are 45 respondents whose experience range within 5-10 yrs 6.67 percent of respondents said that they are extremely satisfied with knowledge creation, 55.56 percent are satisfied, 26.67 percent are with neutral opinion, 6.67 percent were dissatisfied and 4.44 percent were highly dissatisfied with Knowledge creation. There are 90 respondents whose experience is above 10 yrs 6.67 percent of respondents said that they are extremely satisfied with knowledge creation, 37.78 percent are satisfied, 30 percent are with neutral opinion, 14.44 percent were dissatisfied and 11.11 percent were highly dissatisfied with Knowledge creation.

There are 164 respondents who belong to Engineering 3.05 percent of respondents said that they are extremely satisfied with knowledge creation, 45.73 percent are satisfied, 27.44 percent are with neutral opinion, 12.80 percent were dissatisfied and 10.98 percent were highly dissatisfied with Knowledge creation. There are 144 respondents who belong to Manufacturing 3.47 percent of respondents said that they are extremely satisfied with knowledge creation, 47.22 percent are satisfied, 28.27 percent are with neutral opinion, 11.81 percent were dissatisfied and 9.03 percent were highly dissatisfied with Knowledge creation. There are 95 respondents who belong to Construction 3.16 percent of respondents said that they are extremely satisfied with knowledge creation, 46.32 percent are satisfied, 27.37 percent are with neutral opinion, 11.58 percent were dissatisfied and 11.58 percent were highly dissatisfied with Knowledge creation.

There are 214 respondents who belong to Testing 3.27 percent of respondents said that they are extremely satisfied with knowledge creation, 45.79 percent are satisfied, 28.97 percent are with neutral opinion, 11.68 percent were dissatisfied and 10.28 percent were highly dissatisfied with Knowledge creation. There are 129 respondents who belong to Servicing 3.10 percent of respondents said that they are extremely satisfied with knowledge creation, 43.41 percent are satisfied, 27.13 percent are with neutral opinion, 13.95 percent were dissatisfied and 12.40 percent were highly dissatisfied with Knowledge creation.

Chi-Square Analysis:

➢ The cross-tabulation results between respondents' opinion on Knowledge creation with gender revealed that (36.130, df 4, $p < 0.05$) Knowledge creation has significant association with gender.

➢ The cross-tabulation results between respondents' opinion on Knowledge creation with age revealed that (1.773 df 12 $p > 0.05$) Knowledge creation no significant association with respondent's age categories.

➢ The cross-tabulation results between respondents' opinion on Knowledge creation and respondents' type of organization revealed that (0.594 df 8 $p > 0.05$) Knowledge creation had no significant association with type of organization.

➢ The cross-tabulation results between respondents' opinion on Knowledge creation and respondents' education revealed that (0.367 df 8 $p > 0.05$) Knowledge creation had significant association with respondent's education.

➢ The cross-tabulation results between respondents' opinion on Knowledge creation and respondents' experience revealed that (12.980 df 12 $p > 0.05$) Knowledge creation had no significant association with respondent's experience.

➢ The cross-tabulation results between respondents' opinion on Knowledge creation and respondents' belonging to different divisions revealed that (2.644 df 20 $p > 0.05$) Knowledge creation had no significant association with respondent's belonging to different departments.

4. CONCLUSION

Based on the derived results, it is observed that the knowledge management practices are very effective in the organization.

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