APPLICATION OF ENTERPRISE KNOWLEDGE MANAGEMENT IN HRD:

A COMPARATIVE ANALYSIS OF THE SELECTED COMPANIES IN IT SECTOR IN AND AROUND PUNE.

ABSTRACT OF THE THESIS

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ABSTRACT FOR THE PH.D. THESIS

APPLICATION OF ENTERPRISE KNOWLEDGE MANAGEMENT IN HRD: A COMPARATIVE ANALYSIS OF THE SELECTED COMPANIES IN IT SECTOR IN AND AROUND PUNE.

1.1 Introduction

Knowledge base competence can be important enablers of success in today’s hyper competitive world. In order to sustain in today’s dynamic business world, the heartbeat of a firm depends on the constant renovation of systems for which the enterprise should optimally deploy its most valuable asset – “knowledge”. Knowledge can be described as - information possessed in the mind of individual, being personalized and produced as per the need, in the form of information with a precise and relevant context. Company-wide knowledge is Enterprise knowledge management that entails formally managing knowledge resources in order to facilitate access and reuse of knowledge, typically by using advanced information technology.

Knowledge Management (KM): can be understood as a process of creating, capturing, storing, sharing & applying Knowledge. Knowledge based systems and its association with Human Resource Development (HRD) has been a recent phenomenon, which has taken the role of the HR Managers at a higher stand and given HR function a multidisciplinary facet.

Enterprise Knowledge Management (EKM) as defined by Gartner is “a centrally guided KM program that supports multiple business objectives. EKM is surely a multi-disciplinary area which can have any number of contexts and contributions from varied sources. It is predominantly the group knowledge that gets generated from the pool of knowledge in an organization and the business environment in which it resides.

Human Resource Management and Human Resource Development: HRM is a wide area having several functions under its umbrella of which HRD being one of the major one. The HR department plays a vital role in ensuring the smooth running of an enterprise – most importantly by tracking and analyzing the promptness and work patterns of the workforce.
which help the knowledge workers to perform and also to acquire knowledge. Yet it is comparatively ignored or overlooked in enterprise management. There are lots of newer and better methodologies and technologies coming into market that are being adapted by enterprise to aid the departmental tasks and functions. Better Methodologies need to be followed and implemented in the organization for managing such transformations.

1.2 Significance Of Research

Enterprise Knowledge Management is viewed as a strategic tool in support of enterprise transformation for a new economy. Organization cannot afford dips in productivity that result from the manual unstructured and inefficient way to access the multiple repositories of information either stored or implicit. In this context better and newer but well-established methodology, would leverage the task of involvement of the stakeholders; and in the process would result in achieving qualitative knowledge sharing and knowledge dissemination. The current Research Study addresses these issues. Moreover the study focuses on following outcome in major:

- To study and understand the application of EKM and its association of HRD.
- To study the mechanism of application of EKM in IT companies and involvement of stakeholders in it.
- To study the Key business processes and their association with the application of EKM.
- Study the challenges and factors influencing effective application of EKM.
- To explore the apparent benefits of EKM in an enterprise.
- To examine the aim(s) in the initiation of application of EKM.
- To evaluate the application of EKM in Indian and Foreign multinational companies and
- TO understand the impact of technological advancement in HRD and worthiness of EKM in that direction.
- Comparative assessment of the application of EKM in HRD stakeholders in selected companies in IT sector in and around Pune.
- Identify the work mechanisms depicting its association with EKM initiatives and ranking.
- Scrutinize the worthiness of EKM as a supportive strategy in HRD to build innovation friendly culture encouraging productive KM workers, positively facilitating the IT business enterprises.
1.3 Review Of Literature

Review of Literature as an activity has been conducted both prior to formulation of a research proposal and after receiving the sanction for the proposal. Existing KM Systems, Models and Frameworks, in general and few specific to IT Industry were reviewed. The role played by different stakeholders was studied in order to study their involvement and contribution towards the application of EKM with emphasis in HRD. These also include the study of the factors influencing the application of EKM at organization level, Department level and Employee level.

The literature study provided a theoretical base for identifying the problem statements wherein the focal point rested on the comparative analysis of application of EKM in HRD in the selected IT companies. Moreover this study as well provided a base to evaluate the problem domain and propose a relevant Understanding Model of Application of EKM and EKM Implementation Layered Framework, and a suggestive EKM Life Cycle Model applicable especially to IT Industry.

1.4 Problem Description and Scope of The Research

For business unit, project or workgroup management, KM is all about building and maintaining a knowledge workspace that integrates the workplace environment, whether a central space or a remote and distributed virtual space; with business intelligence, competitive intelligence and human competencies. With the expansion of business, there is voluminous data playing major role being further progressed and the complexity of managing & communicating such knowledge gets elevated. Furthermore, in today’s business climate, along-with so many uncertainties and risks in trade, it’s a herculean task to manage enterprise knowledge, where employees change jobs much more frequently. Thus IT firms cannot rely on longtime employees to transfer knowledge to other.

In IT sector EKM as a methodology has been utilized in selective areas like Software Engineering, CMM (Capability Maturity Model) which actually is product development and quality management. Although in context to the HRD in IT sector; relatively less research has been conducted in examining the existence and impact of the application of EKM.
Application of EKM is critical at the same time very much essential; with HRD playing a vital role became an imperative facet for the research study. Therefore the researcher attempted “Application of Enterprise Knowledge Management in HRD: A Comparative Analysis of the Selected Companies in IT Sector in and around Pune.”

**Scope Of Research:** One of the important elements of the study is about application of EKM in the area of Human Resource Development; wherein HRD as a discipline spans in various functions in the organization such as recruitment and selection, Training and Development, Payroll and appraisals, etc. Furthermore, there are certain recreational, motivational and welfare aspect associated with this discipline. There are many companies in Information Technology (IT) sector, which are local and global enterprises, both Indian as well as Foreign Multinational Companies (MNCs) flourishing their trade on Indian soil.

**Conceptual Scope:** The scope of the research is to comparatively analyze and understand the existing Knowledge Management Systems that facilitate the business processes in organization and as well examine the challenges faced and HR Measures to overcome the challenges of HR as well as challenges of application of EKM.

**Geographical Scope:** For undertaking a comparative analysis of different categories of companies, the study is restricted to the selected companies in IT Sector, in and around Pune (Maharashtra State-India). From which the target companies were Indian and Indian MNCs in one set and another set of companies were Foreign MNCs.

**1.5 Objectives Of The Research Study**

The main objective of the research study undertaken is:

**To conduct a Comparative analysis of the Application of EKM in HRD of the selected companies in IT Sector in and around Pune** (Maharashtra State-India) ; wherein 2 sets of companies have been considered namely ;

i. Indian and Indian Multi-National Companies (Indian&IndianMNCs)Type A

ii. Foreign Multi-National Companies (Foreign MNCs)Type B

Furthermore, following subsets of the above objective is proposed for the study:
1. To know and understand the application of EKM in IT companies
2. To examine mechanism of application of EKM in IT companies.
3. To study the impact of application of EKM in HRD in IT companies.
4. To make comparative analysis of application of EKM in HRD of selected companies in IT sector.
5. To study the Impact of technological advancements in HRD and the value of EKM in that direction.
6. To assess the attitude and role of HR in application of EKM in IT company.

In the context of the mentioned objectives, following hypotheses were designed;

1.6 Hypotheses Statements:

**Hypothesis 1:** “Understanding of Application of EKM is effectively reflected in the key business processes and KM initiatives in IT companies”

**Hypothesis 2:** “Application of EKM is carried out step-by-step, to foster constant growth of the individual and the organization”.

**Hypothesis 3:** “Application of EKM in HRD majorly leads to successful management of business challenges”

**Hypothesis 4:** “There is similarity between application of EKM in HRD in Indian & Indian MNCs and Foreign MNCs in IT companies”

1.7 Research Design:

Survey Method is used for this research study. Interview and discussions were as well used as supportive techniques for exploring data. The span of the research is to evaluate the application of EKM in HRD; that facilitate the business processes in organization; to study the influencing factors in the changing environment in business and technology in different companies namely; Indian plus Indian MNCS and Foreign MNCs. For undertaking a comparative analysis of different categories of companies, the study is restricted to the selected companies in IT Sector, in and around Pune (Maharashtra State- India).
Data Collection Methods

Qualitative and Quantitative Methods have been followed for this study. The modes adopted for collecting data in order to achieve the research objectives are primary and secondary sources.

Pilot Study: Before initiating the actual data collection, a pilot study was conducted in 10 known IT companies. It helped in improving the questionnaire and as well gave a better roadmap to carry out the data collection.

Initial data collection was done by face to face interviews and in-person questionnaire; later utilized Google’s document facility ‘Gdoc’, to design, distribute and receive Questionnaire feedback, online.

i. Primary Data: collected by administering Structured Questionnaire and conducting In-Depth Interviews with the HR personnel, Knowledge Officers and other knowledge workers from the selected Companies in IT Sector in and around Pune. Scheduled Interviews and discussions were also carried out with the employees working in few of these enterprises initially. The detail data sampling and sampling techniques have been mentioned after the point of secondary data.

ii. Secondary Data: The researcher has visited several Libraries such as-Indian Institute Of Institute management, Ahmedabad (IIM-A)-India; IndSearch Library, Pune-India; Jaykar Library, Pune University, India; Sinhgad Institute Of Management,Pune-India; Bharati Vidyapeeth’s IMED Library, Pune-India; Tech Mahindra Library, Pune-India; San Francisco State University Library, San Francisco-USA; and Harvard Business School Library, Boston-USA.

Study of published sources includes books, monographs, journals, research papers and research articles, conference proceedings, press clippings, company documents, project reports, published thesis and dissertations. Information on the internet and websites having data related to the research topic has been referred along-with the published data. This data is used to support primary objectives and hypotheses; wherever required further in the data analysis stage.
**Data Sampling:**

The selection of the sample units was planned based on criteria such as:

i) The selected companies in IT sector, located in and around Pune will be considered.

ii) The Enterprises having annual turnover of around five crores of INR and above, and capital investment of more than 50 lakh INR have been chosen.

iii) The category of the IT company should be company in IT sector should fall under either Indian or Indian Multinational or Foreign Multinational Corporation

The total companies in IT sector, as per the list obtained from MCCIA were **1030**, in and around Pune in the year 2010. This list is supported by the details published on the website of Ministry of Foreign Affairs of India. The directory has listed software enterprises that include Small Scale, Medium Scale and Large Scale companies. These enterprises were classified as IT Education (ITEDU) as well as IT Enabled Services (ITES) along-with service / product development companies. In view of the sample selection, the researcher has chosen only the MNCs and Indian Companies from this list which counts **98** and remaining **932** IT companies located in and around Pune, respectively.

**Fundoodata.com** is looked upon as a website which empowers corporate with online database and it facilitates in accessing the information of Companies in domains like IT/ITES, Retail, Consulting, BFSI, Manufacturing, Services, etc. From this list total IT companies in Pune filtered were **472** from which **108** were MNCs.

There were **90** IT companies listed by **NASSCOM** (National Association of Software and Service Companies) (www.nasscom.org).

The list published by SICSRWiki had **474** Small, Middle and Large Scale IT Companies located in and around Pune (SICSR stands for Symbiosis Institute of Computer Studies and Research which is a open source). This has been indicated in Table No.1.1.

**Stage 1: Multi-Stage Sampling Technique (Purposive Convenience Technique)**

**Purposive Conventional Sampling Technique** has been followed in the research survey.

**Stage 2: Stratified Disproportional Sampling Technique** was applied based on the types of the companies-namely;

A) Indian&Indian MNCs and  
B) Foreign MNCs.

As per the criteria specified, the researcher has selected more than 7% of the sample from
the given population of IT Companies in and around Pune.

Based on the 2 main lists obtained from MCCIA and fundoodata.com, 75 companies were chosen which fulfilled the criteria framed for the sample selection. Moreover the IT companies which are operational in and around Pune and providing services were the chosen companies.

<table>
<thead>
<tr>
<th>Source Organization</th>
<th>No. of MNC Companies</th>
<th>No. of Indian Companies</th>
<th>Total Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCCIA</td>
<td>98</td>
<td>932</td>
<td>1030</td>
</tr>
<tr>
<td>Fundoodata.com</td>
<td>108</td>
<td>1887</td>
<td>1995</td>
</tr>
<tr>
<td>NASSCOM</td>
<td>90</td>
<td>901</td>
<td>991</td>
</tr>
<tr>
<td>SICSRWiki</td>
<td>96</td>
<td>378</td>
<td>474</td>
</tr>
</tbody>
</table>

Table No. 1.1 Total IT companies in Pune upto year 2010.

The given table no.1.1 gives the total number of companies in Pune all together including both MNC and Non MNC. The sources shows different number of companies and some companies were not included in the given in Table No.1.1. Now considering all the sources, in over all 1995 number of companies all together fall in Pune area. Based on the selection of sample and given criteria, the researcher has selected only Foreign MNC’s and Indian & Indian MNC’s which it has more than 5 Crore INR as annual turnover and more than 50lakh INR initial capital. Based on the criteria, the researcher has chosen given sample indicated in table 1.2.

<table>
<thead>
<tr>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of the IT company</td>
<td></td>
<td>no. of companies falls as per criteria</td>
<td>no. of companies selected for sample (in % of III and IV)</td>
<td>Complete data set filled by respondent (In % of III&amp; V)</td>
<td>in % IV and V</td>
</tr>
<tr>
<td>Indian and Indian MNCs</td>
<td>1887</td>
<td>364</td>
<td>66 (18.13)</td>
<td>28 (7.69)</td>
<td>42.42</td>
</tr>
<tr>
<td>Foreign MNCs</td>
<td>108</td>
<td>108</td>
<td>34(31.48)</td>
<td>28 (25.92)</td>
<td>82.35</td>
</tr>
<tr>
<td>Total</td>
<td>1995</td>
<td>472</td>
<td>100(21.19)</td>
<td>56</td>
<td>--</td>
</tr>
</tbody>
</table>

Table 1.2 Various percentages of companies along-with number of companies
Further based on the addresses of the companies whose base address or branch address fall in and around Pune were short listed, contact details of around 100 companies were selected and communicated. Based on the validity and completeness of Questionnaire responses, 56 respondents were considered. There were 28 responses drawn from each type of companies. Apart from this, 12 respondents were interacted with for Interviewing and discussion. This interview data collected has been used for data analysis and interpretation.

1.8 Schedule and Period of the Study:

Data collection including the pilot study was carried out from June 2009 till March 2012 for various respondents in the IT companies selected particularly the HR personnel in Mid-Senior category like the Managers and Senior Executives and Top Management category like the HR-Heads and Vice-Presidents. The Interview and discussion mode was applied for interaction with the Top management which was documented and integrated later into the qualitative analysis as supportive data to the final results obtained through the quantitative analysis result data.

The period of the data collection was defined as those IT companies in and around Pune fulfilling the criteria given and have been in business since at least the specified last 3 year 2009-2010-2011; and as well fulfill the given criteria for sample selection.

1.9 Chapter Scheme

A quick view of the chapter design and brief contents of each one is as follows;

**Chapter 1. Introduction and Research Methodology:** This Chapter introduces the Topic of application of EKM in HRD in the IT companies with a keen HR perspective as a research proposal, along with the overview of IT Sector in India. It as well points out the significance and utility of the study undertaken. Furthermore, the purpose of the research study undertaken, the objectives and hypotheses stated and the overall research design is declared, wherein the type of research methods and techniques used is proposed.
Chapter 2. Review Of Literature: A brief description of the Literature Review was conducted; both prior to formulation of a research proposal and after receiving the sanction for the proposal is stated. Review of existing published literature in hard copy as well via internet has been mentioned, which helped in identifying the research gaps and supported in defining the problem statement bringing out a foundation for the current research study.

Chapter 3. Overview Of Enterprise Knowledge Management: The existence of application of EKM in HRD in IT Companies is revealed in various KM initiatives. This Chapter explains the conceptual details about EKM and application of EKM. EKM Methodology, Practices, Framework and tools have been discussed.

Chapter 4. Mechanism and Challenges of Application of EKM in IT Business Context: This Chapter discusses about applying and practicing EKM in IT Business context. The Key business processes and its association with EKM, the factors affecting EKM Implementation and the challenges associated with EKM implementation are highlighted.

Chapter 5. Impact of application of EKM in HRD: This Chapter discusses a background of the stakeholders involved in formulation of EKM system, the role, proficiency and competencies of HR Managers in today’s business context have been highlighted. HR work mechanisms, HR outlook towards the technological advancements undertaken; while applying EKM in HRD has been as well depicted.

Chapter 6. Comparative Analysis Of Application Of EKM: This chapter consist the representation of detailed analysis being carried out with respect to the comparative analysis of application of EKM in IT companies and the related HR perspectives under study. Observations, Hypotheses Testing and important findings are included that constitutes the main body of the research study.

Chapter 7: Conclusions And Suggestions: This Chapter summarizes the present study with the conclusions after the comparative analysis study, moreover few suggestive remarks have as well mentioned; wherein an attempt is made to propose 1) A Proposed Model for Application (Implementation) of EKM, 2) A Proposed Layered Framework for EKM and 3)
EKM Life Cycle Model. Limitations for the study experienced and future enhancement plan have been also included to give a direction for further research.

**Chapter 8 Selected Bibliography:** A Master Bibliography is the Final Chapter in which the selected references of Books, Research Articles and Papers, and Websites referred and used has been cited.

**1.10. Data Analysis of comparative Study of Application of EKM:**

In this research study, the researcher has used multiple scales namely; Nominal scale, Ordinal scale ranking and Summated scale or Likert scale. Data was consolidated and examined in context of the research study so that the evaluation of the findings is facilitated. The collected data is tabulated by using SPSS package and graphs have been generated wherever required. The statistical testing tools like Percentage, T- Test, Ranking, Chi-square test, Mean and ANOVA have been utilized appropriately to test the data. Based on the data analysis, certain conclusions have been drawn.

A Comparative Analysis of data on several parameters has been done with respect to the types of the IT companies: Indian&IndianMNCs as one set of IT company and Foreign MNCs as the second set of IT company.

The data is analyzed using various parameters like Knowledge sharing initiatives, KM Practices, colleagues’ contribution and Employees initiative, scope and responsibilities of HR, Primary role of HR Department, Resource development and management, Association with KM, HR challenges, Distribution of respondents was done based on various criteria such as: Type of Organization, major Domain and annual turnover.

The major domains selected for the sample belong to Software Development in 64.62 % of Indian&IndianMNC and 75% of Foreign MNCs. Other domains namely Telecommunication, Testing, ERP/SAP forms a small number of the total sample in each type of company.

**Testing of Hypotheses:** The Hypotheses have been tested on the basis of responses received from the respondents from Indian&IndianMNCs and Foreign MNCs; with the help
of statistical tools like T-test and percentages criteria, along with comparative analysis, ranking and Chi-Square Test were used.

<table>
<thead>
<tr>
<th>No</th>
<th>Hypotheses Tested</th>
<th>Tests applied</th>
<th>Test Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>“Understanding of Application of EKM is effectively reflected in the key business processes and KM initiatives in IT companies”</td>
<td>Percentage, Ranking and T-Test</td>
<td>Alternate hypothesis is Accepted</td>
</tr>
<tr>
<td>H2</td>
<td>“Application of EKM is carried out step-by-step, to foster constant growth of the individual and the organization”</td>
<td>Percentage, Rank Correlation</td>
<td>Alternate hypothesis is Accepted</td>
</tr>
<tr>
<td>H3</td>
<td>“Application of EKM in HRD majorly leads to successful management of business challenges”</td>
<td>Percentage, Rank, T-Test, Chi Square test</td>
<td>Alternate hypothesis is Accepted</td>
</tr>
<tr>
<td>H4</td>
<td>“There is similarity between application of EKM in HRD in Indian &amp; Indian MNCs and Foreign MNCs in IT companies.”</td>
<td>Percentage, T-Test, ANOVA</td>
<td>Alternate hypothesis is Accepted</td>
</tr>
</tbody>
</table>

Figure No 1.1: Hypotheses testing at a glance

1.11 Concluding Remarks

In today’s fast changing knowledge intensive, highly uncertain and dynamic business environment; organizations adopt newer, effective KM related strategies. Such as practicing entrepreneurship, value driven leadership, emphasizing the core competencies, highly customer centric approach, as well as profuse alertness towards the needs of the associates—the assets of the enterprise to name a few. Innovative idea generation and use of latest technologies need to be utilized for better EKM in HRD.

The intention of this thesis is to gain better understanding of Enterprise Knowledge Management; as a strategic tool in support of enterprise transformation for a new economy especially by HRD of an enterprise. In this context; it is identified that newer methodologies
can leverage the task of educating and enlightening the employees; and in the process, achieve proper knowledge sharing and knowledge dissemination

HR is part of the knowledge management in an organization, and because of this it has to play a role in concurrence with the IT department, and others responsible for generating and manipulating knowledge. In this course of action, there are multiple challenges faced which demands a multi-faceted and multi-skilled role to be played by the HRD.

One of the significant outcome of the study is with respect to the mechanism of implementing EKM is to be carried out in a systematized manner that not only addresses the growth of the individual but the organization too.

In this context, based on the literature review undertaken at the beginning and throughout the study as a base, and the observation and inferences in the study; the researcher has attempted to contribute to the body of research knowledge; that can be evaluated and applied at Organization level, Department level and Individual level with little customization as applicable to the IT organization.

These proposed Models are namely;

- Suggestive EKM Implementation Model
- Proposed Component Layered Framework of application of EKM
- Suggestive EKM Life Cycle Model

Future Research Scope with respect to Enterprise Knowledge Management with a new Information Integrity Approach is strongly recommended. Certain areas need to be further explored such as use of Cloud Computing so as to execute secured and cost effective business solutions. With multi-skilled technosavy HR Managers and well-built knowledge-based system coupled with the knowledge audit process right from its initiation to the further maturity levels, success of companies in the IT sector would be certainly qualitatively intensified.

Governance of EKM can prove to become a major endowment for the successful application of EKM with proper strategic control and Quality check under the authority of the enterprises.
Considering varied strata as well as other areas apart from HRD; like Marketing & Sales, Inventory Management, Administration, etc in an IT company; would lead to holistic evaluation of the EKM application.

Application of EKM with innovative practices should be instituted to reinforce the quality and quantity of knowledge being generated and consumed. A successful application of EKM would provide individual application program as well as expertise required to reach a higher level of productivity individually and in workspace and to make quick, effective decisions in support of enterprise business objectives. Knowledge-based organization can be advocated as a powerful one, with a raised degree of organizational excellence; where in the organization itself behave as an intelligent and self-controlling system. It may integrate and process the information in order to determine the probable action required; and with such an idealistic situation keep reaching newer heights as we move ahead through the 21st century.

Mrs. Rachana Shikhare
Research Student
Date: 17/01/2013

Submitted through:

Dr. Prasanna G. Deshmukh
Research Guide
Date: 17/01/2013