

# Prioritization of Km Implementation Enablers using AHP for Creation of Knowledge Enterprising Organisation to Rural Industries

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**Abstract** - In today's competitive business environment, competition between organizations has become strict and more competitive. Different management pioneers and academicians have stated that an organization's competitive advantage stems from its ability to identify, concentrate on and develop its core competencies and activities. All these are to be with reference to Knowledge & Knowledge Management (KM). To get the maximum benefits from KM there is a need to identify and prioritize KM enablers for KM implementation to rural industries for becoming it Knowledge Enterprising Organisation. The methodology used to evaluate is Analytic Hierarchy Process (AHP). The AHP arranges the decision problem into a hierarchy of more easily comprehended. The KM enablers identified earlier, which are most prominent and effective are Organisational Culture, Organisational Structures, Human Resource Practices, Management / Leadership Styles. In this paper, a prioritizing these KM enablers for KM implementation to rural industries was done using the Analytic Hierarchy Process (AHP).

**Keywords:** Analytic Hierarchy Process (AHP), Knowledge Management (KM), Rural Industry (RI)

## 1. INTRODUCTION

Knowledge Management (KM) implementation in industries to make a Knowledge Enterprising Organisation is becoming a strategically important issue nowadays. This status i.e. Knowledge Enterprising Organisation is achieved through the effect of strong KM enablers only. Hence, this study was an attempt to prioritize KM enablers for rural industries. For success, an industry should identify the KM enablers and their prioritization in order to achieve the level of Knowledge Enterprising Organisation. The paper delivers, the review on KM enablers through literature and survey & explains each enabler having important role in KM implementation to become Knowledge Based/Enterprising Organisation (KBO). This comprised of a chain of hierarchy of a KM enablers, each enabler contributing towards KM implementation. AHP is proposed to prioritize the KM enablers for Knowledge Enterprising Organisation.

### 1.1 Knowledge

This is, as the word implies, the ability to manage "knowledge". We are all familiar with the term Information Management. This term came about when people realized that information is a resource that can and needs to be

managed to be useful in an organization. From this, the ideas of Information Analysis and Information Planning came about. Knowledge Management is the collection of processes that govern the creation, dissemination, and utilization of knowledge. In one form or another, knowledge management has been around for a very long time. Practitioners have included philosophers, priests, teachers, politicians, scribes, Liberians, etc.

Organizations are now starting to look at "knowledge" as a resource as well. This means that we need ways for managing the knowledge in an organization. The main part of this process is "knowledge". This knowledge is with all the experienced and senior people. They have the vast storage of knowledge within themselves. The most disappointing thing is that this knowledge is not documented anywhere. It is kept with the owner itself. When people grow rich in experiences, these experiences are then transform into knowledge. Now it's the real time to use all these knowledge from the experts to make the things better.

### 1.2 Knowledge Management (KM)

Truthfully, KM doesn't have one meaning. Everyone defines it differently. But all the varied opinions seem to agree on one thing-KM is capturing what everyone in your department knows. And capturing what everyone in a legal department knows can make the difference between winning and losing a case, or at the very least between spending thousands of dollars and spending millions.

What KM boils down to is finding ways to minimize redundancy, in turn saving time and cutting costs. How a legal department decides to follow through with this initiative depends on a number of factors. But there are some clear steps you must execute well to build a successful process.

By Keith Ecker, Defining the concept of KM is difficult, since different perspectives of KM can yield different dimensions and meaning. A good KM definition is defined as "any process or practices of creating, acquiring, capturing, sharing and using knowledge, wherever it resides, to enhance learning and Performance in organization".[32]

There are two types of KM : 1. Explicit and 2. Implicit

**Explicit:** Also referred to as information, this is tangible knowledge.

**Example:** E-Mails, Status and case updates, Contract and policy templates, Audio content.

**Implicit:** Also referred to as tacit knowledge, this is information stored inside people's heads.

This explains two fundamental approaches to knowledge management. The tacit knowledge approach emphasizes understanding the kinds of knowledge that individuals in an organization have, moving people to transfer knowledge within an organization, and managing key individuals as knowledge creators and carriers. By contrast, the explicit knowledge approach emphasizes processes for articulating knowledge held by individuals, the design of organizational approaches for creating new knowledge, and the development of systems (including information systems) to disseminate articulated knowledge within an organization. The relative advantages and disadvantages of both approaches to knowledge management are summarized. A synthesis of tacit and knowledge management approaches is recommended to create a hybrid design for the knowledge management practices in a given organization.

Knowledge management brings to mind many things to many people. But in a business setting, a practical definition prevails. The KM related focus must be there which includes, effect of knowledge management, how knowledge management is different from information management, types of knowledge, the knowledge chain & its role in measuring the success of knowledge practice, the basic KM applications etc.

### 1.3 Importance of Knowledge Management Implementation

Knowledge Management is linked to the organization's goal which is to reach a higher output or result such as overall knowledge, performance, competitive advantage or innovation. In order to survive in this era of knowledge competition, an enterprise should have an efficient knowledge management system which can facilitate knowledge innovation and sharing and repetition. Thus increased and improved knowledge further makes knowledge management more important. Three key reasons [26] why actively managing knowledge is important to a company's success are -

1. Facilitates decision-making capabilities
2. Builds learning organizations by making learning routine
3. Stimulates cultural change and innovation

### 1.4 The General Knowledge Model

**Knowledge Creation:** This comprises activities associated with the entry of new knowledge into the system, and includes knowledge development, discovery and capture.

**Knowledge Retention:** This includes all activities that preserve knowledge and allow it to remain in the system once introduced. It also includes those activities that maintain the viability of knowledge within the system.

**Knowledge Transfer:** This refers to activities associated with the flow of knowledge from one party to another. This includes communication, translation, conversion, filtering

and rendering. Transfer of Knowledge improves system quality by providing quick feedback, a variety of alternatives, predictable screen changes, and enhanced customer support.

**Knowledge Utilization:** This includes the activities and events connected with the application of knowledge to business processes.

**1.5 Knowledge Enterprising Organisation :** To sustain in the competitive world it has to be Knowledge based organisation structure and culture. To build KBO the thorough KM implementation system should be present.

**Key Features Of Knowledge-Based Organisations:** There are specific features and practices which need to be developed and enhanced in an organisation if the organisation is to succeed in promoting knowledge-based outcomes. Most researchers have pointed to the adoption of less hierarchical team-based organisational structures, fostering commitment and learning attitudes, the promotion and adoption of communities of practice (CoPs), role of IT in enabling knowledge sharing, and promoting an organisational culture of trust as valuable features in promoting knowledge-based outcomes. [28] [17][1][2]

The critical role of both hard (ICT tools) and soft issues (computer software and social variables) has been established in KM literature. Just as highlighted, a knowledge-based entity is a knowledge-creating enterprise where everyone is a knowledge creator and sharer.[20] Empirical evidence from most mature knowledge-based organisations demonstrates that promoting knowledge-based outcomes is a conscious effort in these entities. The universal nature of KM, that is; KM is not just a phenomenon that is practised by organisations of the West but applicable for East also. Other important features prevalent in organisations which implement KM include:

- A well developed organisational information network consisting of ICT connectivity and communities of practice
- A knowledge enterprising culture where everyone is encouraged to be a knowledge creator and sharer
- A comprehensive Knowledge Management strategy linked to the business strategy
- Middle management assuming strategic significance in promoting knowledge outcomes
- Teams playing a valuable role in day to day operations
- Organisational design structures that make interpersonal communication and interaction easier; namely the less hierarchical adhocracy, team-based, hypertext circular organisational structures
- Setting a standard (skill set) before hiring or promoting an employee
- Initiation, mentoring, coaching systems, job rotation, training and education becoming an important part of the job
- Creating an environment of trust with social connections

- Locating people in close proximity, sometimes with open office space
- Having a person appointed to deal specifically with issues of Knowledge Management, in most organisations this post is part of senior executives in the form of Chief Knowledge Officer
- Placing employees in situations where they can use their capabilities, affording them permission to experiment and act intelligently.

### 1.6 Rural Industry (RI) :

India is a land of villages and 80 % of our population lives in rural areas. The rural sector is contributing more than 50 % to our national income. However, in spite of many years of planning, we have not been able to ensure a minimum standard of living to the teeming millions. About 40% of the urban population and 50% of the rural population in India are still below the poverty line. The poverty of the rural population is due to population explosion, low farm productivity, unemployment, underemployment & stagnation in operational structure. The increasing population on one hand and the limited employment absorption capacities in agriculture on the other force us to go in for industrialisation in a big way as an alternative source of income, employment and expansion. Thus need for increasing reliance on small/rural industries to raise the standard of living of the rural masses, employ the human resources & prevent distress migration to urban areas.

Rural industry is doing activity of manufacturing or services with the available resources specifically form nearby & delivered to needy one. Now adays along with the traditional knowledge advanced knowledge, tools, and techniques are enforcedly used to compete in the vibrant market. The need for rural industrialisation was also stressed by the Father of the Nation, Mahatma Gandhi. An attempt has to be made from KM perspective point of view to deal with the fundamental issues connected with rural industrialization. Thus it has to be seen about steps taken so far and the need for taking appropriate steps to provide necessary infrastructural facilities and other KM enablers for the same.

## 2. LITERATURE REVIEW

The literature survey done by researchers for knowing the considerations of different researchers about the **KM Implementation Enablers** is summarized as follows.

### 2.1. A Holistic Approach to KM

The IT dominated approach to KM cannot be wholly applied in the rural areas of Solapur district due to the resource constraints faced by most organisations operating in these contexts. The researcher aligns this study with recent thinking in KM that suggests that KM implementation should follow a holistic approach.

The basis of a holistic approach to KM could be traced back to the Fraunhofer IPK knowledge model designed for the

benchmarking study of Knowledge Management practices of German TOP 1000 and European TOP 200 companies. [18] The model identified six design fields for Knowledge Management such as process organisation, controlling, human resource management, corporate culture, leadership and information technology. It should be noted that the Fraunhofer IPK model is a purely socio-technical approach to KM which advocates for an information technology driven knowledge approach.

But, the organisations of the rural industries of Solapur cannot wholly apply the pure socio-technical approach as they are facing serious resource constraints, namely poorly developed ICT systems. Recent developments in KM theory prove that "Knowledge Management isn't only an IT challenge". [3] In this regard, an investigation having made of 160 KM frameworks from various organisations worldwide realised that there are four critical success factors of KM as follows:

- Human-oriented factors: culture-people-leadership
- Organisational: processes and structures
- Technology: infrastructure and applications
- Management-process: strategy, goals and measurement.

This framework is further supported by the empirical work on KM implementation in some of the industries conducted by [5], which confirmed that a holistic approach to KM based on the KM critical success factors is crucial to the success of an entity's KM initiatives. The researcher realised that these factors could be classified under two main categories as follows:

- i. Information technology
- ii. Knowledge-oriented social Variables.

#### 2.1.1. Information technology

A detailed exposition of IT plays the valuable role in the success of an entity's KM initiatives. Thus, the general agreement among KM scholars to the role of IT to KM is that KM related technologies can be of instrumental and/or symbolic value. [27] As highlighted by KM scholars such as Drucker and Nonaka, IT plays a crucial role in ensuring increased information and knowledge flow within an entity. But "IT alone is insufficient for increasing an organisation's collective intellect". [17] As such, Junnarkar and Brown advised knowledge managers interested in IT as an enabler to KM not to simply focus on using IT to connect people to people with information, but on how to develop the organisational context conducive to tacit knowledge creation insisted that "practitioners interested in the role of IT as an enabler need to focus on IT investments that will help organisational members create tacit knowledge, but also take a leadership role in developing an organisational context conducive to improving the organisation's sense-making capabilities." [17]

The suggested four IT management guidelines [15] for effective KM as follows:

- Developing an enterprise-wide IT standards (for hardware, software and communication systems) for IT infrastructure in order to link people to people to information
- Linking IT investments to firm's overall KM strategy
- Investments in IT tools should be supplemented with investment in people's roles to provide required expertise
- Establishing KM partnerships that bring information systems (IS) & HR together.

### 2.1.2. Knowledge-oriented social variables

Just as argued by Junnarkar and Brown, though ICTs constitute a valuable part in a KM framework, they are however adamant that particular attention should be on the social variables in order to effectively implement recognised that the focus on human variables in Knowledge Management is conducive to the management of tacit knowledge which is often said to be difficult to manage. [15] It is observed from organisations implementing KM that KM is 80% about people and cultural change than technical development. [19]

The key social variables that appear in most of the empirical cases could thus be reflected as follows:

- a) Knowledge-oriented organisational culture
- b) Knowledge-oriented organisational structures
- c) Knowledge-oriented HR practices
- d) Knowledge oriented leadership.

#### a) Knowledge-oriented organisational culture

Knowledge Management authors have reflected extensively on the valuable role played by organisational culture in instilling and enhancing a climate conducive to knowledge acquisition and dissemination in knowledge-intensive organisations. The organisational culture of a company is reflected in its "philosophy and vision, management style, and its physical organisational structures, such as architecture of buildings and layout and design of rooms" [18] defined organisational culture as "a complex set of values, beliefs, assumptions, and symbols that define the way in which a firm drives its business".

Kalkan proposes that organisations have to move towards a knowledge-oriented culture in order for their Knowledge Management initiatives to succeed. It also argued that a knowledge-oriented culture challenges people to share information throughout the organisation. Furthermore, he pointed out that it was the duty of top management to develop an organisational culture rooted in confidence and trust where employees would feel they were a valuable part of the organisation and is through informal structures such as knowledge communities which can be used as a platform where the organisation values and encourages knowledge creation and sharing.

Similarly, the view that if the current corporate culture of an organisation does not sustain Knowledge Management, measures should be implemented to create a company culture characterised by openness, mutual trust and tolerance for making learning mistakes. [21]

Hewlett-Packard Austria, responsible for telecommunications, banking, gas and oil industries serving markets in Austria also realised that the company has an open corporate culture complemented by the following features:

- The manager is located in an open-plan office and joins the other employees for lunch at the cafeteria
- The reusability of ideas is promoted
- Innovation is a convincing incentive in the company
- Corporate activities based on people within the company's "humane change management"
- There is a spirit of cooperation characterised by a participative management style
- New hires are given detailed information of the company's ideas, purpose and goals to integrate them to the new environment
- Lean hierarchies; no barriers to communicate across department or hierarchical levels
- The company's evaluation system recognises the internal as well as the external transfer of knowledge into account. This is guided by the question: what has a staff member done to make his or her knowledge accessible?
- There are cross-functional teams.

Phonak is the world's fifth largest developer and manufacturer of hearing technology, has an open corporate culture and the key features as follows:

- The architecture of Phonak embodies its corporate culture reflected in a philosophy of transparency, openness and motion
- Bright and open offices, isolated stairs and few doors create an inviting and communicative atmosphere
- Communication barriers are avoided whenever possible
- A "more friendly, more human" internal and external exchange image characterised by cooperation between staff members
- Lean hierarchies; even managers are accessible
- Highly innovative spirit; the company deliberately creates spaces and stimulation for thought
- "A lot is talked about, and very little is written down" purposeful distribution of information
- Staff members have to learn how to deal with freedom, cooperate with others, work in teams and resolve disputes
- A "culture of errors" is encouraged where errors are evaluated as "lessons learned". The key slogan is "Errors can always be made, but please, not twice"
- "Off-shore meetings" held once or twice a year where a group of three to six staff members are selected to spend

several days at another location discussing topics and developing ideas

- Debriefing workshops are conducted regularly as a continuous process of learning to prevent identified employee errors
- Expert meetings are held regularly dealing with new know-how and new solutions.

These cases reflect an assumption made that “effective Knowledge Management is much about culture as it is about behaviour and information systems”. [11] It is apparent that a knowledge-oriented culture promotes openness, trust and increased communication which are key ingredients in knowledge creation and sharing.

#### **b) Knowledge-oriented organisational structures**

It is defined an organisational structure as all the ways in which work can be divided and coordinated into different tasks. They argued that in order to facilitate knowledge creation, sharing and application, firms should adopt organisational structures which would allow knowledge to flow. [6] In their view, such organisational structures tend to be increasingly organic and flexible. It is observed that the traditional organisational structures (bureaucracy and task force) were inadequate in supporting the creation of knowledge. [25]

In line with this view, the lethargic and unresponsive bureaucracies of the past needed to be replaced by decentralised, flexible, adaptive, competitive, learning, customer-oriented, lean, creative and streamlined organisations in order to lay the roots for quality and productive improvements. [9] Its agreed with this view when arguing that hierarchical bureaucratic structures “though they generate useful outcomes in some organisational settings and under specific circumstances, are considered to prevent knowledge sharing and utilisation”. [19]

It is elaborated on the advantages of horizontal structures in promoting Knowledge Management practices by arguing that hierarchies were generally suited for processing information. Therefore, immediately a firm is viewed as an institution for integrating knowledge “hierarchies fail”. [9]

Analysing various empirical and theoretical research data on KM aligned organisational structures, is summarised the following outcomes resulting from an introduction of flatter and more independent forms of work organisations[20]:

- High commitment
- High performance
- Learning organisation
  
- Innovative organisation
- Concretive control and normative control
- Intensified work systems.

The knowledge-based firm calls for a radical transformation of hierarchical organisational structures. It is imperative that the knowledge-based organisation demands less hierarchical, process-oriented and team-based organisations in order to create a favourable condition for learning. [20]

#### **c) Knowledge-oriented human resource (HR) practices**

Human resource management primarily deals with employees and their working environment [16]. It is argued that “holistic Knowledge Management integrates human resource management”. [21] This implied that personnel management measures have to lead towards the development of specific Knowledge Management skills involving at least the following measures[21]:

- Incentive schemes developed for employees to document and share knowledge
- Career plans incorporating aspects of knowledge acquisition by employees
- Performance evaluation schemes expanded to embrace employees’ contribution to knowledge generation, sharing and transfer.

It has observed that knowledge creation should be at the centre of a company’s human resource strategy. [20] It insisted that the success of Knowledge Management initiatives critically depended on having competent and suitably motivated people taking an active role in the process. [17] This would mean that effective human resource policies must be implemented to ensure the success of Knowledge Management initiatives.

Kalkan believed human resource professionals have a strategic role to play in Knowledge Management because they should contribute to the process of determining and filling the organisation’s knowledge gap.

The three constructs converge around the learning-oriented HRM. This is reflected in the results of Jaw and Liu’s empirical study which show that learning-oriented HRM plays an important role in promoting “positive learning attitudes and further nurturing a self-renewal organisational climate”. The basis of this discussion is in line with Kalkan’s argument that successful Knowledge Management depends on the organisation having competent and motivated employees.

The knowledge sharing process should involve the process of creating new knowledge by “tapping the tacit and highly subjective insights and making those available for testing and use by the company as a whole”. [16] The learning-oriented HRM construct as adopted from Jaw and Liu is based on the underlying statement that “The learning ability of an organisation depends on its ability to accumulate invisible assets such as knowledge” .[16]

Jaw and Liu further indicated that since knowledge is embodied in people, there should be human resource policies geared towards promoting organisational learning.

In this regard the objective of the human resource management activities should be to guide learning. The construct has five dimensions like Empowerment, Supporting benefits programme, Encouraging commitment, Comprehensive training & Performance emphasis.

It have been aptly shown that HR is best poised to make a “strategic contribution to business success by promoting employees learning attitudes. [16] Owing to its potential to promote learning attitudes amongst employees, HR can be utilised as a variable in KM.

#### **d) Knowledge-oriented leadership**

This section captures the competencies, roles and responsibilities of management in knowledge intensive organisations:

##### **2.4.2.4.1. Management competencies in knowledge-intensive organisations**

The leading and being led in knowledge-based organisations should be more of navigating and networking than the traditional command-and-control systems. [13] It is demonstrated throughout Knowledge Management literature that knowledge-based outcomes are easily achieved in team-based-less-hierarchical organisations. Hence, those managing knowledge-intensive organisations should clearly be team-based players.

In line with the new leadership philosophy as characterised by knowledge-based organisations & delivered demonstrated importance of teamwork. [13] [20].

A leadership that has the necessary skills and competencies to marshal people towards knowledge-based outcomes is imperative in knowledge-based organisations.

The concept strategic visioning has enjoyed much attention in idea of a strategic visionary. [33] According to Westley and Mintzberg, strategic visionaries “are leaders who use their familiarity with the issues as a springboard to innovation, who are able to add value by building new perceptions on old practices”.

The provided a blue-print for effective leadership in knowledge-based organisations requiring leaders who [13]:

- Understand the nature of complex context and who can make sense of this context and convey it to others within the organisation with magnetic vision
- Know that competencies are based in experience
- Know the relationship between motivation of individuals and the culture of the organisation
- Know that at least more than 2% of the manager’s time should be dedicated to visioning
  
- Understand the value of the collective (teams and communities)
- Know there is more power in the dialogue than can be provided through documented planning processes

- Value the communication process (both technical and human)
- Coach and can be coached.

In line with description of managing as a social function and management as the “constitutive, the determining, and the differential organ of society”, it is apparent that the promotion of knowledge-based outcomes in knowledge-intensive organisations depends much on the contribution and effort of the management team. [7]

##### **2.4.2.4.2. KM leadership roles and responsibilities**

It is suggested that management of a knowledge-intensive organisation influence the process of knowledge development and creation by providing resources and motivation towards knowledge-based outcomes.[18] Furthermore, Johnson was of the view that knowledge workers could not be „directed“ in a manner consistent with the ‘factory management’ principles of the past. It is clearly demonstrates that 21<sup>st</sup> century leadership is all about vision and visibility. Command and control type leadership are out of sync with the notion of a knowledge-based organisation. [13]

It is found that successful Chief Knowledge Officers (CKOs) perform the following responsibilities[13]:

- Creating a knowledge sharing culture
- Championing communities of practice
- Providing leadership and strategy by helping CEOs drive the organisation in the desired direction by creating and selling KM vision
- Using incentives and rewards to recognise and promote knowledge contributors
- Using tools and technologies to leverage the intellectual base of organisation
- Educating their leadership, staff about KM and its benefits.

## **2.2 Comments on reviewed literature**

(1) The literature survey found very few studies for KM enablers.

(2) Very few researchers have reported the effect of KM enablers for making KBO.

(3) Under which situation the KM enablers and their priority to be considered are not reported by different researchers.

Based on the extensive literature and survey of different rural industries, the KM enablers and allied strategic tools identified for KM implementation are given in table no.1.

Table No.1 KM enablers identified from survey of industries in Solapur District.

Sr.No	Identified Factors
1	Hierarchies
2	Empowerment
3	The philosophy and vision of the organization
4	Motivation for knowledge-based outcomes
5	Work design structures
6	Supporting benefits program
7	The management style
8	Creation of atmosphere of safety within organization
9	Provision of the information and knowledge requirements of the organization
10	Performance emphasis
11	Comprehensive training
12	Physical structures
13	Encouraging commitment
14	Information flow
15	Creation of a knowledge enterprising organization

KM implementation to make KBO through various strategies is a complex decision process, which is interplay of various internal as well as external factors. Through literature review and survey the identified factors are grouped under four main groups. These affect the KM implementation decision in any organization.

There is a need to study for prioritize the identified driving factors to decide type or level of KM enablers to make KBO and to study, how each factor is affecting on the KM implementation.

The researcher had grouped all the distinct attributes with reference to literature review and Factor analysis. The observed factors are grouped into four groups given in table no.2 by author such that factors of each group are having similar characteristics or attributes.

The main four groups are: Organisational Culture, Organisational Structures, Human Resource Practices, Management / Leadership Styles.

Table No.2 Grouping of factors

Outsourcing Driven Group	Identified Attributes
Organisational Culture	1,7,12
Organisational Structures	3,5,14
Human Resource Practices	2,6,10,11,13
Management / Leadership Styles	4,8,9,15

### 3. PRIORITIZATION OF KM IMPLEMENTATION ENABLERS BY AHP METHOD

The Analytic Hierarchy Process (AHP) is a method developed to support multicriteria decisions, where 'analytic' indicates that the problem is broken down into its constitutive elements and 'hierarchy' indicates that a hierarchy of the constitutive elements is listed in relation to the main goal. [30] The AHP has been used in a wide variety of complex decision-making problems such as the strategic planning of organizational resources. [30] It is based on the innate human ability to make sound judgments about small problems. It facilitates decision making by organizing perceptions, feelings, judgments, and memories into a framework that exhibits the forces that influence a decision.

AHP is a multi-criteria decision-making method that uses a hierarchical structure to solve complicated, unstructured decision problems, especially in situations where there are important qualitative aspects that must be considered in conjunction with various measurable quantitative factors. The AHP is aimed at integrating different measures into a single overall score for ranking decision alternatives.

Thus this technique is reducing the exercise required for KM implementation by delivering the priority sequence of KM enabler. It is helped out for decision making, and fulfills the ultimate aim i.e. building KBO.

#### 3.1 AHP Implementation for Prioritization of KM enablers

##### Step1. Decision problem

With different KM implementation enablers only, KM environment can be made effectively. Thus it is required the priority sequence to concentrate on each enabler. The objective of this is to make the knowledge based organisation based upon the different KM implementation enablers selected and their priority.

##### Step2. Problem Hierarchy (Fig.No.1)

AHP involves structuring the problem from the overall objective by considering four group criteria as Organisational Culture, Organisational Structures, Human Resource Practices, Management / Leadership Styles and their sub-factors in changing the orders. The alternatives are the lowest level of the hierarchy. Links are drawn to form the

hierarchy and the relationships among objectives and alternatives.

In Figure 1, it may be seen that Level 1 refers to the overall objective, i.e., KM Implementation Enablers, Level 2 is composed of main four enablers and Level 3 composed of the sub-criteria under main four enablers. Level 4 is formed by the alternative strategic tools, i.e., KM implementation strategic decisive factors

Step3 & 4 Pair wise comparison and relative weights of factors finding

A pair wise comparison for each of the lower-level measurements. The decision-maker has the option of expressing his or her intensity of preference on a nine-point scale. If two criteria are of equal importance, a value of 1 is given in the comparison, while a 9 indicates an absolute importance of one criterion over the other. The AHP uses a scale proposed [30] with values from 1 to 9 to measure the different weights as shown in table no. 3.

Table No. 3 Measurement scale for preferences between two elements

Definition	Degree of preference (aij)
Equally important	1
Slightly important	2-3
Highly important	4-5
Very highly important	6-7
Extremely important	8-9

First a square matrix is prepared for ranking of drivers at 2 levels and weightage is given in table no .4.

Similarly square matrix is prepared for the sub factors under main four drivers The local weight, which is the priority of an element with respect to its preceding element, is calculated at level 3.

The global weight with respect to the goal of Prioritization KM enablers and choosing the level of KM implementation through enabler are calculated by multiplying the local weight of an element by the weight of its preceding element.

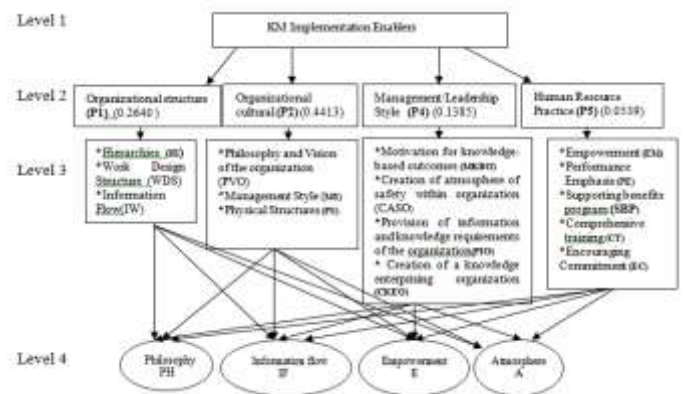


Fig No.1. Problem Hierarchy model

Table No.4 gives ranking of KM Implementation Enablers and decision at global level

A	MS	OC	OS	HR	W
P1	1	1/2	3	4	0.3154
P2	2	1	3	4	0.4451
P3	1/3	1/3	1	1/3	0.1598
P4	1/4	1/4	3	1	0.0796

Table No 5. Global weights of all decision factors to choose level of enablers

Local Wts.	MS 0.3154	OC 0.4451	OS 0.1598	HR 0.0796	Global weight	Rank
PH	0.3979	0.4179	0.3051	0.3920	0.391463	1
IF	0.1101	0.1121	0.1669	0.0720	0.117023	4
E	0.2250	0.155	0.2140	0.2400	0.193257	3
A	0.2670	0.315	0.3140	0.2960	0.298157	2
Rank	2	1	3	4		

Step 5 Consistency check

The consistency index which measures the inconsistencies of pair wise comparisons, is given as:  $CI = (\lambda_{max} - n) / (n - 1)$ . Where  $\lambda_{max}$  = largest eigenvalue of matrix,  $n$  = number of elements for comparison & consistency Ratio ( $CR = CI / RI$  (Random index)) has been calculated for validation of criteria. According to Saaty (1990) if the consistency ratio is less than 0.1, then chosen criteria are correct, degree of consistency is satisfactory. For table no1  $\lambda_{max} = 4.25$ , Consistency Index (CI) = 4.25, Consistency Ratio (CR) = 0.098 < 0.1



#### 4. CONCLUSION

With the growing need to cut cost and improve performance on a continuous basis in organizations, KM has gained tremendous momentum in the past few years. It is a complex decision and depends on business strategy, KM implementation. Analytical hierarchy process (AHP) is used in this study so as to arrive at the goal of the study, that is to prioritize the KM enablers which acts as decision factors and choosing the right degree of the same. Hence Organisational Culture is the best option with highest weight. Thus concentrating first KM enabler is used for marching towards KBO. Further as per weight, KM enablers prioritise sequentially Management/ Leadership Styles, Organisational Structures & Human Resource Practices.

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