# A framework for characterizing knowlwdge management
## Methods, practices & technologies

**Dr. Rekha M. Gulhane**

Ass. Pro.Shri Niketan Arts  Commerce College Nagpur

**Abstract :-**

Knowledge management is not one single discipline. Rather, it an integration of numerous endeavors and fields of study. This paper provides a framework for characterizing the various tools (methods, practices and technologies) available to knowledge management practitioners. It provides a high-level overview of a number of key terms and concepts, describes the framework, provides examples of how to use it, and explores a variety of potential application areas.

**Introduction :-**

Over the past several years, a number of authors have proposed a variety of approaches for classifying the tools (methods, practices and technologies) that typically comprise knowledge management systems. This is not the first attempt to develop a framework for organizing and understanding knowledge management tools. And. given the emerging practices and changing understanding of knowledge management it will not be the last.

As with any discipline that lacks a recognized unifying paradigm, various views will emerge, each based on what can be readily observed or what can be applied from practices associated with other disciplines. Likewise, as individuals encounter particular phenomena, they tend to describe and interpret them in different ways (Kuhn, 1996).

The following working definition of knowledge management frames the discussion: knowledge management is a discipline that seeks to improve the performance of individuals and organizations by maintaining and leveraging the present and future value of knowledge assets. Knowledge management systems encompass both human and automated activities and their associated artifacts.

From this perspective, knowledge management is not so much a new practice as it is an integrating practice. It offers a framework for balancing the myriad of technologies and approaches that provide value, tying them together into a seamless whole. It helps analysts and designers better address the interests of stakeholders across interrelated knowledge flows and, by doing so, better enables individuals, systems and organizations to exhibit truly intelligent behavior in multiple contexts.

The classification framework presented in this paper can be used in several ways:

- to organize and classify knowledge management methods, practices and technologies by relating them to distinct phases of the targeted knowledge flows
- to examine knowledge flows to understand the interactions and dependencies among pieces of information, communicators and their associated behaviors.

This paper is organized into two sections. The first defines key terms and concepts. The second describes the knowledge management framework, its uses and its benefits.

**Key Terms and Concepts :-**

The characterization framework described in this paper is based on and integrates a number of conceptual models and frameworks. This section introduces those and their related terminology.

**Knowledge Artifacts :-**

Artifacts come in a variety of forms, including documents, files, papers, conversations, pictures, thoughts, software, databases, e-mail messages, data sets, winks and nods, and whatever else can be

used to represent meaning and understanding. Said another way: knowledge artifacts flow among and form the linkages between the activities and events that comprise knowledge flows.

Most people's involvement with a knowledge stream is through various artifacts. Artifacts are what we deal with every day. We write reports, send e-mail, read books, remember bits and pieces of old thoughts, engage in conversations and follow procedures.

The term knowledge artifact does not specify the form of the artifact (e.g. information, transformation, metadata or meta-knowledge) but it is very specific as to the process that gave rise to the artifact. This makes the term valuable for explaining such things as the importance of knowledge artifact retention, establishing provenance and enabling reusability

Knowledge artifacts differ from one another in several away: there from of codification the way in which they are rendered their degree of abstraction and their ability to enable action and decisions. Knowledge artifacts also vary in their degree of articulation simple knowledge artifacts can be explicit or tacit. Most artifacts, however are not simple but complex, and contain a combination of explicit, implicit and tacit components.

**Explicit knowledge artifacts :** These are knowledge artifacts that from one person to another This normally means that they have been codified so it is possible to touch, see hear feel and manipulate them (e.g. books, reports, data files, newsreels, audio cassettes and other physical from).

**Implicit knowledge artifacts** : These are knowledge artifact whose meaning is not explicitly captured, but can be inferred in effect, in effect, the codification Process is incomplete explicit artifact can be interpreted totally on their content. Interpreters of implicit artifacts must rely on previously retained knowledge.

**Tacit knowledge Artifacts :** These may be the most insidious and powerful of the three Michael Polanyi referred to tacit knowledge as "knowing more than we can say" (Polanyi 1966). Simply stated, tacit artifacts are those that defy expression and codification. This is not to say that tacit knowledge artifacts are without influence. The most vivid example is the old saw about what would happen to the centipede if she were to stop and think about how to walk.

It is important to note that, for the most part, artifacts are passive. While they can change (or, more accurately, be changed), they can't act. Has anybody ever seen a financial report make a decision or a book on aerodynamics build an airplane?

**Agents :-**

Knowledge artifacts do not perform actions and make decisions. Actions and decisions are undertaken by agents: people, organizations, or in some cases, technology. Agents carry out all the actions and exhibit all the behaviors within a knowledge flow.

Often, analysts attempt to apply the same behavioral models to all agents in a system. More appropriately, agents can be placed in three categories:

• Individual agents

• Automated agents

• Organizational agents.

**Individual Agents :** These agents sit at the center of almost every knowledge flow. For most analysts, the individual (human) serves as the prototypical active force for affecting change. In this paper, the term individual is used in the collective sense and is not meant to imply that every specific individual is capable of the full range of behaviors attributed
to this class of agent.

Individual agents are capable of working with knowledge and knowledge artifacts in all degrees of abstract articulation. They are limited, however, in their ability to deal with artifacts that are codified in ways that fall outside the range of human perception (radio waves, for example). The individual agent is the only agent capable of performing all aspects of knowledge development, retention, transfer and utilization without the need for intervention by either of the other two agents. **Automated Agents** : These

agents can include any human construct that is capable of retaining, transferring or transforming knowledge artifacts. They are not exclusively computerized processes, as is often assumed in discussions of knowledge management. A conventional camera that encodes a representation of the visual world through chemical changes to the surface of a film could act as an automated agent, supporting knowledge creation and capture.

**Organizational Agents :** These agents exist in situations in which knowledge retention and transfer cannot be fully attributed to individuals or specific automated agents. In these cases, the organization itself serves as an agent in the retention and dissemination of knowledge. As with tacit knowledge artifacts, current tools and concepts do not account very well for the roles of organizational agents in knowledge flows.

Organizational value systems provide strong evidence for the existence of organizational agents. Much has been written about the ability of organizations and communities to establish value systems that outlive the involvement of specific individuals and the power that these value systems have to influence the behavior of individuals and groups (Krogh and Roos, 1995; Kuhn, 1996). The principles and practices that make up these value systems are almost never codified.

## Selection of Knowledge Management Products :-

Like the document management market that preceded it, the market for knowledge management tools and technologies is a confusing one. When used to support market analysis, the framework helps to articulate the organizational context in which the tool will be used and therefore illuminates previously unrecognized gaps. These understandings can then be leveraged in the form of more complete and formal specifications to aid in the selection of tools that best fit the organization as a whole. Finally, the framework helps to illustrate that the true value of a tool results ultimately from the decisions that are made about how to deploy it in the context of specific knowledge flows.

The framework also helps to explain the subtle but noticeable shift away from traditional file management systems to more interactive and highly granular component management systems that support personalization and dynamic content. With increasing demand to support a broader range of context-specific behaviors, information management systems are being asked to provide ever more sophisticated metadata and relationship management services. Such emerging metadata management systems are well suited to providing just the right content to the right person at the right time and customizing artifacts to better enable that person's actions and decisions.

**Marketing of Knowledge Management Products:** The framework can benefit companies contemplating new offerings, as well as those actively engaged in the marketplace. Because knowledge management serves as an integrating discipline for many existing practices, organizations have had a hard time distinguishing just where both existing and new tools fit into the picture. One of the more common complaints from customers is that vendors are just re-labeling existing products as knowledge management tools with little or no change in the underlying functionality

## Conclusion :-

Selecting knowledge management technologies is often a daunting and risky task. Without an independent frame of reference, attempts to compare knowledge management technologies can be very confusing and fail to drive needed decisions. By providing a means to differentiate technologies according to their impacts on agents, artifacts and behaviors, the characterization framework described in this paper provides just the kind of neutral reference point organizations often need.

The framework also adds value to supporting analytical, design, development and deployment activities by guiding the analysis of knowledge flows and construction of a usefully comprehensive picture. The framework provides a mechanism for developing a balanced, high-level view that can be used to set the stage for deeper analysis, identifying the compelling and critical issues that warrant more careful examination. Once the picture is complete, the framework can be used to identify the

specific needs that can be met with off-the-shelf technology, localized customizations or change-management programs.

By using the same framework to relate technologies, methods and practices back to targeted knowledge flows and their associated behavioral goals, it becomes easier to balance technical and non-technical approaches. This allows project teams to take a more rational, whole systems approach to development and deployment, improving their ability to develop tools and approaches that target and resolve root problems and not just symptoms, improve organizational performance and lower overall life cycle risks.

**References :-**

Conrad, K. W. (1995) SGML, HyTime, and Organic Information Management Models, Second International Conference on the Application of HyTime, August 1995

Boisot, M. H. (1998). Knowledge Assets: Securing Competitive Advantage in the Information Economy .New York. Oxford University Press.

Dunlop, C. E. M. and J. H. Fetzer (1993). The Glossary of Cognitive Science. New York, Paragon House.

Fahey, L. and L. Prusak (1998). "The Eleven Deadliest Sins of Knowledge Management." California Management Review 40(3): 265-276.

Jensen, M. C. (1998). Foundations of Organizational Strategy. Cambridge, Massachusetts, Harvard University Press.

Krogh, G. V. (1998). "Care in Knowledge Creation." California Management Review 40(3): 133-153.

Krogh, G.V. and J.Roos (1995), Organizational Epistomology. New York, St. Martin's Press.