

Emerging Perspectives of Knowledge Management Systems



Management

KEYWORDS : Management, IT Track, People Track, Libraries and Information Centers

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ABSTRACT

This paper is prepared with the intention of introduction the concept of Knowledge Management (KM). It defines the concepts, data, information and knowledge. The relation between these concepts and their emerging pattern is shown with the help of a diagram. The conceptual meaning of Knowledge management is provided. It also presents the value of KM and gives a brief note about the relevance of KM in libraries and Information centers.

Introduction

Knowledge Management (KM) is a newly emerging area of study. It has become the hottest subject of discussion today. Knowledge management is of interest to management scientists, information technologists and also each one of us present here. What is this knowledge management? How did it emerge? How is it that it is all pervasive and ubiquitous?

Human civilization has passed through different revolutions such as the agricultural revolution. Knowledge management as an area of study is the result of the IT revolution. KM in fact is a sub component of the knowledge based society or Knowledge economy. In a Knowledge economy, the strategic resource is the knowledge. Therefore before attempting to know what KM is, probably appropriate to know what this basic resource knowledge is.

Data Information, Knowledge and Wisdom

Let us start with basic concept data.

What is data?

According to Acharya (2001), data are statements about reality or statements about other data. They are representations about the world be it physical, social, psychological, organizational, or any other form or reality.

What is Information?

Information is organized data. It is systematized data. Data becomes information when it is organized according to some preferences and when it is placed in context. Thus information is meaningful contextual data.

What is Knowledge?

According to Roger Clarke (2004), the term Knowledge is often referred to a body of facts and principles accumulated by mankind in the course of time. Knowledge is generated in the human mind. Some are of the view that facts and principles cannot be meaningful outside the human mind.

Karl Popper, (1978) interlaid in his paper says the according to popper there are three worlds of knowledge. They are

World 1. The physical world (physical objects)

World 2. The world of our conscious experiences (subjective, cognitive space, mental spaces and psychological)

World 3. The world of logical contents (objective Knowledge, cyber space's)

Knowledge is also categorized as explicit knowledge and tacit knowledge. In fact a whole branch of philosophy called 'epistemology' is completely devoted to the study of knowledge and its source and varieties and limits. Clarke (2004) says that there are two views of knowledge in epistemology. They are i. Empiricism and ii. Apriorism.

According to empiricism, knowledge is derived from experience and holds that nothing is innate (positivism), whereas 'apriorism' considers that knowledge is innate and denies that knowledge cannot exist outside the human mind. Anyway, let us see

how we as librarians deal with knowledge and what it means to us. We are concerned with popper's World 2 and 3. World 2 is the conscious, mental, and subjective world, i.e. the information world. World 3 is the world of logical contents. That is the world of books, libraries, computer memories, etc. We as librarians have been dealing with both the subjective and objective knowledge. Take for instance, the various schemes of classification such as Dewey, Colon, and Bliss, Similarly the different indexing schemes deal more with cognitive aspects than the knowledge which is objectively known.

What is Wisdom?

The dictionary meaning of wisdom is enlightened understanding of what is true or right usually acquired through long experience, as distinguished from partial or specialized knowledge in its true sense.

A Continuum

The concepts data, information, knowledge and wisdom as seen above appear in a sequence. The sequence is as follows.

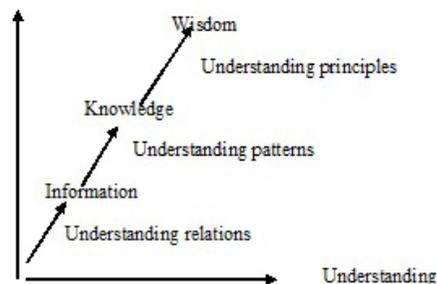


The succession in which these concepts appear shows that they are related to one another. The pattern data, information, knowledge are the foundations of wisdom. And as we progress along the continuum our understanding develop. The association between these concepts is clearly represented in the graph shown below...

Let us consider the observation made by Flemings relating to the following diagram.

- A collection of data is not information.
- A collection of information is not Knowledge
- A collection of Knowledge is not wisdom.
- A collection of wisdom is not truth.

Context intandance



We begin with data, which is just a meaningless point in space and time, without reference to either space or time. It is like an event out of context, a letter out of context. The key concept here being "out of context", And, since it is out of context, it is without a meaningful relation to anything else. When we encounter a piece of data, if it gets our attention at all, our first

action is usually to attempt to find a way to attribute meaning to it. We do this by associating it with other things. If we see the number 5, we can immediately associate it with other things. If we see the number 5, we can immediately associate it with cardinal numbers and relate it to being greater than 4 and less than 6, whether this was implied by this particular instance or not. If we see a single word, such as "time never stop", etc. The implication here is that when there is no context, there is little or no meaning. So, we create context but, more often than not, that context is somewhat akin to conjecture, yet it fabricates meaning. That a collection of data is not information, as Flemings indicated, implies that a collection of data for which there is no relation between the pieces of data is not information. The pieces of data may represent information, yet whether or not it is information depends on the interpreter. What we would say at this point is that the extent of our understanding of the collection of data is dependent on the associations we are able to discern are dependent on all the associations we have ever been able to realize in the past. Information is quite simply an understanding of the relationships between pieces of data, or between pieces of data and other information.

While information entails an understanding of the relations between data, it generally does not provide a foundation for why the data is what it is, nor an indication as to how the data is likely to change over time. Information has a tendency to be relatively static in time and linear in nature. Information has a tendency to be relatively static in time and linear in nature. Information is a relationship between data and, quite simply, is what is, with great dependence on context for its meaning and with little implication for the future. Beyond relation, there is pattern, where pattern is more than simply a relation of relations. Pattern embodies both a consistency and completeness of relations that, to an extent, creates its own context. Pattern also serves as an archetype with both an implied repeatability and predictability. When a pattern relation exists amidst the data and information, the pattern has the potential to represent knowledge. It only becomes knowledge, however, when one is able to realize and understand the patterns and their implications. The patterns representing knowledge have a tendency to be more self-contextualizing. That is, the pattern tends, to a great extent, to create its own context rather than being context - dependent to the same extent that information is. A pattern that represents knowledge also provides, when the pattern is understood, a high level of reliability or predictability as to how the pattern will evolve over time, for patterns are seldom static. Patterns which represent knowledge have completeness to them that information simply does not contain. Wisdom arises when one understands the foundations principles responsible for the patterns representing knowledge being what they are. And wisdom, even more so than knowledge, tends to create its own context. We can refer to these foundational principles as eternal truths, yet we find people have a tendency to be somewhat uncomfortable with this labeling. These foundational principles are universal and completely context - independent. Of course, this last statement is a sort of redundant word game, for if the principles was context - dependent, then it couldn't be universally true, now could it? So, in summary the following associations can reasonably be made:

Data is statement of facts.

Information relates to description, definition, or perspective (what, who, when, where).

Knowledge comprises strategy , practice, methods, or approach (how).

Wisdom embodies principle, insight, more, or archetype (why).

An Example

Here an example of a bank savings account is used to show how data, information, knowledge and wisdom relate to the principle, interest rate and interest.

Data:

Let us consider the number 100 or 5 percent, completely out of context, are just pieces of data. Interest, principle and interest rate, out of context are not much more than data as each has multiple meanings that are context-dependent.

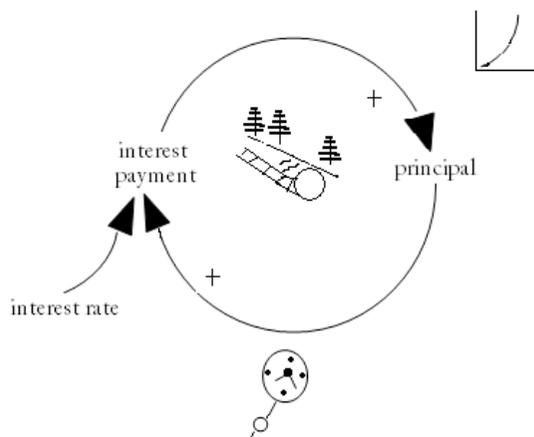
Information:

Let us consider a bank savings account as the basis for context, then interest, principle and interest rate become meaningful in that context with specific interpretations.

- Principal is the amount of money. Rs.100, in the savings account.
- Interest rate, 5percent, is the factor used by the bank to compute interest on the principal.

Knowledge:

Let us say we put Rs.100/- in the savings account, and the bank pays 5 per cent interest per annum, then at the end of the year the bank will compute the interest of Rs.5/- and add it to the principal and we will have Rs.105/- in the bank. This pattern represents knowledge, and helps us to understand how knowledge evolves over time. Now we understand that if we deposit more money in the account,



We earn more interest, and when we withdraw money we will earn less interest.

Wisdom:

It is in a way very tricky to get wisdom out of this. The insight that we get out of the principle of earning interest is wisdom.

Thus there is pattern and context in relating these concepts. This is shown in Figure2.

Having know adequately about what these concepts are, let us move on to understand what knowledge management is.

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What is knowledge Management?

Knowledge is its true sense is difficult to manage. According to Karl Popper (1978), Knowledge management is "the art of creating value from an organization's intangible assets."

Generally, there are two tracks of activities going on . a) IT Track
b) People Track

IT track is management of information, where researchers and

practitioners tend to have their education in computers and/or information science. They are involved in construction of information management systems. AI, re-engineering, group ware, etc. For them knowledge=objects that can be identified and handled in information systems. This track is new and it is growing rapidly at the moment assisted by developments in IT.

People Track is management of people, where researchers and practitioners tend to have their education in philosophy, psychology, sociology or business / management. They are primarily involved in assessing, changing and improving human individual skills and / or behavior. For them knowledge = processes, a complex set of dynamic skills, knowhow, etc. that are constantly changing. They are traditionally involved in learning and in managing these components individually – like psychologists or on an organizational level – like philosophers, sociologists or organizational theorists. This track is old and it is not growing so rapidly. This fact is well represented with the help of the following grid:

| | | |
|----------------------|----------------------|-------------------------|
| Knowledge Management | Knowledge Management | Knowledge Management |
| Track / Level | It- Track | People – Track |
| Organization Level | “Re-engineering | “Organization Theorists |
| Individual Level | “AI- Specialists” | “Psychologists” |

Value of Knowledge Management

Knowledge Management focuses on “doing the right things” instead of “doing things right”. Within the framework of knowledge management organizations view all its processes as knowledge processes. Therefore, in the context of libraries or any other system these process involve creation, dissemination, renewal, and application of knowledge towards organization sustenance and survival. There are actually two concepts relating to this a) Information value chain (technological systems) a knowledge value chain (human systems). Here human systems are the key components that engage in continuous assessment of information which is archived in the technological systems. In this view ‘best practices’ are not implemented without active inquiry by the human actors. Human systems are actively engaged in the process of continuously assessing the effectiveness of the best practices. The underlying notion here is that what was treated as the ‘best practice’ yesterday may not be treated as the ‘best practice’ for today and tomorrow. Thus KM is highly useful in continuous and ongoing renewal of organization realize that ‘ change is the name of the game’.

Knowledge Management in Libraries and Information Centers

Today libraries are working in a knowledge – based economy. Knowledge Management is a sub discipline of knowledge management. Human Resource(HR) management is the core of knowledge resource management in libraries. All-round improvement of library staff through training, continuous and life-long education to raise the ability of the staff to acquire innovative knowledge is the essence of HR management in libraries and information centers.

The objective of KM in libraries is to promote knowledge innovation. It refers to the production, diffusion and transfer of knowledge as well as of the network system constructed by

related institutions and organization. It includes three aspects, namely, theoretical innovation management of knowledge, technical innovation management and organizational innovation management.

Libraries make use of information technology for knowledge management. Use of information technology enhance acquisition speed and reduce the cost. It also enable interlinking of knowledge sources, networks and computer networks. Main information technologies relevant of KM in libraries include internet and Extranets, storage architecture, DBMS, metadata, data acquisition, and gathering dissemination messaging information retrieval, information resource sharing, groupware, middleware, online analytical processing, multidimensional analysis and data mining.

Conclusion

The field of knowledge management is the most nascent area a study. It has become a powerful tool for promoting innovations and reengineering in different walks of life. It occupies a strategic position in the creation of knowledge innovation systems. Library professionals have enormous scope in using KM as a tool for diffusion and management of knowledge.

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