From the March 1998 issue (Volume 5 Number 2)

THE 7 R'S OF INFORMATION MANAGEMENT

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Attempts to define information management as a discipline have focused on definitions, such as 'Information management includes organisation-wide information policy planning, the development and maintenance of integrated systems and services, the optimisation of information flows and the harnessing of leading edge technologies to the functional requirements of end-users, whatever their status or role in the parent organisation' (Rowley, 1988).

This can be further defined through an understanding of the role of the information manager. The information manager will have a central role in:

- Managing and coordinating the mechanisms for keeping a business team aware of market developments and taking some responsibility for wider environmental scanning.
- Designing, implementing, and when necessary, monitoring and updating information systems, and the exploitation of information in information systems in appropriate decision-making (Rowley, 1994).

Others have sought to define information management in terms of its contributing disciplines. Candidates for this role, include for example: management science, information systems, office automation, end-user computing, cybernetics and engineering. (Taylor and Farrell, 1992.)

Here we argue that what the discipline really lacks is a popular image. Elsewhere we argue this in a more academically rigorous style, but the objective of this article is simply to present some proposals and to invite further debate. We propose a simple model which seeks to summarise and place in a unifying framework the essential processes of information management in any context. We invite comments and further debate, and shall view this article as a success if it provokes a more refined version of our basic model, or a number of additional models that cover different aspects of information management.

THE 7 R'S OF INFORMATION MANAGEMENT

Figure 1 is intended as a summary of the processes that contribute to information processing and the creation of knowledge. Information management as a discipline must be concerned with the management of all of these processes. Some of these processes are performed by individuals, whilst others are performed by organisations, or, in some cases, information professionals on behalf of organisations. On the left-hand side of the model are the processes that the individual performs in information management. On the right-hand side are processes performed by organisations. The completion of all of these

processes may be supported by systems, but this will more evidently be the case in respect of those processes that are organisationally based. The relationships between the processes on the left-hand side of Figure 1 and those on the right-hand side is many-to-many. In other words, an individual may interact with the information management processes of many organisations, and, on the other hand, any one organisation will draw on the contribution of many individuals in the management of its knowledge base. It is the nature of this many-to-many relationship that poses some of the most significant challenges to information management. Perhaps, in passing, it may be worthwhile to comment that this figure does not explicitly identify the role of those responsible for the systems that facilitate each of the processes. Importantly, however, the Figure does emphasise that information and knowledge management involves a series of stages in a cycle.

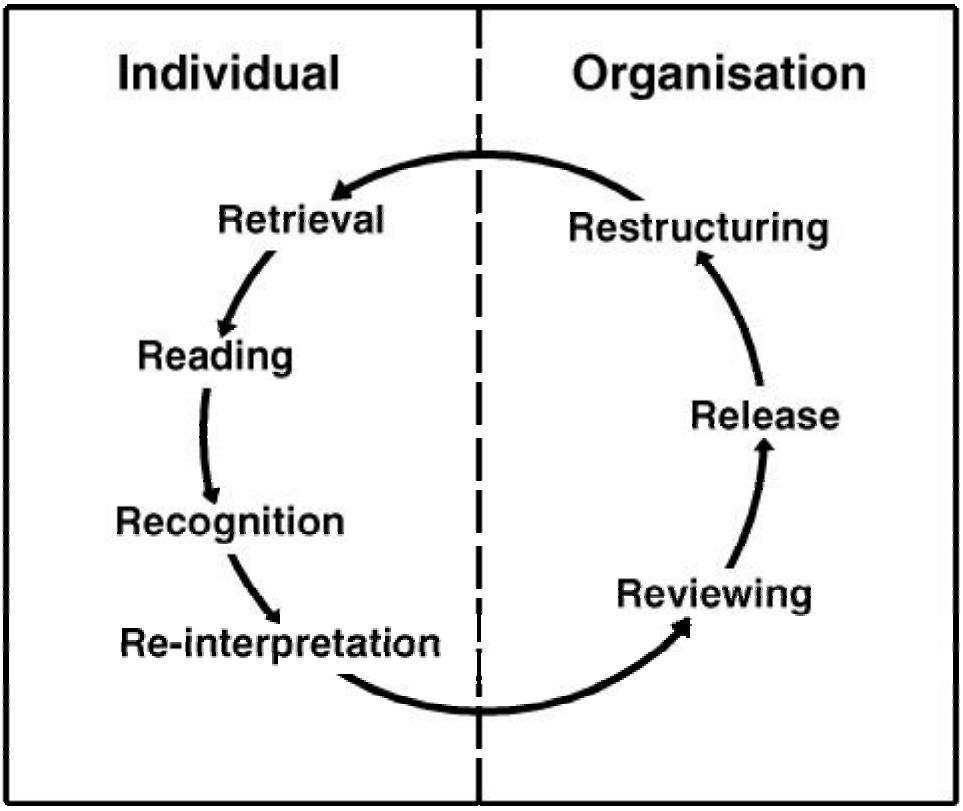

Figure 1: The Information Management Cycle

The model uses the terms and concepts information, and subjective and objective knowledge. This model proposes definitions for these terms. These definitions take into account earlier literature on the meaning of these terms, but do not derive directly from any specific school of thought. The literature on the definition of information is complex and includes contributions from a range of different disciplinary perspectives. In particular, definitions of information have been proposed that conceptualise information as subjective knowledge, or as useful data, or as a resource, or as a commodity, or as a constitutive force in society. It is not our intention to explore this literature in any depth in this article.

Perhaps the best way to explain the processes that comprise the information management cycle in more detail is to examine the inputs and outputs from each of them. Figure 2 summarises this.

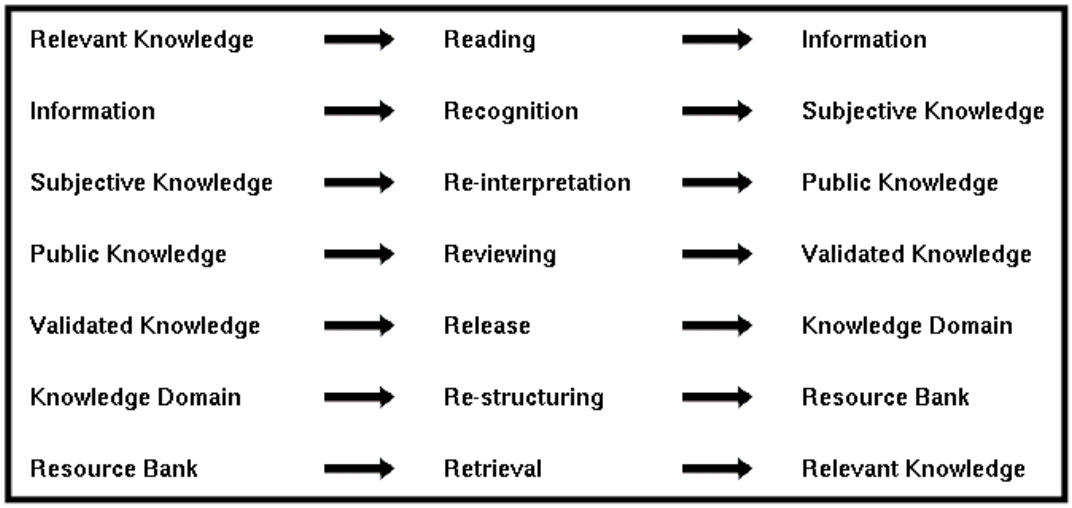

Figure 2: Input and Output for Each Process in the Information Management Cycle

Starting with the Read process, the cycle can be described to work like this:

1. A person reads a collection of relevant knowledge recorded in both electronic and print documents. They may also absorb other inputs from the external environment, or real world data, using a range of data collection methodologies.

2. Once read, the relevant knowledge becomes information which is absorbed into the cognitive framework of the individual. This statement implies a definition of information as subjective knowledge. Other definitions of information exist and may be attractive to some audiences. The use adopted here allows a clear differentiation between knowledge and information, and relates both of these concepts to one of the 7R's. This process of recognition is concerned with matching the concepts in the user's cognitive framework with those in the document that is read. Recognising is concerned with converting information into subjective knowledge.

3. Re-interpretation is concerned with the conversion of knowledge into a form that can be easily communicated, such as in a document. Although documents might be the primary concern of information managers, it is important to remember that public utterances can also be in verbal or graphical form. We describe this knowledge as Public Knowledge.

4. Review, or evaluation is concerned with the conversion of public Knowledge into Validated Knowledge. This process is conducted through the various channels that filter communications from individuals, at some stage in its process to the entry of validated knowledge. Typical activities that are concerned with validation, include reviewing, refereeing, listing, and other processes for evaluating public knowledge.

5. Release or distribution is concerned with the making of public knowledge that is widely available within the community, organisation or marketplace that might find it to be of value. Once validated knowledge has been released, it enters the knowledge domain upon which individuals and organisation and communities can

draw. Release for documents is typically in the form of publication, but other public announcements can also be made, through, say, television and cinema, and other information media.

6. Organisations will interact with this knowledge domain, select items from it, and collect, or provide routes of access to a subject of the knowledge domain that they judge to be of specific interest in meeting their objectives. Processing that might be involved here could include data warehousing, indexing, and physical arrangement of printed documents. This may take place in libraries, document collections, and document management systems. All such processes can be said to broadly fit into the category of re-structuring of knowledge to meet a specific purpose. This collection of knowledge will be supplemented, within organisations by information that emerges from the collection of transaction-based data, such as sales data, within the organisation.

7. This accessible collection of knowledge will then be used by individuals as a resource from which they can retrieve relevant knowledge. Users will approach this collection with individual objectives, and seek to differentiate between relevant knowledge and rubbish as defined by their specific objectives.

8. Relevant knowledge, once retrieved, must be read before the knowledge recorded in documents of various types can be converted into information and the cycle can re-commence.

The cycle shows the stages in the order in which they are often encountered. However, the processes may occur in alternative orders: for example, Review may occur, before or after Distribution. If the stages are switched, then the inputs and outputs to the processes need to be adjusted accordingly. In addition, there are, of course, many subprocesses within each of the processes identified in this model. The study of these processes and the way in which they can be facilitated in different contexts, is what constitutes the discipline of information management. There is more work to be done in the identification of the nature of these sub-processes.

WHY DO WE NEED THIS MODEL?

Perhaps creating models may seem a little like a game that academics play, but the game does have more professionally significant outcomes. The model, together with the terminology that it embeds can act as a basis for communication about information processing. In addition it emphasises that individual and organisational information processing must be viewed as part of a whole, and very simply, but very forcibly communicates that effective information processing is only achieved if both sets of processes operate effectively and they are integrated. As the nature of information processing changes with the increasing use of electronic information, there is an ever more pressing need to understand these processes.

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