A Multidimensional Model of Information Resource Management

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The management of the information systems function, especially as represented by the information resource management (IRM) concept, is of growing importance to today’s organizations. Developments in IS technology, end user applications, and the strategic use of information systems are driving a search for better ways to use and manage the information system resources of an organization. This paper explores some of the developments shaping the IRM concept, various views of IRM, and some of the research which reveals industry perceptions of IRM.

Information systems present managers with major managerial challenges. Thus, information resource management (IRM) which involves managing the information system resources of a business firm, has become a major responsibility of modern managers.

Effective use of the IRM concept is hampered by a lack of clarity about what the IRM concept means. Many early users of the term IRM meant it to relate almost exclusively to data management - the idea of treating data and information as a resource to be managed. While some writers continue to hold a view of IRM that is rather narrowly focused on the management of data as a resource, other writers address a much broader set of issues under the term IRM. The broad interpretation of IRM stresses the concept that data and information themselves, as well as, information systems, hardware, software, and personnel are valuable resources that must be managed by all levels of management for the strategic and operational benefit of the entire organization. Thus, in this broader view, IRM encompasses the management of all information and information systems resources and encompasses the management of these resources by both end user managers and IS personnel.

Since IRM is a concept that is intended to be used as a guide to more effective management of information systems, it is important to examine the perceptions that industry leaders have of the IRM concept and to determine the extent to which measures associated with the IRM concept have been implemented. This paper presents both a conceptual framework for IRM in its broadest interpretation and the results of an empirical study based on that framework. First we will review
some of the important developments shaping the IRM concept and examine various alternative views of IRM that have appeared in the literature. Based upon this review, we propose a conceptual framework for IRM which is designed to integrate major elements of several alternative views of IRM into a single, multidimensional framework. The empirical component of this paper examines the degree of acceptance and implementation of IRM concepts associated with this conceptual framework. It reports the results of a survey of industry information systems executives and practitioners. This survey asks IS practitioners to indicate what they consider to be the most important elements of the IRM concept and asks them to indicate the degree to which their firms have implemented various activities and policies associated with the IRM concept.

**Alternative Views of IRM**

It is important to understand that information resource management means different things to different people. Surveys of information systems literature as well as research studies bear this out (Guimaraes, 1985, 1988; O'Brien and Morgan, 1980; Trauth, 1989). In his paper reviewing the IRM literature Guimaraes describes three alternative views of IRM each of which has a significantly different focus (Guimaraes, 1988). He shows that various authors view IRM as either (1) the management of information as a resource, (2) the management of information systems development and improvement, and (3) the management of information systems technology in an organization. Another review article by Trauth (1989) identifies three “disciplines” from which IRM has evolved. These are, 1. database management, 2. records management, and 3. data processing management. The records management “discipline” cited by Trauth originates in library science and governmental agencies and focuses on efforts to minimize the proliferation of paperwork and redundant document processing. For our purposes records management will be viewed as an element of database management or the management of information as a resource.

Based upon these two review studies we can identify three major approaches to IRM which have been the focus of most of the IRM literature. Furthermore, there is nothing inherently contradictory in the three alternative approaches. Thus, an inclusive view could be proposed in which all three of these approaches are seen as elements of IRM. Corresponding to the alternative “approaches” and “disciplines” proposed by Guimaraes and Trauth, our multidimensional model includes resource management, functional management, and technology management as fundamental components or IRM. Our resource management component, corresponds to the concept of information as a resource but has been broadened to include management of all other IS resources as well. The elements of our proposed multidimensional framework will be explained in more detail in the next section.

While the three elements described above encompass the major strands of the IRM literature historically, the recent literature supports the expansion of the IRM model to include two additional elements. The concepts of strategic management and distributed management are suggested as key areas on which IRM should focus in the future.

The success of several highly publicized strategic information systems applications has spurred top management’s desire to find new and creative ways to use information resources in pursuing the strategic objectives of the firm (Cash, 1988; Doll, 1989). At the same time new IS technologies and methodologies supporting the development of strategic systems have emerged (Ives and Learmonth, 1984), and recent IRM related articles (Corbin, 1988; Perez, 1988; Sato and Masahiro, 1988) have suggested that strategic management needs to be an important element of IRM.

In a recent article A. W. Zijlker argues that the focus of IRM should be to “make information technology add maximum value by putting it in the hands of the people who were there to add value in the first place(1988).” He argues for a view of
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