

INFORMATION RESOURCES MANAGEMENT:

A Missing Course in Information Systems Programs

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ABSTRACT: In the past, the major focus of most information systems programs has been on the procedures and applications of computer-based information systems. The overemphasis on the hardware and software used to process data has resulted in the preparation of glorified information systems professionals who lack the understanding that computer systems are among many tools utilized in the processing and management of the information resource. The primary focus of information systems education should be on information resource management, rather than just information systems management.

KEYWORDS: Information Resources Management (IRM), Information, Management

Introduction

The concept of information resources management (IRM) was first introduced in the late 1970s as a general theory promoting a method for organizations to comprehensively utilize their information resources. The early advocates of IRM (Connell, 1981; Holmes, 1977; Horton, 1979; Poppel, 1978; Venkatakrishmn, 1983) all viewed IRM as an approach clearly geared toward the greater utilization and management of an organization's information assets.

IRM promotes information as a major resource, with information processing technology as the ultimate tool for the processing, distribution, and integration of information and its use in various organizational functions. In the IRM framework, information resources are more than just computer hardware and software. Horton (1979) includes in this definition of information resources all of the facilities, equipment, personnel, supplies, systems, and other machinery needed to capture, store, process, and disseminate the information used by the organization. Figure 1 illustrates a summary of some of the components of information resources in organizations.

Information Systems Education and IRM Concepts

During the past several decades, many colleges and universities began to establish academic programs to train students in the field of information processing. Among the many acronyms which label these programs are CIS (Computer Information Systems), MIS (Management Information Systems), BIS (Business Information Systems), and IS (Information Systems). Shortly after the introduction of these programs, professional groups such as DPMA (Data Processing Management Association) and ACM (Association for Computing Machinery) developed standard curricula for these programs.

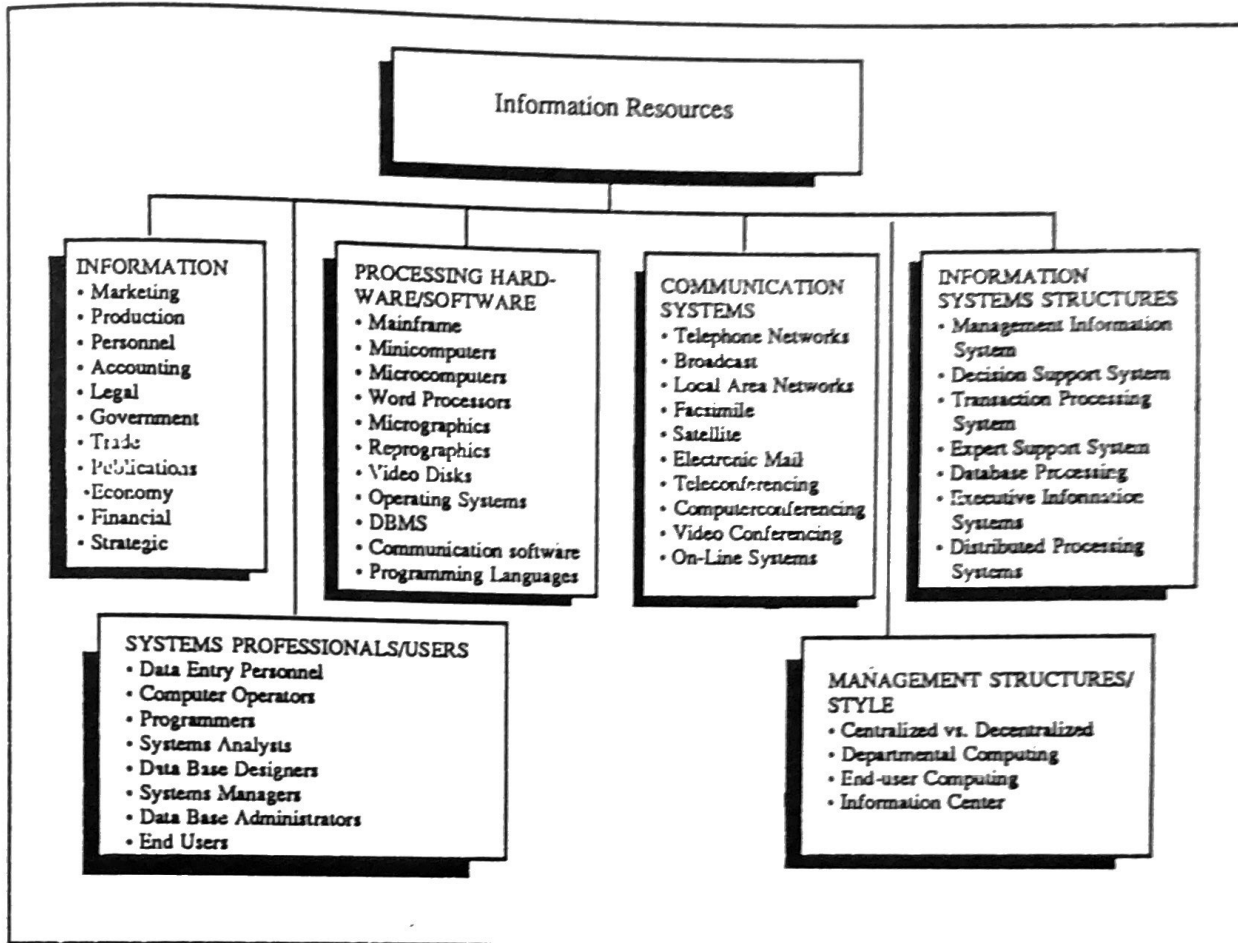
The main thrust of these programs with their standard curricula has been to emphasize the technical and procedural aspects of computer-based information systems and their applications. The overemphasis on the technology and procedure of information system management has been noted elsewhere (Archer, 1983; Ferreira and Collins, 1979; Gallager, Johnston, and Cook, 1978; Gupta, 1974; Khosrowpour, 1988; Lusa, Iscoff, and McCartney, 1975; Martin, 1985; and Reeves and Busson, 1979). Overall, these programs successfully prepared a generation of

information processing professionals involved in design, development, implementation, operation, and management of information processing systems.

In general, Many information processing professionals perceive that resources of computer-based information systems are limited only to hardware and software components. This perception has been partially promoted by limited view given by information systems education of the past. Today, information resources consist of many more resources than the computer hardware and software used to manage information within organizations. This requires an increased understanding of these resources and their applications.

A survey of 673 corporate executives reveal that more than 60% viewed information resources to be the most important resource of the organization (Mautz, et el, 1984). As more corporate executives begin to recognize the strategic value and importance of information resources and their management, MIS education must broaden to help future information resources managers understand the value and role of various resources of information technology.

Figure 1
A summary of Information resources Components in an Organization



Obviously, the first step is to reassess the current MIS curricula and their suitability for meeting the emerging challenges of the future. The focus of MIS education should be information management which inevitably includes the utilization and management of all types of tools to achieve an effective management of this organizational asset.

The Information Resources Management Course

Students in information systems programs should be introduced to IRM, its characteristics, and its role in the organization in an early stage of their education. Because they usually take computer programming course first, most students are misleadingly taught to think that computer systems are number-crunching machines. Even the introductory

MIS or CIS survey-type course primarily focuses on computers and their components for information processing and management. A quick look of the existing MIS textbooks clearly illustrates this trend (Adams, Wagner, and Boyer, 1983; Senn, 1988; Taggart and Silbey, 1986; and Thieraf, 1984). In most courses, the primary focus is on the tools used to manage the information resources, with secondary emphasis on the information resource itself. To prepare the new generation of information resources managers, the focus of information systems education should be redirected to as information management as the primary emphasis and information systems managements the next concern.

In other academic disciplines, students usually first learn the basic concepts of resources and functions of the discipline;

the tools utilized to manage the resources are explored later. Using accounting as an example, students are not introduced to the value of calculators or computerized accounting systems without first learning about accounting functions, procedures, and the role of accounting and accountants in organizations. When they understand accounting roles and functions, students then move on to learn the various tools and procedures which can facilitate different accounting functions to achieve the most efficient and effective level of accounting management.

The concepts of IRM and their importance should be embedded in the mind of the information systems student prior to the introduction of information processing tools and systems. This task can be accomplished through a course in IRM concepts and principles. This course

would be very similar to other survey courses offered to business students such as principles of finance, principles of marketing, or principles of human resources. Table 1 provides a summary of the contents of a principles course in IRM.

This course can be followed by a separate course in information systems technology which will introduce information systems students to various characteristics and capabilities of information processing technology and its utilization in information resource management. The concepts of IRM should be further embedded into all other courses within the information systems program. Other courses offered in the information system program should focus on information resources management and how various applications of information processing technology can contribute to more effective management of information resources in organizations. Figure 2 illustrate a framework for the previously described IRM course, the information processing technology course,

Table 1
 Contents of a principle course in IRM

- Information management concepts
- Data vs. information
- Information origins
- Types of information
- Value of information
- Decision making and information
- Economy of information
- Information processing methods
- Information systems structures
- Information processing personnel
- Information users
- Information processing tools
- Information processing technology
- Information resource managers

and other courses in the information systems program.

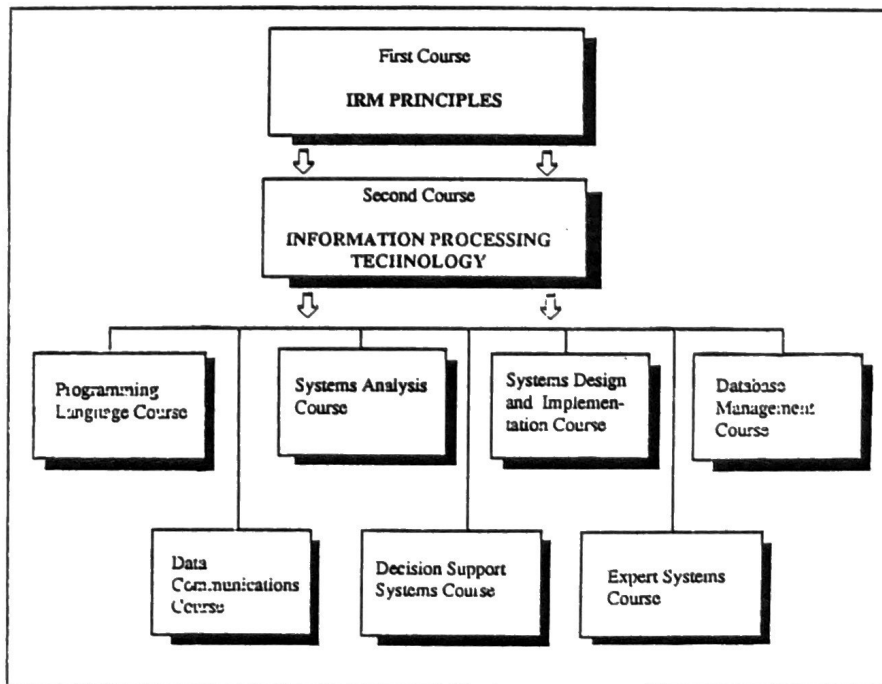
The IRM course is appropriate for juniors in college, provided the student has also previously taken a course in organizational behavior or principles of management course which allows the student to understand the organizational and managerial implications of information

resources management.

Conclusion

The need for broad management of information resources now challenges business schools to provide more training and focus upon the managerial aspects of information resources. Information

Figure 2
 A framework for embedding a principles of IRM course in the IS program



systems graduates should have a command of more than a few computer programming languages and different concepts and procedures for data manipulation. They should also understand the role of information resources in organizations and how these resources can be managed more effectively.

Information systems students should be introduced to the concepts of information resources management at the beginning of any program in information systems. Other courses should follow that reinforce the notion that information is a major organizational resource and can be managed with up-to-date information processing technology.

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