Incorporation of IRM Concepts in Undergraduate Business Curricula

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Undergraduate computer curricula have undergone considerable change since colleges began offering computer courses over twenty years ago. The curricula changes have mirrored the evolution in hardware, software, and computer usage. Today, the emphasis is on end-user computing, using small or networked systems. To those who promote the computer as a decision-support tool, this evolution from a pure data processing and programming orientation is refreshing. A key question, however, is whether undergraduate curricula do an adequate job of instilling concepts of information resources management. The authors evaluate the current status and make suggestions for establishing a future direction that will accomplish the desired results.

Introduction

Conventional cliches about information resources management flow easily from the pen:

“Information is modern managements’ key resource.”
“Information management has become a crucial function.”
“This is the information age.”
“The information economy.”

Moving beyond the cliches, many leading information systems consultants have recognized the increasing value of information in the current business environment. Diebold (1979) predicted that the organizations destined to excel in the 1980s and 1990s are those that recognize information as a major resource and manage it as efficiently as they do other assets. More recently, Hartog & Herbert, 1986; Brancheau and Wetherbe, 1987 found computer-based data utilization to be one of the top five critical information systems issues in the late 1980s.

One of the early visionaries concerning the importance of data and information to the
well being of an organization was Richard L. Nolan. In a landmark paper, (Gibson & Nolan, 1974) he suggested that organizations go through four stages in the introduction and assimilation of new computing technology: initiation, expansion, formalization, and maturity. During the initiation stage, the emphasis is on cost savings. The expansion stage is when computer usage “takes off” as news of the benefits spreads. The computer becomes such a popular device that, in the control stage, top management institutes policies aimed at limiting applications to only those benefitting company functions and objectives. Finally, in the maturity stage, the MIS manager strives to maintain a stable operation, yet keep up with new technology. Nolan (1979) expanded the number of stages to six: initiation, contagion, control, integration, data administration, and maturity. The expansion stage was renamed contagion, and the formalization stage was subdivided into integration (when applications are retrofitted to function as a unit) and data administration (when data is shared among systems). Nolan recognized that during stage three (control), there is a transition from management of the computer to management of data resources. He referred to data resource management, a concept that is captured today by the term information resources management (or IRM).

**What is IRM?**

As with any new concept in the computing field, we are not blessed with a single definition of IRM that is universally accepted. Tor Guimaraes, elsewhere in this issue, identifies three main views. The definition that we prefer, and the one that will serve as the basis of this article is:

IRM is the recognition by an organization that data and information are valuable resources and the application of the same principles in managing data and information as are used in managing physical resources such as personnel.

The definition implies a two-step process. First, the organization must recognize the value of data and information. It is important that data should also be included since it is the raw material from which information is made. Second, the data and information are managed to make certain that they are available when needed and that they do the desired job.

**Responsibility for IRM**

The successful implementation of IRM is the responsibility of the organization’s senior management. As with any resource, senior management must ensure the availability of data and information to meet each employee’s needs. That responsibility cannot be left to the individual users primarily because of the manner in which data and information are shared within the organization. It is important that everyone support IRM, and that support can best be achieved when the concept is promoted by senior management.

**An Operational Measure of IRM Attainment**

How can you measure the extent to which an organization’s senior management has embraced IRM? Guimaraes (1985) suggests looking for several characteristics:

1. The top computer manager reports directly to the chief executive officer.
2. The firm has a data administrator who establishes and enforces policies and procedures concerning company data.
3. The information services group has a