Part III. The Fellow Travelers

Information Resource Management: Research, Education, and Practice

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Practitioners of information resource management (IRM) and information studies educators should form a partnership. The partnership will advance research, education, and practice in several areas critical to the success of IRM. These critical success areas focus around the central principle of IRM, managing information resources to support the strategic direction of the organization. The partnership will also benefit information studies researchers and educators by widening opportunities for applied research and by opening possibilities for employment of information studies graduates.

The purpose of this article is to promote productive relationships between the practice of information management in large organizations and information studies research and education. A very selective view of information resource management (IRM) is used as a framework to explore how IRM and information studies could form a useful partnership. Specifically, the framework consists of four important foci of IRM practice as follows: (1) Strategic use of information resources; (2) Strategic data planning; (3) Human factors affecting information systems; and (4) Cost/benefit applied to information resources.

Presently, IRM educational and research programs are located in a number of academic departments, but no professionally approved IRM educational programs exist. Suggestions for partnership between IRM and information studies are offered as potential directions rather than as specific project proposals. The article's purpose will be achieved if IRM practitioners and information studies researchers and educators begin a productive dialogue.

IRM and Information Studies Defined

IRM has been defined for the U.S. federal government by the Office of Management and Budget. IRM is the

> planning, budgeting, organizing, directing, training, and control associated with government information. The term encompasses both information itself and related resources, such as personnel equipment, funds, and technology [1].

The federal government definition is generally valid for IRM wherever practiced.

IRM is an accumulation of information management functions recently integrated into a unified strategy. Thus IRM today includes management of paperwork, office procedures, archives, data processing, information services, telecommunications, and data administration. The unifying force for IRM is support of the organization's strategic direction.

Information studies is an emerging discipline comprised of a few well known components, considerable overlap with other disciplines, and many areas that resist easy definition. Three examples of information studies activities important to IRM are: human factors in design of automated information systems; evaluation of libraries and other information services; and global identification of an organization's data (called enterprise and data modelling). Although formal centers of information studies exist, the field is becoming highly interdisciplinary and therefore is distributed throughout a university's academic departments. Those academics who identify themselves primarily with information studies increasingly will become leaders of interdisciplinary projects and gatekeepers for a host of others who need access to information studies research and education.

IRM and Information Studies: Areas for Partnership

IRM and Information Studies have many potential areas for partnership in research, education, and practice. The following discussion focuses on four areas that are critical to the success of IRM [2].

Strategic Use of Information Resources

IRM aims to establish a global view of an organization's business and information environment as a context for strategic management of information resources. Because the global view must change as the organization changes, in fact IRM is attempting a special kind of communication to ensure the effective use of information resources. Communication concerning information resources is difficult since it must operate across many levels of technical and business sophistication. Communication devices must be structured and formal because the subject matter is complex, yet these devices must work in the day-to-day business world.

The IRM emphasis on strategic planning provides opportunities for information studies research. A primary challenge is to develop means of communicating effectively between top management and technical staff concerning data, hardware, software, and information services in a way that keeps the focus on strategic direction rather than on technical details. Many methodologies exist for information needs assessment, systems analysis, and the like, but all of them fail to establish the global view required by IRM. Information studies researchers can contribute because they have a broad view of technical and human factors in the use of information.

Information studies programs can provide staff who have the perspective needed to serve as effective bridges between management direction, technical implementation, and information services operations. Information studies graduates combine a knowledge of information technologies, internal and external databases, and an orientation to operational information systems that can make a unique contribution to IRM.

Strategic Data Planning

A focus on data has emerged as a critical factor to IRM's support of an organization's strategic direction. What data are presently used by *functions* across the organization, and what data should be used by an organization to fulfill its mission or to excel over its competition? Martin [3] and others have emphasized that comprehensive data planning is superior to earlier approaches that dealt with data only in the context of automating specific applications.

Information studies research should be directed toward linking theoretically based methodologies to practice. Especially important areas are enterprise and data modelling and data normalization. Enterprise and data modelling produce a model of the functions of an organization with related data required to perform those functions. Data normalization, based on mathematical theory, in practice is a very effective means of imposing consistency on data. These methodologies support development of information architectures — structures that provide a global depiction of information flow within the organization. Information architectures are a key component in IRM's effort to link information resources to the organization's strategic objectives.

Graduates of information studies programs who have backgrounds in areas like semantic decomposition (a technique used in thesaurus construction) are excellent candidates to staff some of the data planning efforts just described.

Human Factors Affecting Information Systems

One of the objectives of IRM is to promote effective information systems. IRM aims to ensure that the entire system — not just one or more technical components — is well planned, meets objectives, and operates effectively. For example, IRM practitioners need to know how projected new systems will fit into the corporate context.

Information studies can make an important contribution to IRM through research concerning the psychological and sociological dimensions of information systems. Information studies can bring to bear relevant disciplines to evaluate the total environment into which information systems are being introduced. On the one hand, information systems that contradict corporate norms can be avoided. On the other hand, corporate norms might be changed to take advantage of new information resource opportunities. To this end, a host of existing methodologies could be made more effective. For example, "instant" production of user views of systems, often referred to as prototyping, could guide organizational changes as well as information system design. There are limits to this approach, but it has promise.

Graduates of information studies programs may be expected to apply their wide view of the organizational and human use of information. These persons can develop knowledge of corporate norms very rapidly. This kind of person, for example, would be able to keep the user view of a developing information system constantly before all participants in the system development process. That skill is all too rarely available in most IRM programs.

Cost Benefit Applied to Information Resources

IRM has no effective cost benefit methodologies to support its work, despite its assertion that information resources should be managed like assets. Some progress has been made toward standard accounting for costs, but costs are the easy side of the cost-benefit equation, and early attempts to justify automation entirely as cost reduction have been abandoned. Justification is generally believed to derive from increased benefits, but no one is effectively measuring these benefits.

Unfortunately, information studies has no practical cost-benefit methodologies to offer IRM, but it is nevertheless the best potential source of these methodologies. The benefits problem is profound because the contributions of information resources to an organization's effectiveness pose the most difficult kind of benefit questions. A range of

variables are involved, from narrow questions of specific system effectiveness to the broadest questions of what factors contribute to effective human decisionmaking. The questions are broad and fuzzy. Progress can be made, however, if evaluation structures are created and improved by experience. There is some hope in recent work on rigorous qualitative approaches to value added measures [4]. Information studies is in a unique position to contribute to this critical area for IRM.

Conclusion

Opening a dialogue between IRM and information studies educators would advance research, education, and practice. It can make researchers and educators in information studies more aware of the needs of information managers. And it can make IRM practitioners aware of a body of knowledge and a source of trained staff that today they mostly overlook.

An article in *Perspectives* can not launch this cooperative enterprise. The next step must be taken by information studies educators. They should begin communicating with government and private sector practitioners through professional societies and information industry trade associations.

References

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