Prologue

INTRODUCTION

This book is part of a series of books containing selected readings on the many and varied aspects of information technology. The focus of this book is on strategic information systems. The objective in preparing the book is to provide a source of selected readings which will benefit both researchers and students. The content offers a comprehensive view of concepts and theories and their application within the context of strategic information systems. Researchers will find this book a valuable resource of ideas for their own programs of investigation. Students will gain an understanding of current leading edge research being conducted in the area of strategic information systems.

The format of this prologue is as follows. To begin, the term "strategic information systems" is defined. Then a brief discussion is presented regarding the status of information systems as a research discipline. Further, within the discipline various topic areas exist. The focus of this book is on one of these topic areas, specifically strategic information systems. This prologue concludes with an overview of this area with an emphasis on aspects related to the role of the chief information officer (CIO). The establishment of this role represents an organization's formal recognition of the strategic importance of data and the necessary systems to produce information to support high level organizational strategic initiatives.

STRATEGIC INFORMATION SYSTEMS DEFINED

Strategic information systems, "… apply information technology to a firm's products, services, or business processes to help it gain a strategic advantage over its competitors" (O'Brien & Marakas, 2008:16). Thus a strategic information system may be any kind of information system that addresses the firm's strategic objectives, usually in the form of gaining a competitive advantage. The intent of a strategic information system is to help the organization enter into a new market, positively affect market share, or serve customers better. Strategic information systems have a tremendous impact upon the firms' financial performance.

THE INFORMATION SYSTEMS RESEARCH DISCIPLINE

Much research is currently taking place to identify just what is the IS research discipline. There is much discussion about the IS field and its status as a discipline (Benbasat & Zmud, 2003; Gorver et al., 2006a; Gorver et al., 2006b; Hevner et al., 2004; Hoving, 2007; Kvasny & Richardson, 2006; Teo, 2005; Truex et al., 2006; Wade et al., 2006). This discussion suggests the field is relatively new and is

currently struggling to determine a specific identity. Many theories exist within the field. Some theories have been adopted from other fields of study, while a few others have been developed specifically related to information systems.

Mora et al. (2007) propose a framework to integrate the existing and disparate theories in the IS field. They comment on the complexity of the IS field as follows:

This discipline, from its conception as a potential scientific field, has been driven by a dual research perspective: technical (design engineering oriented) or social (behavioral focused). This duality of man-made non-living (hardware, software, data, and procedures) and living systems (human-beings, teams, organizations, and societies), the multiple interrelationships among these elements, and the socio-cultural-economic-politic and physical-natural environment, make IS a complex field of inquiry. (Mora et al., 2007:1)

Parameswaran and Whinston (2007) suggest IS researchers face challenges from diverse disciplines and that this offers the opportunity to lead and participate in cross-disciplinary research.

TOPIC AREAS WITHIN INFORMATION SYSTEMS

In general, the area of research in information systems may be categorized as relating to tools, techniques, and people. Tools and techniques relate to the more technical aspects as outlined by Mora et al. (2007) above. The people category relates to the social aspects of information systems (Mora et al., 2007).

There are some emerging topic areas within the information systems discipline. Grossman (2007) comments upon the emergence of knowledge management into the IS field. Halawi et al. (2008) present a framework for assessing the success of knowledge management systems within an organization. McGaughey and Gunasekaran (2007) explore the current status of research into enterprise resource planning (ERP) systems and suggest a more business oriented focus. Welch and Kordysh (2007) reveal best practices in the implementation of ERP systems. Sujitparapitaya et al. (2003) evaluated data warehouse topologies and their relationship with modes of IT governance. Lee et al. (2004) presented a model for evaluating IT outsourcing. Nguyen et al. (2007) discuss strategies that support successful customer relationship management (CRM) implementations. Finnegan and Willcocks (2006) documented issues regarding tacit knowledge in the implementation of CRM. Arnott and Pervan (2005) suggest that currently decision support systems are an under-researched area when compared with the use of such systems in industry. King (2007) presents skills necessary for organizations to have in order to participate in global offshore outsourcing. Further, Fink and Neuman (2007) investigated how the technical, behavioral, and business capabilities of IT personnel contribute to corporate strategic agility.

Another topic area and the subject of this book is the study of strategic information systems. The planning process for the implementation of strategic information systems attempts to link the development of the portfolio of new information systems to the strategic initiative of the organization (Newkirk & Lederer, 2007). Thus, planning for strategic information systems is based upon the recognition that information systems are a strategic resource for the organization (Brown, 2004).

Further evidence of the consideration for the strategic nature of information systems is the establishment of the CIO role within the organization (Hunter, 2008). The CIO role is established so that one individual may be assigned the responsibility for the firm's information resources. Further, the CIO role is created as part of the senior management team. While the CIO then is responsible for the efficient operation of the firm's information technology the CIO is also expected to thoroughly understand the

business. The CIO is thus responsible for ensuring information technology is adopted by the firm which contributes to establishing and maintaining competitive advantage as a strategic initiative (Andrews & Carlson, 1997; Arnold, 2001; Benjamin et al., 1985; Bock et al., 1986; Korn/Ferry International, 1998; Maciag, 2002; Nolan Norton Institute, 2001; Olson, 2000; Weiss & Anderson, 2004). Lindstrom et al. (2006) identified Swedish CIO concerns for the future. Of the three most important issues identified by the CIOs one related to cost control while the other two, relationship between IT and the business and computer support for the business, were of a strategic nature.

STRATEGIC INFORMATION SYSTEMS AND THE CIO ROLE

A necessary precursor to the establishment of the CIO role and the strategic application of information systems is the consideration by senior management that information is a valuable resource of the organization and should be managed appropriately. Thus, senior management must recognize that information must be managed strategically just as corporate finances and human resources are managed (Meagher, 2003). Evidence of this recognition would be the establishment of a rich information technology infrastructure, a senior management steering committee, and initiatives to ensure competent business managers as well as alignment between the information technology and business functions.

Senior management must be committed to ensuring the existence of the necessary level of information technology infrastructure (Broadbent et al., 1999). This infrastructure must go beyond the usual components of hardware, software, telecommunications and databases. Indeed, the infrastructure must include those systems which facilitate functional boundary crossing and extension of services to employees, customers, and suppliers. An example is an enterprise resource planning system.

A steering committee consisting of senior management representing the major business units within the organization must be established with the responsibility to make strategic decisions that ensure the resources allocated to information technology support and promote the goals of the organization. Karami et al. (2000) determined that the existence of such a steering committee facilitated the link between the goals of the organization and the direction set for information technology. Also, the existence of a senior management steering committee provides a stage for the performance of the role of the CIO.

Along with this formal recognition by senior management regarding the importance of information through the establishment of a steering committee, there is also the need to ensure functional managers understand the capabilities of information technology. They must be aware how technology can be employed to support their operations. This increased knowledge has been determined (Reich & Benbasat, 2000) to facilitate alignment between information technology and the goals of the organization.

In general, information technology leadership in the form of the CIO role and organization leadership in the form of the senior management team must be aligned. So, activities of the information technology unit must be coordinated with the goals and objectives of the organization (Luftman & Brier, 1999). The most important factor in this alignment is communication (Reich & Benbasat, 2000). Both information technology leadership and senior management must develop shared domain knowledge.

A concern recently investigated (Kolbasuk, 2005; Kaarst-Brown, 2005) suggests that while the CIO role has been established as part of the senior management committee, appreciation for the role has not been forthcoming. Thus, the CIO role is currently held in lower regard than other more traditional business unit management roles. This situation is evolving and through time it may be resolved. However, it is now incumbent upon the CIO to work with senior management to ensure the appropriate understanding of both the capabilities of information technology and the advantages to the organization of the establishment of the CIO role within the senior management team. Information and the technology that provides it must be recognized as a strategic resource.

In the future, the CIO role will emphasize more about "information" and less about "technology". However, the CIO must maintain a thorough understanding of information technology as well as knowledge about the organization and its functions. In both cases (Blair, 2005) it will be incumbent upon the CIO to obtain knowledge of future initiatives and how to apply leading edge information technology to support the strategic direction of the organization.

CONCLUSION

Strategic information systems are a very important component of the current operation and future direction of an organization. It is necessary for senior management to formally recognize this importance and put in place people, systems, and organizational components to facilitate strategic initiatives. This book provides erudite readings related to this important subject area.

Further, Hassan and Becker (2007) determined, using citation analysis that a gap exists between IS research concepts and the content of introductory IS textbooks. This situation must be addressed. Introductory IS courses are taught to many different majors. Thus, most future managers will probably only be exposed to one IS course. It will be important for these future managers to exploit the capabilities of IS in order to have as effective as possible operation of their functional business unit. But, as shown by Hassan and Becker (2007) the textbooks and thus the content of course presentations do not reflect leading edge research issues. This book, by providing selected readings and focusing on strategic information systems responds to addressing this gap.

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