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Abstract

The phenomenon called information systems has changed and evolved. This note examines and proposes definitions that can guide editorial decision making. The boundaries of the phenomenon are expanding and both public and private information systems are easily accessible. Modern information systems are complex, socio-technical systems with a global reach and a wide range of purposes.

Key words: Information System, Defining Concepts, Information

1. Overview

The Association for Information Systems (AIS) "serves society through the advancement of knowledge and the promotion of excellence in the practice and study of information systems" (The AIS Mission Statement). A strategic goal of AIS is to "position information systems as a leading profession in the service of society" (The AIS Mission Statement). Similarly, the goal of the Midwest United States Association for Information Systems (MWAIS) "is to promote the exchange of ideas, experiences, and knowledge among scholars and professionals in the Midwest US engaged in the development, management, and use of information and communications systems and technology" (The MWAIS Mission Statement). The Editors of Journal of the Midwest United States Association for Information Systems (JMWAIS) strive to accomplish these shared purposes and goals. A key issue for an Information Systems journal editor is the scope and boundaries of the phenomenon labeled "Information Systems." Many take for granted that the term is well-understood and few articles have explicitly examined alternate definitions. This note explores various definitions and prior interpretations of Information Systems (IS). We also address four related questions. Is the Internet an Information System? Are there both private and public information systems? Does an information system do more than provide information? How does a modern information system differ from the pre-Internet legacy systems?

2. Definitions

Let's begin with a general definition -- modern information systems combine computing hardware, software, networking and storage infrastructure with trained staff. The purposes of information systems include: 1) creating, sharing, and transmitting documents; 2) delivering applications to users; 3) facilitating financial and operational control; 4) coordinating activities, and 5) supporting decision making.

An information system (IS) can be defined and examined from two major perspectives. First, one can define the components that are interconnected to create an information system, a tools or technology perspective. Second, researchers can examine the roles and purposes information systems serve in an individual's life, in an organization, among organizations, and in society, a process perspective. Both perspectives help us understand IS. There is no agreed upon definition however of an information system. Alter (2008) identifies more than 20 definitions. Ultimately, he proposes a process definition, "An information system is a work system whose processes and activities are devoted to processing information, i.e., capturing, transmitting, storing, retrieving, manipulating, and displaying information" (p. 6).

Sources differ on the components of an information system, but lists often include hardware and software for collecting, transmitting, storing, and processing data. Technologies include computers ranging from smart phones to supercomputers and parallel processing computers; a wide assortment of software including programs that control the operation of the computer hardware; telecommunications devices and computer networks. Hardware, software, and telecommunications are the information technology (IT) components. Information Systems and Information Technology are now required for the operations and management of most organizations. In general, there are 5 components: 1) data, 2) hardware, 3) people, 4) processes, and 5) software.

An information system maintained by an individual for personal use is appropriately termed a personal information system. An information system used by a work group or organization department is commonly called a departmental information system. An information system that supports an entire business or organization is called an enterprise information system. Narrow purpose information systems that serve a department or function have names like a "marketing information system" or an "accounting information system." Some other categories or types of information systems include: 1) Transaction Processing Systems (TPS); 2) Decision Support Systems (DSS); 3) Management Information Systems (MIS) and 4) Executive Information Systems (EIS).

The World Wide Web is the largest, most pervasive information system currently available. It is a global collection of documents, videos, photos and other digital resources, connected by hyperlinks and Uniform Resource Locators (URLs). The Web has both user generated and organized, reviewed and curated contents.

Boell and Cecez-Kecmanovic (2015) identified 34 unique definitions of the phenomenon called information systems in the literature. Based on their analysis, they identified four different views of IS: 1) a technology view emphasizing the techno-logical aspects of IS; 2) a social view emphasizing the sociocultural aspects; 3) a socio-technical view emphasizing the interconnection of technology and social elements; and 4) a process view emphasizing the activity orientation of IS. They identified a possible need for a fifth perspective, a socio-material conceptualization based on a non-dualist, relational ontology.

3. Conclusions

Organizations have many information systems and people create and use many information systems. Information systems serve specific purposes and support many diverse tasks. Modern information systems are complex, socio-technical systems with a global reach and a wide range of purposes. People have become dependent upon computerized information systems as individuals, but so too have our organizations and society in general. Our organizations, governments, and many of us as individuals, need information systems to function.

To summarize, from a technology perspective, we define an information system as an integrated set of components for collecting, storing, and processing data and for providing decision support, information, knowledge, and digital products. Information system applications may meet the needs of individuals, departments, organizations, or in a broader scope, the society as a whole. An information system provides more than information.

We live in an information society where information systems help us create, distribute, use, integrate, and manipulate information. The main drivers of our information society are digital data, communication, and computing technologies. The information systems phenomenon is complex and evolving. We use a multi-perspective lens when assessing the relevance of articles for the Journal of the Midwest United States Association for Information Systems (JMWAIS).

4. Overview of the contents of this issue

This issue of the journal includes three traditional research articles.

Roger McHaney, Joey George, and Manjul Gupta present a novel approach about deceptive message detection in asynchronous communication. They look at the potential impact of non-verbal cues on deception detection and conclude that managers need to be cautious about a message sender's impetuses. Given the fact that social media plays a significant role in businesses today, this article is very timely and relevant.

Pam Rowland and Cherie Noteboom look at ways to attract and keep more females in IT professions. Their qualitative study looks at the female students' observations and insights about their IS/IT educational experiences. They further present the Competencies, Life System, Accomplishment, Service, and Security (CLASS) anchor model to demonstrate how female students' motivations may affect their IS/IT educational and career selection. Given the current shortages of highly qualified IS/IT professionals, in particular females, this study is quite timely and relevant.

Alanah Mitchell presents her study using community-based experiential and service learning projects to support small town businesses for some of their technical needs such as Web development. The projects provide students with opportunities to develop hands-on experience and communication skills. The article presents an example of scholarship of teaching.

We appreciate and wish to acknowledge the contributions of reviewers for this issue of the journal, including Mari Buche (Michigan Technological University), Omar El-Gayar (Dakota State University), Sean Eom (Southeast Missouri State University), Joey George (Iowa State University), Roya Gholami (University of Illinois Springfield), Yi "Maggie" Guo (University of Michigan, Dearborn), Bryan Hosack (Equity Trust Company), Dahui Li (University of Minnesota Duluth), Jeffrey Merhout (Miami University, Oxford), Roger Pick (University of Missouri – Kansas City), Shana Ponelis (University of Wisconsin Milwaukee), Shu Schiller (Wright State University), and Xiaodan Yu (University of International Business and Economics, Beijing, China).

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Author Biographies

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Rassule Hadidi is Professor and Head of the Management Information Systems Department at the College of Business and Management, University of Illinois Springfield. His current research areas of interest include online and blended teaching and learning pedagogy and its comparison with face-to-face teaching; MIS curriculum development and quality assessment; cloud computing and its applications for small and medium-sized enterprise; and quality of online information. He is the First Hanson Professional Services Faculty Scholar; served as the President as well as the At-Large Director of the Midwest Association for Information Systems and is the founding Managing Editor of the Journal of the Midwest Association for Information Systems.