MIS Quarterly

MISQ REVIEW

INTRODUCING *MISQ REVIEW*—A NEW DEPARTMENT IN *MIS QUARTERLY*

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Information processing technology has a long history, much longer than the roughly 50 years that we associate with the rise of digital computing. In this introduction to *MISQ Review*, a brief outline of the long history of information processing technology is linked to the role of *MISQ Review*.

A Brief History of Information Technology

An exceedingly long-term analysis on the development of human society reveals an increasing capacity to process information. Indeed, it can be argued that this is the pre-eminent technology that humans have developed, since it is the foundation of all other technologies. Our ever-growing capacity to communicate with one another over time and space is at the heart of our transition from subsistence hunters and gatherers to a global society.

We can gain some insight into the development of information processing technology by reviewing the critical innovations in communication. Humans are five channel information processors because we can hear, see, touch, smell, and taste. Thus, all communication must be based on using one or more of these senses to interpret a signal from another. As Table 1 illustrates, most of the communication technologies rely on our visual channel.

Early humans probably communicated via gestures prior to the development of speech. **Sign language** is still an effective form of communication for those who cannot sense sounds, or sense them poorly. **Painting and drawing** also likely predate speech and have remained widespread information communication technologies. Indeed, the Web has been a vital force in stimulating the demand for graphic artists.

Nearly every child acquires the ability to speak without any systematic or institutionalized instruction. **Speech** is the dominant form of communication and has in all likelihood dominated for most of the species' existence.

Writing, developed in Mesopotamia around 3400 B.C.E., is an acquired skill that humans formally teach to each generation. Its invention enabled knowledge sharing to transcend space and time constraints far more efficiently and accurately than oral-based information sharing.

The decimal number system was probably developed in India and introduced to Europe by Arab scholars around the 10th century. **Arabic numerals**, particularly the notion of zero, greatly simplified arithmetic and increased the capacity to communicate numerical information.

Table 1. Fundamental Communication Technologies

Communication Technology	Sense				
	Hear	See	Touch	Smell	Taste
Sign language		✓			
Drawing/painting		✓			
Speech	✓				
Writing		✓			
Arabic numerals		✓			
Printing		✓	✓ (Braille)		
Embedded meaning		✓			
Digitization	✓	✓	✓		

Developed in China at the end of the second century C.E., **printing** made the book the first standardized, mass-produced product. The inherent efficiencies of standardization resulted in printing becoming the pre-eminent form of knowledge sharing until quite recently.

Writing requires the reader to infer meaning (as hermeneutic researchers in MIS have pointed out). For example, the phrase "the green leather sofa costs $100" requires the reader to deduce the name of the item and its description and price. While humans have become skilled at making these inferences, more precision is sometimes desirable, and critical when machines process information. Hence, we have technologies for embedding meaning. The table, for instance, is commonly used for embedding meaning into text because column headings clearly specify what is contained in the rows beneath. **Embedded meaning** is a central concept of MIS (e.g., the relational database table). Simple list making is probably not much younger than writing, so that the latest incarnation of embedded meaning, XML, is hardly a new idea.

Digitization also has origins well before the era of digital computing. Morse code, developed in the 1830s, uses dots and dashes to represent alphanumeric characters. The introduction of computers in the second half of the 20th century accelerated digitization and now most data are born digital or soon after creation converted to digital form. Digitization has lowered the cost of processing and disseminating information and spawned the development of MIS as independent professional and academic disciplines.

This brief history of major information technology innovations highlights the focus of our discipline on two fundamental technological innovations: embedded meaning and digitization.

MISQ Review

Well, if you have read this far you will have surely wondered what the rather broad preamble has to do with *MISQ Review*. Academic communities, a microcosm of the larger society, should be concerned with improving the efficiency and effectiveness of communication technologies to improve knowledge sharing. *MISQ Review is a new communication vehicle for knowledge sharing within our community.*

In our field, we have seen several key advances in the 1990s. ISWorld (particularly its listserv) has facilitated information sharing. The Association for Information Systems (AIS) has provided the discipline with a means of steering its future more accurately. *MIS Quarterly* implemented an electronic reviewing system that has accelerated the review process and created a more inclusive editorial process with the demise of distance as an editor or reviewer selection criterion. *MISQ Discovery* was launched to support multimedia communication between authors and readers. The availability of more communication channels gives authors additional means with which to engage the reader and improve knowledge sharing.

MISQ Review is another knowledge sharing development. MISQ Review's mission is to promote MIS research by publishing review articles that conceptualize research areas and survey and synthesize prior research. The goal is for these articles to provide important input in setting competence of humans and the social structures they mold. *MISQ Review* is designed to be a readily available, widely recognized repository of the accumulated knowledge and research progress of MIS. The lack of a high quality outlet for review articles has been a significant gap in our discipline, and in a broad sense, a missing communication technology.

MISQ Review is being initially implemented as a department within *MIS Quarterly*, where it will exist alongside the other departments: Research Articles, Issues & Opinions, Research Notes, and Research Essays. To denote their status, the title of every *MISQ Review* article will be of the from "*Review*: _____." The editorial board is fully open to the possibility that *MISQ Review* will eventually emerge as a separate, annual journal.

Published articles will be broad in scope relative to a topic area and embrace multiple studies. They will be selected for their contribution to the development of MIS as an academic discipline by synthesizing prior research and providing a conceptual foundation for future research. They will include the major relevant work by scholars who are part of the international community of researchers. Articles fitting these criteria can be considerably longer than those published in the other departments.

Given the history of information technology and the goal of *MISQ Review*, it is fitting that the first published article, "Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues" by Maryam Alavi and Dorothy Leidner, is on managing knowledge. In addition, the second accepted article, "A Cognitive-Affective Model of Organizational Communication" by Dov Te'eni, which will appear later this year, is on information technology and organizational communication. Both these topics are concerns that have implicitly concerned humans since their emergence. There is a long-term trend in improving the communication competence of humans and the social structures they mold.

Scholars working on knowledge management will find Alavi and Leidner's article an excellent compendium on knowledge management. More importantly, however, they will find it a stimulus for future research because it establishes a set of essential questions that knowledge management researchers should address.

Te'eni's model for organizational communication is based on an extensive review and thoughtful integration of existing research on the topic. This model provides the foundation for building a comprehensive model that poses many issues for researchers, some which are detailed in the paper and others of which will emerge as future researchers delve into the intricacies of this work. It is apt that this article will be the first *MIS Quarterly* article that is a hybrid of print and digitization: there will be a corresponding Web site that applies the design implications in the article to structure a multi-media presentation and maintains an up-to-date review of the relevant studies.[1]

When I accepted responsibility for establishing *MISQ Review* at the beginning of 1998, I had an ambitious plan of publishing four to five articles every year starting in late 1998. I have been very

[1]The Editor-in-Chief invites other authors to adopt this hybrid model.

far from this target. Review articles take considerably more time and intellectual persistence than traditional research articles. As Te'eni acknowledges, his article was some two years in the making. Good research takes time; good reviews take longer.

The *MISQ Review* department of the *Quarterly* is another step toward improving our field's information sharing repertoire. I hope you will find it most useful in your scholarly work. Tangentially, I hope you find this introduction sufficiently stimulating to provoke you to recognize or search for other ways in which we can enhance our discipline's ability to share knowledge. We advance as a field by accumulating knowledge and finding better ways to share that knowledge.

MISQ Review Editorial Policy

For those considering submitting to *MISQ Review*, here are some key points to keep in mind. For a specific MIS topic, a review article ideally should:

- Survey and synthesize prior research;
- Identify the relationships between key concepts;
- Identify gaps in MIS knowledge;
- Set directions and priorities for future research.

Meta-analyses, annotated bibliographies, and literature categorizations are unlikely to meet these criteria.