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Executive Information Systems Milestone Works: A Preliminary Investigation

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Introduction

Since David Nash (1977) first articulated the concept of an “executive information system (EIS)” in 1977, EIS has emerged as an important area in information systems. Similar to the work done studying transaction processing systems (TPS), decision support systems (DSS) and expert systems (ES), the study of EIS has progressed to the point where it is possible to pull back and take a broader look at the field. The purpose of this study is to examine the emergence and development of EIS.

Methodology

As a first step, a comprehensive bibliography of EIS research published prior to 1996 was compiled. (Current efforts are underway to identify works published since then.) To compile the list initially, textbooks, related reference books and major journals were searched. Second, the ABI/INFORM database was searched for additional works through 1995. Third, journals not included in ABI/INFORM were manually searched. Finally, the reference section of each article located was examined to discover previously published research which might not have been previously discovered.

Table 1. Distribution of Published Articles by Journal (by frequency)

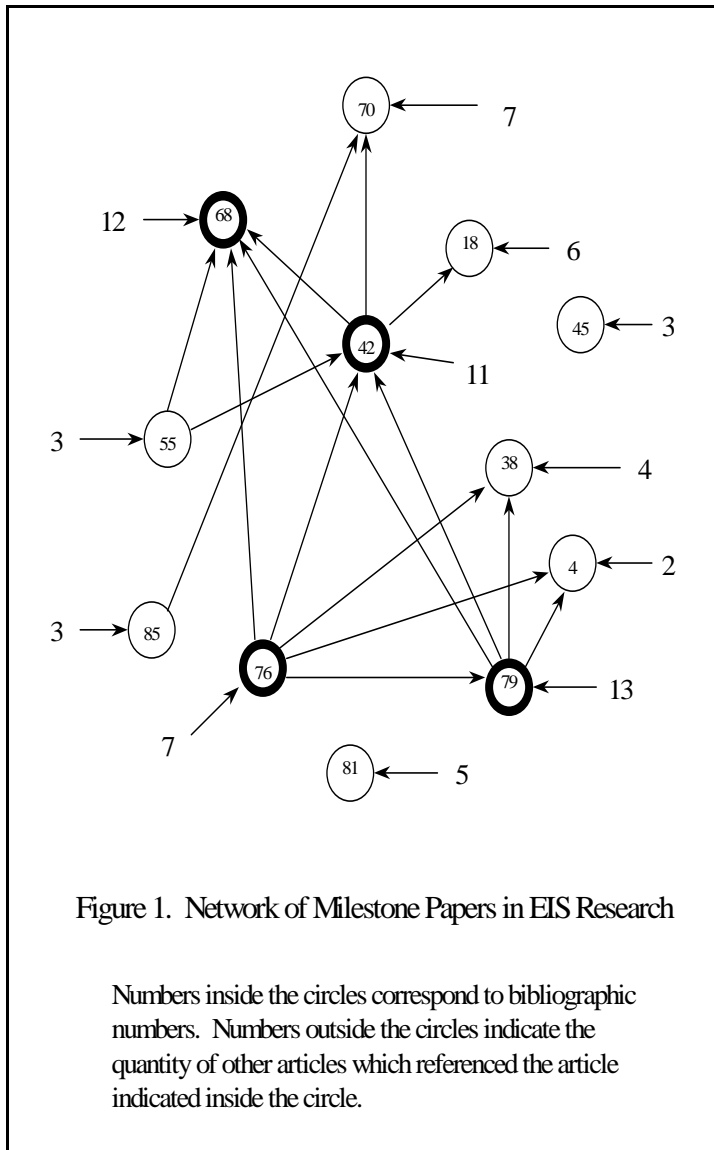
ACADEMIC		PRACTITIONER	
JOURNAL	FREQUENCY	JOURNAL	FREQUENCY
<i>Decision Support Systems</i>	15	<i>Information Strategy</i>	9
<i>MIS Quarterly</i>	10	<i>Journal of Info. Sys. Mgmt.</i>	8
<i>Information & Management</i>	7	<i>Datamation</i>	4
<i>Journal of MIS</i>	6	<i>Harvard Business Review</i>	4
<i>Data Base</i>	2	<i>Journal of Systems Mgmt.</i>	4
each of 3 other journals	1	<i>Journal of Information Sys.</i>	3
		<i>CIO</i>	2
		<i>Sloan Management Review</i>	2
		each of 8 other journals	1
8 journals	43	16 journals	43

Table 2. Distribution of Published Articles by Author (by frequency)

AUTHOR	Frequency	Total Frequency
Hugh J. Watson	14	14
David Friend	10	10
R. Kelly Rainer, Jr.	6	6
Mark N. Frolick	4	4
Omar A. El Sawy	3	3
Jack W. Jones	3	3
Raymond McLeod, Jr.	3	3
John F. Rockart	3	3
Eleven individual authors	2	22
87 individual authors	1	87
106 individual authors		155

Table 3. Distribution of Published Articles by Year

Year	1995	1994	1993	1992	1991	1990	1989	1988	1987	1986	pre-1986
Number of Articles	20	3	4	12	8	7	7	6	4	8	0 or 1 each year



As a seminal work, [68] was highly cited. [42] proved to be a pivotal work. It pointed to three previous well-cited works and it was highly cited by subsequent EIS research. [76] and [79] were published as contemporaries. Both built on the foundations of previous well-cited research. Because they are highly cited by subsequent research, [76] and [79] also qualify as pivotal works. [42], [68], [76] and [79] would be considered milestones of EIS research.

Selected References

[4] Barrow, Craig, "Implementing an Executive Information System: Seven Steps for Success," *Journal of Information Systems Management*, Spring 1990, (7:2), pp. 41-46.
 [18] El Sawy, Omar A., "Personal Information Systems for Strategic Scanning in Turbulent Environments: Can the CEO Go On-Line?," *MIS Quarterly*, March 1985, (), pp. 53-60.

Analysis

This preliminary investigation yielded 86 works published prior to 1996. As shown in Table 1, the articles were evenly split between academic and practitioner journals. Over half of the academic articles were published in *Decision Support Systems* (17.4 percent) and *MIS Quarterly* (11.6 percent). The practitioner articles were distributed over a greater number of journals than the academic articles. The greatest number of practitioner articles were published in *Information Strategy* (10.5 percent) and *Journal of Information Systems Management* (9.3 percent).

The most prolific authors of EIS research can be found in Table 2. Hugh J. Watson had 14 articles to his credit followed by David Friend with ten articles, R. Kelly Rainer, Jr. with 6 articles and Mark N. Frolick with four articles. Four authors had three articles each to their credit, eleven authors had two articles to their credit and 87 authors each had one article to their credit. What is not readily apparent is whether the authors published primarily in academic or in practitioner journals. Watson published in both, but the majority of his work was found in the academic journals. Friend's work, on the other hand, was published primarily in practitioner journals. Rainer, Jr. and Frolick's work were found primarily in academic journals.

Table 3 shows the distribution of EIS articles over time. Prior to 1995, it appeared that EIS publication was falling off with the exception of 1992 when *Decision Support Systems* published a special issue on EIS. The 20 articles published in 1995 may be indicative of a trend to increase the research done in the area. The continued examination of articles published in 1996 and 1997 will reveal if the trend continued.

A network analysis was performed to identify the milestone works in EIS research. Twelve works were identified which had been cited by three or more of the 86 EIS works.

Figure 1 shows the relationships between the most cited works. As a seminal work, [68] was highly cited. [42] proved to be a pivotal work. It pointed to three previous well-cited works and it was highly cited by subsequent EIS research. [76] and [79] were published as contemporaries. Both built on the foundations of previous well-cited research. Because they are highly cited by subsequent research, [76] and [79] also qualify as pivotal works. [42], [68], [76] and [79] would be considered milestones of EIS research.

- [38] Gulden, G. K., and Ewers, D.E., "Is your ESS Meeting The Need?," *Computerworld*, July 10, 1989, (23:28), pp. 85-91.
- [42] Houdeshel, George, and Watson, Hugh J., "The Management Information and Decision Support System at Lockheed-Georgia," *MIS Quarterly*, March 1987, (11:1), pp. 127-140.
- [45] Jones, Jack William, and McLeod, Jr., Raymond, "The Structure of Executive Information Systems: An Exploratory Analysis," *Decision Sciences*, Spring 1986, (17:2), pp. 220-249.
- [55] Mohan, Lakshmi, Holstein, William K., and Adams, Robert B., "EIS: It Can Work in the Public Sector," *MIS Quarterly*, December 1990, (14:4), pp. 435-448.
- [68] Rockart, J.F., and Treacy, M.E., "The CEO Goes On-Line," *Harvard Business Review*, Jan-Feb 1982, (60:1), pp. 82-88.
- [70] Rockart, John F., "Chief Executives Define Their Own Data Needs," *Harvard Business Review*, March-April 1979, (), pp. 81-92.
- [76] Volonino, Linda, and Watson, Hugh J., "The Strategic Business Objectives Method for Guiding Executive Information Systems Development," *Journal of Management Information Systems*, Winter 1990-91, (7:3), pp. 27-39.
- [79] Watson, H. J., Rainer, Jr., R. K., and Koh, C. E., "Executive Information Systems: A Framework for Development and a Survey of Current Practices," *MIS Quarterly*, 1991, (15:1), pp. 13-30.
- [81] Watson, Hugh J., and Frolick, Mark, "Executive Information Systems: Determining Information Requirements," *Information Systems Management*, Spring 1992, (), pp. 37-43.
- [85] Wetherbe, J.C., "Executive Information Requirements: Getting It Right," *MIS Quarterly*, March 1991, (15:1), pp. 51-65.