

: What are important DSS articles from MIS Quarterly?

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A number of terms have been used for information systems supporting management decision making including management decision systems (Scott Morton, 1971), management decision aids, problem-solving systems, and planning systems. The most widely used phrase or term is Decision Support Systems (DSS).

Those new to research about Decision Support Systems can benefit from having a starting point for learning and reviewing the literature that serves as a foundation for more recent research. Articles published in *MIS Quarterly* from its inception in 1977 into the early 1990s defined many of the major research subtopics and often the articles remain interesting and relevant to understanding the field and conducting new studies. The best articles remain exemplars of what is possible and of what we need to understand.

An early use and perhaps the earliest use of the term decision support system was in Gorry and Scott Morton's (1971) article titled "A Framework for Management Information Systems." Gorry and Scott Morton identified two categories of Management Information Systems, i.e., Structured Decision Systems (SDS) and Decision Support Systems (DSS). In 1971, from their perspective most of the prior examples of MIS had been SDS. Examples of SDS given included accounts receivable, budget analysis, inventory management, short-term forecasting, and warehouse and factory location. Future Decision Support Systems would be targeted to semi-structured and unstructured decision and management tasks like production scheduling, budget preparation, merger and acquisition analysis, and sales and production planning. Arnott and Pervan (2005) in their review argue the managerial nature of DSS was axiomatic or self-evident in Gorry and Scott Morton (1971).

MIS Quarterly remains one of the most prestigious information systems journals and in its early years articles in the journal defined the information systems sub-field known as Decision Support Systems. The initial editors in chief, Gary W. Dickson (1977-1982) and William R. King (1983-1985), encouraged the submission of high quality articles related to a new subcategory of Management Information Systems termed Decision Support Systems.

For this review, the designation of relevant Decision Support Systems (DSS) articles in *MIS Quarterly* is based upon the author's self-designation in the article title and hence the tacit approval of the journal editor in chief. Twenty-six (26) articles were published in *MIS Quarterly* between 1977 and 1987 with either the phrase "Decision Support Systems" or the abbreviation "DSS" in the article title. During that period, a total of 241 articles were published in *MIS Quarterly* so approximately

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11% were about Decision Support Systems. In 1981, 4 of 19 articles were about DSS (21%) and in 1984, 4 of 20 were about a DSS topic (20%).

A number of people authored or co-authored multiple articles in the study period: Peter G. W. Keen ([6], [11], [14]), Hugh J. Watson ([8], [9], [13]), C. Lawrence Meador [14], [15], [16]), Martin J. Guyote ([14], [15]), William Remus and Jeffrey E. Kottemann ([19], [20]). Ralph Sprague wrote a frequently cited, invited article [23], coauthored a related article (Sprague and Olson, Volume 3, Number 3) on financial planning systems, and introduced a special series of articles on DSS.

The first volume of the specialized journal titled *Decision Support Systems* edited by Andrew B. Whinston was published in January 1985. Gradually it replaced *MIS Quarterly* as the premier journal for decision support research. The DSS field is however anchored in the foundation articles that appeared in *MIS Quarterly*.

Which of the following articles remains most useful to those interested in Decision Support Systems and for what purpose(s)? What audience(s) might find each article still relevant, if any? Answering these questions is subjective, but citation analysis can help determine that an academic audience might or should remain interested in the content. Otherwise informed expert judgments and recommendations can provide a starting point for helping Information Technology practitioners and academics make choices about what to read or reread. These articles explain DSS theory, DSS concepts, case studies, DSS design research, and survey data from the time period.

MIS Quarterly Decision Support System Articles 1977-1987

[1] Alavi, Maryam, "An Assessment of the Concept of Decision Support Systems as Viewed by Senior-Level Executives," *MIS Quarterly*, Dec. 1982, Vol. 6 Issue 4, p. 1-9.

[2] Alter, Steven, "Development Patterns for Decision Support Systems," *MIS Quarterly*, September 1978, Vol. 2 Issue 3, p. 33-42.

[3] Barbosa, L. C.; Hirko, R. G., "Integration of Algorithmic Aids into Decision Support Systems," *MIS Quarterly*, March 1980, Vol. 4 Issue 1, p. 1-12.

: *What are important DSS articles from MIS Quarterly?*

- [4] Davis, Richard K., "Strategic, Tactical, and Operational Planning and Budgeting: A Study of Decision Support System Evolution," *MIS Quarterly*, Dec. 1979, Vol. 3 Issue 4, p. 1-19. *SIM Competition Paper*
- [5] Ginzberg, Michael J., "Redesign of Managerial Tasks: A Requisite for Successful Decision Support Systems," *MIS Quarterly*, March 1978, Vol. 2 Issue 1, p. 39-52.
- [6] Hackathorn, Richard D.; Keen, Peter G.W., "Organizational Strategies For Personal Computing In Decision Support Systems," *MIS Quarterly*, September 1981, Vol. 5 Issue 3, p. 21-27. *Invited Article*
- [7] Henderson, John C.; Schilling, David A., "Design and Implementation of Decision Support Systems in the Public Sector," *MIS Quarterly*, June 1985, Vol. 9 Issue 2, p. 157-169.
- [8] Hogue, Jack T.; Watson, Hugh J., "Management's Role in the Approval and Administration of Decision Support Systems," *MIS Quarterly*, June 1983, Vol. 7 Issue 2, p. 15-26.
- [9] Houdeshel, George; Watson, Hugh J., "The Management Information and Decision Support (MIDS) System at Lockheed-Georgia," *MIS Quarterly*, March 1987, Vol. 11 Issue 1, p. 127-140.
- [10] Huber, George P., "The Nature of Organizational Decision Making and the Design of Decision Support Systems," *MIS Quarterly*, June 1981, Vol. 5 Issue 2, p. 1-10. *Invited Article*
- [11] Keen, Peter G. W., "Value Analysis: Justifying Decision Support Systems," *MIS Quarterly*, March 1981, Vol. 5 Issue 1, p. 1-15. *Invited Article*
- [12] Locander, William B.; Napier, H. Albert; Scamell, Richard W., "A Team Approach to Managing the Development of a Decision Support System," *MIS Quarterly*, March 1979, Vol. 3 Issue 1, p. 53-63.
- [13] Mann, Robert I.; Watson, Hugh J., "A Contingency Model For User Involvement In DSS

: *What are important DSS articles from MIS Quarterly?*

Development," MIS Quarterly, March 1984, Vol. 8 Issue 1, p. 27-38.

[14] Meador, C. Lawrence; Guyote, Martin J.; Keen, Peter G.W., "Setting Priorities for DSS Development," MIS Quarterly, June 1984, Vol. 8 Issue 2, p. 117-129.

[15] Meador, C. Lawrence; Guyote, Martin J.; Rosenfeld, William L., "Decision Support Planning and Analysis: The Problems of Getting Large-Scale DSS Started," MIS Quarterly, June 1986, Vol. 10 Issue 2, p. 159-177

[16] Meador, C. Lawrence; Mezger, Richard A., "Selecting an End User Programming Language for DSS Development," MIS Quarterly, Dec. 1984, Vol. 8 Issue 4, p. 267-281.

[17] O'Keefe, J. B.; Wade, P. F., "A Powerful MIS/DSS Developed For A Remote Sawmill Operation," MIS Quarterly, September 1987, Vol. 11 Issue 3, p. 279-290.

[18] Pieptea, Dan R.; Anderson, Evan, "Price and Value of Decision Support Systems," MIS Quarterly, Dec. 1987, Vol. 11 Issue 4, p. 515-528.

[19] Remus, William E.; Kottemann, Jeffrey E., "Toward Intelligent Decision Support Systems: An Artificially Intelligent Statistician," MIS Quarterly, Dec. 1986, Vol. 10 Issue 4, p. 403-418.

[20] Remus, William; Kottemann, Jeffrey E., "Semi-Structured Recurring Decisions: An Experimental Study of Decision Making Models and Some Suggestions for DSS," MIS Quarterly, June 1987, Vol. 11 Issue 2, p. 233-243.

[21] Robey, Daniel; Taggart, William, "Human Information Processing in Information and Decision Support Systems," MIS Quarterly, June 1982, Vol. 6 Issue 2, p. 61-73.

[22] Sanders, G. Lawrence; Courtney, James F., "A Field Study of Organizational Factors Influencing DSS Success," MIS Quarterly, March 1985, Vol. 9 Issue 1, p. 77-93.

: *What are important DSS articles from MIS Quarterly?*

[23] Sprague, R, H., Jr., "A Framework for the Development of Decision Support Systems," MIS Quarterly, Dec. 1980, Vol. 4, Issue 4, p. 1-26. *Invited Article*

[24] Todd, Peter; Benbasat, Izak, "Process Tracing Methods in Decision Support Systems Research: Exploring the Black Box," MIS Quarterly, Dec. 1987, Vol. 11 Issue 4, p. 493-512.

[25] Turban, Efraim; Watkins, Paul R., "Integrating Expert Systems and Decision Support Systems," MIS Quarterly, June 1986, Vol. 10 Issue 2, p. 121-136.

[26] Vierck, Robert K., "Decision Support Systems: An MIS Manager's Perspective," MIS Quarterly, Dec. 1981, Vol. 5 Issue 4, p. 35-48. *Invited Article*

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