> ## : What are the similarities and differences between Data-Driven and Document-Driven DSS?

Document-Driven DSS is a relatively new category of Decision Support. There are certainly similarities to the more familiar Data-Driven DSS, but there are also major differences.

In my framework paper (Power, 2001), Document-Driven DSS are defined as integrating "a variety of storage and processing technologies to provide complete document retrieval and analysis." The Web provides access to large document databases including databases of hypertext documents, images, sounds and video. Examples of documents that would be accessed by a Document-Driven DSS are policies and procedures, product specifications, catalogs, news stories, and corporate historical documents, including minutes of meetings, corporate records, and important correspondence. A search engine is a powerful decision-aiding tool associated with a Document-Driven DSS (cf., Fedorowicz, 1993, pp. 125-136).

A defining difference is that Data-Driven DSS help managers analyze, display and manipulate large structured data sets that contain numeric and short character strings while Document-Driven DSS analyze, display and manipulate text including logical units of text called documents (cf., Sullivan, 2001).

Another defining difference is the analysis tools used for decision support. Data-Driven DSS use quantitative and statistical tools for ordering, summarizing and evaluating the specific contents of a subject-oriented data warehouse. Document-Driven DSS use natural language and statistical tools for extracting, categorizing, indexing and summarizing subject-oriented document warehouses.

What are the similarities? First, both systems use databases with very large collections of information to drive or create decision support capabilities.

Second, both types of systems require the definition of metadata and the cleaning, extraction and loading of data into an appropriate data management system using an organizing framework or model.

Third, building either type of system involves understanding the decision support needs of the targeted users. Also, user needs can and will change so rapid application development or prototyping is often desirable for either category of DSS. Neither type of system can meet all of the decision support needs of all managers in an organization. The best development approach is to try to meet a specific, well-defined need initially and then incrementally expand the structured data or documents that are captured and organized in the foundation data/document management system.

Document-Driven DSS help managers process "soft" or qualitative information and Data-Driven DSS help managers process "hard" or numeric data. Both categories of DSS come in "various shapes and sizes". Some systems support senior managers and others support functional decision makers on narrowly-defined tasks. The Web has increased the need for and the possibilities associated with Document-Driven DSS. Please check the following references for more ideas on this Ask Dan! question.

References

Fedorowicz, J. "A Technology Infrastructure for Document-Based Decision Support Systems", in Sprague, R. and H. J. Watson, Decision Support Systems: Putting Theory into Practice (Third Edition), Prentice-Hall, 1993, pp. 125-136.

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Power, D. J., "Supporting Decision-Makers: An Expanded Framework", Informing Science eBook, June 2001.

Sullivan, Dan. Document Warehousing and Text Mining. New York: Wiley Computer Publishing, 2001.

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