

: *What is the actual usage of DSS?*

This Ask Dan! column tackles a difficult question, but one that many of us have asked in one way or another over the years. I'm focusing on usage of DSS for a number of reasons. First, Judith Gebauer, an Assistant Professor at the University of Illinois, Urbana-Champaign posted a request to the ISWorld mailing list on Thursday, February 13, 2003 requesting information on the "Actual Usage of DSS". On that same day, Bob Douth sent an email asking "How would you characterize changes in what we think a DSS is over the last ten years, and how would you distinguish DSS from a BI system?" Also on February 13, Eun Sun Yang of the Glion Institute of Higher Education Hotel School in Switzerland asked about DSS for both strategic and operational support in hotels. Finally, Arnulfo Rosario wrote recently asking "Are there any decision support tools for decision making in (1) Public Health and (2) Clinical Practice? Kindly give me updates regarding DSS in Health."

Depending upon who you ask you will get very different answers to the above questions. Let's start with Bob's question. Even though some people think the focus for DSS has moved almost exclusively to data warehousing and BI, one can identify lots of innovation in DSS built using quantitative models, expert system technologies, and document management systems. The major innovation that has stimulated usage of all types of DSS has been the Web. Companies have Web-enabled legacy DSS and created new DSS using Web tools. In my opinion, one shouldn't separate BI applications from other DSS. In general, Business Intelligence is an umbrella term that refers to the processes, technologies, and tools used to turn data into actionable information. One can use the BI technologies and tools to build data-driven DSS that can provide Business Intelligence.

The questions from Sun Yang and Arnulfo show the wide variety of DSS applications. It's hard for me or anyone to follow all of the vertical market decision support applications. Health care and medicine seem to be especially vigorous areas for DSS innovation. All of these questions suggest that the use and usage of DSS is significant and extensive. Is it possible to be more specific? YES.

Prof. Gebauer wrote "Obviously this question is hard to answer, given the many different flavors of DSS, some as stand-alone systems, some deeply embedded in larger applications, such as ERP. Still, judging from the amount and variety of DSS and DSS-like solutions that are available (many to be found online), one would assume that overall usage must be pretty significant. I looked through a variety of textbooks and online resources, but was not successful in finding any information to answer questions such as what percentage of companies are using DSS, for what percentage of decisions, or what the estimated impact is, etc."

Well I'll cite some "facts" to try to quantify DSS usage. First, for data-driven DSS we can find usage data in press releases for major vendors. Cognos is the largest independent BI/OLAP/Data-driven DSS vendor. It serves more than 22,000 customers in over 135 countries. Applix reports that more than 2,600 customers worldwide, including more than half of the Fortune 500, use its enterprise-wide Business Performance Management solutions. arcplan, a BI vendor, has more than 1,500 customers and 200,000 users worldwide. Brio BI products are used by 75 of the Fortune 100 and more than 2 million people. Business Objects has more than 16,500 customers in over 80 countries. Comshare reports its more than 2000 customers range from mid-sized companies to diversified global enterprises, many of them Fortune 500 and Financial Times 1000 companies. Crystal Decisions states it has in place more than 12 million licenses for its software. ESRI is a leading developer of GIS software with more than 300,000 clients worldwide. Hyperion products are used by more than 6,000 customers around the world to enable financial, organizational, customer relationship, supply chain and channel performance management. Information Builders has more

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than 11,000 customers, including most of the Fortune 100 and U.S. federal government agencies. MicroStrategy states its customer base cuts across industry and sector lines with over 1,900 enterprise-class customers. Sagent reports it has more than 1,500 customers worldwide. SAS solutions are used at more than 39,000 sites -- including 98 of the top 100 businesses on the Fortune 500. You can also find many customer success stories at vendor web sites. The premier data warehouse vendor, NCR Teradata, currently has 42 success stories at its web site. Burlington Northern Santa Fe Railway (BNSF) has a Teradata Warehouse with nearly eight thousand users. Union Pacific Railroad supports 200 to 300 concurrent users through its Teradata Warehouse. And there are all of the BI/Data warehouse customers of IBM and Microsoft.

For model-driven DSS, Fair, Isaac reports its predictive modeling, decision analysis, intelligence management, and decision management systems power more than 14 billion mission-critical customer decisions a year. Decisioneering reports over 85% of Fortune 500 companies use its Crystal Ball products. Over 80 million copies of Frontline Systems' Solvers have been distributed to users in every copy of Microsoft Office sold since 1990. For communications-driven DSS, the penetration is harder to gauge. Meetingworks claims clients from around the world, at least 25 companies including Microsoft and IBM are listed as clients at its web site. GroupSystems lists 15 major customers including the U.S. Army, Navy, and Air Force, Ernst & Young and PriceWaterhouseCoopers. Knowledge-driven DSS are now more practical because of web technologies. EXSYS, a leading expert systems vendor, states its products are used by over 50% of the Fortune 100 companies, many government and military agencies, and thousands of businesses and organizations.

So what percentage of companies are using DSS? Approximately 100% of the Fortune 500 and probably 100% of Fortune 2000 companies. Based on the above numbers, more than 200,000 companies and government agencies have purchased enterprise-scale decision support software.

For what percentage of decisions are DSS used? My guess is that DSS are used to support only a small percentage of all decisions made in organizations. There are many untapped opportunities!! What is the estimated impact of DSS? One can only hope that the billions of dollars spent each year on decision support technologies is rewarded 10 fold over the life of a decision support application. Comments and feedback about this analysis are welcomed.

The above response is from Power, D., What is the actual usage of DSS? DSS News, Vol. 4, No. 4, February 16, 2003.

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