: What are Decision Support technology trends?

At the turn of the year, it is common to think about trends and future developments related to many topics. The pace of technology change is speeding up and the expectations for DSS in companies continue to expand and grow. Chuck Russell posted a question on the DSSResources.COM Bulletin Board about trends that may be driving companies to do more modeling in support of decisions. Many of those trends deal with managing risk and improving quantitative analyses, but improved technologies should also drive companies to do more modeling. Recently, Alexandre Gachet updated me on his research on distributed cooperative DSS using Java based on the Jini technology. Hoda Hafez also wrote recently asking about knowledge management technologies. So, what seem to be the trends associated with information technology that may have a major impact on the design and development of DSS? What are the DSS technology trends?

Portals, hand-helds, mobile computing, and visualization tools are driving Decision Support updates and innovations.

Object-oriented development tools, especially Java, seem to hold much promise for building new model-driven DSS. Distributed and cooperative DSS can both be built using such tools.

Network technologies are mission-critical in most companies. Computing and network technologies have become more integrated and more powerful. The speed and capacity of networks is increasing. Bandwidth expansion can support interactive video and real-time decision support anywhere in the world.

Open source software may impact some DSS development tools. With access to source code programmers can read, redistribute, and modify the software; advocates of open source software feel the software will evolve faster. For example, Linux is becoming an important operating system for Web servers in corporations.

Visualization technologies are more powerful than at any time in the past. New software helps users visualize almost anything they can imagine in a realistic, manipulatable format. Visualization tools can help pilots simulate flights and help managers "try" new products.

The World Wide Web supports e-business including internal and external global communications, decision making, and collaboration for managers. Also, the Web can help managers gather, manage, share, and use information. The Web is the platform for managing documents and "knowledge".

Handheld computing is gaining greater acceptance, and the use of pocket PCs integrated with cell phones by managers and other employees will increase. Wireless Web devices are expected to outnumber wired devices in the next few years. Pocket PCs support distributed access to data-driven DSS, expanded communications-driven DSS and distributed decision making. Mobile computing systems extend the reach of an enterprise-wide DSS.

Large data storage systems and multiprocessing computers have removed the constraints on what can be stored and how much data can be stored. Data storage is faster and it is easier to organize and backup data of all types. Data can be kept forever in a form that can be sorted, analyzed and processed.

These are the major Decision Support technology trends. The list is a bit dated even as it is written.

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Seizing opportunities to build innovative DSS involves continuously monitoring technology trends.

The above response is from Power, D., What vendors dominate the DSS product space? DSS News, Vol. 5, No. 2, January 18, 2004.

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Last update: 2005-08-07 11:44