: What is your analysis of the history and current status of DSS?

The introduction of the personal computer in the early 1980s led some people to conclude that technology had reached the level where we could do just about anything in terms of providing decision support to managers. By about 1986-87, managers became disillusioned with the realized capabilities and the promises that vendors and information systems staffs had made about computerized decision support systems.

In the early 1990s, there was a slowdown and a waiting period in implementing DSS, EIS and GDSS as graphical user interfaces like Macintosh and Windows 3.1 were introduced and new decision support software products were developed for those interfaces. Then the introduction of data warehouses and what I call data-driven decision support systems opened up new possibilities for providing enterprise-wide DSS for managers. I think decision support has really “taken off” since the Web and the Internet reinvigorated some tech firms and forced them to move their software onto a new platform. That's all happened since 1995.

Today you can find development software for all of the different types of decision support systems that you might want to build. Development software is a toolkit that allows one to add content and customize the application to provide specific decision support to targeted users. It's a set of building blocks that application developers can use to develop more specific DSS for companies, and our toolkits are much more powerful than they ever were before. You may still need to hire consultants to provide training, etc., but I think the capabilities are worth it.

In one way or another over the past 30 years, we have built DSS to help with many routine and semi-structured decisions in business decision processes. Part of the difficulty is that DSS developers have not always used the technology to make the process more efficient or more effective. Most of the DSS applications that were built in the past need to be reexamined, we need to go back to what we have done, as well as look for what's innovative and new in DSS.

From what I can tell, most companies don't have to look very far to find an application for one of the various types of DSS. The challenge is to figure out the ones that will give them the highest return in the short run. And I'm not sure that building more data warehouse systems is going to be the way for most firms to go. It's easy for such large, complex systems to go unused because managers don't know what they can do with them, and they are very expensive to create. You can find cost effective DSS, but you can also build systems that will not be cost effective. It has to be one of the issues that you look at. Some decisions and decision processes don't justify large investments in computing technology.

It's easy to neglect the issue of what kind of a decision support system a manager wants to use and will use. A computerized decision support system is often added to an existing process, rather than looking at what the tasks really are that need to be performed, and what the role of a DSS could be. Also, most of our DSS are developed in isolation. I don't think that when analysts consider proposed DSS that they critically examine how the DSS will be used. Typically there's a project sponsor who has heard that a competitor has implemented a DSS or BI system, and that's the starting point, rather than beginning from the stand point of examining organizational decisions and decision processes. DSS development often starts with a bias.

What I'm pushing is that companies should do a decision process audit regularly. The audit should focus on how “important” decisions are made in the company now and examine the processes. There are a number of consulting firms that audit decision processes. In my DSS book, I put

together some steps to follow in a decision process audit and some DSS readiness questions that managers can ask themselves about decision support in their organization.

A lot of DSS development is still about thinking. Looking for opportunities to put DSS into an organization is a major cognitive task. Managers should start by finding someone smart to help them look at organization processes and needs.

The thrust of decision support for the past 30 years has been to realize that computers are tools, adjuncts to decision-making. They are there to assist in information retrieval and application of analytical tools to data, to do the things that computers do best. We try to present the information in a way that allows people to make better decisions, but not to have the computer make decisions for people. There are certainly computerized systems that make decisions - we have them in manufacturing and power plants, for example - but that's not what DSS is all about. DSS is about supporting a manager in making decisions as part of a business process. DSS is about making fact-based decisions in an organization, monitoring and controlling activities, and supporting planning. The DSS idea has never been that the software was going to make decisions for managers.

There has been some resistance to DSS, but there's also been frustration and the two get intertwined. If you get excited about a decision support system and you think that it's going to make your job more interesting because you won't have to do as many clerical tasks and perform analyses, and then you find that you have to go to extra training programs, and the system crashes, and you're waiting for a new release from the IS department, even the people who get excited about the DSS right away may get turned off. There are always some slow starters that you have to bring along, but people who are quick to adopt, they can become frustrated and that leads to resistance.

High cost failures of systems are a problem too. I can't believe that people don't get very concerned when they read that 40 or 50% of data warehouse implementations are failures by one or more measures. We should expect that these systems are going to succeed more than they fail. Some of these DSS are partial failures - they don't get the functionality that was promised or there is a changeover in senior management and the new managers don't like the new system.

Decision Support Systems probably fail more because of people issues than because of technology issues. The technology may have done what it was intended to do, but the failure rate is higher because people got frustrated with the system. Part of what I've been trying to do is to tell managers that every DSS is not the same, we've got to look at what it is we're trying to support. I think if you can talk about the different systems with managers they can start to see the types of systems that may make sense for them to use. For example, if they want to control financial results they can look at what kind of DSS can support that. If they've got project teams that are geographically dispersed and that need more input into decision-making, then we can look at the tools that might support that. But we need to look at the models and have people look at things in a little more detail than they have.

I'm excited about the Web. Web-technologies have revitalized DSS and the possibilities for decision support. I'm excited to get through this recession. I think we're going to have another big technology boom as companies decide to use more technology to replace some of the people that they've decided are too expensive in some of their business processes, but then their customers will be unhappy because there isn't anyone to hear their needs. Technology will involve people in decision making from outside of the organization yet give managers more control over transactions and

businesses processes. I think 10 years from now managers are going to be better informed decision makers than they've ever been. They're going to have access to facts - whether they're smart enough to use that information wisely is still going to be a concern. The computer is just a tool, DSS is just a tool - like a hammer, you can still hit your finger with it. And there will be some people who use it inappropriately, and some people who can't hit a nail to save their lives. But I'm very optimistic that we'll start to see a transformation in decision-making as we have in the operations area. So I'm excited to see the technology recession end, and to start to do more to integrate technology into our firms. Technology integration will continue to happen because our population keeps increasing and demands for goods and services keeps increasing. The only way we can meet that demand is by using computerized transaction processing and decision support systems.

This Ask Dan! is based upon the transcript of an interview Stephen Fitzgerald had with Dan Power in July 2001. Excerpts from the interview were published in Fitzgerald's executive guidebook titled “Decision Making”.

References

Fitzgerald, S. P., “Decision Making,” Capstone Books, 2002.

Fitzgerald interview with Dr. Daniel Power, Thursday, July 26, 2001.

The above response is based upon Power, D., What is your analysis of the history and current status of DSS? DSS News, Vol. 5, No. 6, March 14, 2004.

Author: Daniel Power
Last update: 2005-08-07 12:11