



**Just A Moment...**  
IT Commentary

## Decision Support

*by Leon A. Enriquez*

Today's IT or MIS managers are first and foremost, knowledge workers who are involved in the making of decisions. All sorts of decisions are made every day. Decisions range from those that are simple to make to those that are complex. Sometimes, a manager makes decisions individually. In other cases, decision-making may be distributed, involving the combined and coordinated efforts of many knowledge workers.

Let's examine the notion of decision-making. The classical view of decision-making is the activity of choosing from among alternatives. Also, there is a complementary knowledge-oriented view of manufacturing a piece of knowledge about what to do. For instance, the setting in which decisions are made may be examined from several angles because it can influence the kind of decision support that is required. Similarly, we may choose to look at ways of classifying decisions, as the type of decision can influence what decision support features are appropriate.

Consider a typical scenario. In the course of his decision-making activities, a manager works with many pieces of knowledge. Every decision involves the use of knowledge in varying degrees and amounts. Some of this knowledge is descriptive, characterising the state of past, present, future, or even hypothetical situations. Such knowledge is commonly called information or data.

Other pieces of knowledge may be procedural in nature. A simple example may be to specify how to accomplish various tasks. In addition to "Know-What" or information, and "Know-How" or procedures, a manager may work with reasoning knowledge before reaching a decision. This kind of knowledge indicates that certain conclusions are valid under particular conditions or circumstances.



Two other kinds of knowledge are very much concerned with communication. One is linguistic knowledge, which enables a manager to understand incoming messages. In another situation, a manager might work with presentation knowledge when constructing outgoing messages.

### ***Technology for DSS***

Both individual and distributed decision-making are susceptible to support – by systems that facilitate, expand, or enhance a manager’s ability – to work with one or more kinds of knowledge.

Not surprisingly, most of these decision-making processes can benefit from the use of technology – software application programs designed for such purposes –which often help produce meaningful reports. Such knowledge-based applications that facilitate decision-making are known generically as Decision Support Systems (DSS).

The natural setting for DSS is a competitive and knowledge-rich world – where a manager needs to make timely decisions about what to do with his or her company’s resources. There are obviously many technical aspects to DSS.

Today’s computerised DSS emphasise a knowledge-management perspective so as to drill down into the details and distill the vital clues that are buried in tons of data. With the relentless advances in the technology plus the economics of computers, we are rapidly reaching the point where a manager’s success depends on his or her understanding of DSS possibilities and skill in DSS application.

Many DSS are oriented toward individual decision support. There is also growing interest in DSS that directly support distributed decision-making at the group, company, and inter-company levels. Also, DSS may differ with respect to the kinds of knowledge that they help to manage.

The majority of conventional DSS have been devised to help manage primarily descriptive and procedural knowledge. In contrast, there is a class of artificially intelligent DSS concerned mainly with the representation and processing of reasoning knowledge. It may also be beneficial to explore computer-assisted management of every major type of knowledge relevant to supporting decision activities in your particular line of business.



We need to understand the context for DSS from a knowledge-based viewpoint. Here the emphasis is on the place of managers in organisations, including decision-making in management, and knowledge in decision-making. In the face of a dynamic and changing environment, the manager's task of proactively engaging an organisation's resources to fulfill certain objectives becomes the reasoning for DSS initiatives. The roles managers play also contribute to this perspective.

We need to explore the flow of knowledge involved in manufacturing a decision. At the same time, we need to make an important distinction between acquiring knowledge and deriving it.

Currently, many computer-based techniques for managing knowledge proliferate in the market, and their value is being incorporated into DSS. Finally, DSS encompasses an appreciation of the distinctions among various types of knowledge, because some techniques are better at handling one type of knowledge than another.

*Copyright Reserved © 2002-Present*

*All Rights Reserved by Editorial Thoughtscapes*

*Permission is granted for you to download and print a copy for personal use.*

<ENDS>