**Key Characteristics and Capabilities of DSS.**

**1.** Support for decision makers, mainly in semistructured and unstructured situations, by bringing together human judgment and computerized information. Such problems cannot be solved (or cannot be solved conveniently) by other computerized systems or through use of standard quantitative methods or tools. Generally, these problems gain structure as the DSS is developed. Even some structured problems have been solved by DSS.

**2.** Support for all managerial levels, ranging from top executives to line managers.

**3.** Support for individuals as well as groups. Less-structured problems often require the involvement of individuals from different departments and organizational levels or even from different organizations. DSS support virtual teams through collaborative Web tools. DSS have been developed to support individual and group work, as well as to support individual decision making and groups of decision makers working somewhat independently.

**4.** Support for interdependent and/or sequential decisions. The decisions may be made once, several times, or repeatedly.

**5.** Support in all phases of the decision-making process: intelligence, design, choice, and implementation.

**6.** Support for a variety of decision-making processes and styles.

**7.** The decision maker should be reactive, able to confront changing conditions quickly, and able to adapt the DSS to meet these changes. DSS are flexible, so users can add,

delete, combine, change, or rearrange basic elements. They are also flexible in that they can be readily modified to solve other, similar problems.

**8.** User-friendliness, strong graphical capabilities, and a natural language interactive human–machine interface can greatly increase the effectiveness of DSS. Most new DSS applications use Web-based interfaces or mobile platform interfaces.

**9.** Improvement of the effectiveness of decision making (e.g., accuracy, timeliness,

quality) rather than its efficiency (e.g., the cost of making decisions). When DSS are deployed, decision making often takes longer, but the decisions are better.

**10.** The decision maker has complete control over all steps of the decision-making process in solving a problem. A DSS specifically aims to support, not to replace, the decision maker.

**11.** End users are able to develop and modify simple systems by themselves. Larger

systems can be built with assistance from information system (IS) specialists.

Spreadsheet packages have been utilized in developing simpler systems. OLAP and data mining software, in conjunction with data warehouses, enable users to build fairly large, complex DSS.

**12.** Models are generally utilized to analyze decision-making situations. The mod

eling capability enables experimentation with different strategies under different configurations.

**13.** Access is provided to a variety of data sources, formats, and types, including GIS, multimedia, and object-oriented data.

**14.** The DSS can be employed as a stand-alone tool used by an individual decision maker in one location or distributed throughout an organization and in several organizations along the supply chain. It can be integrated with other DSS and/or applications, and it can be distributed internally and externally, using networking and Web technologies.

These key DSS characteristics and capabilities allow decision makers to make

better, more consistent decisions in a timely manner, and they are provided by the major DSS components.

Describe how new technologies can provide decision-making support.