APPLIED INTELLIGENCE

EIS Helps Managers Gain Insight into Factors for Success

Part one of a three-part series on executive information systems (EIS) and decision-support systems (DSS)—technologies that enable executives to gain direct access to information.

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The competitiveness and survival of the corporation of the future will depend on effective use of information. Innovative managers are aware of how computers, networks, workstations, CD ROMs, touch-screens and so on can enable executives to access information directly and make better decisions. By using these technologies, decision makers gain access to worldwide databases, computer power and versatile decision-support software.

An EIS is a form of decision-support software designed for executives. These systems are also referred to as executive decision support and, more recently, executive support systems (ESS). The concept continues to be redefined as the technology changes.

Simply stated, an EIS is a computer-based system designed for executives to gain insight into and to keep track of critical success factors via easy-to-use interfaces. An EIS should be able to incorporate the unique decision-making style of an executive and supply the information necessary to monitor the executive's critical success factors in a timely and accurate fashion.

Many executives, of course, have their apprehensions about using computer systems. Some have a phobia about keyboards, which is why most EIS applications use a mouse or a touch-screen as the user interface. Perhaps the most important aspect in its acceptability is how well an EIS can suit the work style of individual executives.

Vendors of EIS products are producing systems that are easier to use and incorporate more user-friendly front ends. These systems are increasingly acceptable to a new generation of executives who are not as computer-phobic as their predecessors.

The use of computers has redefined how corporations are managed. Daily monitoring of business functions is now possible, allowing for immediate correction. Companies are willing to take the risk of introducing new technology to remain competitive. A well-built EIS application can be an early-warning system that helps executives pinpoint problems and track their competitor's moves in the marketplace.

EIS products do not provide a turnkey system for management. Generally, they provide a shell for building applications. The "shell" manages the information to be displayed, refreshing it as necessary, and provides the interfaces and retrieval facilities to the information. EIS applications present status displays in report and graphic form, and include facilities for color-coded exception reporting, which allows an executive to quickly spot variances. "Drill-down" support—the capability to view supporting detailed numbers for a summarized number—is provided by most EIS products as a hierarchy (or layering) of reports.

An EIS program can connect an executive to internal and external data sources. Most EIS software provides links to Dow Jones News Retrieval. Links to other industry-specific data sources can be built. Some EIS products include interfaces to office-automation software for transmission of electronic messages and interfaces to the vendor's decision-support tool for viewing data in databases on the host. In some cases, data is downloaded to the micro to ensure quick response time. In those cases, the data is refreshed on demand or as a batch job on the host.

The software used to build an EIS application takes full advantage of the microcomputer's graphic and color capabilities. Icons are used extensively for menu-driven systems and function-key choices. Dependence on the keyboard is minimized through use of a touch-screen or a mouse.

An EIS application provides the manager with access to information in both graphic and report formats. Reports (and their formats) are predetermined

EIS Could Change Executive Job Performance

22%

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With EIS, executives can track critical success factors and monitor daily business functions via worldwide databases.

Maryellen Zawatski

An EIS should incorporate the unique decision-making style of an executive and supply the information necessary to monitor the executive's critical success factors accurately.

the DSS. An EIS is built to support the "mental model" of an executive. Reports, colors, choice of graphics and layering of reports are customized to accommodate the management style of the executive. It is not a decision-support system; it is an executive's information system—a presentation system.

When an executive begins to rely on the EIS, its use filters down into the organization, and report layering and graphic interfaces provide a powerful tool for disseminating information.

Typically, an EIS links a microcomputer to a mainframe or a mini. The micro is used as a terminal by the executive to access information residing in

by the executive. Depending on the system, data used to generate the reports may be refreshed, but the formats remain fixed. An executive can easily toggle between graphic and report presentations. The software also provides the capability for displaying both graphic and report output on the same screen.

EIS software typically links to the vendor's decision-support software, which provides access to other data sources. Using an EIS application, an executive can reach information in data sources other than those accessible for the EIS predetermined reports.

Another aspect of communication supported by EIS is an internal electron-ic-mail facility. An executive can use the keyboard to type a message or select a preformatted message from a list of choices. The message can be sent electronically, together with a copy of the report or graph being viewed by the executive, to another executive in the company.

For executives who wish to do their own ad hoc queries of corporate databases and their own analysis, EIS software provides links to other applications. These links range from access to decision-support databases to downloading data into Lotus 1-2-3 spreadsheets. Generally, executives delegate this type of analysis to their staffs.

The two major players in the current EIS marketplace are Commander EIS, from Comshare Inc., and Command Center, from Pilot Executive Software. Other DSS software vendors also offer a configuration of their software that can be used to build EIS applications. These vendors include Information Resources and Computer Associates.

The success or failure of an EIS is more than a function of the management support, and the power and friendliness of the software. Too often, EIS success depends on the quality of the data stored on the host, and the massaging and filtering required before the data is consistent and "correct."

A first-step EIS might be one that produces the same graphs and reports the executive is used to seeing. The executive might feel that the interface and the "drill-down" feature make it easier to review the information but are hardly worth the considerable time and expense associated with EIS applications. A critical success factor for the EIS is to support the next step—a strategically important application.
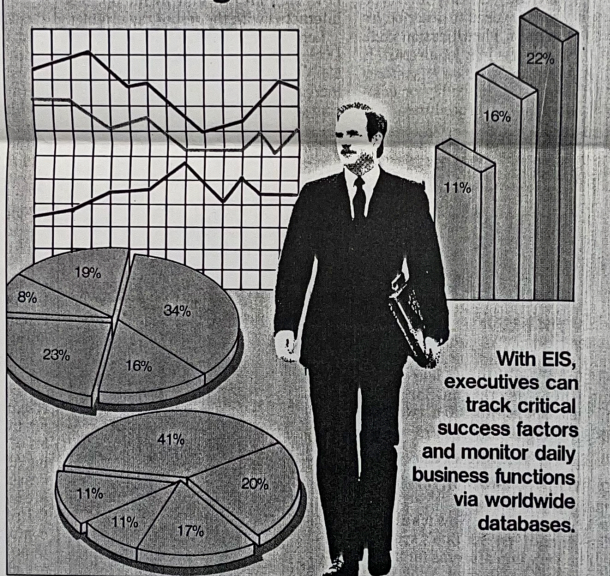
Implementing a successful EIS is not simple. It requires a large investment of time and money, constant support from top management, a dedicated and competent implementation team, and ongoing enhancement requirements. Resistance must be expected and corporate politics considered.

Not all EIS applications have been successful, just as not all DSS applications have been successful. Top management in companies with successful EIS applications consider them worth the investment. Despite the frustrations and difficulties, the executive sponsors of the systems recognize the benefits: the ability to make better decisions and to react faster to changes in the business or in their competition.

Next week, we will look at systems that increase the efficiency and effectiveness of the decision-making process. ∎