: Should managers build decision support applications?

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Managers get paid to manage, but in some situations managers can build computerized decision support capabilities for personal use or as prototypes. Some managers can build limited scope decision aiding capabilities. The issue facing technologists and senior managers is both one of skills and technical competence and value added by manager-developers -- can and should people hired to make decisions build computerized decision support applications. If so, in what situations?

Some managers think they have the technical capabilities and skills needed to build decision support applications that can be used by other managers. In general, this belief is an illusion. Building a system that is available to other managers in an organization is a much more difficult task than building a tool for personal use. Overall, as a decision aiding tool is shared and used more widely we should become more concerned with issues of reliability, user interface capabilities and security.

Novel decision support capabilities arise when someone has insight about how to use technology to perform a decision making task better, faster, differently. Demonstrating to information technology staff the concept can reduce the time to full scale implementation. The danger is that an organization's IT staff will defer to the manager who initiates the decision support capability rather than critically evaluating the need, costs or benefits.

End-user development of DSS puts the responsibility for building and maintaining a DSS on the manager who builds the application. Powerful easy-to-user software is available to managers and some managers have the ability and feel the need to develop their own desktop decision support application. Managers frequently use spreadsheets as DSS development tools. Using a spreadsheet package, managers can analyze an issue like the impact of different budget options. Following the analysis, managers select the alternative that best meets their department's needs. Also, managers can develop tools to help them conduct market analyses and make projections and forecasts at their desktop.

The major advantage of encouraging manager-developers is that the person who wants computer support will be involved in creating the application. The manager/builder controls the situation and the solution that is developed. End-user DSS development can also sometimes result in faster development and cost savings.

Encouraging managers to develop complex DSS is much less desirable. Managers are paid to manage, **not** to develop decision support applications. At some point DSS specialists can do the work much better and much faster. Also, managers are not trained to test systems, create documentation, provide for back-up and data security and design sophisticated user interfaces. DSS analysts should help managers develop more complex end-user Decision Support projects. DSS analysts can help the manager build, document and test the application. Managers need to emphasize the content of the DSS and not become overly involved with extensive DSS development projects.

DSS development by managers and other end-users is a controversial topic. Information systems staffs have many concerns including:

- Manager-developers may select an inappropriate software product as a development environment.

- Manager-developers may have limited expertise in the use of the product and the IT group may have limited resources to support end-user development.

- Errors during end-user DSS development are frequent. Even experienced developers can make errors and end-users are likely to overlook the need for checking formulas and auditing the DSS they have developed.

- Unnecessary databases are sometimes developed by end-users for their decision support applications. Redundant databases can contain out-dated and inaccurate data.

- A major quality issue involves testing and limited documentation. Manager-developers often perform limited testing of applications they develop; and they have limited experience documenting applications.

- End-user built databases may be poorly constructed and difficult to maintain.

- Manager-developers rarely follow a systematic development process and that can lead to costly projects with poor results.

If an organization's IS/IT group gets actively involved in supporting end-user DSS development, many of the above problems can be minimized, reduced or eliminated. Packages used for end-user

development can be standardized; end-users can be trained in the use of selected packages; support staff can act as consultants and reviewers; a central database/data warehouse can be maintained for use with end-user applications; and documentation can be encouraged by IS/IT staff.

An Information Center can provide support for end-users and the Director of the Information Center may be able to manage end-user computing. Services that an Information Center might provide include: 1) software training, 2) user support including answering specific development questions, 3) installation assistance and advice about new systems, and 4) standard setting.

Managers can have great ideas and can potentially imagine and create innovative decision support capabilities, but in reality the likelihood that will occur is very low. Identifying the next "killer" decision support capability is more likely to result from systematic search and needs analysis that from serendipitous development of a capability by a manager in my opinion. We can not rely on chance occurrences to move to the next generation of decision support. New technologies create opportunities that should be investigated and explored. Sometimes practicing managers are the best people to explore new technologies. Try it, you'll like or find a use if one exists.

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