

: *What are the steps to develop data-based decision support?*

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Encouraging and developing data-based decision support is an organization-wide effort and requires many resources, including people, money, and technologies. Building an effective enterprise-wide decision support capability can help improve decision making, but meeting that goal is a challenging task. Providing company-wide decision support requires creating a sophisticated information technology architecture of computing assets. That architecture provides the foundation for data-based decision making and digital transformation. Data-based decision making benefits from computer-based support for collecting, analyzing and sharing different types of data. Often relevant decision support information is derived from real-time and historical quantitative and qualitative data.

Creating and managing a modern computing architecture requires a mix of people skills, technologies, and managerial procedures that are often difficult to assemble and implement. For example, storing a large quantity of decision support data is likely to require purchasing the latest hardware and software. Most companies need to purchase high-end servers with multiple processors, advanced database systems including NoSQL databases such as MongoDB, Cassandra and CouchDB, and translytical databases to support real-time transaction processing and data analytics. To implement a decision support architecture an organization also needs people with advanced database design and data management skills.

How can managers increase the chances of a successful data-based decision support implementation? After evaluating some alternate suggestions, we have concluded the following steps can help managers create, implement and promote use of data-based decision support in data-based decision making processes.

The first step is to identify an influential project champion. The project champion must be a respected, senior manager. A project champion can deal with political issues and help insure that everyone realizes they are part of an analytics and decision support team. Managers need to stay focused on a company's decision support development goals.

Second, managers should be prepared for technology shortfalls. Technology problems are inevitable with data-oriented decision support projects. Often the technology to accomplish some desired decision support tasks is not currently available or is not easily implemented. Unforeseen problems and frustrations will occur. Building any decision support capability, whether it is data- or model-driven, requires patience and perseverance.

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The third step is to tell everyone as much as you can about the costs of creating and using the proposed data-driven decision support capability. Managers need to know how much it costs to develop, access and analyze decision support data.

Fourth, be sure to invest in training. Set aside adequate resources, both time and money, so users can learn to access and manipulate the data in the new data-driven decision support system. From the start, encourage users to "test" routine, complex questions used for recurring decision support.

Finally, market and promote the new decision support capability to the managers you want to use the system. Provide incentive and motivation for appropriate use of the system.

Effective decision support requires ongoing innovation and refinement. As decisions become more complex and as data increases in quantity and variety, systems must be refined and enhanced. Decision support requires an endless iterative DO loop development process, executing the above steps repetitively.

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