: What is a decision support system feasibility study?

by Dan Power

Editor, DSSResources.com

Someone in an organization has an idea for a replacement DSS or an innovative DSS. Perhaps a senior manager says "it would be great if we could do X?" or "I want X, figure out how to do it"; perhaps someone in IT attends a workshop or conference and hears of a system from a colleague or a vendor representative. Some of these ideas are nurtured, others are quickly rejected. At some point a DSS idea becomes concrete enough and the anticipated costs and risks are significant enough that a potential project sponsor says "let's conduct a feasibility study". What will the manager or decision support analyst assigned to conduct the feasibility study actually do?

An idea for a decision support system is an abstraction and an imperfectly formed concept that must become concrete to be systematically analyzed. Sometimes an analysis focuses on "go-no go" at other times a feasibility analysis compares concept A to concept B and sometimes to "no change" in current practices.

A feasibility study is an analysis that determines and documents a contemplated project's viability. The term is also used to refer to the resulting document. A feasibility study helps a potential project sponsor make a funding decision (cf., Wikipedia).

Diagnosis of decision-making should be followed by additional initiation and diagnostic activities and

preparation of a feasibility study of the technical and economic prospects related to developing a DSS. This study should occur prior to actually committing resources to developing a proposed DSS.

An extensive feasibility study for a broad scope project examines many issues like proposed DSS scope, targeted users and their needs, anticipated DSS impacts, benefits, risks and mitigating factors.

Shorter,
less comprehensive studies and reports are usually prepared for small scope DSS projects.

A DSS Feasibility Study examines a proposed project's consequences and impacts. A feasibility study is
summarized in a formal report or document. A study especially examines alternatives and opinions of potential
users. A feasibility analysis is a systematic way of exploring the factors and risks affecting the potential
for successful development and implementation of a decision support system. Large-scale information systems
development efforts typically include a feasibility study as a major checkpoint providing critical information
about whether it is possible to develop a system, given the project’s goals and constraints. The actual report
should be framed to offer important information about the range of issues likely to affect success and, therefore,
should be considered in decisions about whether, if, and how to move forward with a decision support system
development effort.

A DSS Feasibility Study should examine a number of key questions:

Site Readiness: To what extent is the organization ready for and interested in implementing a new or revitalized Decision Support System? What needs to change in the organization to facilitate successful implementation?

Technical Feasibility: Is it possible to develop or adapt software to perform the proposed types of analyses. If so, can the technical solution be implemented efficiently and effectively with present technical resources?

Financial Feasibility: What are the projected costs of implementing the proposed DSS, and do potential
benefits justify these costs?

The analysis should be conducted in the context of relevant organization goals, constraints, related projects,

business decision support needs and priorities and a decision support diagnosis.

For each proposed decision support solution examined some concrete details will need to be specified, including:
broad system design, system integration issues, major functions and capabilities provided, technology tools/infrastructure used, and any new organizational structures and processes required.

Some sources also suggest schedule feasibility, cultural feasibility, legal feasibility and operational feasibility should or must be examined. The larger the scope of the proposed project the more comprehensive the
analysis that is required.

Ask questions and document the answers! Does the project fit with the current IS/IT plan? Do we have the
skills internally to manage the project or actually build it? How much time is available to build the new system?
Will building the DSS interfere with current business operations? What resources are required and when?
What are the overall costs and benefits of each alternative? Can we manage the risk associated with the
proposed project? Do we have a conceptual design we can share with funding sources?

As always, your comments and suggestions are welcomed.

References

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Author: Daniel Power
Last update: 2008-01-09 10:32