

## : What are the answers to the DSS case study questions at DSSResources.COM?

Recently Zam Zawari wrote "I need your guidelines on how to answer the questions in the case 'MeritCare Health System uses Simulation'". At least Zam wanted guidelines; some emails request that I provide the answers to the case questions. The forty (40) cases at DSSResources.COM are intended to give readers an opportunity to explore real examples and apply the concepts and ideas of computerized decision support in the context of a "real" situation. The DSSResources.COM cases are not traditional "decision-making" cases, but the cases illustrate companies/organizations that have resolved a "challenging problem" using a technology solution.

In many of the DSSResources.COM cases, a vendor wanted to showcase a "good" example or "success story". It is important to read and analyze a vendor supplied case with some caution and even skepticism. I identify and solicit the cases and I verify the facts as much as is possible, but I haven't had the opportunity for field review of the system or extensive discussion with users. The term case is used in a variety of ways and vendors market software for analyzing "live" case situations. For example, CaseSoft (<http://www.casesoft.com>) develops software tools used primarily by investigators, litigators, and litigation paralegals to organize and explore the facts, the cast of characters, and the issues in any case. In a general way, readers of DSS cases need to perform these same tasks.

So what are my specific suggestions for analyzing the cases at DSSResources.COM? Start by looking up any "new" terms, especially technical terms. The DSS hyperbook and online glossary at DSSResources.COM are good starting points. Then identify the "facts" and analyze the situation. I strongly recommend that readers begin by determining what the case is all about. If the case is about a specific DSS, then identify the type of DSS, its purpose, the intended users, and the enabling technology. If the case is about building one or more DSS, determine what was done and what seemed to work.

In the cases, the purpose of the DSS is not always clearly defined and the technology may already be obsolete or dated. The vendor may have some exaggerated claims (I try to watch for this). The cases often contain assumptions that need to be identified and understood. It is important to establish the facts.

The overall goal of questions at the end of the case is to stimulate analysis that uses relevant theory and concepts to guide and justify conclusions about the case situation. Conclusions to the questions for further thought and discussion should be answered with appropriate supporting arguments and facts from the case. Often it is advantageous to consider how a similar DSS might work in a different company or organization. Some solutions are more generalizable than are others. Also some DSS solutions may have unintended impacts or side effects that should be considered and explored.

The cases at DSSResources.COM are not problem solving cases, but there is always the problem of what to do next or determining if the initial problem is really solved and if it is not solved, what else could be done? In some case examples it is important to ask if the DSS was really needed. Expert readers may disagree with the solution that was implemented or have criticisms of the vendor's product or prefer the solution from another vendor. Visiting the websites of competing vendors may provide examples of alternative solutions.

To understand computerized decision support systems it is important to read many case examples and compare and contrast what was done and what worked. No one case study can document the

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class of information systems known collectively as decision support systems.

The case studies at DSSResources.COM provide current, concrete examples of what is happening in implementing decision support systems in a wide variety of companies and organizations. The case examples showcase various types of DSS and various activities associated with building and evaluating DSS. Some of the DSS are tightly integrated with specific decision processes and some are intended for more ad hoc and general decision support.

In future months, I may work on another book titled Decision Support Cases with Commentary. The idea is to pick 20-25 of the best cases at DSSResources.COM and publish them with questions for further thought, my comments and commentary, and possibly a glossary. I don't know if there would be a market for such a collection of cases, but it might help codify the current state of DSS practice and serve as a useful tool for teaching others about DSS. Let me know your thoughts about pursuing this project.

The following are some general questions that provide a starting point for analyzing and discussing DSS case examples.

1. Does the case document a specific DSS? If so, what is the purpose of the DSS? If not, how is the case relevant to understanding decision support systems?
2. What is the "driver", component or computerized tool that is providing the functionality of the DSS?
3. Who is the intended user of the DSS?
4. Who participated in building, designing and developing the DSS? How long did it take to build the DSS?
5. Is the DSS designed to support a specific business function or type of business/industry?
6. How is hardware organized, how are software and data distributed in the system, and how are components of the DSS integrated and connected?
7. Is the DSS an effective solution to the "initial" problem? Were alternative solutions available? If so, what were the pros and cons of each?
8. Does the new DSS provide a competitive advantage? Is the DSS easy to imitate?
9. Are there limitations or constraints on the decision support capabilities of the implemented solution?
10. Are there technical, social, interpersonal and/or political problems associated with implementing and using the specific DSS?
11. Is the DSS a good solution for other companies/organizations in similar situations?

What about Zam's specific question? The case "MeritCare Health System uses simulation to  
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optimize integration of service areas into new day unit" was posted at DSSResources.COM on January 9, 2004. It was written by ProModel Staff and I used email to verify the content with a MeritCare staff person, Sue Fridgen. MeritCare worked with ProModel Healthcare Solutions to create a dynamic simulation of a new facility to project how it (the new Day Unit) would operate upon opening and to define areas for process improvement and ensure optimal patient care.

The following are my suggestions for analyzing the questions at the end of the case. The suggestions should help with analyzing other cases at DSSResources.COM. There are six (6) broad questions at the end of the case:

1. Is this application a model-driven Decision Support System OR is it an example of using simulation for a special decision support study?

Hint: Check the definitions of DSS, the DSS types AND special decision support study. You need to understand how these computerized tools differ.

2. What decision support technologies were used?

Hint: Is simulation a decision support technology? If so, what is simulation. Is visual simulation a specific type of simulation?

3. What is the purpose of the simulation software?

Hint: Check the discussion in the DSS hyperbook about simulation for model-driven DSS. Check the definition of simulation.

4. How can the model serve as a "tool in evaluating future opportunities for care process improvement and change"?

Hint: If the model serves this function, then is it a DSS? Ask how this change in purpose would change the design of the simulation application. Would more "What if?" analysis be needed?

5. What are the major benefits of this type of analysis?

Hint: Again check in the DSS hyperbook and/or search the web for general benefits of simulations and review the case to identify what the authors claim are the specific benefits. You may want to visit the vendor web site.

6. What problems or difficulties do you anticipate with use of this type of decision support solution?

Hint: Ask questions like: Will it be easy or hard to maintain the simulation model? Are the results easy or hard to understand? Will the results be quickly outdated or should they be relevant for a few years?

As always your comments and feedback is appreciated.

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