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Pitfalls in Implementing Modeling Solutions

Historically, mathematical models have been used whenever complex problems arise that cannot be solved by other means. However, as technology is evolving, modeling is becoming a standard method for decision support rather than a last ditch effort.

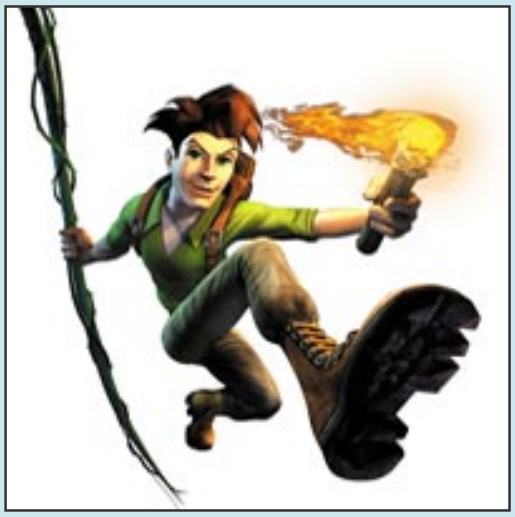
For example, Simulation studies during design and testing processes may reveal insurmountable problems that could result in project cancellation, thus saving millions. It is cheaper and safer to learn from mistakes made with a simulated system, rather than in reality. Modeling does not only reduce cost and risk, but also improve understanding of the system. Appropriately, business process modeling is seeing a lot of industry interest. However, the associated value has been relatively negated due to lack of implementation guidance.

In case you are not an operations research professional, it's easy to be misled about the proper implementation and realistic expectations from modeling solution. To compound the difficulty, those promoting modeling and optimization software do very little to elucidate the situation.

Optimization, simulation and modeling are terms used interchangeably or without regard to their precise meanings. When searching for solutions, business houses find it either difficult or don't know where to go or who to ask.

How do you work through the mystification and yield from the advantages of these powerful techniques? Let's start by understanding and chasing away some of the common pitfalls about implementing modeling solution.

- Implementing one modeling solution or software package may not solve the whole range of your problems. Model need to be seen as the one serving to its precisely defined objective functions and thus for different scenarios and objectives, different solutions may be required. This may stand true; as there is a possibility of having same mathematics for different looking problems, however



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About DecisionCraft Analytics

We provide decision-making solutions to improve operational efficiency and business responsiveness. Our

similar looking problems may not involve same mathematics.

- Unlike other software applications, modeling solution does require knowledge of business processes. To run the model it is not sufficient to know about only business rules, constraints and data inputs. Business domain knowledge and Modeling knowledge are essential. Modeling is not only a mathematical work out but it also carries insights of required process re-engineering. Mathematical setup is usually constrained by customer requirements and current practices and thus a modeler needs to know about what customer requires keeping degree of precision and timeframe in mind.

- Models need to be considered "suggestive", as they may not give you cent percent accurate results for given situation. Models are not reality; they are an extreme simplification of reality. Deterministic models do not reflect the role of chance and do not provide confidence intervals on results. Models that incorporate randomness are harder to analyze than the corresponding deterministic models. Therefore, Solution package should provide a way to manually override the generated results before it can be accepted for further processing.

- A modeling solution can't work or run forever. Model is prepared to represent and/or optimize current business process as per the current situation and is not entirely futuristic. Models need to be retuned to keep it relevant to the current business.

- Model may not always produce applicable results or rather easy to apply results.Depending on the user input a Model might result in to Sub-optimal solutions. Domain understanding should be applied to interpret the results and make them more applicable.

- Models may not immediately start giving you the desired results. Like old wines, models give more accurate and better results as they mature with either automatic feedback mechanism or continuous upgrades. A gestation period should be considered for each modeling solution that is being applied.

Conclusion

Models cannot be substitutes for sound business understanding. Models can only speed up the time required for in-depth analysis but can not make the decision to choose what level of analysis is necessary to achieve the objectives. The process of growth and

wisdom in model building is generally accomplished only after a considerable amount of time spent in actual practice. The limitations of the computer modeling must be well understood by the analyst. If the computer modeling results are accepted with complacency and a lack of scrutiny, and with an indifference to performance correlations, then we are misusing this great tool, and fostering potential trouble.

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