

INDEPTH

Project Management Pty Ltd

eVALUA



monsarrat

IDPM



monsarrat

Monsarrat® is a qualitative decision support tool particularly suited to determining the relative priority of range of different proposals in the face of complexity and risk. Based on a business objective model developed in conjunction with the customer, Monsarrat® provides a robust and traceable structure to the decision-making process.

It is ideally suited to evaluating annual budgeting proposals or managing re-configuration priorities for existing capabilities.

The typical sequence for incorporating Monsarrat® into your organisation's work practices is as follows:

- Define a structured model which describes the business objectives or capability to be delivered;
 - This model will break down the capability into Systems and Capability Contributors and, if relevant, incorporate a measure of increasing tempo/complexity;
- Benchmark the organisation's current capability against definitions attached to each Capability Contributor;
- Assemble the list of competing proposals and capture the essential descriptive and cost data in a distributed database tool so as to support the decision-making process;
- Evaluate each proposal by:
 - Associating each proposal with appropriate Capability Contributors;
 - Assigning a Level of Necessity through a combination of rating how critical the proposal is to the capability required against the existing level of capability;
 - Determining the impact (positive or negative) the proposal will make on each of the associated Capability Contributors;
 - Assessing the feasibility of the proposal in terms of technical and business risk; and
 - Considering the risk of the proposal not performing as expected compared with the impact on the overall objectives at all stages writing informed comments justifying assessments for later use in automatically generated reports.

- The result of this process is a Figure of Merit (FOM) and justifying text.
- The estimated cost of the proposal is now measured against the FOM to give a Value For Money (VFM) index by which proposals can be ranked.
- Once the cumulative sum of the ranked proposals reaches the budget for this activity, the “line” can be drawn.

The involvement of subject matter experts in the process is required at each evaluation point to confirm or change the computer-generated assessment and ensure that unacceptable impacts are not masked by the averaging process. Evaluators are given the opportunity to enter explanations behind each evaluation point which can be generated in a report for later review and/or re-assessment.

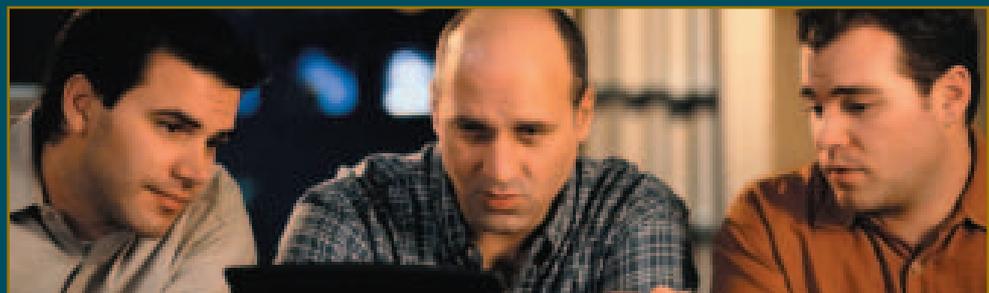
When compared with conventional decision-making processes, we would expect a significant improvement in the overall level of decision-making. An increase in the level of correct decisions from 70% to 90% with a budget of \$10m represents \$2m better value for money.

The capability model generated during this process becomes an extremely valuable tool for defining business activities, assessing levels of operational effectiveness for various activities and for re-benchmarking and measurement of achievement throughout the life of the business.

Where the business objectives relate to new capabilities or systems, which require commissioning before going live, the capability model also becomes very valuable for defining the new capability’s requirements and for planning and prioritising operational test and evaluation activities throughout the life of the capability.

Other benefits:

- Keeps the Proposer and User involved in the decision-making process
- Incorporates the User’s statement of necessity for the proposal;
- Quantifies the change in capability should the proposal be undertaken;
- Recognises the impact of business risk, technical feasibility and amount of R&D;
- Identifies the impact should the proposal not perform as promised; and
- Allows independent review of all evaluations.



Case Study

MONSARRAT TESTIMONIAL

By Marcos Alfonso (ex CMDR RAN)

I have now since retired from the RAN, however at the time of the evolution of MONSARRAT, I was the Project Manager for a Submarine Upgrade Program which had a finite number of dollars and more activities than could be funded allocated. The activities had originated from a survey on how to improve the capability of the submarines across the spectrum of users, suppliers and customers of the submarine force.

Hence the project team (Myself and Mr Frank Owen of IDPM) were faced with the dilemma of a very complex system, with varying degrees of system capability requirements dependent on the tasking expected of the system as a whole. The tasking of determining in which areas the money would be spent was made no less easier with the parochial views held by operators of different backgrounds and users requiring different priorities for the submarine as a system. Hence the project team decided that they needed a decision aid tool that would:

- a. Measure current capability/conformance of individual systems,
- b. Measure the improvement to the capability that a new option would provide at individual system level,
- c. Rate the priority in terms operational need that this system had with reference to others,
- d. Provide a ranking of individual improvements in terms of capability added to the individual system, to the submarine system a whole and on a value for money basis.

What the project team didn't want was the standard tools where human input is not welcome. The approach had to be to impartially assess all improvements with the ability to override the outputs from the system given the perception of need and capability value adding of the assessing team. Hence a Submarine Capability Working Group was formed to assist in the formation of the decision aid tool and to populate it.

Out of these requirements, Mr Hugh Howell of Evalua (having previously worked with him and his team in the assessment of the Collins Combat System solution) was engaged to assist in the development of such a model or decision aiding tool. Evalua were selected due to the quality of the model used during the Combat System decision that, although not realised due to political factors, allowed the assessing team to stand up to an extremely rigorous cross examination program.

Monsarrat evolved from such a background. It is a tool that was developed by Mr Howell with the input of the Submarine Capability Working Group. As with all new ideas the originators don't realise its full potential because they are too concerned with achieving their task.

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Monsarrat is a tool by which a complex system can be broken down to its individual component contributors in terms of functionality and capability. From there any change to any of these contributors can be measured in terms of individual system improvement, whole system capability improvement and value for money. As stated earlier, Monsarrat, although providing generated suggested rankings based on the input matrices, can be overruled by the team at each step of the assessment. Monsarrat incorporated an easy methodology for sensitivity analysis through its use of numerical and word description association. This allowed the assessing team to conduct sensitivity analysis to further validate their results.

As I was departing from Defence, other sections of defence were commencing to realise that Monsarrat had a wider application than just to assess individual class capability, it could go both ways, assess individual vessel capability and whole of class capability impact.

Given that I was part of the concept of Monsarrat it is almost superfluous to recommend its capability and perhaps its untapped usage. Nonetheless I will say that without Monsarrat and the input of the Submarine Capability Working Group, as a Project Manager I would have made the same arbitrary decisions on which item to include in the project, that had been made by my predecessors without any substance. Obviously at the same time opening myself to being rightly second guessed due to lack of rigour.

Monsarrat imposes a discipline on an assessing/evaluating team to assess all system components on their merits whilst at the same time providing the team the leeway to justify changes to the system generated decision. Even in this case it proves its power, because when a decision/output is overruled the team have to justify it. If they cannot, then they usually don't override the system.

The way Monsarrat evolved it is easily adaptable to other needs and requirements from customers. I see Monsarrat as having more than just usages within the military or for that matter assessing hardware components. For example what adds more value to a company a new production plant or a better servicing process. What adds more value to defence, a new air warfare destroyer or a new fighter aircraft. I would highly recommend that Defence employ such a tool to determine its needs. There is one proviso: Monsarrat will need knowledgeable people from the different backgrounds that may be impacted by the decisions to populate it and use it. Monsarrat is a decision aid tool for complex assessments of systems, capability needs and capability improvements that has been shown to stand to the rigours of cross examination and second guessing.

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Case Study

COMMENTS ON MONSARRAT

By Commander Bob Humphreys, RAN

I had the rewarding experience of having some involvement in the genesis of the Monsarrat product. Faced with a very complex series of investment options and the desire to make the decisions we arrived at as impartial, well-informed, and 'efficient' as possible, we in the submarine acquisition community fostered the development of Monsarrat. The original product idea came from some very good work that was done with (now retired) Commander Marcos Alfonso, Mr Frank Owen of In Depth Project Management and Mr Hugh Howell of Evalua, in developing a decision aid tool for an important major project procurement (submarine combat system).

I can best characterise the early version of Monsarrat as a decision aid, but it is much more than a simple aid. We were able, in a very structured way, to build a picture of submarine capability in very simple steps and from the ground up. We dissected all that it means to be a submarine and do what a submarine does, and identified each elements proportional contribution to the whole-of-system capability. We could then represent a complete and holistic picture of what constituted the important elements in such a complex 'system', and what aspects contributed to its success in doing what it is supposed to do.

We then evaluated discretely and (hopefully) impartially the individual existing elements against the core criteria of what we had established that each was supposed to do. Monsarrat allowed us to link even complex inter-system and compartmental interrelationships in a very simple, structured way. The result was an easy-to-understand appreciation of an extremely complex system (in this case a submarine and all it is designed to do), and an assessment of where we currently stood in respect of the numerous elements that contributed to submarine capability as a whole. That let us identify clear priority areas for potential investment in improvements.

When we interposed potential solutions with their attendant complexity, cost, risk, and feasibility, we were able to rank all of our investment options once again in a very simple way. We were then in a position to make simple, informed, value-for-money decisions from a complex array of options, and to make those decisions independent of any vested interests, inadvertent prejudices, or pre-conceptions on behalf of any of the people involved in the decision chain. We were also able to produce very robust traceability to our investment decisions, which will stand the submarine acquisition community in very good stead in years to come.

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Importantly, we were not slaves to the product—Monsarrat is a tool, not a master. The tool supports easy and simple sensitivity analysis. We were able to tweak the system to do sensitivity analysis, and appreciating that any such tool is only as good as the information that populates it, we could refine our decision process as we required.

MONSARRAT also lends itself to change. At any time, with new or better data, reduced costs, lower risks, different options, improved feasibility etc, any investment option can be updated and viewed in up-to-date context against the array of options it competes with.

I would recommend adoption of MONSARRAT for any relatively complex system which is subject to a large array of inputs and components, and for which a potentially bewildering and confusing array of options present themselves. For a relatively small investment of time on behalf of some of the informed members of our organisation, we were able to develop what I would call a watershed system in terms of what it can mean for support of sound and traceable investment decisions. Rightly, the system is being considered widely in Defence, and I hope its use is widely adopted; I see strong quality-of-decision benefits from its use.

I note that we used the system largely in the capacity of an investment decision tool when faced with an investment portfolio' of over \$1Billion and an array of around 300 options which did not all fit into the 'available bucket'. Other Defence agencies have expressed interest in using the tool as a benchmark for test and evaluation, for assessing system health and integrity, and quite possibly more, and more creative, options. I view the concept underlying Monsarrat as being a very sound support to any type of complex decision process or material assessment.

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