

## Decision Making

Making decisions is a central part of any management role and a core element in problem solving and a range of other social and business activities. However, we rarely if ever have enough information; as Carl von Clausewitz wrote more than 100 years ago, *“War is the realm of uncertainty; three quarters of the factors on which action in war is based are wrapped in a fog of greater or lesser uncertainty. . . . The commander must work in a medium which his eyes cannot see; which his best deductive powers cannot always fathom; and with which, because of constant changes, he can rarely become familiar.”* Substitute ‘project’ for war and the sentiment remains true today! The critical thing is not the amount of information available; but having the key elements of information available when needed in a useful form, which improves your awareness of the situation and ability to act.

Once the best possible (but typically inadequate) information has been assembled, decisions need to be made; usually no decision is the least beneficial outcome. Depending on the circumstances different types of decision are needed that have quite different characteristics, understanding these differences will help you reach the best decision.

### Dilemmas

Dilemmas have no ‘right’ answers. They are not described in the ‘rules’ and there is no way to calculate a solution. Dilemmas exist at all levels:

- In a family situation, it is when you discover your daughter’s school play which she has been rehearsing and practicing for months is on the same evening as your son’s football final; you cannot be in two places at once.....
- In a work situation two people simply cannot work together and the friction is damaging team moral and productivity. You cannot keep both people on the team, they are both key contributors in their own right and to transition both people out of the team would have a major impact on delivery. Who should go and who should stay???
- Your organisation can support project ‘A’ or project ‘B’ but not both. Both projects score equally on your selection criteria and both have passionate advocates who have spent months working on the feasibility of the ideas.....

Most dilemmas involve ethics<sup>1</sup>, and your decision will unfairly disadvantage at least one group of stakeholders. But not making a decision is worse than making a decision, if you do not decide everybody is worse off<sup>2</sup>. Dilemmas are common in areas of organisational governance<sup>3</sup> and are not infrequent at the project management level.

To resolve a dilemma, the first issue is to recognise there is no right answer and stop wasting time searching for one. Then based on your ethical framework make the best decision possible and live with the consequences.

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<sup>1</sup> For more on ethics see: [http://www.mosaicprojects.com.au/WhitePapers/WP1001\\_Ethics.pdf](http://www.mosaicprojects.com.au/WhitePapers/WP1001_Ethics.pdf)

<sup>2</sup> See, Problem Solving: [http://www.mosaicprojects.com.au/WhitePapers/WP1013\\_Problem\\_Solving.pdf](http://www.mosaicprojects.com.au/WhitePapers/WP1013_Problem_Solving.pdf)

<sup>3</sup> For more on Governance see: [http://www.mosaicprojects.com.au/WhitePapers/WP1033\\_Governance.pdf](http://www.mosaicprojects.com.au/WhitePapers/WP1033_Governance.pdf)

## Conundrums

A conundrum is an intricate and difficult question that only has a conjectural answer.

Many riddles are conundrums; the answer can be derived from the riddle but is not obvious; traditionally, the answer to a conundrum involved a pun: “*What's the difference between a jeweller and a jailer?*”- “*One sells watches and the other watches cells.*”

In modern business the meaning has shifted to mean a complex or perplexing problem that has no clear solution and is difficult or impossible to resolve based on your current knowledge. Many conundrums have easy answers when you know what the answer is (but you have to be clever to find it), others are mysteries, and others may be dilemmas. The challenge is to determine what sort of decision you are being asked to make<sup>4</sup>.

## Paradox

A paradox is a *seemingly* true statement or group of statements that lead to a contradiction or a situation which seems to defy logic or intuition. A well known project management paradox is Cobb’s Paradox.

Martin Cobb worked for the Secretariat of the Treasury Board of Canada. In 1995 he attended The Standish Group’s CHAOS University and created his now famous paradox (Cobb, 1995): “*We know why projects fail; we know how to prevent their failure - so why do they still fail?*”

The apparently true statement is that we know how to prevent project failure, but do we really know how to make projects successful? And if we do the illogical element is, why do we let them fail??<sup>5</sup> A different example of a paradox is *This statement is false*, if it is it is not, and if it isn’t it is..... ☹

## Mysteries

Malcolm Gladwell’s new book – *What the Dog Saw* made the following distinction between a puzzle and a mystery:

*Osama bin Laden’s whereabouts are a puzzle. We can’t find him because we don’t have enough information. The key to the puzzle will probably come from someone close to bin Laden, and until we can find that source bin Laden will remain at large.*

*The problem of what would happen in Iraq after the toppling of Saddam Hussein was, by contrast, a mystery. It wasn’t a question that had a simple, factual answer. Mysteries require judgments and the assessment of uncertainty.*

When confronted with a ‘mystery’ the solution is closely aligned with risk management<sup>6</sup>. You need to determine options and probabilities and be prepared for outcomes you were not expecting. As with dilemmas, there is no correct decision only the best decision based on the assessed probabilities.

## Puzzles

Puzzles have one right answer that may be resolved in one correct way or which may be achieved through several different routes. To most people solving a Rubik’s Cube is a puzzle; we lack adequate information to

<sup>4</sup> The concept of complex problem solving touches Conundrums, Mysteries and Puzzles. All three may involve a large number of diverse, dynamic and interdependent elements in a novel situation where it is difficult or impossible to get good quantitative data. The art and effect of complex problem solving is discussed in the CSIRO paper **Behavioural Economics and Complex Decision-Making** (basically we don’t do a good job dealing with complex problem solving): [http://www.mosaicprojects.com.au/PDF/Complex\\_Decision\\_Making.pdf](http://www.mosaicprojects.com.au/PDF/Complex_Decision_Making.pdf), an interactive model to assist this process and improve outcomes can be viewed at: <http://www.idiagram.com/CP/cpprocess.html> (see also Annex 1)

<sup>5</sup> For more on Cobb’s Paradox see: <http://mosaicprojects.wordpress.com/2011/03/18/cobbs-paradox/>

<sup>6</sup> For more on Risk Management see: [http://www.mosaicprojects.com.au/PMP\\_Sup/PMP\\_Mod11\\_Risk.html](http://www.mosaicprojects.com.au/PMP_Sup/PMP_Mod11_Risk.html)

easily solve the puzzle. We either don't know the optimum processes, or we don't have the necessary information, to reach a solution. Competitors that take part in Rubik's Cube competitions know the processes needed to reach the 'one right solution' and can apply them in a few seconds.

The way to solve a puzzle is to get the skills and information you need<sup>7</sup>. If you don't know, find someone who does. Once you have the information and knowhow, the puzzle is reduced to a problem and making a correct decision is straightforward.

## Problems

Solving problems simply require hard work. There is one right answer and usually one optimum way to solve the problem. Any high school maths test contains a series of problems. Calculating the loads on the catenary cables supporting a suspension bridge is a complex problem but once solved, determining the correct size for the cable is straightforward.

The way to solve a problem is to gather the information needed, apply the correct rules and processes<sup>8</sup> and determine the answer. Once the answer is known, the correct decision is obvious. Various approaches to problem solving are discussed in depth in WP1013 – *Problem Solving*<sup>9</sup>.

## Establish an effective decision making framework

Decisions are usually needed from various members of the project team, to avoid ambiguity and procrastination, establish a decision-making framework by answering the following three questions:

- 1 **Who?** Prior to the beginning of any project, determining who has decision-making power is critical. On most projects there will be several decision makers with different responsibilities.
- 2 **What?** Different members of the team will probably have different decision-making responsibilities based upon their role. Identifying the scope of everyone's responsibility regarding the type of decisions they can and can't make avoids confusion and makes it possible to streamline the process. The project manager should not be expected to make every decision and degree of autonomy is a powerful motivator<sup>10</sup>.
- 3 **How?** Identifying how decisions are made and how they are shared with project team members is almost as important as the decision itself. There are a number of alternatives for effective decision making that can be used for everyone involved in the decision/meeting or just some core decision making team or body. What is important is everyone understands the process. Some of the options include:
  - The PM or responsible manager can decide after listening to the various points of view.
  - Consensus where all of the parties agree.
  - Consensus where most agree and there is no sustained objection (ISO use this model).
  - Substantial majority vote (eg, 75% approval)
  - Simple majority vote.
- 4 **The "right of one objection"**. Unfortunately the majority of the world's workers tend to keep information to themselves rather than risk the wrath of authority by 'throwing a spanner into the works'. The introduction of a 'no-sanction' right to one objection policy can reduce this tendency and importantly, information withholders become liable to an equal share of the consequences if they have kept quiet and a bad decision eventuates. The 'one objection' policy says that regardless of the rank of the person making the decision, if you have information that

<sup>7</sup> For more on data gathering and brainstorming see: [http://www.mosaicprojects.com.au/WhitePapers/WP1068\\_Data\\_Gathering.pdf](http://www.mosaicprojects.com.au/WhitePapers/WP1068_Data_Gathering.pdf)

<sup>8</sup> Decision support tools are discussed in: [www.mosaicprojects.com.au/WhitePapers/WP1062\\_Ranking-Requirements.pdf](http://www.mosaicprojects.com.au/WhitePapers/WP1062_Ranking-Requirements.pdf)

<sup>9</sup> See: [http://www.mosaicprojects.com.au/WhitePapers/WP1013\\_Problem\\_Solving.pdf](http://www.mosaicprojects.com.au/WhitePapers/WP1013_Problem_Solving.pdf)

<sup>10</sup> For more on motivation see: [http://www.mosaicprojects.com.au/WhitePapers/WP1048\\_Motivation.pdf](http://www.mosaicprojects.com.au/WhitePapers/WP1048_Motivation.pdf)

shows that the decision may be wrong, you are **obliged** to share that information with the person making the decision. However, once the objection has been properly considered, the objector is then expected to comply with the final decision.

## Conclusion

*A man is known by the dilemmas he keeps, not by the problems he solves or the conundrums he cleverly resolves. To sit knowingly with the fundamental impossibility and still engage. To accept that I might approach understanding without ever touching it, and still engage as if I might<sup>11</sup>....* Many issues with complex initiatives stem from a belief that all decisions are puzzles and that just a little more information is all we need to reduce the question to a problem with its one right answer. Consequently massive amounts of time, effort and resources are wasted trying to find the additional information to allow the problem to be solved and the 'one right answer' calculated.

Dilemmas simply do not have a right answer. Any answer will be in part wrong, unfair and harmful to some stakeholders. However, not making a decision will be harmful to all stakeholders, the challenge is usually to minimise the harm, occasionally to optimise the benefit.

Mysteries are often hidden within too much information and understanding them is closely aligned to the ideas contained in complexity theory<sup>12</sup> and risk management. Accepting you 'can't know' the answer to a mystery is critical; then you are free to make the best decision you can based on the information available and your assumptions; but always be prepared for nasty surprises.

Puzzles respond well to the application of scientific management principles of measurement and research. Gather the right information and skills and you reduce a puzzle to a problem, and can then calculate the optimum answer. Unlike dilemmas and mysteries, problems do have one right answer.

When confronted with a difficult decision, the challenge is to recognise the difference between these different types of decision and use the best approach to reaching a decision.

It is also important to recognise the importance of time. Very few complex decisions are made in a space where time is unimportant. When time pressures exist, you may have to make a decision to deal with the primary decision on the assumption it is a 'mystery' simply because there is insufficient time to gather and analyse all of the information needed to reduce the decision to a problem. The importance of timeliness in decision making is part of the discussion on 'problem solving'.

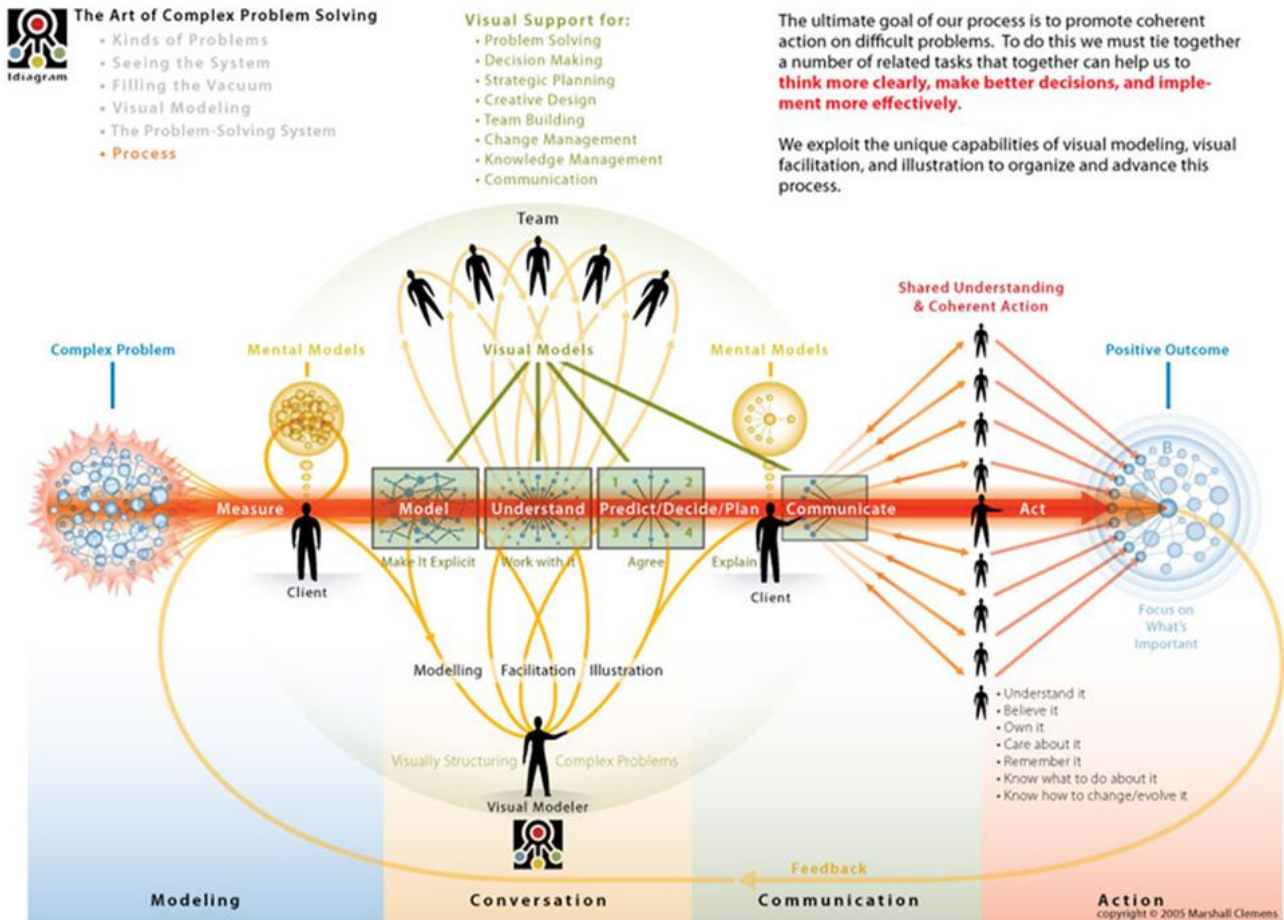
Also refer to the decision making model described in the *PMBOK® Guide* at p412, Appendix G.6.

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<sup>11</sup> Schmaltz D.A. *The secret life of projects*. [www.PureSchmaltz.com](http://www.PureSchmaltz.com)

<sup>12</sup> For more on complexity theory see: Mosaic's blogs at:  
- <http://mosaicprojects.wordpress.com/category/general-project-management/complexity-general-project-management/>  
- A Simple View of 'Complexity' in Project Management: [http://www.mosaicprojects.com.au/Resources\\_Papers\\_070.html](http://www.mosaicprojects.com.au/Resources_Papers_070.html)  
- The Crossderry blog at: <http://crossderry.wordpress.com/experience-complexity-set/>

**Annex 1 – Complex Decision Solving Model**



The art and effect of complex problem solving is discussed in the CSIRO paper Behavioural Economics and Complex Decision-Making (basically we don't do a good job dealing with complex problem solving): [http://www.mosaicprojects.com.au/PDF/Complex\\_Decision\\_Making.pdf](http://www.mosaicprojects.com.au/PDF/Complex_Decision_Making.pdf), an interactive version of this model can be viewed at: <http://www.idiagram.com/CP/cpprocess.html>.