creative problem solving
improving possibility

WARNING!
framework

journey
Vision
– d6 has been developed to give our people the tools and confidence to assist them in finding innovative solutions to our clients’ problems.

Objectives
– Improve the chances of finding the real problem early, not the symptoms and not our first perception of the problem
– Introduce different ways of thinking
– Improve the possibilities of solutions

Value
– Improve clients perception of PB as a problem solver and an innovator
– Deliver client outcomes more efficiently and effectively
– Improve our confidence is solving wicked problems
– Improve the marketability of our problem solving capability
We share knowledge with our colleagues to deliver professional excellence.

- By eliminating organizational barriers that limit the sharing of knowledge and resources.
- By listening, consulting and responding with consideration to our colleagues' needs.
- By actively sharing knowledge and working collaboratively and flexibly to deliver results.
- By continuously developing our personal skills and knowledge and supporting our colleagues' personal and professional development.
- By being innovative and creative in all our work.
- By recognizing that our performance as an industry leader requires the highest quality professionals working for major clients on the world's most challenging projects.
- By never settling for second best.
**Creative Problem Solving Pilot**
- Jun-Oct 2008

**Problem Solving Model**
- Nov 2008-Jan 2009

**initiative**

**current practice**
better practice

sense making
progression
cognition

Pattern Matching
Seek Symmetry
Serendipitous Recall
Gift Answers
Failure imprints better
Best Fit
Fight or Flight
Make Assumptions

Not Analytical

complexity

Complex
Unknown
Cause and effect only coherent in retrospect and do not repeat
Pattern Management
Complex Adaptive Systems
Requires diversity of knowledge
Probe-Sense-Respond

Complicated
Known
Cause and effect separated over time and space
Analytical/Systems Thinking
Requires depth of knowledge
Sense-Analyse-Respond

Chaos
Unknowable
No cause and effect relationships perceivable
Crisis Management
Act-Sense-Respond

Simple
Known
Cause and effect repeatable, perceivable and predictable
Standard Operating Procedures
Process Reengineering
Standard responses
Sense-Categorise-Respond
Thinking Foundations

- Clients: Do it with them, not to them
- Reuse, recycle, renew
- Think about your thinking
- Identify problem 1st
- Get past first pattern match
- Diversity of thought (Collaboration)
- realise where you are (Complexity)
- Assumptions can kill (Weak Signals)
- Reflect and share experience
• Based on Principles
• Planning
• Key decisions at each stage
  – Complexity
  – Tool Selection
  – Collaboration
  – Client Mandate

“Developing the plan is actually laying out the sequence of events that have to occur for you to achieve your goal.”

George L. Morrisey
**discover**
- Possible problems
- Divergent, creative activities
- Root cause analysis
- Steer clear of solutions

“Sometimes the situation is only a problem because it is looked at in a certain way. Looked at in another way, the right course of action may be so obvious that the problem no longer exists.”

**Edward de Bono**

**discover phase**

**define**
- Probable problems
- Convergent, analytical activities
- Decision making

“When you cannot make up your mind which of two evenly balanced courses of action you should take - choose the bolder.”

**William Joseph Slim**

**define phase**
It is well known that "problem avoidance" is an important part of problem solving. Instead of solving the problem you go upstream and alter the system so that the problem does not occur in the first place."

Edward de Bono

\[\text{model mechanics}\]

\[\text{deduce}\]

• Probable solutions
• Convergent, analytical activities
• Decision making

"It's not hard to make decisions when you know what your values are."

Roy Disney

\[\text{deduce phase3}\]
What Data Gathering

Collect information on the context of a situation to assist thinking and decisions.

How


Tips

• Divergent and Convergent use
Brainstorm

**What** | Idea Generation
---|---

**Why**
Collaboratively generate a large volume of ideas in a short time, free of criticism and judgement.

**Tips**
- Nominate a recorder
- Quantity is key
- Half hour at most
- Sprints (2 minutes)

**Tools**

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5 Whys

**What** | Root Cause
---|---

**Why**
Investigate the root cause of a problem through iterations of questioning.

**Tips**
- “I don’t know.” and “Because” are not valid responses
- You may need to go more than 5 times

**Tools**

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Assumption Busting

**What**  Breaking Patterns

**Why**  Understanding the assumptions you are making and misconceptions you may have and testing them.

**Tips**  
- You will discover more assumptions
- Get an external perspective

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Plus/Minus/Interesting (PMI)

**What**  Weighing pros and cons

**Why**  Looking at the positive and negative aspects of factors and allowing for other interests to be considered.

**Tips**  
- Set weightings before totalling

<table>
<thead>
<tr>
<th>Should I move to the City?</th>
<th>Plus</th>
<th>Minus</th>
<th>Interesting</th>
</tr>
</thead>
<tbody>
<tr>
<td>More going on (+1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To sell house (-4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easier to see friends (+5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More pollution (-3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easier to get places (+4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less space (-1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No countryside (-2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More difficult to get to work? (-4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>-18</td>
<td>-1</td>
</tr>
</tbody>
</table>

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Tools
## Dotmocracy

<table>
<thead>
<tr>
<th>What</th>
<th>Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why</td>
<td>An open voting method to select one of more results.</td>
</tr>
</tbody>
</table>
| Tips   | • Write down your votes first  
|        | • Do not be influenced by others  
|        | • 3 votes each |

## Nominal Group Technique

<table>
<thead>
<tr>
<th>What</th>
<th>Idea Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why</td>
<td>Anonymous generation of ideas in writing.</td>
</tr>
<tr>
<td>Tips</td>
<td>• Individually or with small groups</td>
</tr>
</tbody>
</table>

**tools**
## Decision Tree

<table>
<thead>
<tr>
<th><strong>What</strong></th>
<th>Decision Making</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Why</strong></td>
<td>Choosing between options by projecting likely outcomes.</td>
</tr>
<tr>
<td><strong>Tips</strong></td>
<td>• Provide a view where all options can be seen</td>
</tr>
</tbody>
</table>

### q&a