Contemporary Risk Leadership
Objective

- Improve risk-skills
- Share perceived problem
- Better risk management
- Invite contributions
ROE

- Academic Exercise
- Primacy of “your-Company-policy”
FT Risk Tool Survey

- 2D matrices
- Risk register
- Nomogram
- Bow-Tie
- Time Safety Margin
2D Matrices

Risk = \[ \sum n (C_i \times P_i \times E_i) \]

- \( C_i \): consequence
- \( P_i \): probability
- \( E_i \): exposure

Lines of equal risk
Risk Register

You can also view these risks in the issue navigator.

<table>
<thead>
<tr>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Original Exposure</th>
<th>Residual Exposure</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABC-4</td>
<td>Changes in priorities of senior management</td>
<td>TREATED</td>
<td>CATASTROPHIC</td>
<td>HIGH</td>
<td>Mitigate</td>
</tr>
<tr>
<td>ABC-3</td>
<td>Volume of change requests following testing extending work on each phase</td>
<td>ANALYZED</td>
<td>EXTREME</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ABC-6</td>
<td>Costs could rise significantly during the course of the project</td>
<td>TREATED</td>
<td>EXTREME</td>
<td>MEDIUM</td>
<td>Mitigate</td>
</tr>
<tr>
<td>ABC-1</td>
<td>Loss to project of key staff</td>
<td>ANALYZED</td>
<td>HIGH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ABC-2</td>
<td>Significant changes in user requirements</td>
<td>ANALYZED</td>
<td>HIGH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ABC-7</td>
<td>Pilot users not fully committed (at time of planning)</td>
<td>ANALYZED</td>
<td>HIGH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ABC-5</td>
<td>Loss of power or internet connection at key roll-out, demo or training events</td>
<td>ANALYZED</td>
<td>LOW</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Rhetoric

Ben Luther
Nomogram

FIGURE 1. Risk Analysis.
Bow-Tie Illustrates complexity Avoids probability term Specialist tool
Time Safety Margin

- Proscriptive
- Quantitative,
- Single purpose
Contemporary Tools

Standard Approach

- Identify
- Assess
- Treat

Known hazards
Think Like A Human

- Consequence - easy
- Probability - hard
- *Big* numbers - v. hard
- "Black Swan" (Taleb)
Complexity

- Modern aircraft / FT
- “Complicated” (Javorsek)
- Non-Gaussian
- many Modes
- Un-knowable (?)
The Problem

- Modern FT: complex
- Risk tools: linear
- Step 1: Identify the hazard
Way Ahead

- No magic bullet / tool
- Still looking
- Know the limitations
- Leadership - in implementation
Managing Complexity

- Avoid
- Transfer
- Mitigate

Constrain impact
Be wary of probability
Reduce complexity

Standard, plus:

Be active

Ben Luther
“So What?”

- Understanding
  - More than the minimum
- Better risk management
- Leverage extant policy
Questions?