Building a Robust Risk Management Culture

Rein Lemberg
Arvamus Risk Group
Outline

• Some basics
• Risk management perspectives
• Shareholder value
• Risk limits
• Essentials for a robust risk management culture
• How to get started on the journey
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  • How to get started on the journey
What is “Risk Culture”?

• “The way we do things around here.”
More than one culture?

- How about multiple risk cultures?
  - Organizational “silos”
Outline

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Ways of “managing” risk…

“What do you mean my pet project has risks?”

“I’ve got it all figured out… trust me!”

Expectant Parent

Preacher
Ways of “managing” risk…

“Let’s just go for it!”

Gambler

“I’m sure this will work.”

Alchemist
Ways of “managing” risk…

“IT has always worked before…”
Optimist

“I have weighed the risks…”
Informed Risk-Taker
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About Shareholder Value

• Market Capitalization = 
  Current Operations Value (COV) 
  + Future Growth Value (FGV)

• How do COV and FGV compare in importance?
Example: Oil Company

COV = NOPAT/WACC – Long Term Debt
FGV = Market Cap - COV

Source: Deloitte & Touche

• Market rewards FGV growth disproportionately
• Market punishes COV growth at expense of FGV growth
What drives FGV and COV?

- Plans
- Projects

- Strategy
- Tactics
- Operations

FGV

COV
### Risk Management Focus

<table>
<thead>
<tr>
<th>Management Objective</th>
<th>Risk Management Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grow Shareholder Value</td>
<td>Strategic Grow upside Protect downside</td>
</tr>
<tr>
<td>Establish, Monitor and Manage Programs to Execute Strategies</td>
<td>Executional Programmatic Protect downside</td>
</tr>
<tr>
<td>Build, Maintain and Operate the Business</td>
<td>Operational Credit, Market Protect assets Reduce volatility</td>
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</tbody>
</table>
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Risk Limits

- Selecting new investments
- Project-specific
- Loss of assets
  - Business interruption
Operational Risk Limits

- Defines what is a “significant” risk

![Graph showing frequency vs. consequence with significant risks highlighted.](image-url)
Project Risk Limits

• Feasibility projections
  – Inputs
    • Capital Cost
    • Future Revenues
    • Future variables
  – Outputs
    • NPV, ROR, Break-even, etc.
• Result
  – Executive anxiety
Project Risk Limits

• What to do about “executive anxiety”?  
  – Use “comfortable” future values  
  – Work backward to calculate a capital investment CAP to make the project feasible

• Then the question becomes:  
  – “Can it be done for the CAP?”  
  – Which can be answered by doing a project risk analysis
Project Risk Limits

Need a Risk Analysis…

Probability of >Cost

Probability of Overrun of CAP

Project Manager’s Budget

Owner’s Contingency

Contingent Reserve

Cost

CAP
Risk Tolerance and Utility

- Utility of Outcomes

\[ U(V) = 1 - e^{-V/R} \]
**Investment Example:**

<table>
<thead>
<tr>
<th>Prob.</th>
<th>Value</th>
<th>Utility BU</th>
<th>Utility Corp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>15</td>
<td>1.00</td>
<td>0.53</td>
</tr>
<tr>
<td>0.5</td>
<td>-3</td>
<td>-3.48</td>
<td>-0.16</td>
</tr>
</tbody>
</table>

Expected Utility:

- Corp: 6.0
- BU: -1.24

Certainty Equivalent:

- Corp: -1.61
- BU: 4.0

Risk Tolerance (R):
- Corp = 20
- BU = 2

Utility Function:

\[ U(V) = 1 - e^{-V/R} \]

Certainty Equivalent Formula:

\[ CE = -R \ln(1 - \text{Expected Utility}) \]
Decision Perspectives

- EV = 6
- CE = 4
- CE = -1.6

Opportunity Gap
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Basic Competencies

A risk-embracing organization:

1. **Cultivates** awareness of risk
2. **Communicates** about risk
3. **Catalyzes** action in an uncertain environment
Awareness of risk

• Does the organization have a risk management policy?
• Is the policy clearly understood by all personnel?
• Is risk management integrated within organizational initiatives?
• Is risk a priority consideration whenever business processes are improved?
• Do incentive systems encourage risk management?
Communicate about Risks

• First, some essential definitions
  – Risk Language
  – Risk metrics
Communicate about Risks

• Encourage uncertainty expression
  – Question practices and beliefs
  – Challenge assumptions
  – Invite penetrating questions
  – Allow consideration of alternatives
  – Discuss contingencies
Catalyzing Actions

• Use tools to aid decision-making
• Measure performance
• Encourage and reward informed risk-taking
• Continually improve
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- **How to get started on the journey**
Toward Robust Risk Mgmt

• How to portray it internally
  – Not a new thing that is “bolted on”
  – Building on existing practices
  – A maturation into an integrated approach
  – Shaped to suit the organization
  – Goal is to embrace and exploit risk for competitive advantage
Toward Robust Risk Mgmt

• Start with building a vision
  – Assemble key constituents from your organization
  – Calibrate your thinking with respect to risk and risk management
  – Clarify definitions of risk and risk metrics
  – Review current risk management activities
  – Identify key risk areas
Toward Robust Risk Mgmt

- Develop a Risk Management Framework
  - What do we want to accomplish?
  - What processes and tools will we need?
  - How will we measure success?
  - What changes/training will be needed?
  - High-level implementation plan

- Consensus among key constituents
Questions?

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