Enterprise Risk Management

Tim Sullivan
Vice President - Claims
“The basic rule of risk-taking, whether it is hazard risk, financial risk or any other form of risk, is that if you do not fully understand a risk, you do not engage it, regardless of what profits are claimed or reported.

This basic rule is, unfortunately, violated by individuals consistently.”

Steven P. D’Arcy
Journal of Risk Management of Korea
May 30, 2001
Pages 13-14
Practitioner’s Perspective

“I believe in taking calculated risks, provided we do the calculating.”

Ray Ainger talking to Jake Williams
Risk is a condition of reality in which there is a possibility of an adverse deviation from an expected outcome.

Risk is inescapable.

It is before us.

We always sit at the gambler’s table.

Definition of Risk
Risk is a condition of the real world

Existence of risk creates uncertainty

However, a person’s conviction about a situation may or may not coincide with the conditions of the real world.

This highlights the need for measurement.

Uncertainty’s Relationship to Risk
Exposure – What do I stand to lose? Maximum amount of damage that will be suffered if some event occurs. While exposure may be measured quantitatively, often the qualitative is just as important, such reputation damage.

Volatility – How uncertain is the future? Volatility is the variability of potential outcomes. Generally, the greater the variability, the greater the risk.
Probability - How likely is it that some risky event will actually occur?

Severity – How bad might it get? While exposure is defined in terms of the worst that can possibly happen, severity is the amount of damage likely to occur (the average loss)

Risk Concepts
Risk management was first developed in the 1950s by a group of innovative insurance professors.

It wasn't until the 1960s that the field was formally named, principles developed and guidelines established.

Robert Mehr and Bob Hedges are widely acclaimed as the fathers of risk management.

Landmark Book: Risk Management in the Business Enterprise

Robert D. Irwin, Inc., 1963

Introduction of Risk Management
As initially introduced in this text, the objective of risk management is:

"to maximize the productive efficiency of the enterprise."

Over time, the objective of risk management was re-stated as:

"to minimize the cost of risk"

The basic premise was that risks should be managed in a comprehensive manner, and not simply insured.

Introduction of Risk Management
Risk management is a process that identifies loss exposures faced by an organization and selects the most appropriate technique for treating those exposures.
Any situation or set of circumstances in which a loss is possible, regardless of whether the loss occurs.

Loss Exposure
Risk management is a decision process; insurance is a method of risk transfer.

Risk management focuses on identifying and measuring risks to select the most appropriate technique.

Insurance is only one of several options to treat pure loss exposures.

Risk Management Vs. Insurance
Risk is an inescapable part of doing business. Every business decision involves an element of risk.

Over time, the decisions a business makes leads to an unique collection of risks – a unique risk profile.

This risk profile will determine the company’s earnings and earnings volatility.

Maximizing return is a dangerous decision criterion.

While “higher risk, higher return” is widely accepted, the appropriate goal is to optimize the risk/return profile.

The Case for ERM
The exercise of identifying and measuring all of a firm’s exposures is valuable in and of itself.

The process provides managers and Boards with a better understanding of their business and the risk events that can potential hinder a firm’s strategic objectives.

As a result, managers and directors will make better decisions.
1. Risk is an inescapable part of doing business. Every business decision involves an element of risk.

2. Over time, the decisions a business makes leads to an unique collection of risks – a unique risk profile.

3. This risk profile will determine the company’s earnings and earnings volatility.

4. Maximizing return is a dangerous decision criterion.

5. The appropriate goal is to optimize the risk/return profile

The case for risk management
Gain of action and the pain of inaction make the case.
Managing the risk of a business enterprise is a key responsibility of the Board.
Managing risk can reduce earnings volatility.

Benefits of Risk Management
Starting in the early 1990’s, risk management began to evolve from a “silo approach” to holistic treatment.

At the same time, risk management was elevated to a senior management responsibility.

Enterprise risk management involves a broader view of risk that encompasses both hazard and business risk.

ERM integrates all of its risk management activities at the enterprise level.

The fundamental goal of is to maximize the value of the organization.
Well publicized failures spurred insistence that senior management take responsibility for enterprise wide risk

Pressure for ERM has come from:

- Regulators
- Rating agencies
- Stock exchanges
- Institutional investors
- Governance boards
- Shareholders in publicly traded companies
- Span virtually every developed country

External Pressures
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Proponents of ERM Argue That
Know your business; know your risks.

Establish checks and balances
- for example, segregation of duties
- Horror Story: Nick Leeson, the rogue trader at Barings Singapore branch

Set limits and boundaries
- For financial market risks, trading limits, product limits, duration
- For credit risk, mark to market, risk grade, industry, country
- For operational risks, minimum quality standards (or error rates)
  by operation, system and process; standards for sales practices and
  product disclosures; hiring policies including background checks,
  termination policies

Use the right yardstick

Balance objective thinking with intuitive thinking

Lessons Learned
Operational Risks

- Business operations (e.g., customer satisfaction, human resources, product development, capacity, efficiency, product/service failure, trademark/brand erosion)
- Empowerment (delegate too much too soon, change readiness)
- Information technology (e.g., relevance, obsolescence, availability, project management)
- Integrity (e.g., management fraud, reputation)
- Information/business reporting/controls (e.g., budgeting, planning, accounting information, pension fund, investment evaluation, taxation)
- Counterparty risk
“Plans are nothing; planning is everything.”

Dwight D. Eisenhower

This line of argument is reminiscent of Eisenhower’s quote
Common ERM practices are shared across a wide variety of organizations and around the globe.

Process, tools, and procedures are not limited to insurance or even financial services.

Information sharing has been aided by technology.

Organizations have been quite willing to share best practices and efficiency gains.

“Boundaryless” Benchmarking
Traditional risk management tended to take a defensive posture toward risk.

ERM organizations recognize the value-creating potential of risk.

Avoidance and minimization remain legitimate strategies in ERM.

However, the organization’s willingness to swap, keep and actively pursue risk is enhanced by its ability to understand, measure and exploit risk.
"The process by which organizations in all industries assess, control, exploit, finance and monitor risks from all sources for the purpose of increasing the organization's short and long term value to its stakeholders."

Casualty Actuarial Society (CAS)
Definition of ERM
“... a process, effected by an entity’s board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risks to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives.”

One common model used in ERM for categorizing risk is as follows:

- Hazard
- Financial
- Operational
- Strategic

ERM Risk Categories
Operational Risk

Causes of operational risk
- Internal processes
- People
- Systems

Examples
- Product recall
- Customer satisfaction
- Information technology
- Labor dispute
- Management fraud
Competition
Changing customer wants/needs
Demographic/cultural changes
International developments
New entrants
Substitute products
Technological innovations
Capital availability
Regulatory and political trends

Strategic Risks
Identify all risks an organization faces ("Peel the onion")
  - Get beyond pure risks
  - Get beyond financial risks
  - Find operational risks
  - Find strategic risks

Treat all the risks holistically
  - Regard them as an interrelated system
  - Understand and anticipate correlations

Fully quantify all risks

Apply risk management techniques consistently to all risks

The ERM Challenge
# Enterprise Risk Management "Dashboard"

## XYZ Insurance Company, Inc.

### Strategic Risks

1. **Competition Risks**
   - Targeted aggressive marketing & pricing by competitors: **Mod-High** + **High** = **9**
   - Market cycle risk (pressure to compete during soft markets): **Mod** + **Low-Mod** = **5 (+1)**
   - Competition from local, regional or national brokers and agents: **Mod-High** + **Mod** = **7**<br>**Newly identified risk**
   - XXXXXXXXXX: **Mod** + **Mod** = **6**

2. **Market Segment Risks**
   - XXXXX concentration: **Low** + **High** = **6**
   - Increasing XXXXX book through lowering of rates: **Low** + **Low-Mod** = **3**

3. **Distribution Channel Risks**
   - Too few/too many agency appointments: **Low** + **High** = **6**
   - XXXXXXXXXX: **Low** + **Low** = **2**<br>**Deleted risk due to XXXXXXXXXX**
   - XXXXX: **Low** + **High** = **6**
   - XXX’s maintenance of licenses: **Low** + **High** = **6**
   - XXX’s compliance with state regulations: **Mod** + **High** = **8**

### Priority Level Ratings:
- 2 = Very Low
- 10 = Extremely High
## Financial Risks

### 1) Business Partnership Risks
- a) XXXXXXX
- b) Inability to align with similar business partners
- c) XXXXXXXXX

### 2) Reinsurance Risks
- a) Poor program design
- b) Reinsurance credit risk
- c) Inability to attract reinsurance partners
- d) XXXXXXX

### 3) Treasury Risks
- a) Decline of equity markets
- b) Lower interest rate returns
- c) Illiquid assets

### 4) Internal Control Risks
- a) Accounting errors/employee dishonesty

### 5) Professional Advice Risk
- a) Reliance on outside advisors
## Operational Risks

### 1) Underwriting Risks

<table>
<thead>
<tr>
<th>Description</th>
<th>Low</th>
<th>Mod</th>
<th>High</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Limited product diversification</td>
<td>Low</td>
<td>Mod</td>
<td></td>
<td>2 (+1)</td>
</tr>
<tr>
<td>b) Contract language risk</td>
<td>Low-Mod</td>
<td>Mod</td>
<td>High</td>
<td>6 (+2)</td>
</tr>
<tr>
<td>c) Inadequate underwriting/risk selection</td>
<td>Low</td>
<td>High</td>
<td>Mod</td>
<td>4 (+2)</td>
</tr>
<tr>
<td>d) Breaches of underwriting authority</td>
<td>Low</td>
<td>Mod</td>
<td>High</td>
<td>2 (+2)</td>
</tr>
<tr>
<td>e) Inadequate rate structures</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>2 (+2)</td>
</tr>
<tr>
<td>f) Inadequate/inappropriate increased limit factors</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>6 (+2)</td>
</tr>
<tr>
<td>g) Failure to bind facultative reinsurance</td>
<td>Low</td>
<td>High</td>
<td>Mod</td>
<td>6 (+2)</td>
</tr>
</tbody>
</table>

### 2) Claims Risk

<table>
<thead>
<tr>
<th>Description</th>
<th>Low</th>
<th>Mod</th>
<th>High</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Inadequate formula, case or IBNR reserves</td>
<td>Mod</td>
<td>High</td>
<td></td>
<td>1 (+1)</td>
</tr>
<tr>
<td>b) Loss settlements in excess of claim value</td>
<td>Low</td>
<td>Mod</td>
<td>High</td>
<td>4 (+2)</td>
</tr>
<tr>
<td>c) Breach of settlement authority</td>
<td>Low</td>
<td>Low</td>
<td>Mod</td>
<td>2 (+2)</td>
</tr>
<tr>
<td>d) Exposure to our own bad faith claim handling</td>
<td>Low</td>
<td>High</td>
<td>Mod</td>
<td>6 (+2)</td>
</tr>
</tbody>
</table>

### 3) Legal and Regulatory Risks

<table>
<thead>
<tr>
<th>Description</th>
<th>Low</th>
<th>Mod</th>
<th>High</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Failure to comply with state insurance laws</td>
<td>Low</td>
<td>Low</td>
<td>Mod</td>
<td>2 (+1)</td>
</tr>
<tr>
<td>b) Failure to comply with surplus lines laws/regulations</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>2 (+1)</td>
</tr>
<tr>
<td>c) Conflicts of Interest</td>
<td>Mod</td>
<td>Low</td>
<td>Mod</td>
<td>4 (+2)</td>
</tr>
<tr>
<td>d) Unfavorable DOI financial and market examinations</td>
<td>Low</td>
<td>Low</td>
<td>Mod</td>
<td>2 (+1)</td>
</tr>
<tr>
<td>e) Breach of high ethical standards</td>
<td>Low</td>
<td>Mod</td>
<td>High</td>
<td>4 (+2)</td>
</tr>
<tr>
<td>f) Exposure to litigation from stakeholders, policyholders, employees or others</td>
<td>Low</td>
<td>Low</td>
<td>Mod</td>
<td>2 (+1)</td>
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</tbody>
</table>

### 4) Information Technology Risk

<table>
<thead>
<tr>
<th>Description</th>
<th>Low-Mod</th>
<th>Low-Mod</th>
<th>Score</th>
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</thead>
<tbody>
<tr>
<td>a) Latent material programming bugs in proprietary software</td>
<td></td>
<td></td>
<td>4 (+1)</td>
</tr>
<tr>
<td>b) Failure of proprietary software to accomplish intended tasks</td>
<td>Low</td>
<td>Low</td>
<td>2 (+1)</td>
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<tr>
<td>c) System intrusion by viruses or hackers</td>
<td>Low</td>
<td>Low</td>
<td>2 (+1)</td>
</tr>
<tr>
<td>d) Failure of critical hardware</td>
<td>Mod</td>
<td>Low</td>
<td>4 (+1)</td>
</tr>
<tr>
<td>e) Long-term loss of electricity</td>
<td>Low</td>
<td>Low</td>
<td>2 (+1)</td>
</tr>
<tr>
<td>f) Inadequate documentation of proprietary software</td>
<td>Mod</td>
<td>Low</td>
<td>4 (+1)</td>
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### 5) Human Resources Risk

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<thead>
<tr>
<th>Description</th>
<th>Low</th>
<th>Mod</th>
<th>High</th>
<th>Score</th>
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<tbody>
<tr>
<td>a) Inability to attract/motivate/retain qualified staff for key positions</td>
<td>Mod</td>
<td>Mod</td>
<td>High</td>
<td>6 (+2)</td>
</tr>
<tr>
<td>b) Inappropriate amount of staffing</td>
<td>Low</td>
<td>Mod</td>
<td>High</td>
<td>4 (+2)</td>
</tr>
<tr>
<td>c) Inappropriate succession planning</td>
<td>Low</td>
<td>Mod</td>
<td>High</td>
<td>4 (+2)</td>
</tr>
<tr>
<td>d) Employment practices liability</td>
<td>Low</td>
<td>Mod</td>
<td>High</td>
<td>4 (+2)</td>
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<tr>
<td>Hazard Risks</td>
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<tr>
<td>1) Manmade Risks</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>a) Employee negligence/dishonesty/fraud</td>
<td>Low</td>
<td>Mod</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>b) Malicious intent of outsiders, crime, terrorism</td>
<td>Low</td>
<td>Low</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2) Natural Disaster Risks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Fire, lightning, wind, tornados, earthquake, pandemic influenza</td>
<td>Low</td>
<td>Low</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>