Creating shareholder value through the innovative use of risk management

Steve Barnett
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- The evolution of Enterprise Risk Management
- The Mercer Oliver Wyman approach to Enterprise Risk Management
- Example of shareholder value creation through Enterprise Risk Management in Life Sciences
With deep expertise in risk consulting to financial institutions, Mercer Oliver Wyman now provides innovative risk management solutions to corporate clients

- Part of Marsh & McLennan Group since 2003, Mercer Oliver Wyman has a global footprint of over 600 consultants and Directors in 29 offices across 13 countries throughout North America, Europe and Asia-Pacific
- Leading specialist consulting firm in financial services with client list that includes 75 of the top 100 global financial institutions
- Established global Enterprise Risk Consulting (ERC) practice in response to market demand from corporate clients
  - Practice comprises 50 professionals, including 12 Directors, with deep expertise in risk consulting in a wide range of industries
- Unique capabilities and perspectives with an orientation to strategy and value creation rather than compliance or insurance
- The ERC practice has successfully developed and implemented value creating risk management solutions across various industries including:
  - Pharmaceuticals, Medical Devices
  - Oil & Gas, Utility
  - Manufacturing, Mining
## Primary Drivers of ERM enhancement

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<tbody>
<tr>
<td>Corporate governance requirements</td>
<td>66%</td>
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<tr>
<td>Greater understanding of strategic and operating risks</td>
<td>60%</td>
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<tr>
<td>Regulatory pressures</td>
<td>53%</td>
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<tr>
<td>Board request</td>
<td>51%</td>
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<td>Competitive advantage</td>
<td>41%</td>
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Multiple answers allowed

## Highest Priority objective of ERM

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<tr>
<td>Ensure risk issues are explicitly considered in decision making</td>
<td>44%</td>
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<tr>
<td>Avoid surprises and ‘predictable’ failures</td>
<td>40%</td>
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<tr>
<td>Align risk exposures and mitigation programs</td>
<td>24%</td>
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<tr>
<td>Institute more rigorous risk measurement</td>
<td>19%</td>
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<tr>
<td>Integrate ERM into other corporate practices like strategic planning</td>
<td>17%</td>
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Multiple answers allowed

Companies are seeking to make ERM more of a value creating function through the links between risk and decision making

Source: Conference Board survey January 2005
There are various degrees of sophistication in ERM with value increasing with a quantitative focus on ‘risk-return optimisation’

Evolution of Enterprise Risk Management

Value creation for company

Insurance & Compliance

Core ERM

Risk-return optimisation

Degree of sophistication

Typical development path

Ideal development path

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<th>VII</th>
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<tr>
<td></td>
<td>“Risk management equals buying insurance” ? Risk transfer via insurance</td>
<td>“Regulators are demanding risk management activities” (i.e. SOX) Over-reliance on ‘checklists’, false sense of security</td>
<td>“We need a sustainable process for monitoring all our risks” ? Qualitative ERM</td>
<td>“We need to know the economic impact of our largest risks” ? Specific risk quantification</td>
<td>“Risk needs to be quantified comprehensively” ? Over-control by centralized risk management, initial quant models too primitive</td>
<td>“Shareholders demand a risk/return framework” ? Risk and growth appetite defined, risk dynamically measured and aggregated properly</td>
<td>“Decision making across firm is linked to building economic value” ? Risk adjusted resource allocation at all levels</td>
</tr>
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“Risk management equals buying insurance”?

“Regulators are demanding risk management activities” (i.e. SOX)

Over-reliance on ‘checklists’, false sense of security

“We need a sustainable process for monitoring all our risks”?

Qualitative ERM

“We need to know the economic impact of our largest risks”?

Specific risk quantification

“Risk needs to be quantified comprehensively”?

Over-control by centralized risk management, initial quant models too primitive

“Shareholders demand a risk/return framework”?

Risk and growth appetite defined, risk dynamically measured and aggregated properly

“Decision making across firm is linked to building economic value”?

Risk adjusted resource allocation at all levels

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This quantitative risk-return focus enables organisation’s to closely link enterprise risk management to shareholder value creation.

Risk management objectives

- Support the creation of shareholder value
- Maintaining risks within target levels consistent with strategic goals
- Defining optimal risk-return trade-off targets

Benefits

- Build risk awareness into strategic planning and capital budgeting
- Define risk-return targets through use of a risk metric in management KPIs
- Timely and actionable risk reporting to key decision makers
- Support cultural change in attitudes to risk throughout the enterprise
- Support business unit managers in risk optimisation activities
The value creation approach allows companies to gain a competitive advantage through the advanced application of ERM

**Advanced ERM applications**

- **Risk Appetite**
  - Alignment of risk-taking capacity as defined by key stakeholders (i.e. shareholders, debt-holders) with strategic goals

- **Portfolio optimisation**
  - Evaluating the performance of group-wide projects and/or business units to determine the optimum risk-return profile for shareholders

- **Real option analysis**
  - Developing and implementing risk performance indicators that enable the tracking of progress for long-term projects

- **Strategic planning**
  - Ensuring the deployment of capital takes into account an evaluation of a quantitative measure of risk

- **Performance Management**
  - Integration of risk metrics as key performance indicators
The ‘value creation’ focus of Enterprise Risk Management requires a more advanced approach along multiple dimensions.

Major building blocks of ERM

Advanced risk management

- Strategic planning
- Capital planning

Core risk management

- Risk reporting
- Risk measurement
- Risk identification
- Risk management and mitigation

Risk appetite

Risk-based capital budgeting

Risk-based performance mgmt.

Client questions

A What risks are considered?

B1 How is risk appetite aligned with strategy?

B2 How should we allocate capital to optimise risk/return?

B3 How do we set actionable limits to ensure that risk-taking falls within defined risk appetite?
Our risk identification approach develops a cause and effect link between risk drivers, risks, and shareholder value for all risk types.
This approach ensures a common understanding of risks across the organisation and provides the basis for quantification.

Life sciences industry risk pyramid – Example

Risk Types
- Financial risks
  - Foreign exchange
  - Interest rates
  - Commodity prices
  - Credit risk
- Strategic risks
  - Product liability
  - IP protection
  - R&D effectiveness
  - Product commercialisation
- Operational risks
  - Supply chain disruption
  - IT systems
  - Environmental accident
  - Corporate fraud

Main Risks
- Price erosion
- Risk drivers
  - US public policy
  - Competitive pressure
  - Reduced label
  - Increased budget deficits
  - Increased importation
  - Public pressure

Risks that Mercer Oliver Wyman has experience in quantifying with pharmaceutical/medtech clients

Quantification example
Our quantitative approach to risk measurement uses empirical data and expert opinion to develop probability and impact distributions for all risks.

Example quantification – Price erosion due to US public policy change

Use of distributions allows for the aggregation of all risks through simulation-based modelling.
A clear understanding of the group’s earnings volatility and a ‘risk metric’ for use in decision making are key benefits of this approach.

**Risk profile**

- **A** Planned
- **B** 70% Below planned
- **C** 962 M - 90th percentile

**Comparison to plan**

**Shortfall analysis**

**Range of outcomes**

- **Risk-return comparison of therapeutic areas**
  - Oncology
  - Antibiotics
  - Inflammatory
  - Cardiovascular
  - CNS

A quantitative risk metric based on all risks is essential in meeting shareholder’s demands for risk-return evaluation.
The quantitative measure of all risks allows for optimised risk mitigation strategies to be designed and implemented

- Illustrative example -

Risk driver analysis – Oncology

Mitigation optimisation – Product liability

The quantified risk drivers are the causes of earning’s volatility, therefore optimised mitigation will have a dramatic impact on shareholder value.
Risk management is becoming an increasingly important management tool to improving shareholder value

**Current drivers of this change**

- Increased regulatory and stakeholder scrutiny
- Increased globalisation increasing competitive environment
- Traditional mitigation strategies have proven inadequate
- Changes in the competitive environment eroding prices
- Pressure to reinforce public confidence following recent high profile events

**Next steps based on your current stage of ERM evolution**

- Insurance & Compliance
  - Gain senior leadership buy-in on the value of moving ERM beyond mere compliance
  - Develop a plan to improve risk identification and begin quantification

- Core ERM
  - Ensure quantification and aggregation of all risks
  - Increase risk management awareness across the organisation
  - Begin process to define Risk Appetite

- Risk-Return optimisation
  - Ensure ongoing use of risk metrics in all critical capital budgeting processes
  - Develop a process to continually enhance and ensure effectiveness of ERM in creating shareholder value