

Developing an Enterprise Risk Management Program

Relevante Internal Audit Symposium

January 22, 2009

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Agenda/Contents

The New Risk Environment: Clear and Present Danger

Why Enterprise Risk Management is Important

Attributes and Elements of an ERM Program

Implementing an Enterprise Risk Management Program

Implementation Tools

Wrap Up

Questions and Answers

Section 1

The New Risk Environment: Clear and Present Danger

We're in a crisis . . .

“During the progress of this famous bubble . . . [investors] were no longer satisfied with the slow but sure profits of cautious industry. The hope for the boundless wealth for [tomorrow] made them heedless and extravagant for today.”

We're in a crisis . . . again.

“During the progress of this famous bubble . . . men were no longer satisfied with the slow but sure profits of cautious industry. The hope for the boundless wealth for the morrow made them heedless and extravagant for today.”

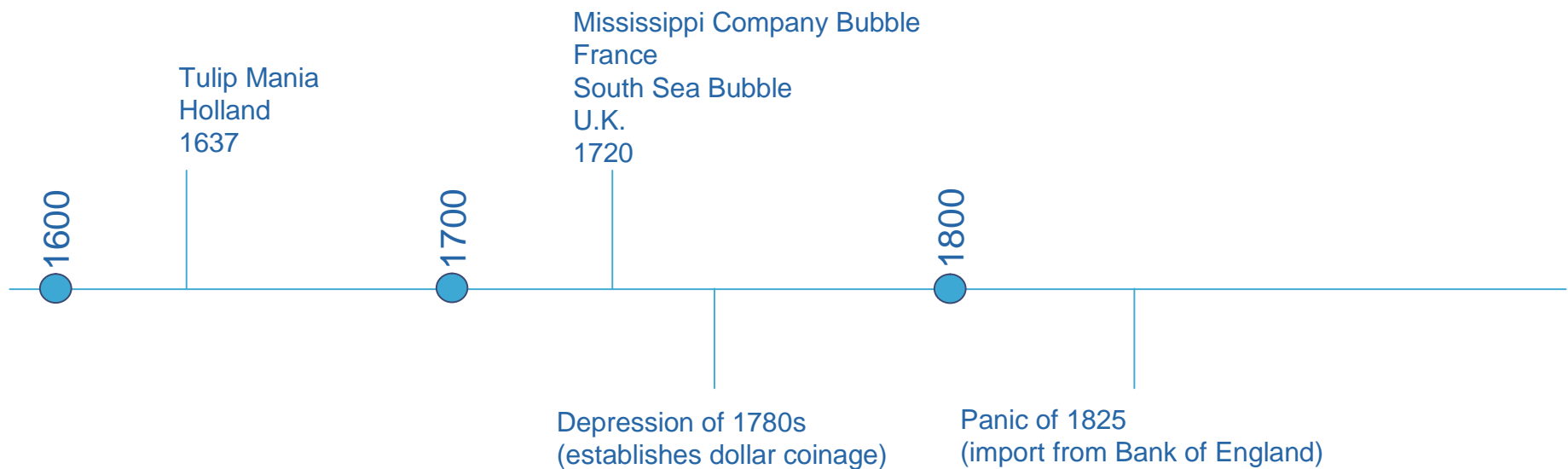


- Charles Mackay
Extraordinary Popular Delusions
and the Madness of Crowds

Charles Mackay
Discussing in his book of 1841 the South Seas
“bubble” of the 1720s.

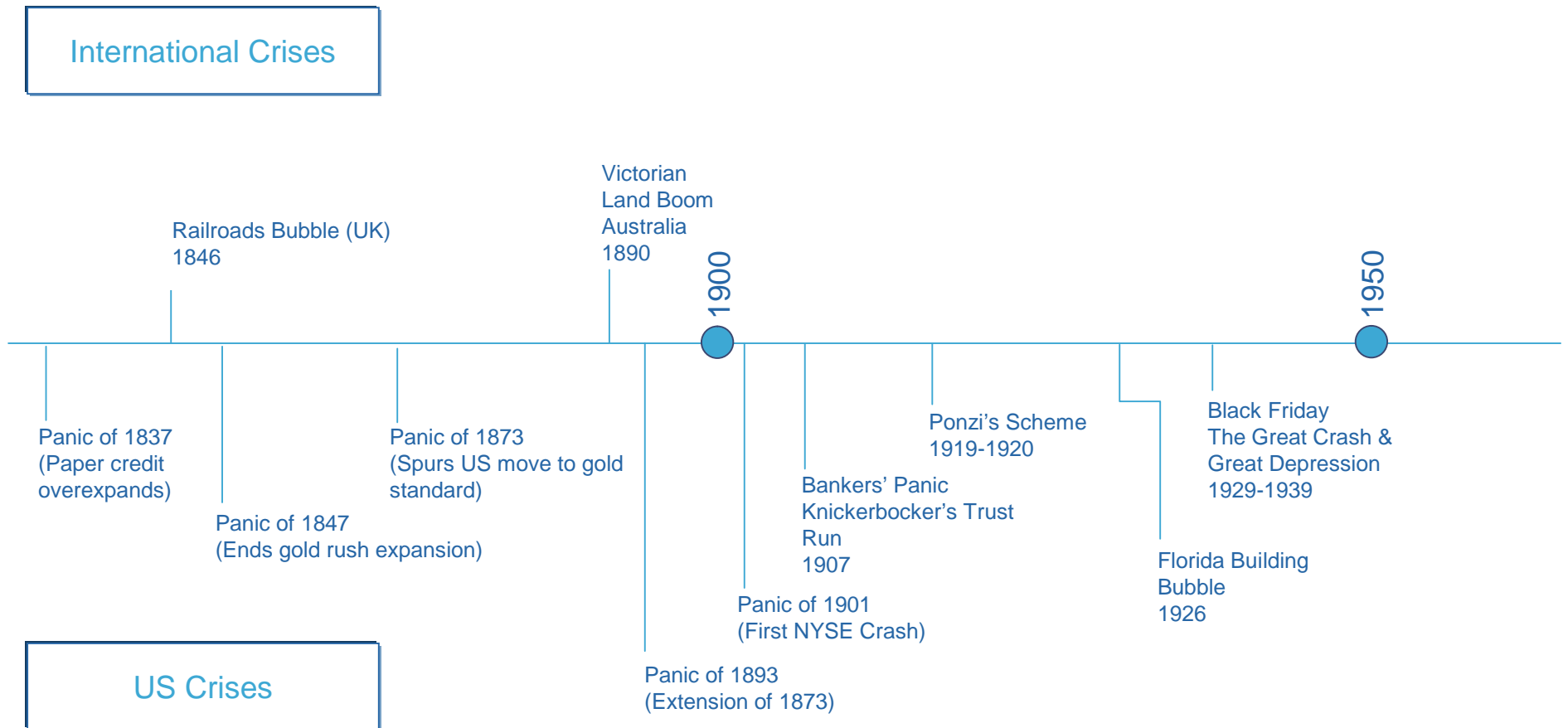
Our modern financial crisis has historical comparisons . . .

International Crises



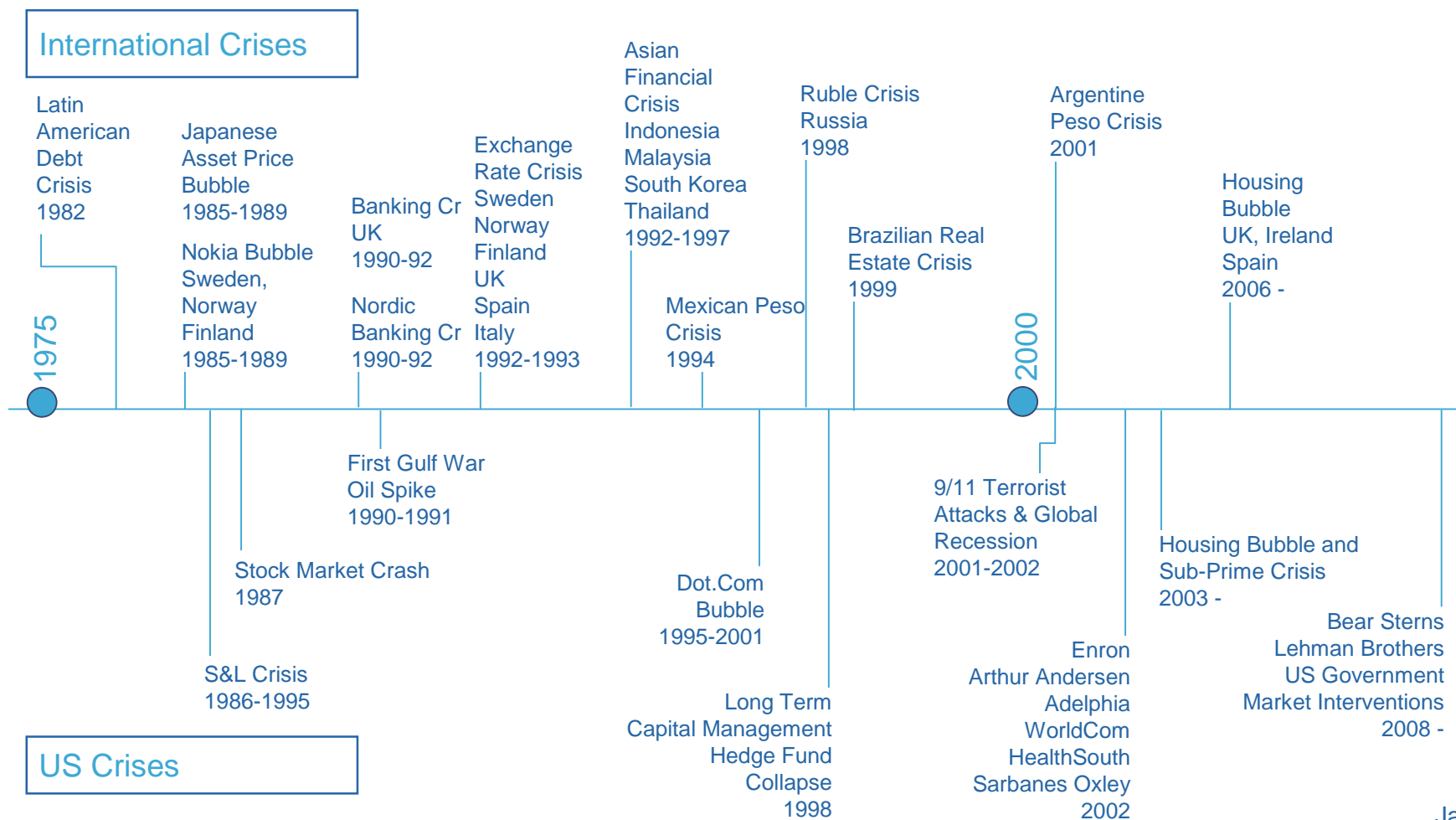
US Crises

Our modern financial crisis has historical comparisons . . .



The New Risk Environment: Clear and Present Danger

. . . but the speed, spread and intensity of the current systemic shock in the new credit crisis appears to outpace predecessors



Why is ERM relevant?

- Accelerating rate of change:
 - Rapid technological advances in recent years
 - Requires management to be more anticipatory
 - Requires a GRC approach that effectively aligns risk and rewards
- Greater complexity:
 - Accelerated rate and volume of change demands increased flexibility
 - Extended business models and increased geographic diversity
 - Increased number of regulatory regimes
- Increased transparency:
 - Stakeholders learn about unmanaged risk almost immediately
 - Little time to remedy the impact of a risk management failure
 - Places a premium on the ability to identify, evaluate and manage risks

“Real world decision-makers frequently appear not to evaluate uncertain events according to the laws of probability.” Nobel Prize, Information for the Public, 2002

ERM addresses risks and opportunities affecting value creation or preservation

ERM is defined as:

- A **process**, ongoing and flowing through an entity
- Effected by **people** at every level of an organization
- Applied in strategy setting
- Applied across the enterprise, at every level and unit, and includes taking an entity-level **portfolio view** of risk
- Designed to identify **potential events** that, if they occur, will affect the entity and to manage risk within its risk appetite
- Able to provide **reasonable assurance** to an entity's management and board of directors
- Geared to achievement of objectives in one or more separate but overlapping categories

Source: Committee of Sponsoring Organizations of the Treadway Commission, Enterprise Risk Management —Integrated Framework, September 2004

ERM may cover one or more of four objectives allowing an organization to focus on relevant aspects



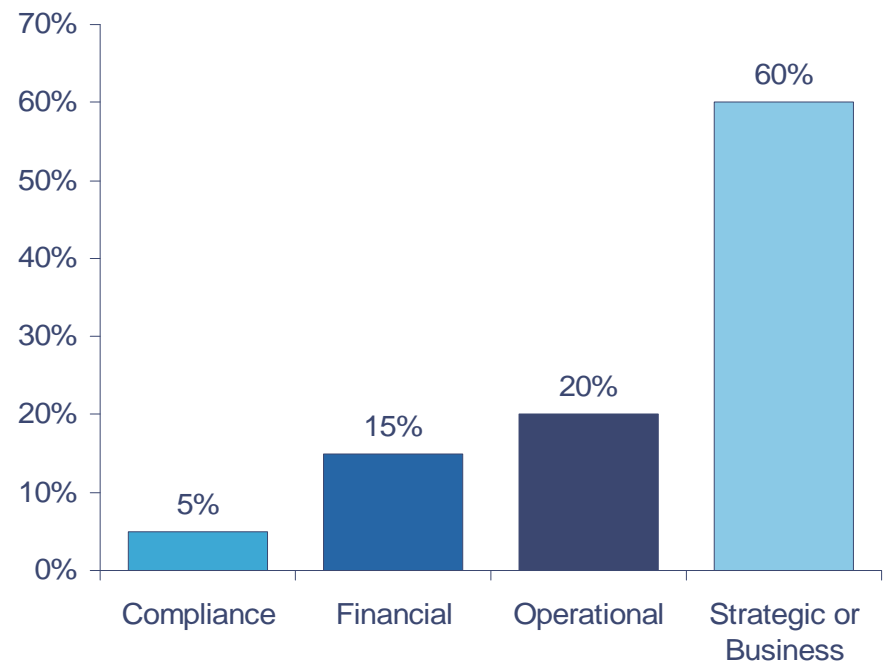
ERM program focus differs based on ERM objectives

Attributes	Objective
Board/Executive management driven to optimize risk/return	<ul style="list-style-type: none">• Strategic: <i>Improve the balance between growth, risk & return</i> - Forward-looking approach focuses on supporting performance management by incorporating ERM principles into processes that create the company's risk profile & drive organizational behavior; namely, strategic planning, operational planning & forecasting, capital allocation and budgeting, performance measurement and reporting.
Business unit/ Functional management driven to reduce cost	<ul style="list-style-type: none">• Operational Improvement: <i>Improve the performance of specific risk management activities</i> - Cost/benefit approach focuses on immediately improving company's ability to manage risks at a lower cost, to take more risk at same cost, to alter company's risk profile or to align individual risk appetites.
Financial management levels driven to inform risk and reduce impact	<ul style="list-style-type: none">• Reporting: <i>Enhance communication to Senior Management and the Board of Directors</i> - Conservative approach focuses on increasing knowledge and communicating of company's key risks to minimize "bad" things.
Compliance management driven to anticipate requirements and reduce violations	<ul style="list-style-type: none">• Compliance: <i>Reduce effect of laws and regulation on the business operations</i> - Defensive approach focuses on risks of non-compliance with local or national laws and regulations, some of which may have significant penalties and fines.

A strategic focus tends to address emerging risks

- According to recent studies of large cap companies, nearly 60% of the time, strategic or business “factors” are behind rapid declines in shareholder value
- These “factors” are often attributable to emerging risks

Risk Factors that Explain Rapid Declines in Shareholder Value*

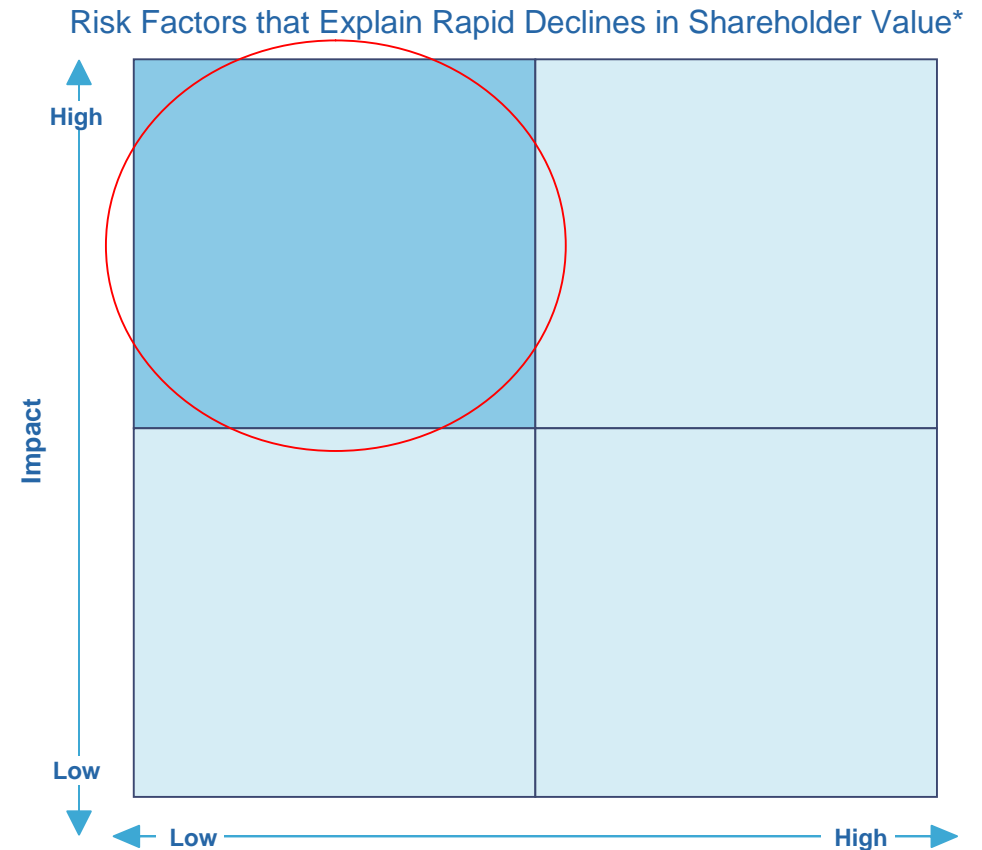


* Data collected from PricewaterhouseCoopers 2008 State of the Internal Audit Profession Study

And the environment is made more complex by the global flow of capital, talent and value . . . emphasizing new, emerging risks

Emerging risks low probability, high impact events whose likelihood increases exponentially over a very short time-period

- Some emerging risk attributes include:
 - Imperfect information
 - Potentially catastrophic losses
 - Interdependent/networked consequences
- Unpredictability often undermines efforts aimed at risk mitigation – why allocate resources to events that may not materialize?



* Data collected from PricewaterhouseCoopers 2008 State of the Internal Audit Profession Study

Examples of emerging risks facing global multinationals

- Global realignment of capital
- Climate change
- Retrenchment from globalization
- Global talent shortage
- Activist investors

- Commodity price distortions
- Asset price collapse
- Transnational crime & corruption
- Loss of freshwater
- Oil & gas price spikes

Sources: PwC *American Perspectives* Study & World Economic Forum 2008

“The heart of the recent crisis is a rise in uncertainty – that is, a rise in unknown and immeasurable risk.” - Banque de France, 2008

Section 2

Why Enterprise Risk Management is Important

Organizations need to know where they stand

“Our biggest risk is that we take far too few big risks. Risk aversion within large multi-nationals ranks among the primary barriers to growth.”

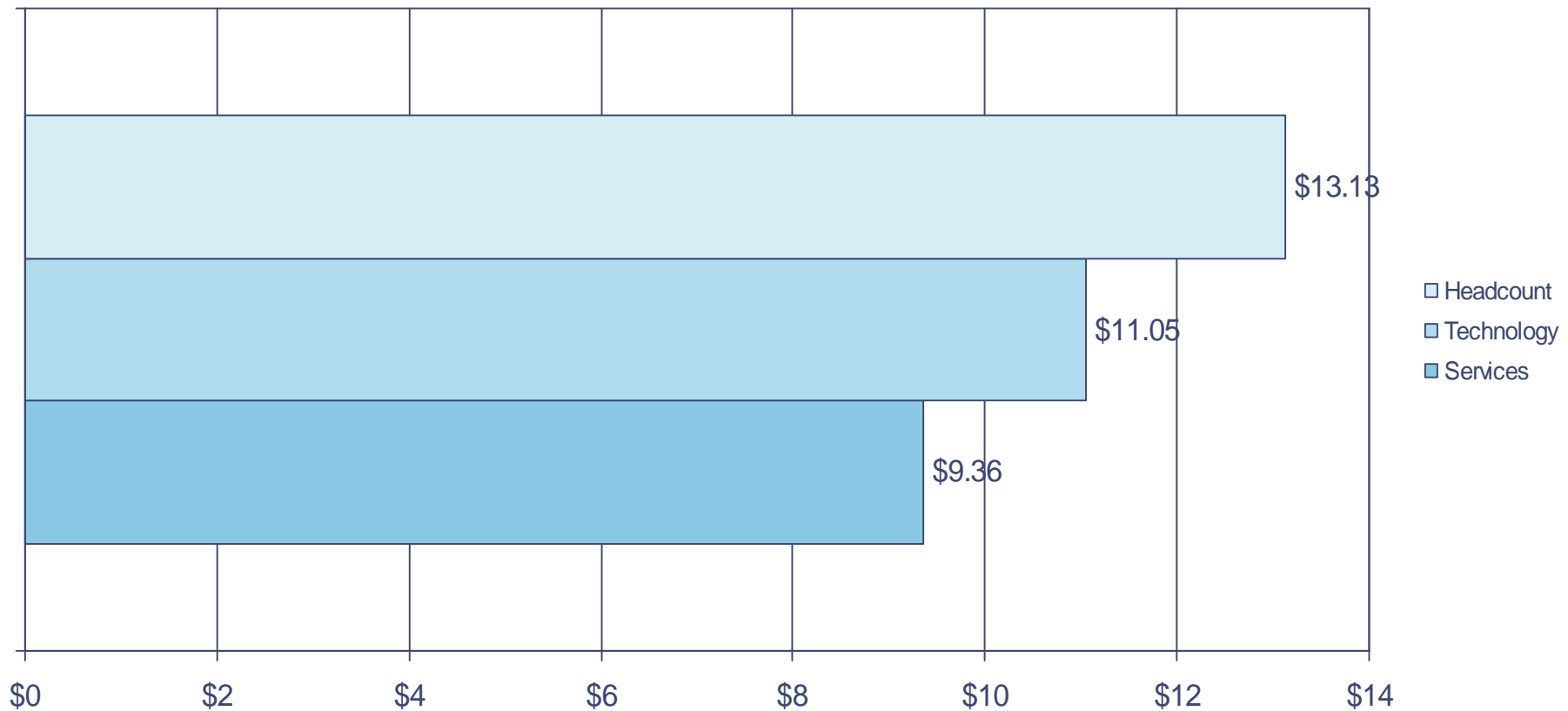
Global science/technology manufacturing

Challenges

- Organizations will run out of resources long before they run out of risks
- Taking risk management from the esoteric and theoretical to the practical and tactical
- Current practices focus on containment, mitigation and prevention – not empowerment or enablement . . . opportunity
- While need for change is clear, the value proposition is difficult to articulate and measure

The “Current State” is costly: Projected 2008 to 2009 global GRC spending: \$32.1B to \$33.5B per AMR research

Spending on Governance, Risk & Compliance Activity by category (in Billions)



Source: AMR Research, 2008

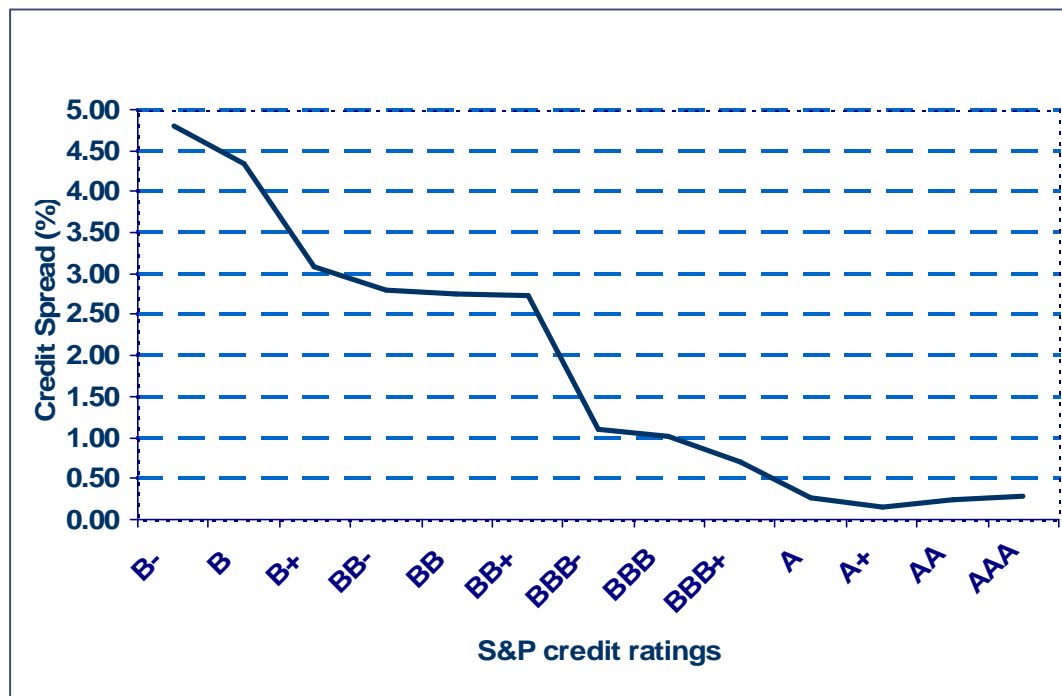
ERM is an evolution of practices and ideas

- Effective organizations have practiced comprehensive risk management for decades; it was not called ERM.
 - What is significant over last 10-15 years is the pace of business change due to technology and globalization
- Greater recent focus
 - **Basel** Accords I and II focused on capital adequacy in banks
 - **Solvency II** has a similar approach but focused in insurers
 - **COSO I** noted the importance of Risk Management but focused on internal controls – widely accepted framework for Sarbanes-Oxley
 - **COSO II** offered a revised view of Enterprise Risk Management (ERM) through increased emphasis on management of all relevant risks - has become the “gold standard” for ERM implementation
 - **Standard and Poor’s** ERM frameworks focus on the ability to honor debt obligations

Further evidence of its growing importance is the broadening focus on ERM

- Stakeholders
 - Shareholders, regulators, vendors
- Federal Sentencing Guidelines
 - Include reference to compliance to risk assessment process.
- NYSE listing requirements
 - Require the audit committee of the BOD to discuss guidelines and policies with respect to risk assessment and risk management.
- SEC rules
 - Emphasize focus on risk management, including SOX 404
- Rating Agencies (S&P, Moody's)
 - Reflect risk management practices and capabilities in their rating

Value Proposition: Higher credit ratings lead to a more favorable cost of capital



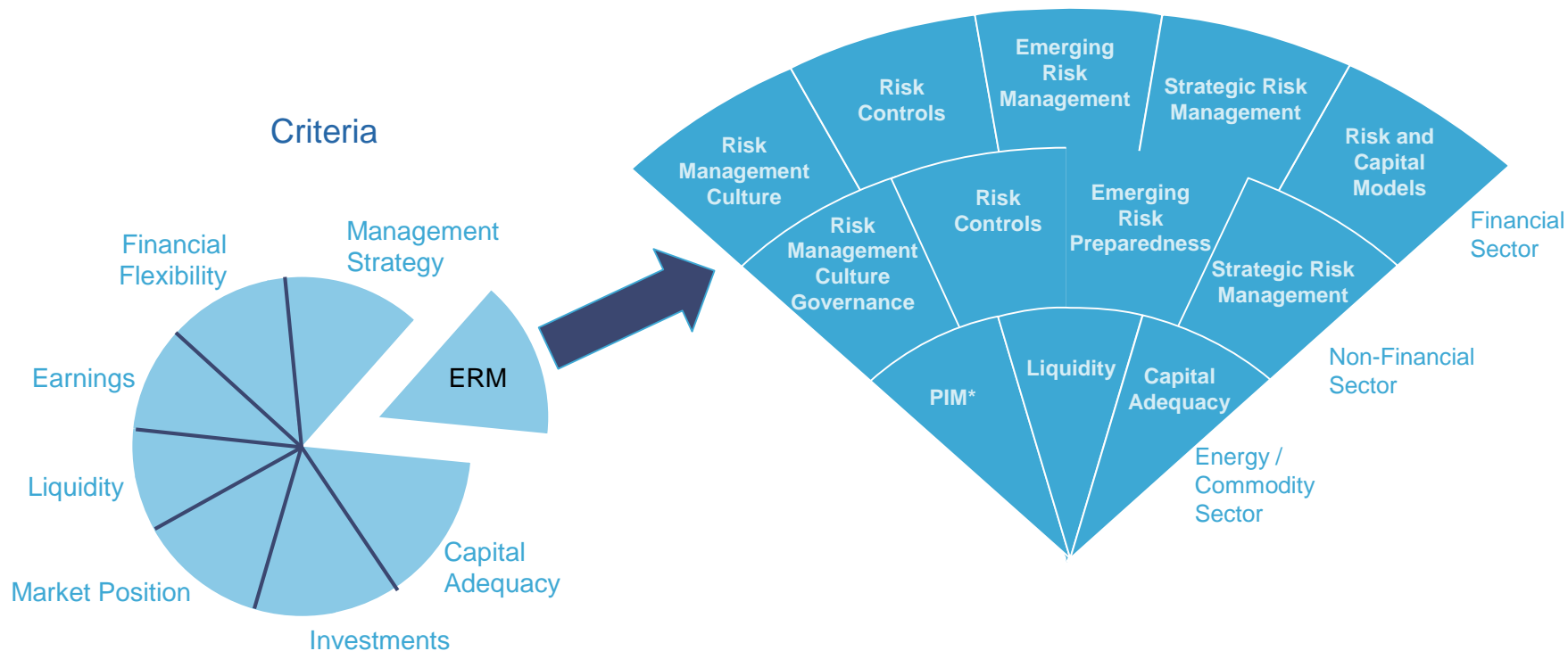
1 year credit spread for Industrial Products companies

This applies to all sectors:

- Industrial Products
- Retail & Consumer
- Technology
- Automotive
- Entertainment and Media
- Financial Services
- Transportation

A company's cost of capital is driven by its credit rating and cost of debt capital – a higher credit rating enables a company to maintain lower borrowing costs

Summary of S&P's ERM rating scale



Over the past two years, 10% of Financial Institutions analyzed had their rating either downgraded or upgraded due to their ERM score.

Source: Standard & Poor's.

Value proposition of ERM

- The ability to maintain a portfolio view of key risks at corporate and business unit level and understand how individual risks interrelate
- Better allocation of key roles and responsibilities to promote accountability and improve business performance
- Promotes risk based management of resources
- Invigorates opportunity - seeking behavior (thriving risk culture)
- Effective response to prepare for the increasing interest from regulators
- Improved credit ratings from rating agencies which lead to a lower cost of funds and enhanced reputation

Section 3

Attributes and Elements of an ERM Program

ERM program require an agreed framework

The Framework

- Key components of an effective ERM program
- Direction for enhancing existing risk management
- A definition of risk and risk management
- Concepts, categories, principles and common terminology
- Criteria for determining the effectiveness of risk management

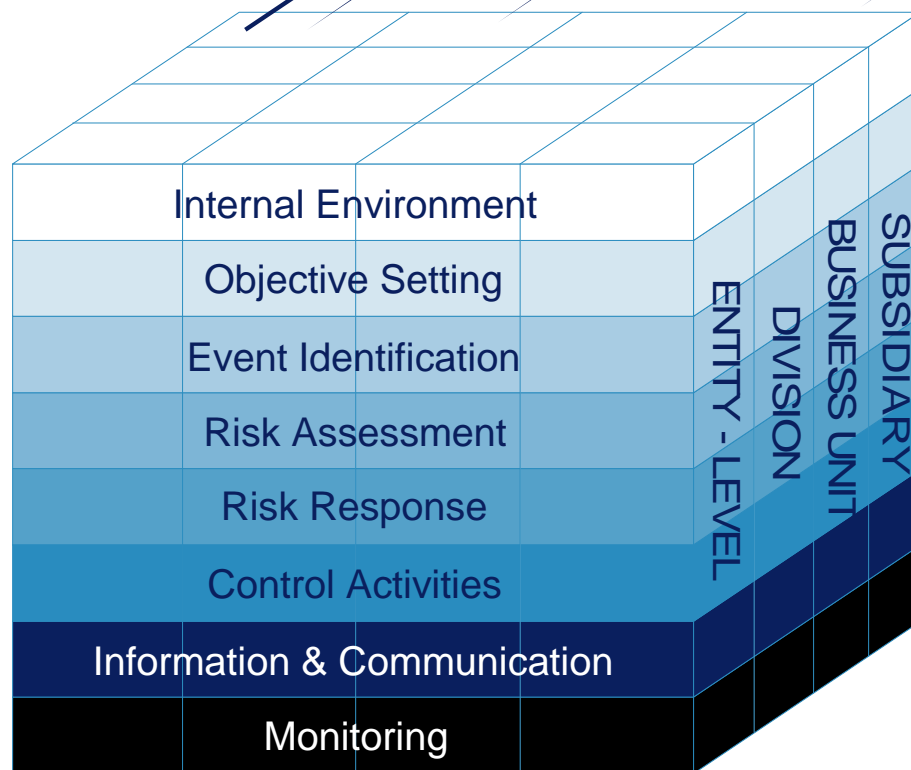
Key components of an effective ERM program

Component	Description
Internal Environment	The internal environment encompasses the tone of an organization, and sets the basis for how risk is viewed and addressed by an entity's people, including risk management philosophy and risk appetite, integrity and ethical values, and the environment in which they operate.
Objective Setting	Objectives must exist before management can identify potential events affecting their achievement. Enterprise risk management ensures that management has in place a process to set objectives and that the chosen objectives support and align with the entity's mission and are consistent with its risk appetite.
Event Identification	Internal and external events affecting achievement of an entity's objectives must be identified, distinguishing between risks and opportunities. Opportunities are channeled back to management's strategy or objective-setting processes.
Risk Assessment	Risks are analyzed, considering likelihood and impact, as a basis for determining how they should be managed. Risks are assessed on an inherent and a residual basis.
Risk Response	Management selects risk responses – avoiding, accepting, reducing, or sharing risk – developing a set of actions to align risks with the entity's risk tolerances and risk appetite.
Control Activities	Policies and procedures are established and implemented to help ensure the risk responses are effectively carried out.
Information & Communication	Relevant information is identified, captured, and communicated in a form and timeframe that enable people to carry out their responsibilities. Effective communication also occurs in a broader sense, flowing down, across, and up the entity.
Monitoring	Assessment of the presence and functioning of each framework component and the quality of their performance.

COSO ERM brought objectives and components together

COSO ERM outlines a set of principles and concepts that can be applied to

- Elevate risk management performance
- Evaluate its ERM program effectiveness
- Understand and benchmark against leading practices



Direction for enhancing existing risk management

An ERM philosophy is paramount in establishing program foundations

Risk management and control frameworks need to be embedded in management processes, including planning, performance management, monitoring, and reporting.

Executives and managers must own and manage risks together making business support and buy-in critical to success. The approach must engage key business and functional stakeholders to gain buy-in, ownership and commitment.

Communication and change management around planning, design, and training are integral to any approach.

Executive/Strategic
Direction

Corporate Planning &
Performance Management

Operations

Projects

Functions

Compliance

Determine the right balance of coverage for the range of risks from corporate level strategic risks to operational, project and functional areas.

Risk and Risk Management should be accurately defined and communicated

- The definition of Risk and Risk Management is entity specific and should be defined by the company at the appropriate level
- Determine if the risk focus is negative, positive, or both
- An example of definition of Risk is:
 - Possibility that an event will occur and adversely affect the achievement of objectives
 - Where an event is defined as an incident or occurrence, from sources internal or external to the entity, that could affect implementation of strategy or achievement of objectives.

- COSO Enterprise Risk Management Framework

Concepts, categories, principles and common terminology

- Establish a common awareness and understanding around your ERM program
 - Example, Risk Response:
 - Accept
 - Eliminate
 - Transfer
 - Reduce/Mitigate
 - Risk rating (likelihood and occurrence)
 - Scales – definition and quantification
 - High, Medium Low
 - 1 – 5
 - 0 – 100
 - Risk focus or considerations
 - Reputation, Financial, Strategic, Human

Concepts, categories, principles and common terminology (continued)

- **Risk Appetite:** Broad-based amount of risk an organization is willing to accept in pursuit of its mission. Risk appetite drives strategic planning, capital allocation and performance management.
 - An expression of the maximum amount of risk accepted by an organization relative to achievement of its objectives
 - Quantitative: Loss of Capital, Earnings Shortfall, Maintain Credit Rating
 - Qualitative: Damage of Reputation, Damage to ability to sell business in key markets
- **Risk Tolerances or Limits** - Specific, defined boundaries established for each risk taking activity.
 - Established by product, markets to define an acceptable level of variation around objectives, and aligns them with risk appetite.

Criteria for determining the effectiveness of risk management

- Effectiveness is not elimination, it is taking steps to provide reasonable assurance
- Sample criteria:

Flawed	Vulnerable	Opportunity	Secure
<ul style="list-style-type: none"> • Prioritize ERM • Establish ERM infrastructure • Establish risk values and culture 	<ul style="list-style-type: none"> • Eliminate risk silos • Evaluate Risk Governance/Culture • Harvest best practices 	<ul style="list-style-type: none"> • Incorporate ERM in strategy • Optimize risk-adjusted returns • Create value 	<ul style="list-style-type: none"> • Maintain and monitor • Seek competitive advantage • Champion through rewards
Weak	Strong	Adequate	Excellent
<ul style="list-style-type: none"> • Lacks complete controls • Unsystematically identify, measure and manage exposure to risk and losses • Limited consideration in decision making 	<ul style="list-style-type: none"> • Risk managed in silos • Moderate capabilities to identify, measure and manage major exposure • Unanticipated losses are somewhat likely to occur • Some consideration in decision making 	<ul style="list-style-type: none"> • Enterprise view of risk • Strong capabilities to identify, measure and manage exposure • Unanticipated losses are unlikely to occur • Usually considered in decision making 	<ul style="list-style-type: none"> • Risk/reward optimized • Consistently identify, measure and manage exposure • Unanticipated losses are highly unlikely to occur • Always considered in decision making

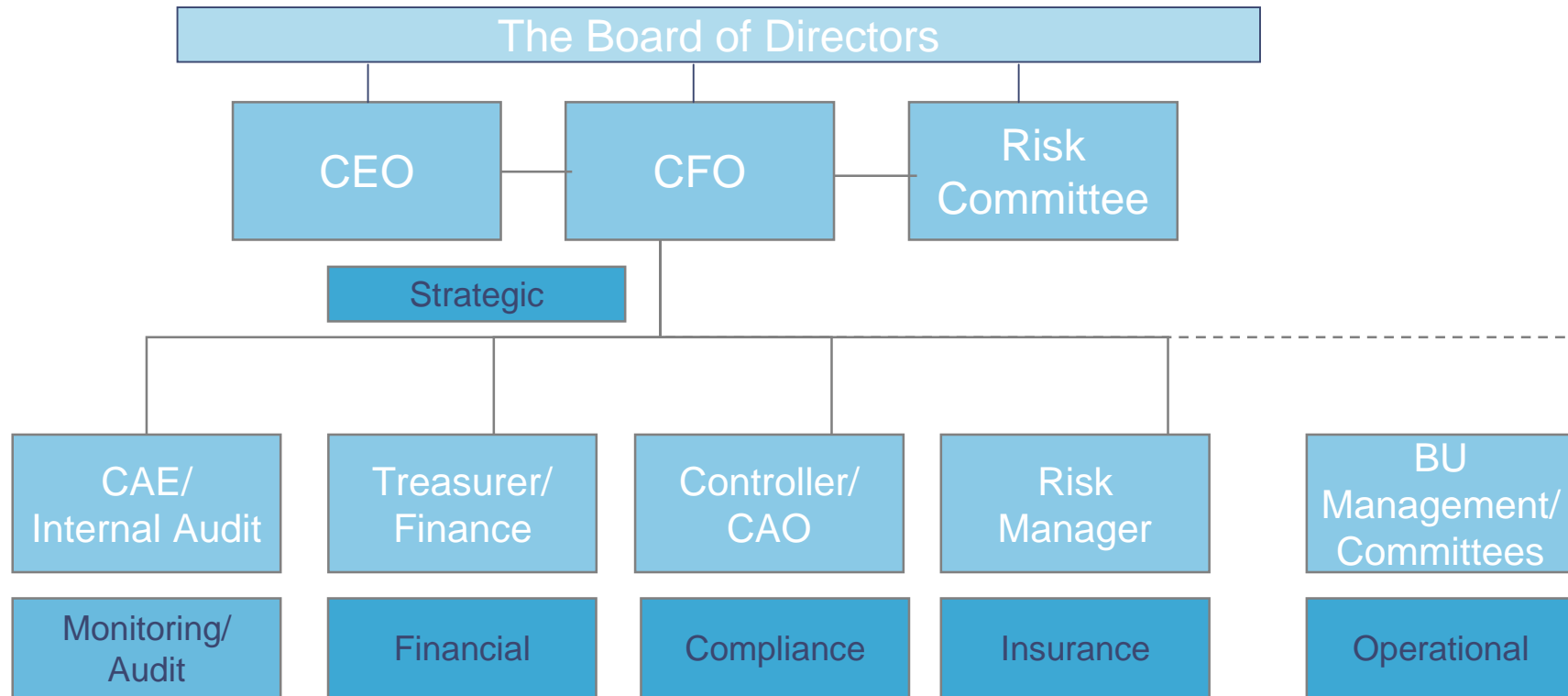
ERM helps management maximize value through an appropriate balance of growth, return, risks, and deployment of resources

- **Aligning risk appetite and strategy**
 - Management considers the entity's risk appetite in evaluating strategic alternatives, setting related objectives, and developing mechanisms to manage related risks.
- **Enhancing risk response decisions**
 - Enterprise risk management provides the rigor to identify and select among alternative risk responses – risk avoidance, reduction, sharing, and acceptance.
- **Reducing operational surprises and losses**
 - Entities gain enhanced capability to identify potential events and establish responses, reducing surprises and associated costs or losses.
- **Identifying and managing multiple and cross-enterprise risks**
 - Every enterprise faces a myriad of risks affecting different parts of the organization, and enterprise risk management facilitates effective response to the interrelated impacts, and integrated responses to multiple risks.
- **Seizing opportunities**
 - By considering a full range of potential events, management is positioned to identify and proactively realize opportunities.
- **Improving deployment of capital**
 - Obtaining robust risk information allows management to effectively assess overall capital needs and enhance capital allocation.

Section 4

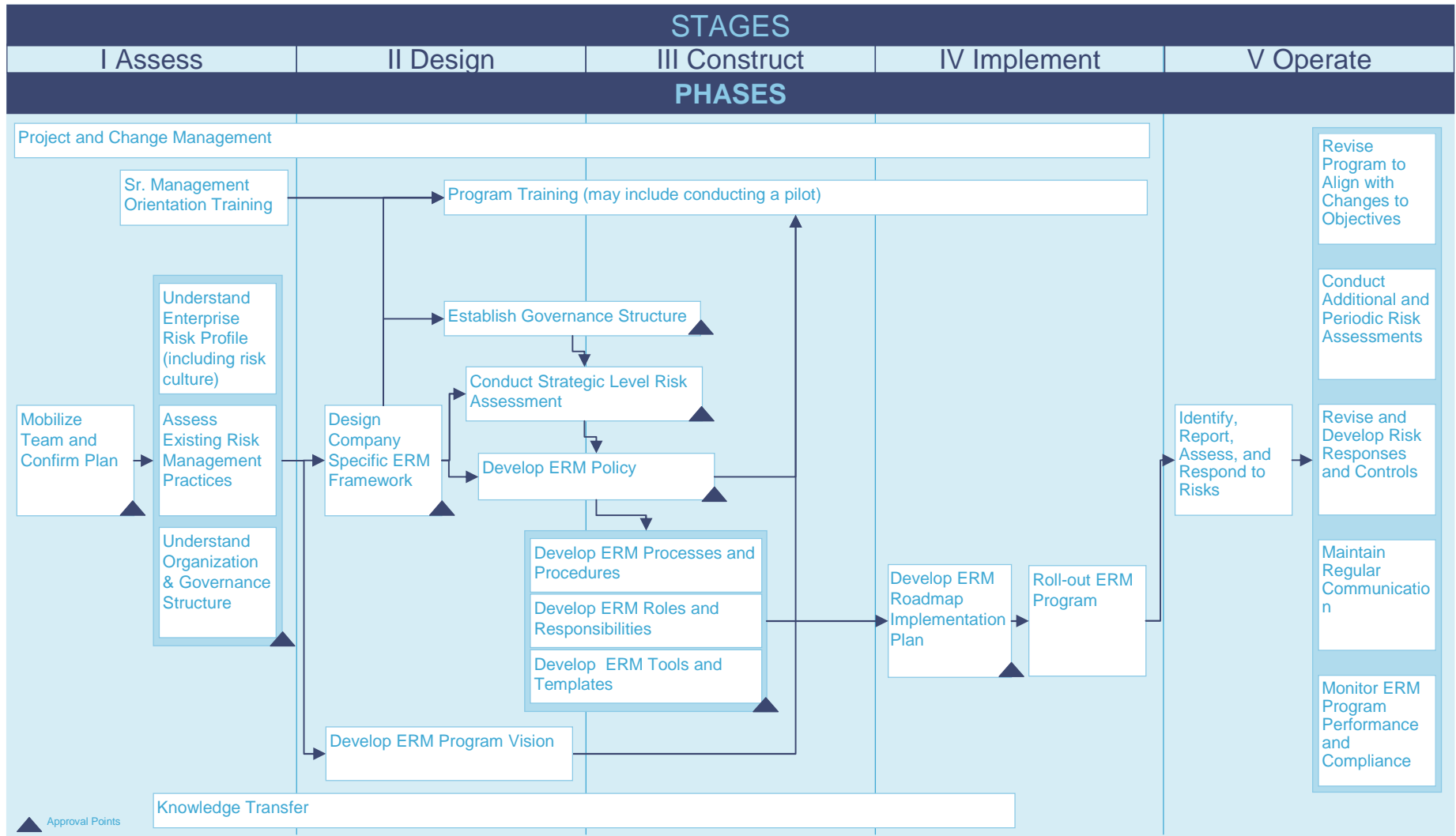
Implementing an Enterprise Risk Management Program

Understand who typically owns ERM



- In most cases the CFO owns ERM, however differing objectives, drivers, or circumstances may place ERM with the General Counsel, Internal Audit Director, or others
- Risk ownership and coverage within functions is generally clear; management of shared risks is often insufficient

ERM Program Development Approach



Sample High-Level ERM Implementation Methodology



- Mobilize team and confirm plan
 - Define Priorities
 - Accountability
 - Milestones
- Establish project and change management
- Conduct Sr. Management Orientation Training
- Understand enterprise risk profile (including risk culture)
- Assess existing risk management practices
- Understand organization and governance structure

Sample High-Level ERM Implementation Methodology



- Design Company Specific ERM Framework
- Establish Governance Structure
- Develop ERM Program Vision
- Conduct Strategic Level Risk Assessment
- Develop ERM Policy
- Develop
 - ERM Processes and Procedures
 - ERM Roles and Responsibilities
 - ERM Tools and Templates
- Program Training (development and delivery)

Sample High-Level ERM Implementation Methodology



- Conduct Training
- Develop ERM Roadmap Implementation Plan
- Roll-out ERM Program

Sample High-Level ERM Implementation Methodology



- Identify, report, assess, and respond to risks
- Revise program to align with changes to objectives
- Conduct additional and periodic risk assessments
- Revise and develop risk response and controls
- Maintain regular communication
- Monitor ERM program performance and compliance

ERM program development versus risk assessment approach

Development of an ERM program begins with understanding an entity's objectives and related strategies and identifying salient risks that must be managed to ensure successful execution of those strategies. Those salient risks coupled with appropriate business integration form the foundation of an ERM program.

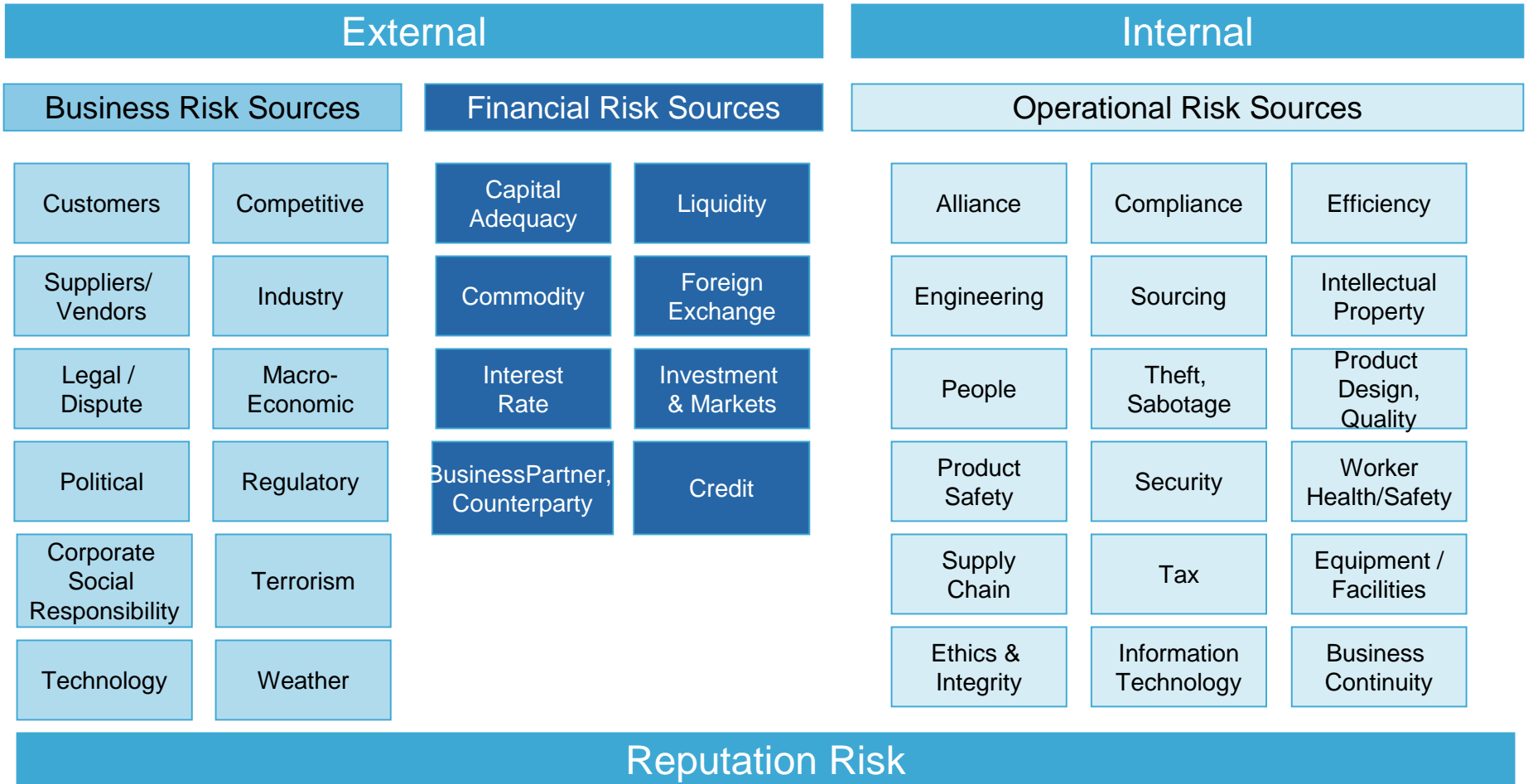
Before pursuing development of an ERM program:

- Understand the underlying driver and the ERM objective
- Define the long-term desired program
- Understand existing risk management activities
- Develop a multi-year roadmap to get from current to desired state

Section 5

Implementation Tools

Risk Identification - risk categories across the company

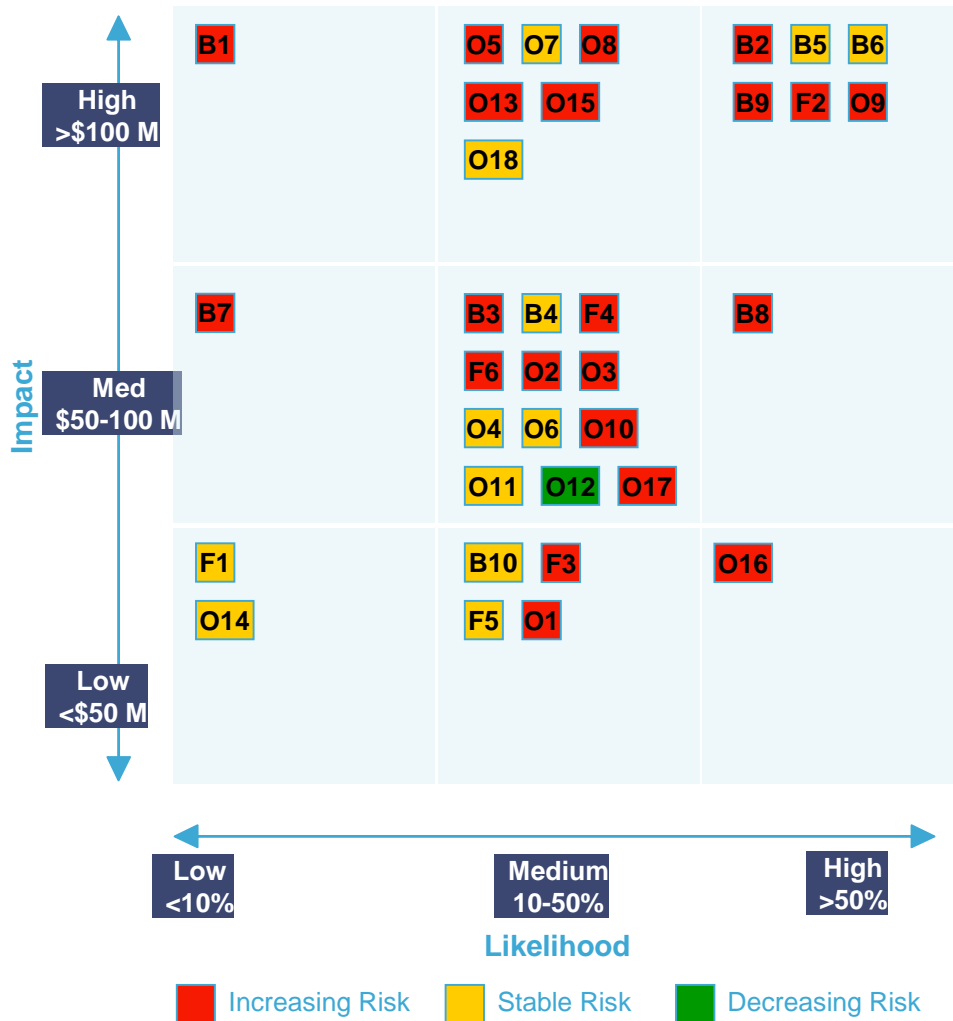


To be
remove?

Overview of ERM - Identifying, Assessing & Managing Risks



Portfolio View of Risks – start with Prioritized Inventory

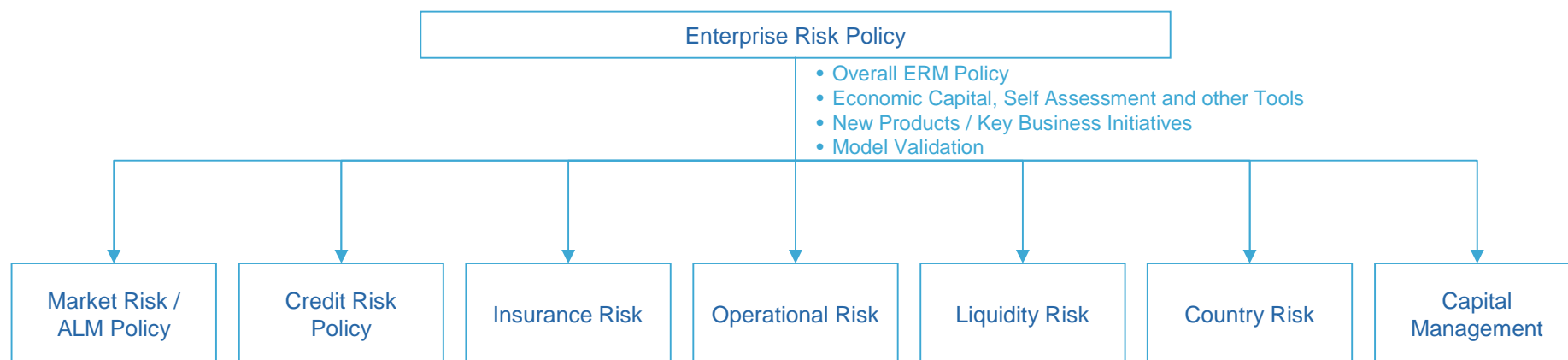


Categories	Description
[B1] Catastrophic Loss	Major natural or manmade disaster; terrorism
[B2] Competitive	Actions of competitors or new market entrants
[B3] Customer	Failure to follow customer preferences/needs
[B4] Industry	Industry changes threaten industry attractiveness
[B5] Legal and Disputes	Changing laws, liabilities and commercial disputes
[B6] Macroeconomic	Changes in broad economic conditions
[B7] Political	Adverse actions by foreign governments
[B8] Regulatory	Changing regulations threaten competitive position
[B9] Technology	Development of new, potentially disruptive, technologies
[B10] Weather	Prolonged, adverse weather conditions
[F1] Capital Adequacy	Lack of access to capital or liquidity
[F2] Commodity	Variability and increasing trends in commodity prices
[F3] Credit	Failure of customers or counterparties to perform
[F4] Foreign Exchange	Volatility in foreign exchange rates
[F5] Interest Rate	Variability in interest rates
[F6] Investment	Financial market volatility impacts investments
[O1] Alliance	Inefficient or ineffective alliance, JV, affiliation
[O2] Compliance	Non-compliance with laws, regulations or policies
[O3] Efficiency	Inefficient operations
[O4] Engineering	Inability to design and manage facilities projects
[O5] Environmental	Environmental incidents or exceedences
[O6] Equipment	Plant equipment failure
[O7] Ethics and Integrity	Fraudulent, illegal or unethical acts
[O8] Information Technology	Failure of IT systems, cyber attack
[O9] Intellectual Property	Inability to enforce patents and trademarks; infringement
[O10] People	Lack or loss of qualified employees
[O11] Process Design and Execution	Failure in the design and execution of key management processes
[O12] Product Quality	Producing off-spec products
[O13] Product Safety	Unsafe products
[O14] Security	Security breaches at company sites
[O15] Sourcing	Lack of access to key raw materials, failure of supplier
[O16] Supply Chain	Failure of transportation and logistics network
[O17] Tax	Failure to adequately support tax positions
[O18] Worker Health and Safety	Health and safety incidents harm employees

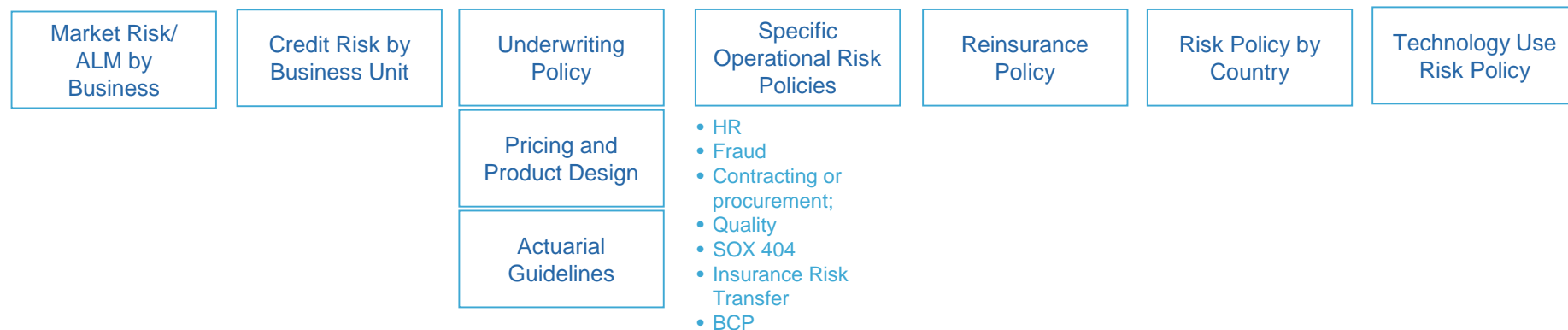
ERM Documentation

Illustration of risk policy architecture

Enterprise Risk Policies (defines common standards by risk type across all the Company)



Business Unit Specific Risk Policies (defines standards by business, consistent with enterprise policy)



ERM Documentation: Dashboard

For illustrative purposes only

5.1. Executive Summary

Key Enterprise-wide Risks

- TBD
- TBD
- TBD

Potential Actions

- TBD
- TBD
- TBD

5.2. Overall Risk Summary

	Rating Level/ Trend	Key Actions/ Comments
Credit Risk – Commercial	■ ↓	RMO receives summary of key risks across the enterprise including overall level and trends by business line. In addition, RMO approves potential management actions to address key risks.
Credit Risk – Consumer	■ ↓	
Market Risk – ALM	■ ↔	
Market Risk – Trading	■ ↑	
Operational Risk	■ ↓	
Compliance Risk	■ ↓	
1	■ ↓	
2	■ ↑	
3	■ ↔	
4	■ ↑	
5	■ ↔	

RMO receives qualitative summary of key risks across the enterprise including a summary of the prior risk dashboards. In addition, RMO discusses with management and approves potential management actions to address key risks.

5.3. Risk Limits and Stress Testing

Business Unit	Limit	Utilization %
1		
2		
3		
4		
5		
6		
7		
Corporate		
Scenario 1:		
Scenario 2:		
Scenario 3:		
Scenario 4:		

RMO monitors overall risk limits by business and utilization levels to evaluate potential decisions of potential reallocation of resources..

5.4. Economic Capital

EC by Business Unit

EC by Risk Type

Trend Analysis

Finally, RMO monitors capital adequacy levels for the entity and capital consumption across business lines and risk categories. Returns are analyzed to evaluate potential decisions of reallocation of resources

RAROC

Section 6

Wrap Up

Wrap Up

State at many Fortune 500 companies suggests that risk management is still in its infancy.

- Fragmented (organizations and processes) approach to managing risk makes it difficult to manage enterprise-wide risks efficiently.
- Inconsistent factoring of risk management thinking into business decisions.
- Inconsistent approach to identifying, analyzing and responding to risks across business lines and functional areas.
- Failure to prevent or plan for risk events often leads to a culture of crisis management rather than one of proactive risk management.

Common ERM Implementation Pitfalls

- Lack of clear Board and Executive Level ownership and sponsorship of risk management
- Lack of clear definition of ERM scope, and roles and responsibilities
- Lack of ERM integration with internal strategic and operational planning
- Conflicting priorities (never giving ERM the attention or resources it needs)
- Poor communication with key stakeholders
- Not leveraging and integrating existing ERM practices already in place
- Lack of appreciation that ERM implementations can be long term projects; embedding risk culture into the organization is not a “quick fix.”

Market Trends: What our Clients are Saying

- 83% of large, U.S. based multinationals placed ERM among their top 10 corporate priorities.
- 88% of senior executives surveyed cited key challenges that restrict their organization in identifying and managing enterprise risks.
- The leading challenges cited were:
 - Difficulty in quantifying risks 61%
 - Conflicting corporate priorities 60%
 - Difficulty identifying/measuring the potential benefits of ERM 60%
 - Timelines and quality of information 59%
 - Difficulty in imbedding risk management into different cultures and behaviours 53%
 - Availability of information 52%
 - Difficulty integrating risk management into business processes 51%
 - Lack of clarity, roles and responsibilities in managing risk 46%
 - Lack of knowledge skills of people throughout the organization 39%

Source: PricewaterhouseCoopers Management Barometer ERM Survey, 1 19 07

Q&A

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