



*cutting through complexity*

# Risk Management Concepts

Society of Ontario  
Adjudicators and Regulators

November 7<sup>th</sup>, 2013





**“Doubt is not a pleasant condition but Certainty is an absurd one”**

**– Voltaire**

**“He will be fooled into thinking he is greater than fate, he will mock death, and he will think he is above wisdom, grace, and fear. As you all know, overconfidence is man’s greatest enemy.”**

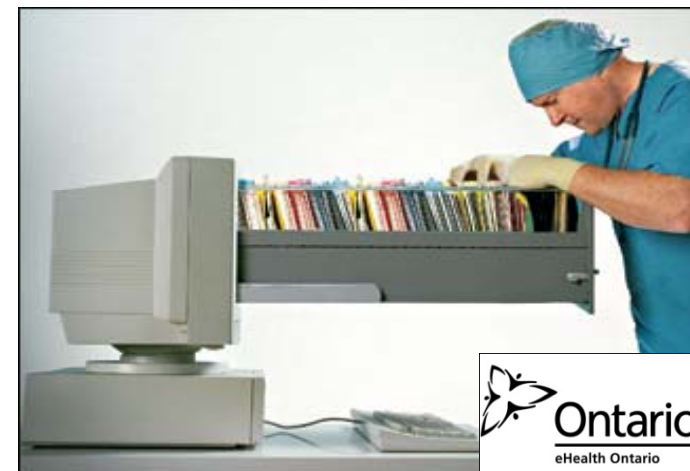
**– Shakespeare**

# Agenda

- Part I – Risk Management Concepts
- Part II – Emerging Risk Management Trends
- Part III – Case Studies – Significant Risk Management Failures

# **Part I – Risk Management Concepts**

# Public Organizations – The Importance of Risk Management



# What Is Risk?

## What is Risk?

- A risk is something that impacts and/or prevents an organization's ability to meet its objectives.

# Risk Defined

## Risk - “effect of uncertainty on objectives” (ISO 31000)

- NOTE 1 An effect is a deviation from the expected — positive and/or negative. (in terms of achieving objectives).
- NOTE 2 Objectives can have different aspects (such as financial, health and safety, and environmental goals) and can apply at different levels (such as strategic, organization-wide, project, product and process).
- NOTE 3 Risk is often characterized (i.e. named, e.g. credit risk) by reference to potential events (2.17) and consequences (2.18), or a combination of these.
- NOTE 4 Risk is often expressed in terms of a combination of the consequences of an event (including changes in circumstances) and the associated likelihood (2.19) of occurrence.

# What is Enterprise Risk Management?

**Risk Management is a process for managing the myriad of risks an organization faces**

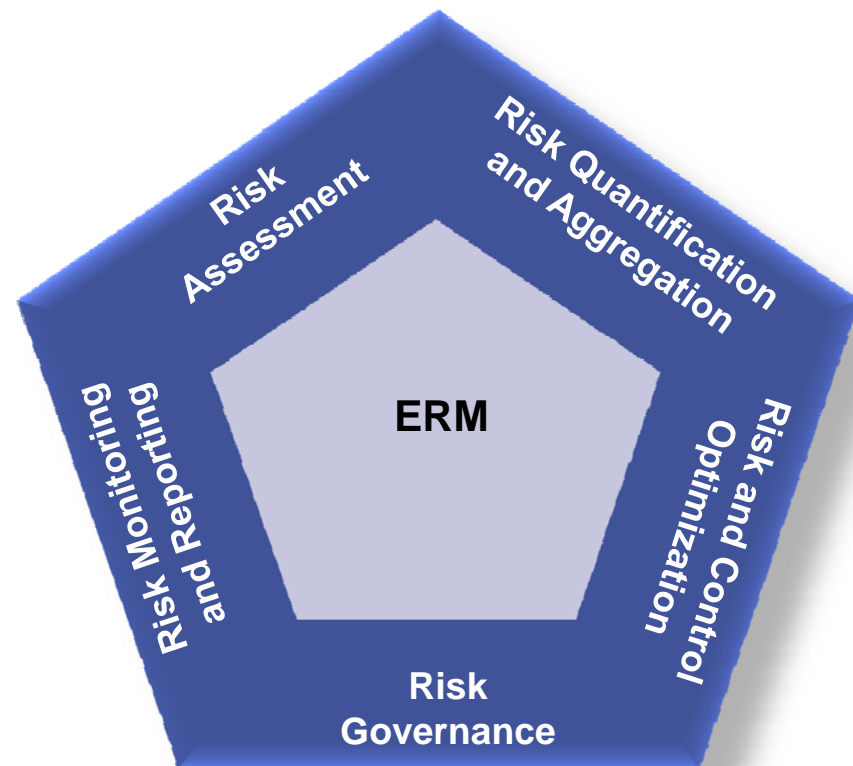
**ERM is seen as a “set of expectations among leadership, stakeholders, and the board about which risks the organization will and will not take; a way to fulfill a fundamental responsibility of a company’s board and leadership”**





# Enterprise Risk Management

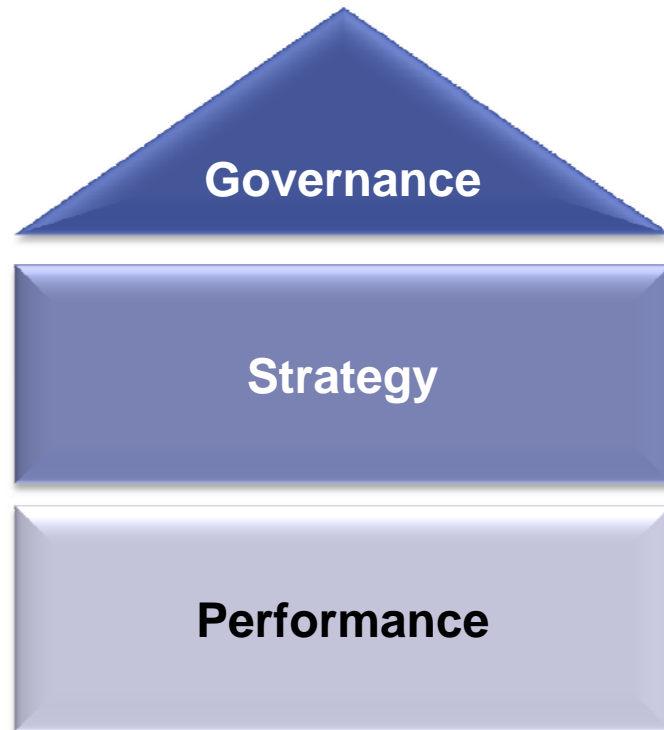
Enterprise Risk Management (ERM) is an organization-wide approach to the identification, assessment and management of risk in a cost-effective manner.



**ERM is a dynamic process which is focused on an organization's strategy, performance and *value proposition*.**

# Enterprise Risk Management Drivers

## ERM Drivers



### Governance

- Board assurance
- Meet regulatory and disclosure requirements

### Strategy

- Provide a competitive advantage versus industry peers and capitalize on emerging patient care trends
- Re-align strategy through evaluation of prioritized risks

### Performance

- Improve accountability and transparency
- Improve operational and project performance
- Reduce costs
- Reduce cash flow volatility and enhance service delivery

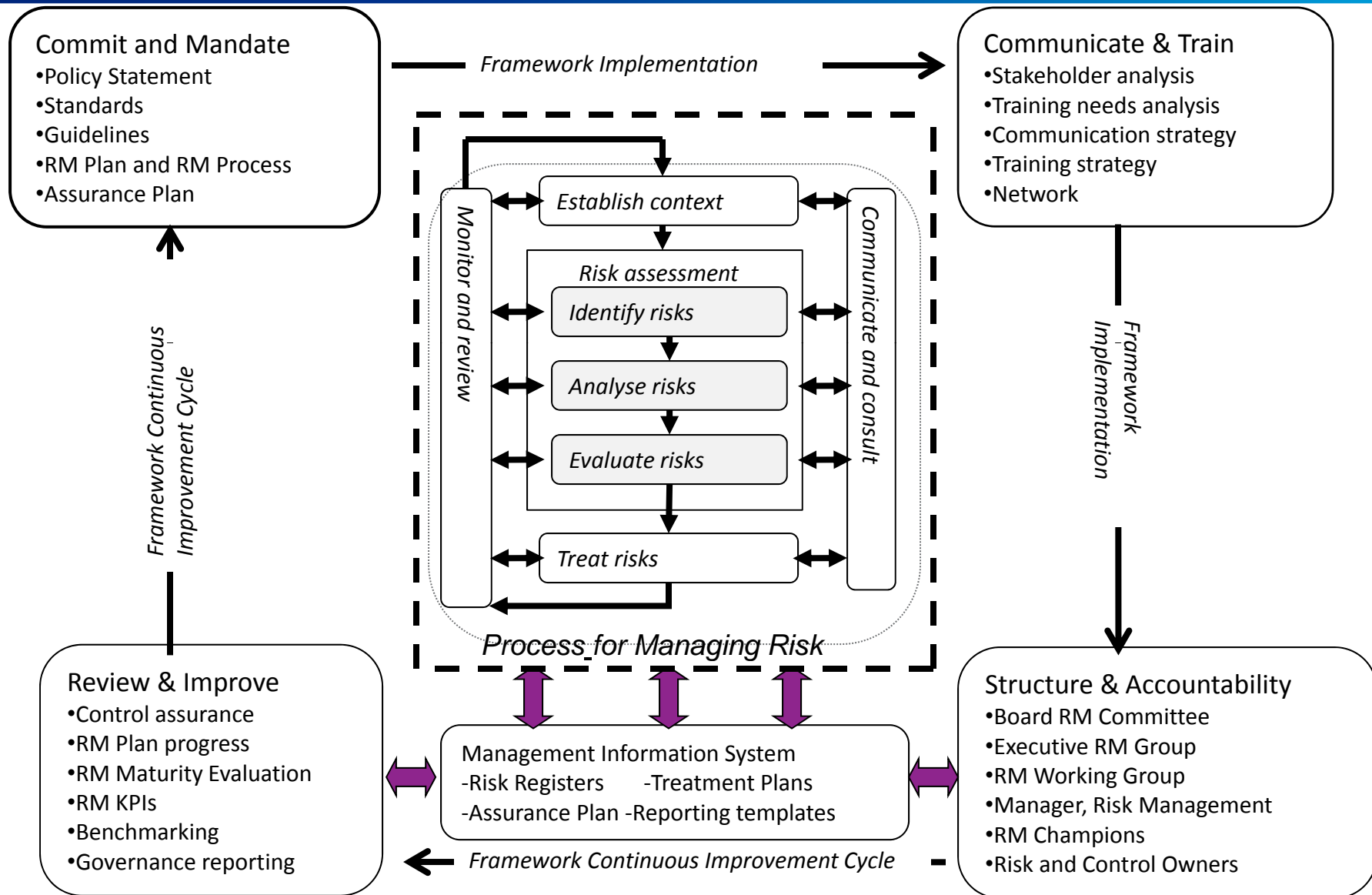
# Guiding Principles

- **Risk Management Is About Planning & Decision Making:** An effective ERM approach focuses on risk analysis and management as a decision making tool – i.e., risk management is not fundamentally about risk and control but rather it is fundamentally about how organizations plan and make decisions and ensuring that organizations consider the potential impacts, both good and bad, of those plans and decisions.
- **Risk Management Is Multi-Level:** Risk identification and assessment must occur at multiple levels of organizational planning and decision-making. In particular, effective organizational planning and decision-making requires that the leadership team consider environmental risks that organizational strategies must manage, the risks associated with a chosen organizational strategy and the risks to the achievement of a chosen organizational strategy. In all cases, the various risk profiles should be utilized to shape and refine organizational strategies.
- **Risk Management Is Embedded Within Existing Management Routines:** Risk analysis and risk management is a part of regular management routines and an ongoing responsibility of all organizational management and decision makers. It is not, nor should it be seen to be, a separate function or process outside of normal organizational planning, decision-making and reporting and day-to-day management routines.

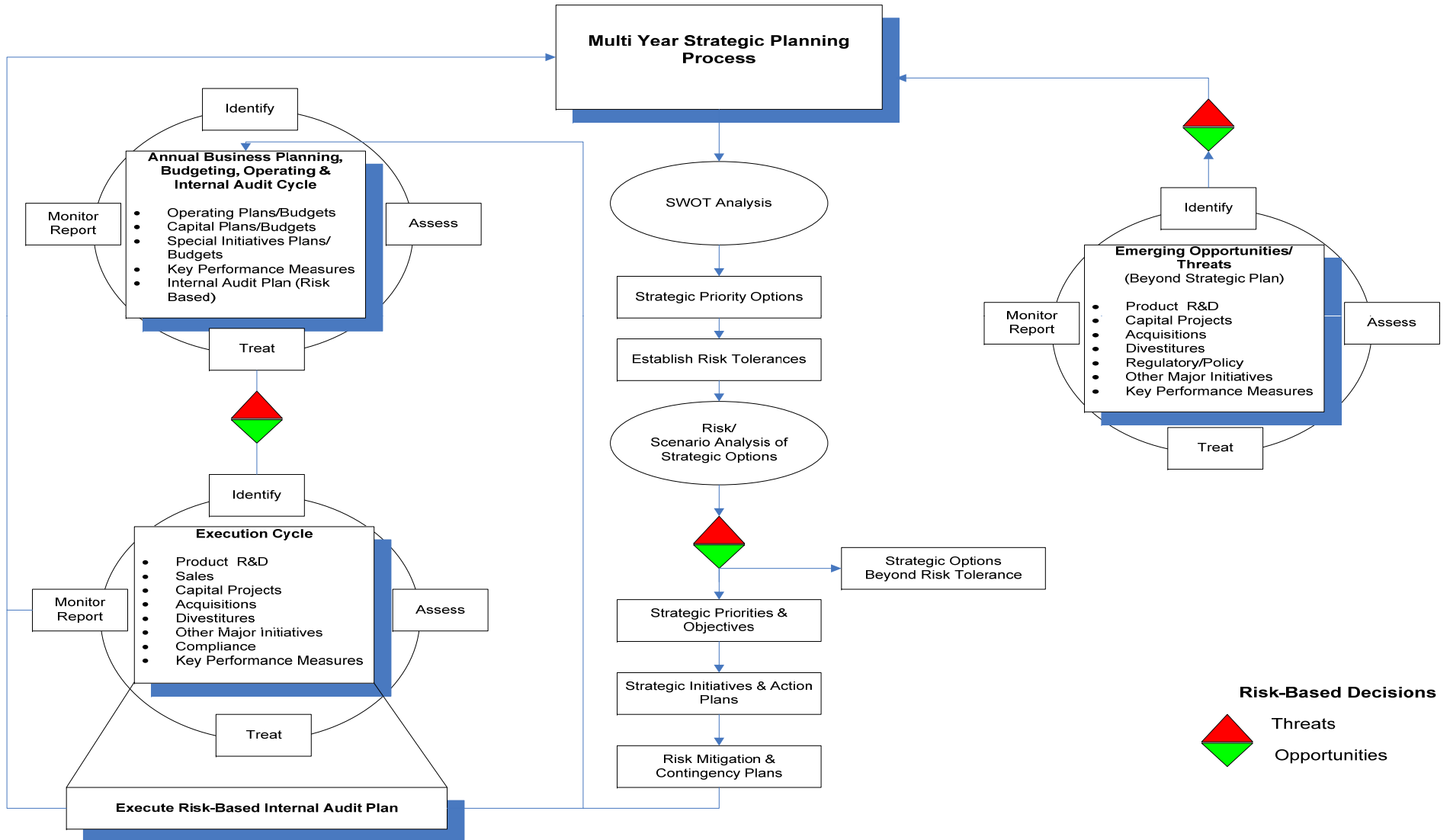
# Guiding Principles

- **Risk Management Is About People & Culture:** Risk management is about the decisions made and activities taken by your people and the organizational environment within which your people must operate.
- **Risk Management Is Context Specific:** Risk management tools and processes are necessary, however, they are not sufficient to ensure effective risk analysis and management. All risk occurs within a specific organizational context, with specific legal, policy, strategic and operational characteristics. The risks facing any particular organization can only be truly understood, analyzed, assessed or managed by those who understand this context best. In practical terms, this ensures that to the greatest extent possible you will engage your staff with the deepest and fullest understanding of this context to assist the organization in its risk analysis and management efforts. More importantly, it means that you will engage those who know this context best – i.e., the organization's own people – to ensure that risks are identify, analyzed, assessed and managed effectively.

# Organizational Governance & the Risk Management Framework



# Risk Based Strategic Management Model



# Strategic Value of ERM

- A systemic and sustainable Enterprise Risk Management process will aid an organization by providing:
  - Improved risk information needed to support strategic decision making throughout the organization
  - An understanding of the risks and interrelationships to help drive operational performance, value, and brand
  - A foundation to effectively evaluate the diverse service delivery portfolio and the associated opportunities and threats
  - A complementary process to enhance major project management
  - An opportunity to get out in front of regulatory change
  - A platform and process to consistently identify and assess risks
  - A defined risk governance structure with clear roles and responsibilities
  - Clear alignment between strategic objectives and organizational risks

# S&P's Seven Questions for Non-Financial Services Companies\*

1.

What are the company's top risks, how big are they and how often are they likely to occur? How often is the list of top risks updated?

2.

What is management doing about the top risks?

3.

What size quarterly operating or cash loss has management and the board agreed is tolerable?

4.

Describe the staff responsible for risk management programs and their place in the organization chart. How do you measure the success of risk management activities?

\* *From S&P's Progress Report: Integrating Enterprise Risk Management Analysis into Corporate Credit Ratings, July 2009*



## S&P's Seven Questions for Non-Financial Services Companies\* (continued)

5.

How would a loss from a key risk affect incentive compensation of top management and planning/budgeting?

6.

What discussions about risk management have taken place at the board level or among top management when strategic decisions were made in the past?

7.

Give an example of how your company responded to a recent “surprise” in your industry. How did the surprise end up affecting your company differently than others?

\* *From S&P's Progress Report: Integrating Enterprise Risk Management Analysis into Corporate Credit Ratings, July 2009*

## What Is Considered a Successful ERM Program?

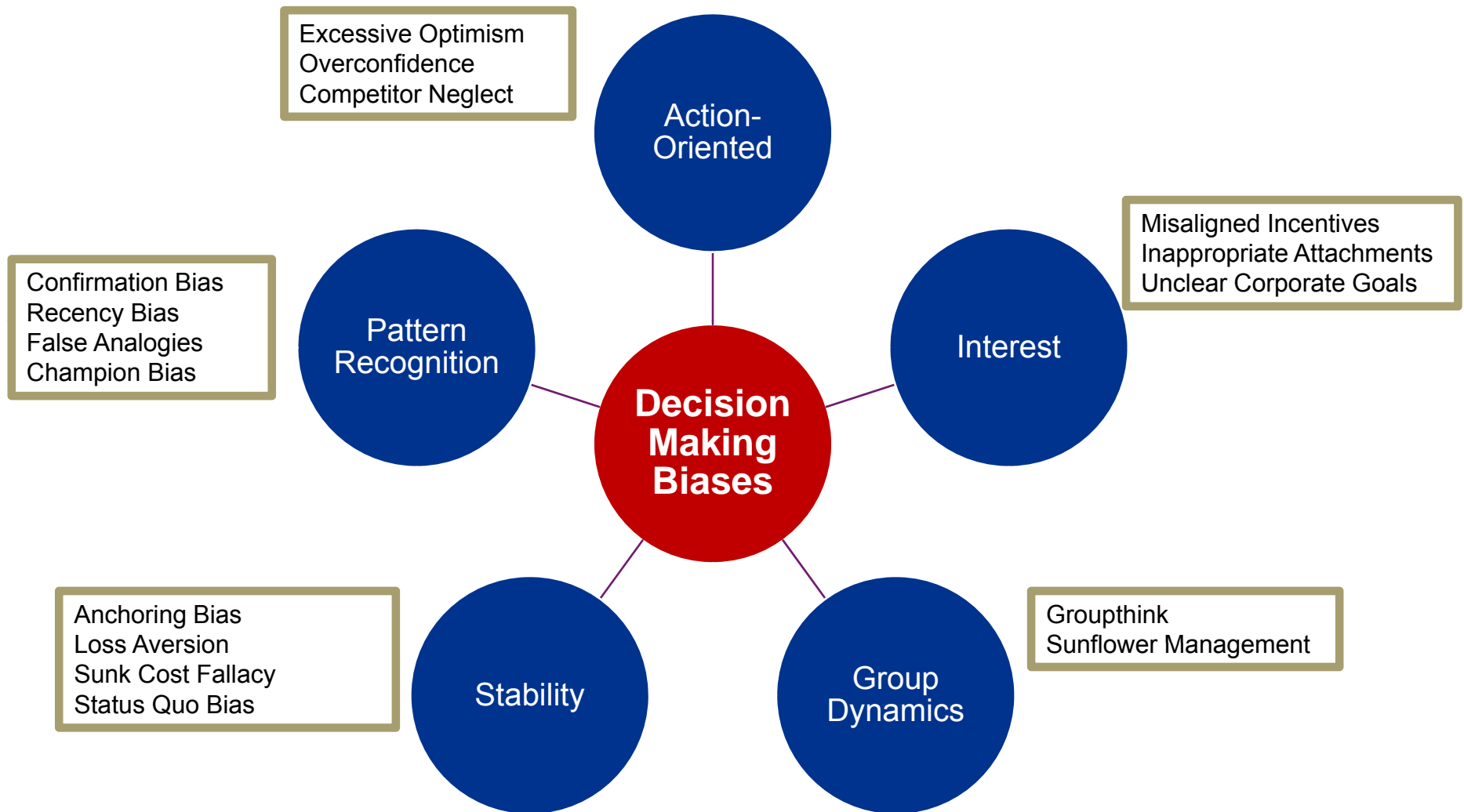
- Provides the Board and management with a framework that aligns future risk decision making with organization strategy
- Establishes a culture where management and staff think through risk and take action (i.e., is integrated into the business).
- Improves decision making and accountability for risk
- Leverages existing risk management practices to avoid duplication (e.g. EH&S)
- Provides transparency in reporting of risk information to Leadership and the Board

## **Part II – Emerging Risk Management Trends**

# Emerging Risk Management Trends

Current State	Drivers of Change	Emerging Trends
Focus on process and controls	Recognition of the significant limitations associated with this approach – e.g., failure to prevent recent corporate disasters	Focus on behavioural decision-making – i.e., inherent decision making biases and the risks associated with decisions made with these biases
Focus on risk profiling and assessment	Failure of this approach to lead to improved organizational planning and decision making	Focus on integrating “risk thinking” and analysis into all organizational planning and decision making routines
Focus on quantification of risk exposures	Recognition that over-reliance on “scientific” quantitative analysis produced false belief that risk was being managed effectively	Focus on developing “risk aware” culture through the application of judgement based on critical discussion of organizational strategies and operations
Focus on developing organizational structure and accountabilities for the management of risk	Directors aware of recent risk management failures and the potential related Director liability and reputation impact	Focus on the fiduciary role of the Board with respect to managing organizational risk

# Decision Making Biases



# Decision Making Biases

## Action Oriented Biases – drive decision makers to take on too much risk:

- **Excessive Optimism** – Tendency to be over-optimistic about outcome of planned actions
- **Overconfidence** – Tendency to overestimate expertise and insight relative to others
- **Competitor Neglect** – Tendency to plan without adequate consideration of actions of competitors

## Interest Biases – arise in the presence of conflicting incentives (monetary and non-monetary):

- **Misaligned Incentives** – Incentives for individuals to seek outcomes non aligned with corporate objectives or shareholder value
- **Inappropriate Attachments** – Emotional attachment to people or elements of business creating misaligned interests
- **Unclear Corporate Goals** – Disagreements with respect to corporate goals or the hierarchy of those goals

# Decision Making Biases

## Group Dynamics – arise from general preference for harmony over disagreement or conflict:

- **Groupthink** – Focus on achieving consensus at the cost of a realistic appraisal of proposed decisions
- **Sunflower Management** – Tendency for groups to align with the views of the senior leader or leadership team

## Stability Biases – drive decision makers toward inertia even in the presence of uncertainty (risk):

- **Anchoring Bias** – Tendency for decision makers to root themselves to an initial value even where value is determined randomly
- **Loss Aversion** – Tendency for decision makers to place a premium on losses and discount gains of the same magnitude
- **Sunk Cost Fallacy** – Tendency for decision makers to factor unrecoverable historical costs into decisions about future actions
- **Status Quo Bias** – Inherent preference for the status quo in the absence of pressure for change

# Decision Making Biases

## Pattern Recognition Biases – drive decision makers to identify patterns even in random events:

- **Confirmation Bias** – Tendency for decision makers to overweight information that supports their position and underweight information inconsistent with that position
- **Recency Bias** – Tendency for decision makers to place a premium on most recent information or most memorable historical event
- **False Analogies** – Tendency for decision makers to utilize comparisons with situations that are not directly comparable
- **Champion Bias** – Tendency for decision makers to evaluate a proposal based on the track record of the proposal champion rather than the merits of the proposal



# **Part III – Significant Risk Management Failures**

# Risk Management Failures – Lehman Brothers



# Risk Management Failures – Lehman Brothers

## Background

- Lehman Brothers Holdings Inc. was a pre-eminent global financial services firm
- Before declaring bankruptcy in 2008, Lehman was the fourth largest investment bank in the USA (behind Goldman Sachs, Morgan Stanley, and Merrill Lynch)
- Its business was in investment banking, equity and fixed-income sales and trading (especially U.S. Treasury securities), research, investment management, private equity, and private banking
- On September 15, 2008, the firm filed for Chapter 11 bankruptcy protection following the massive exodus of most of its clients, drastic losses in its stock, and devaluation of its assets by credit rating agencies
- The filing marked the largest bankruptcy in U.S. history, and is thought to have played a major role in the unfolding of the late-2000s global financial crisis
- The following day, Barclays announced its agreement to purchase, subject to regulatory approval, Lehman's North American investment-banking and trading divisions along with its New York headquarters building
- On September 20, 2008, a revised version of that agreement was approved by US Bankruptcy Court Judge James M. Peck
- The next week, Nomura Holdings announced that it would acquire Lehman Brothers' franchise in the Asia-Pacific region, including Japan, Hong Kong and Australia, as well as Lehman Brothers' investment banking and equities businesses in Europe and the Middle East. The deal became effective on October 13, 2008

# Risk Management Failures – Lehman Brothers

## Risk Management Implications

- The court appointed receiver report on the failure of Lehman Brothers provides some interesting insight into the final months of the firm's existence
- Most notable are the firm's efforts to shift massive exposures off of its balance sheet to prevent credit rating downgrades
- At the same time, the firm ignored its own risk management limits as it continued to pursue a high growth strategy. Here is what the examiner noted in the report
  - In 2006, Lehman made the deliberate decision to embark upon an aggressive growth strategy, to take on significantly greater risk, and to substantially increase leverage on its capital. In 2007, as the sub-prime residential mortgage business progressed from problem to crisis, Lehman was slow to recognize the developing storm and its spillover effect upon commercial real estate and other business lines. Rather than pull back, Lehman made the conscious decision to “double down,” hoping to profit from a counter-cyclical strategy. As it did so, Lehman significantly and repeatedly exceeded its own internal risk limits and controls.

## Risk Management Failures – Lehman Brothers



# Risk Management Failures – Lehman Brothers

## Risk Management Implications

- Lehman did not disclose, that it had been using an accounting device (known within Lehman as “Repo 105”) to manage its balance sheet – by temporarily removing approximately \$50 billion of assets from the balance sheet at the end of the first and second quarters of 2008
- In an ordinary repo, Lehman raised cash by selling assets with a simultaneous obligation to repurchase them the next day or several days later; such transactions were accounted for as financings, and the assets remained on Lehman’s balance sheet
- Contemporaneous Lehman e-mails describe the “function called repo 105 whereby you can repo a position for a week and it is regarded as a true sale to get rid of net balance sheet.”<sup>23</sup> Lehman used Repo 105 for no articulated business purpose except “to reduce balance sheet at the quarter-end”
- Rather than sell assets at a loss, “Repo 105 increase would help avoid this without negatively impacting our leverage ratios.” Lehman’s Global Financial Controller confirmed that “the only purpose or motive for [Repo 105] transactions was reduction in the balance sheet” and that “there was no substance to the transactions”

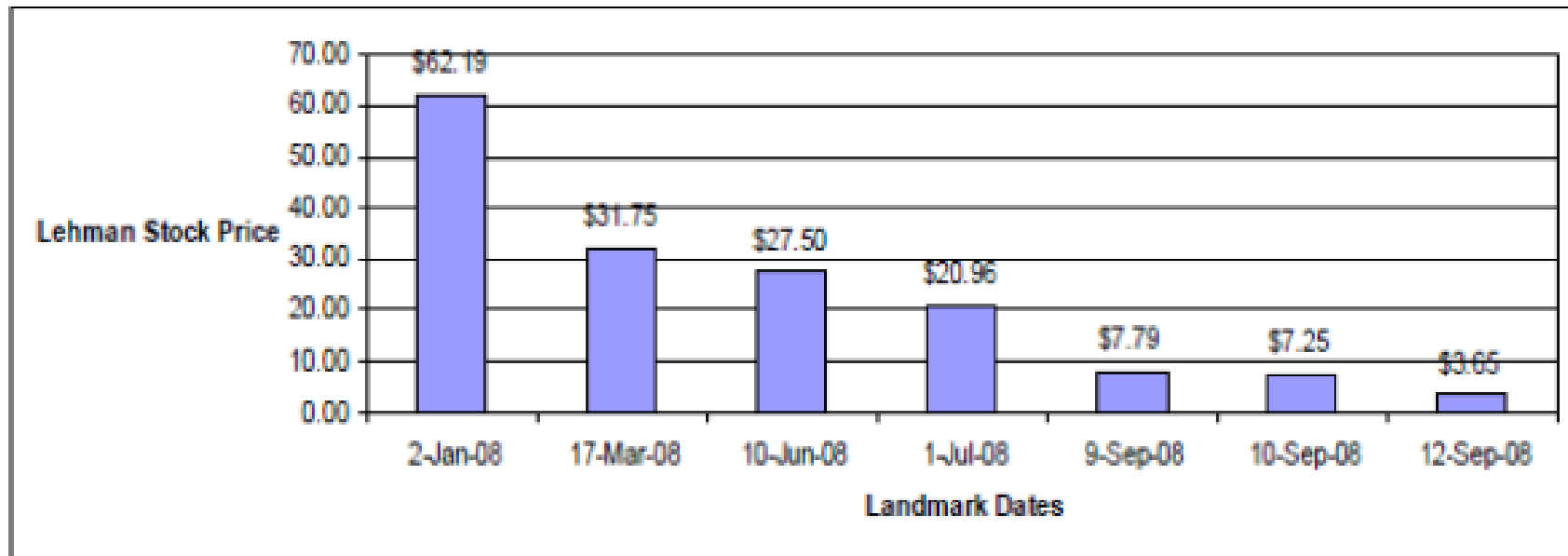
# Risk Management Failures – Lehman Brothers

## Risk Management Implications

- Lehman did not publicly disclose that by June 2008 significant components of its reported liquidity pool had become difficult to monetize
- As late as September 10, 2008, Lehman publicly announced that its liquidity pool was approximately \$40 billion; but a substantial portion of that total was in fact encumbered or otherwise illiquid
- Months earlier, on June 9, 2008, Lehman pre-announced its second quarter results and reported a loss of \$2.8 billion, its first ever loss since going public in 1994
- Despite that announcement, Lehman was able to raise \$6 billion of new capital in a public offering on June 12, 2008
- But Lehman knew that new capital was not enough
- Treasury Secretary Henry M. Paulson, Jr., privately told CEO Dick Fuld that if Lehman was forced to report further losses in the third quarter without having a buyer or a definitive survival plan in place, Lehman's existence would be in jeopardy
- Paulson was right!

# Risk Management Failures – Lehman Brothers

By the close of trading on September 12, 2008, Lehman's stock price had declined to \$3.65 per share, a 94% drop from the \$62.19 January 2, 2008 price.





# Risk Management Failures – Lehman Brothers

**THE TIMES**  
Max 18C, min 5C  
Tuesday September 16 2008 timesonline.co.uk No 69430

## Lehman collapse sends shockwave round world

### Shares and oil prices plunge, thousands lose jobs

**by Duncan Economics Editor**

Shares of a global financial meltdown yesterday as the world's biggest bankruptcy plunged markets into turmoil. Investors were left reeling as the abrupt demise of the Lehman Brothers investment bank sparked the biggest shake-up on Wall Street in decades.

Neither of US capitalism's biggest institutions, Merrill Lynch, is to be followed by Bank of America in a billion takeover to save it from collapse.

Prices fell as fear spread through financial system. Central banks urged urgent measures amid concerns the world economy was entering dangerous new phase. The Bank of England injected £5 billion of emergency lending into money markets. 5,000 Lehman staff in Britain

Dow Jones industrial average was down 300 points, or 2.6 per cent. Sentiment was also bolstered by steep falls in oil prices, which dropped by more than \$5 a barrel to \$96, closing under \$100 for the first time in six months and raising hopes that cheaper fuel would ease economic stresses on Western nations.

However, by close of trading the Dow had fallen by more than 500 points — its biggest one-day drop since the reopening after the September 11 attacks — as concerns mounted over the world's largest insurer. Shares in American International Group (AIG), which sponsors Manchester United, fell by 45 per cent after it made an unprecedented approach to the US Federal Reserve for \$40 billion in emergency funding.

Last night the Fed asked Goldman Sachs and J.P. Morgan Chase, two of Wall Street's remaining big banks, to head a \$75 billion emergency package to keep AIG afloat.

As central banks battled to stabilise the system, the Fed eased its rules for emergency lending further. It announced that it would accept company shares in return for crisis loans for the first time. In Frankfurt, the European Central Bank injected €30 billion in emergency funds into eurozone markets.

A group of ten global banks also attempted to foster calm among investors.

**are now unquestionably in the worst financial crisis since the start of the Depression'**  
by Vaitsky, page 24  
article page 2  
cover page 5

ERESTY BIGGLE

# Risk Management Failures – Lehman Brothers

## Risk Management Implications

- In May 2008, a Lehman Senior Vice President, Matthew Lee, wrote a letter to management alleging accounting improprieties
- In the course of investigating the allegations, Ernst & Young was advised by Lee on June 12, 2008 that Lehman used \$50 billion of Repo 105 transactions to temporarily move assets off balance sheet and quarter end
- The next day - on June 13, 2008 - Ernst & Young met with the Lehman Board Audit Committee but did not advise it about Lee's assertions, despite an express direction from the Committee to advise on all allegations raised by Lee
- Ernst & Young took virtually no action to investigate the Repo 105 allegations
- Ernst & Young took no steps to question or challenge the non-disclosure by Lehman of its use of \$50 billion of temporary, off-balance sheet transactions
- Colorable claims exist that Ernst & Young did not meet professional standards, both in investigating Lee's allegations and in connection with its audit and review of Lehman's financial statements

# Risk Management Failures – Lehman Brothers

## Risk Impact

- These events help put into context the significance of the Lehman filing
- The Dow Jones index plunged 504 points on September 15
- On September 16, AIG was on the verge of collapse
- The US Government intervened with a financial bailout package that ultimately cost about \$182 billion
- On September 16, 2008, the Primary Fund, a \$62 billion money market fund, announced that – because of the loss it suffered on its exposure to Lehman – it had “broken the buck,” i.e., its share price had dropped below \$1
- On October 3, 2008, Congress passed a \$700 billion Troubled Asset Relief Program (“TARP”) rescue package

# Risk Management Failures – Lehman Brothers

## Conclusions

- Lehman failed because it was unable to retain the confidence of its lenders and counterparties and because it did not have sufficient liquidity to meet its current obligations
- Lehman was unable to maintain confidence because a series of business decisions had left it with heavy concentrations of illiquid assets with deteriorating values such as residential and commercial real estate
- Confidence was further eroded when it became public that attempts to form strategic partnerships to bolster its stability had failed
- And confidence plummeted on two consecutive quarters with huge reported losses, \$2.8 billion in second quarter 2008 and \$3.9 billion in third quarter 2008, without news of any definitive survival plan

# Risk Management Failures – Lehman Brothers

## Conclusions

- The business decisions that brought Lehman to its crisis of confidence may have been in error but were largely within the business judgment rule
- But the decision not to disclose the effects of those judgments does give rise to colorable claims against the senior officers who oversaw and certified misleading financial statements – Lehman’s CEO Richard S. Fuld, Jr., and its CFOs Christopher O’Meara, Erin M. Callan and Ian T. Lowitt
- There are colorable claims against Lehman’s external auditor Ernst & Young for, among other things, its failure to question and challenge improper or inadequate disclosures in those financial statements
- Although Repo 105 transactions may not have been inherently improper, there is a colorable claim that their sole function as employed by Lehman was balance sheet manipulation
- Lehman’s own accounting personnel described Repo 105 transactions as an “accounting gimmick” and a “lazy way of managing the balance sheet as opposed to legitimately meeting balance sheet targets at quarter end.”<sup>64</sup> Lehman used Repo 105 “to reduce balance sheet at the quarter-end.”

# Risk Management Failures – Lehman Brothers

## Conclusions

- In 2007-08, Lehman knew that net leverage numbers were critical to the rating agencies and to counterparty confidence
- Its ability to deleverage by selling assets was severely limited by the illiquidity and depressed prices of the assets it had accumulated
- Against this backdrop, Lehman turned to Repo 105 transactions to temporarily remove \$50 billion of assets from its balance sheet at first and second quarter ends in 2008 so that it could report significantly lower net leverage numbers than reality
- Lehman did so despite its understanding that none of its peers used similar accounting at that time to arrive at their leverage numbers, to which Lehman would be compared

## Risk Management Failures – Lehman Brothers

Lehman defined materiality, for purposes of reopening a closed balance sheet, as “any item individually, or in the aggregate, that moves net leverage by 0.1 or more (typically \$1.8 billion).” Lehman’s use of Repo 105 moved net leverage not by tenths but by whole points:

Date	Repo 105 Usage	Reported Net Leverage	Net Leverage Without Repo 105	Difference
Q4 2007	\$38.6 B <sup>71</sup>	16.1 <sup>72</sup>	17.8 <sup>73</sup>	1.7
Q1 2008	\$49.1 B <sup>74</sup>	15.4 <sup>75</sup>	17.3 <sup>76</sup>	1.9
Q2 2008	\$50.4 B <sup>77</sup>	12.1 <sup>78</sup>	13.9 <sup>79</sup>	1.8

# Risk Management Failures – Lehman Brothers

## Conclusions

- Lehman's failure to disclose the use of an accounting device to significantly and temporarily lower leverage, at the same time that it affirmatively represented those "low" leverage numbers to investors as positive news, created a misleading portrayal of Lehman's true financial health





# Risk Management Failures – Lehman Brothers



# Risk Management Failures - BP



# Risk Management Failures - BP

## Background

- The Deepwater Horizon oil spill occurred in the Gulf of Mexico which flowed unabated for three months in 2010
- It is the largest accidental marine oil spill in the history of the petroleum industry
- The spill stemmed from a sea-floor oil gusher that resulted from the April 20, 2010, explosion of Deepwater Horizon, which drilled on the BP-operated Macondo Prospect well
- The explosion killed 11 men working on the platform and injured 17 others
- On July 15, 2010, the leak was stopped by capping the gushing wellhead, after it had released about 4.9 million barrels (780,000 m<sup>3</sup>) of crude oil
- An estimated 53,000 barrels per day (8,400 m<sup>3</sup>/d) escaped from the well just before it was capped
- It is believed that the daily flow rate diminished over time, starting at about 62,000 barrels per day (9,900 m<sup>3</sup>/d) and decreasing as the reservoir of hydrocarbons feeding the gusher was gradually depleted

# Risk Management Failures - BP



# Risk Management Failures - BP

## Background

- On September 19, 2010, the relief well process was successfully completed, and the federal government declared the well "effectively dead"
- In August 2011, oil and oil sheen covering several square miles of water were reported surfacing not far from BP's Macondo well
- Scientific analysis confirmed the oil is a chemical match for Macondo
- The Coast Guard said the oil was too dispersed to recover
- The spill caused extensive damage to marine and wildlife habitats and to the Gulf's fishing and tourism industries
- Skimmer ships, floating containment booms, anchored barriers, sand-filled barricades along shorelines, and dispersants were used in an attempt to protect hundreds of miles of beaches, wetlands, and estuaries from the spreading oil.
- Scientists also reported immense underwater plumes of dissolved oil not visible at the surface as well as an 80-square-mile (210 km<sup>2</sup>) "kill zone" surrounding the blown well

# Risk Management Failures - BP



# Risk Management Failures - BP

## Risk Management Implications

- The oil and gas business is inherently risky
- Tony Hayward's (CEO) statement in BP's 2009 annual report reflects the recognition of risk:
  - “Risk remains a key issue for every business, but at BP it is fundamental to what we do. We operate at the frontiers of the energy industry, in an environment where attitude to risk is key. The countries we work in, the technical and physical challenges we take on and the investments we make – these all demand a sharp focus on how we manage risk.”
- In spite of all its efforts to manage risk, BP has more than its share of operational incidents from the explosion at its Texas City refinery to the temporary shut-down of Prudhoe Bay production
- Is BP just unlucky? Or has the oil industry become susceptible to the activity trap by relying on generally accepted risk management practices that may not work in today's environment?
- The questions to ask:
  - Is that there is a large and ever growing gap in the ability of large global corporations to identify, alter and manage operational risks
  - Are current corporate governance, enterprise risk and operational risk practices too immature to proactively identify and support decision making about risk appetite?

# Risk Management Failures - BP



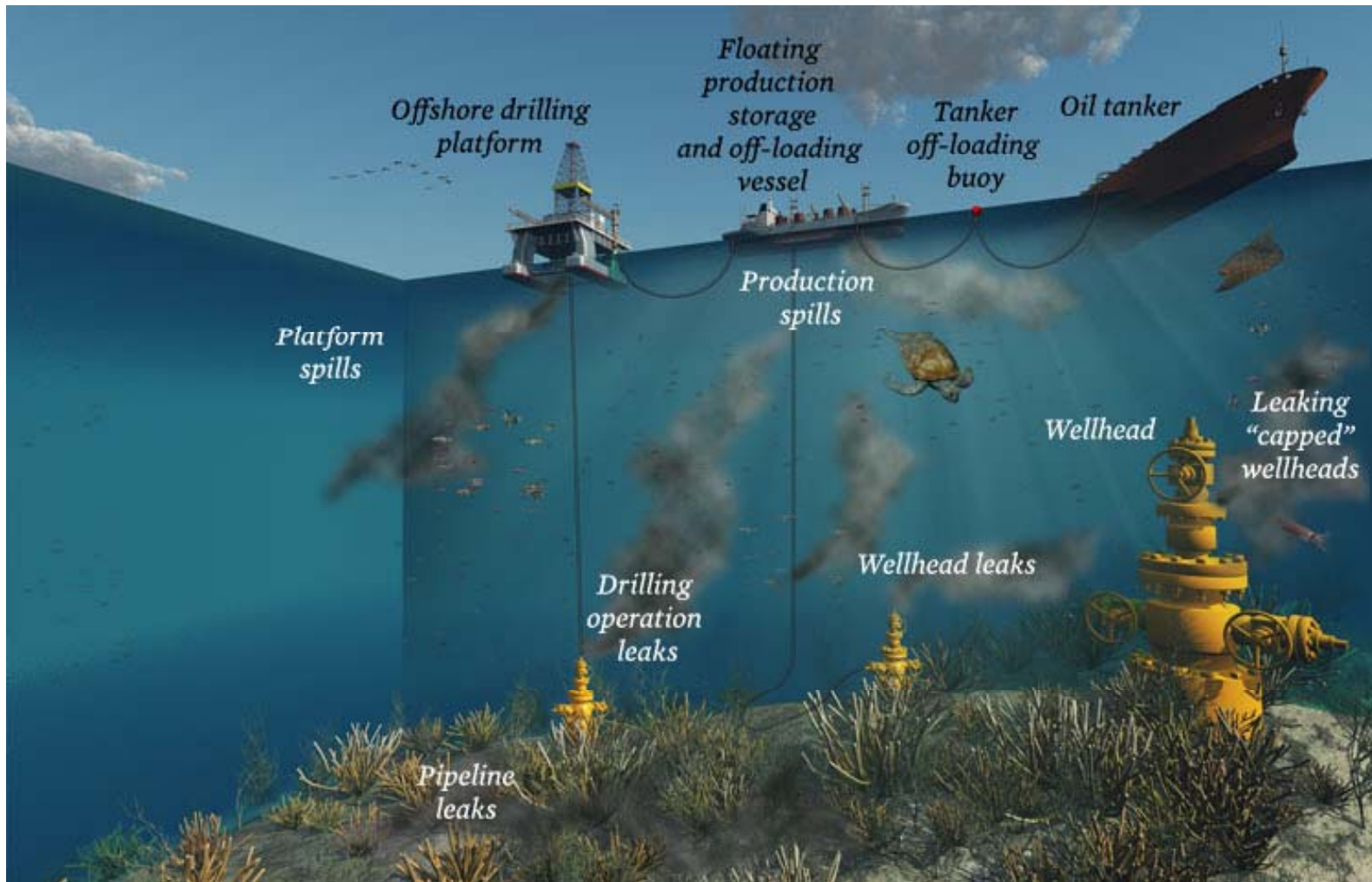


# Risk Management Failures - BP

## Risk Impact

- At its peak, the collaborative emergency response initiative brought together:
  - More than 47,800 responders
  - Dozens of federal, state and local agencies
  - Eight exploration and production operators
  - Hundreds of industry suppliers
  - More than 6,000 marine vessels
  - Six deepwater drilling vessels
  - Two Floating Production, Storage and Offloading Units (FPSOs)
  - 150 aircraft
  - Partners and governments from no fewer than 19 countries
- BP has established an irrevocable trust, to which BP is to provide a total of \$20 billion by 2014, primarily for the purpose of paying Gulf Coast Claims Facility and other claims related to the Deepwater Horizon oil spill.

# Risk Management Failures - BP



# Risk Management Failures - BP

## Risk Impact

- As of March 2011, the Gulf Coast Claims Facility (GCCF) has established four types of claim payments and paid over \$3.6 billion.
  - **Emergency Advanced Payments.** Payments that were available to individuals and businesses that experienced financial hardship resulting from damages incurred from the Deepwater Horizon oil spill and filed claims by November 23, 2010.
  - **Quick Pay (Final).** Payments to a claimant who has been paid an Emergency Advance Payments by GCCF which require the claimant to sign a release<sup>13</sup> and within 14 days be paid \$5,000 if an individual claimant or \$25,000 if a business claimant without having to submit additional supporting documents or go through further claims review.
  - **Interim Payments.** Payments for documented past damages caused by the Deepwater Horizon oil spill. The Interim Payments will not compensate for future losses or damages.
  - **Full Review (Final).** Payments for all past and future losses caused by the Deepwater Horizon oil spill. Claimants who accept a final payment are required to sign a release.

# Risk Management Failures - BP

**Table 1: Claims Paid by GCCF as of March 31, 2011 (unaudited)**

Dollars in millions

Type	Number of claims paid	Amount
Emergency Advanced Payments	169,005	\$2,580.2
Interim Payments	4,313	48.4
Quick Pay (Final) <sup>a</sup>	101,474	947.0
Full Review (Final) <sup>a</sup>	6,516	79.0
<b>Total<sup>b</sup></b>	<b>281,308</b>	<b>\$3,654.6</b>

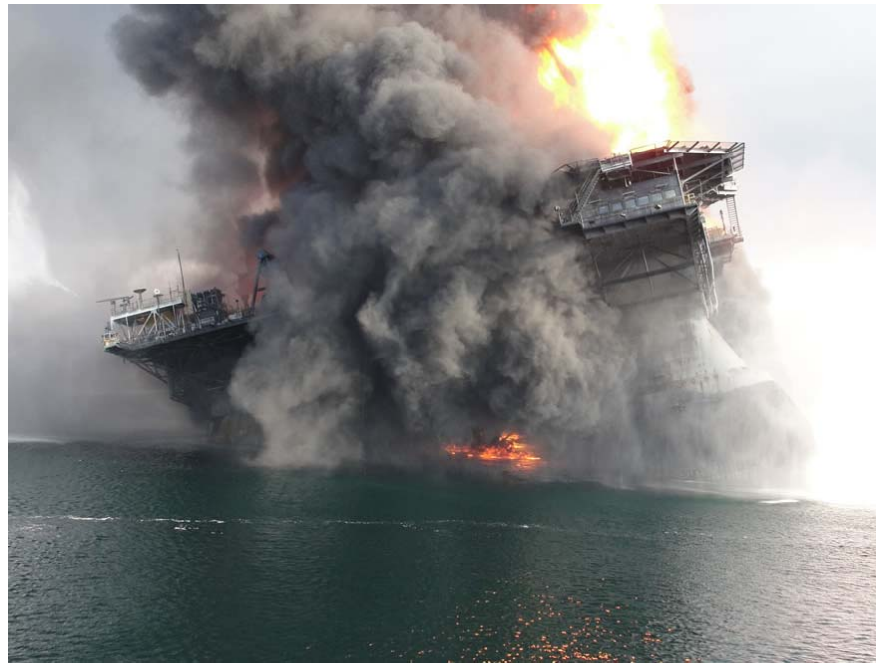
Source: GAO analysis of GCCF data.



# Risk Management Failures - BP

## Conclusions

- BP insiders may be the only people who are privy to the truth behind what actually went wrong and caused the explosion of the Deepwater Horizon offshore oil rig in April of 2010
- However, history shows that this isn't the only disaster BP has encountered over the years. Other incidents include a refinery explosion in 2005, ruptured pipeline in 2006 and narrowly missed platform explosion in 2003
- All these accidents occurred amidst a flurry of safety violations, sparking a comment by CEO Tony Hayward in 2007 acknowledging a failure to meet standards and a promise to improve risk management



# Risk Management Failures - BP

## Conclusions

- So where did the CEO and BP, ultimately, go wrong?
  - The concept of enterprise risk management is founded upon a tone at the top set by executives who believe in and support a corporate culture that raises awareness about key risks and how to handle them throughout the organization
  - In BP's case, while the CEO called for increased risk management, he never delivered
  - At the Deepwater Horizon well, the company opted for cheaper and easier solutions in order to save time and money both before and after the explosion in 2010
  - Senior BP executives have also been ambitious in exploration and production endeavors while showing indifference towards engineering excellence and maintenance budgets
  - The majority of safety focus was on infractions that were highly likely with lower impacts with hardly any consideration of less likely, high impact risks

# Risk Management Failures - BP





# Risk Management Failures - BP

## Conclusions

- Any company seeking to implement successful processes to manage enterprise risks can learn several key lessons from BP's business practices:
  1. Effective communication throughout an organization must be available to ensure the right people are informed about the right risks on a timely basis. This includes whistleblower processes, a system that was ineffective at BP noted by workers who feared for their jobs for raising safety concerns
  2. Executives need to consider the “black swans” of potential risks; the ones that carry a low likelihood of happening but could destroy a company in one fell swoop. BP stands as the current day example with economical, ecological and reputational damage eating away at the company
  3. Scenario planning should be considered for identified risks where no current solution exists. If BP had already practiced emergency procedures for a burst oil pipe, the damage could have been less severe
  4. Board members should also provide oversight for risk management practices and serve in the investor's best interest. It appears that BP's board of directors was either comfortable with the extreme amount of risk management was taking or was uninformed about the practices that were going on
  5. What is important to take away from BP's experience is that risk management isn't about avoiding risks. Instead, it is focused on understanding the key risks a company faces then taking the right risks at the best time after using the most appropriate precautions

# Risk Management Failures - BP

## Aftermath: The Court Room Drama Continues

- In a U.S. court filing, BP said it was suing (Halliburton) to recover costs and expenses from cleaning up the oil spill, lost profits, and “all other costs and damages incurred by BP related to the Deepwater Horizon incident and resulting oil spill.”
- In April 2011, BP asked a court to award it damages “equal to, or in the alternative proportional to Halliburton’s fault,” to cover clean up costs and government fines BP might face
- The company previously said it expected the costs of sealing the blown out well, cleaning up the damage, compensating those affected and government fines to reach \$42-billion
- BP has spent \$14-billion in the Gulf Coast region in its response to the spill and set aside \$20-billion for economic claims and natural resource restoration, according to its website

# Risk Management Failures - BP

## Aftermath: The Court Room Drama Continues

- BP has already cut deals with its two partners in the doomed Macondo well, Anadarko and Mitsui, which at first refuted their responsibility to contribute to oil spill bill, citing BP's negligence
- Cameron International Corp agreed a \$250-million settlement with BP to help pay for costs associated with the Gulf of Mexico oil spill, raising hopes that deals between the British oil firm and two other contractors could follow
- Yet settlement agreements with two remaining parties, Halliburton and Transocean, have to date proved elusive
- Transocean, the owner and operator of the Deepwater Horizon rig, and Halliburton, which supplied cement to cap the well, are both being sued by BP to share the cost of the spill and cleanup, while the two have launched lawsuits of their own

# Risk Management Failures - BP



# Risk Management Failures - Air France



# Risk Management Failures - Air France

## Background

- On September 2, 2005, the Air France Airbus A340-313 aircraft departed Paris, France, as Air France Flight 358 on a scheduled flight to Toronto, Ontario, with 297 passengers and 12 crew members on board
- Before departure, the flight crew members obtained their arrival weather forecast, which included the possibility of thunderstorms
- While approaching Toronto, the flight crew members were advised of weather-related delays
- On final approach, they were advised that the crew of an aircraft landing ahead of them had reported poor braking action, and Air France Flight 358s aircraft weather radar was displaying heavy precipitation encroaching on the runway from the northwest
- At about 200 feet above the runway threshold, while on the instrument landing system approach to Runway 24L with autopilot and autothrust disconnected, the aircraft deviated above the glideslope and the groundspeed began to increase

# Risk Management Failures - Air France

## Background

- During the flare, the aircraft travelled through an area of heavy rain, and visual contact with the runway environment was significantly reduced
- There were numerous lightning strikes occurring, particularly at the far end of the runway
- The aircraft touched down about 3800 feet (1158 meters) down the runway, reverse thrust was selected about 12.8 seconds after landing, and full reverse was selected 16.4 seconds after touchdown
- The aircraft was not able to stop on the 9000 foot (2,743 meters) runway and departed the far end at a groundspeed of about 80 knots
- The aircraft stopped in a ravine at 16:02 eastern daylight time and caught fire
- All passengers and crew members were able to evacuate the aircraft before the fire reached the escape routes
- A total of 2 crew members and 10 passengers were seriously injured during the crash and the ensuing evacuation

# Risk Management Failures - Air France





# Risk Management Failures - Air France

		ACTUAL LANDING DISTANCE (METRES)									
LANDING WEIGHT (1000s of kg)		130	150	170	190	210	230	250	270	290	
RUNWAY CONDITION	DRY	980	990	1050	1160	1280	1450	1650	1850	2060	
	WET	1190	1230	1320	1510	1700	1880	2050	2230	2440	
	COVERED WITH	6.3 mm Water	1550	1620	1760	2010	2260	2510	2710	2930	3150
		12.7 mm Water	1450	1520	1650	1870	2090	2310	2490	2680	2890
		6.3 mm Slush	1490	1560	1670	1900	2150	2370	2580	2770	2980
		12.7 mm Slush	1420	1480	1590	1800	2010	2220	2390	2570	2770
		Compacted Snow	1440	1480	1580	1750	1930	2090	2210	2330	2450
		Ice	2800	2960	3180	3530	3890	4200	4460	4700	4970

The runway is 2743 meters long. The Airbus was 1158 meters down the runway before it touched down. The plane weighed 185,000 kgs at the time of landing. The plane's minimum stopping distance was 2010 meters. The plane was 425 meters too far down the runway to successfully land – or 4 Canadian football fields!

# Risk Management Failures - Air France

## Risk Management Implications

- Aircraft penetration of thunderstorms on approach occurs throughout the industry and has contributed to a number of accidents worldwide. Many operators, including Air France, do not provide their crews with specific criteria, such as distance-based guidelines, for the avoidance of convective weather during final approach and landing.
- Environment Canada advises that thunderstorms can present significant risks to the safe operation of an aircraft including:
  - low ceiling and poor visibility due to intense precipitation below the thunderstorm cloud, which often seriously limits visibility
  - rapid changes in surface pressure that can lead to altitude errors
  - lightning, which increases in frequency proportionally to the storm's intensity and which also affects visibility
  - hail, both within and outside the cloud and icing, particularly in the upper part of a mature cell
  - rapid changes in wind speed and direction, which may quickly and suddenly exceed an aircraft's crosswind or other limits
  - potentially damaging wind gusts
  - downdrafts due to microbursts
  - contaminated runway surfaces in rain and/or hail
  - turbulence
  - difficulty in conducting a missed approach safely
- The severity of these hazards will vary and are difficult to predict because the weather around a thunderstorm can change rapidly.

# Risk Management Failures - Air France



# Risk Management Failures - Air France

## Conclusions

1. In the absence of clear guidelines with respect to the conduct of approaches into convective weather, there is a greater likelihood that crews will continue to conduct approaches into such conditions, increasing the risk of an approach and landing accident
2. A policy where only the captain can make the decision to conduct a missed approach can increase the likelihood that an unsafe condition will not be recognized early and, therefore, increase the time it might otherwise take to initiate a missed approach
3. Although it could not be determined whether the use of the rain repellent system would have improved the forward visibility in the downpour, the crew did not have adequate information about the capabilities and operation of the rain repellent system and did not consider using it
4. The information available to flight crews on initial approach in convective weather does not optimally assist them in developing a clear idea of the weather that may be encountered later in the approach

# Risk Management Failures - Air France

## Conclusions

1. During approaches in convective weather, crews may falsely rely on air traffic control (ATC) to provide them with suggestions and directions as to whether to land or not
2. Some pilots have the impression that ATC will close the airport if weather conditions make landings unsafe; ATC has no such mandate
3. Wind information from ground-based measuring systems (anemometers) is critical to the safe landing of aircraft. Redundancy of the system should prevent a single-point failure from causing a total loss of relevant wind information
4. The emergency power for both the public address (PA) and EVAC alert systems are located in the avionics bay. A less vulnerable system and/or location would reduce the risk of these systems failing during a survivable crash

# Risk Management Failures - Air France



# Risk Management Failures - Air France

## Conclusions

- All operators train their crews on the hazards associated with thunderstorms, emphasizing that they are best avoided whenever possible
- Regardless, Transportation Safety Board research following this accident has clearly demonstrated that the penetration of convective weather in the terminal area during an approach to land is a practice that is occurring industry-wide
- This implies that pilots are either aware of the hazards presented by convective weather on approach but accept the perceived level of risk to facilitate landing at destination, or
- Conversely, that they cannot readily assimilate, comprehend, and react to the hazards created by the rapidly changing nature of a thunderstorm
- Consequently, approach and landing accidents due to convective weather occur regularly worldwide

# Thank you

Peter Heimler  
Associate Partner - Enterprise Risk Management

 KPMG LLP

Tel.: 416-777-3509  
Email: [pheimler@kpmg.ca](mailto:pheimler@kpmg.ca)





A large blue trapezoidal graphic on the left side of the page, tapering from left to right. The text is centered within this graphic.

# **Appendix A**

## **Risk Management Principles**

# Risk Management Principles – ISO 31000

## **a. Risk management creates and protects value.**

- Risk management contributes to the demonstrable achievement of objectives and improvement of performance in, for example, human health and safety, security, legal and regulatory compliance, public acceptance, environmental protection, product quality, project management, efficiency in operations, governance and reputation.

## **b. Risk management is an integral part of all organizational processes.**

- Risk management is not a stand-alone activity that is separate from the main activities and processes of the organization. Risk management is part of the responsibilities of management and an integral part of all organizational processes, including strategic planning and all project and change management processes.

## **c. Risk management is part of decision making.**

- Risk management helps decision makers make informed choices, prioritize actions and distinguish among alternative courses of action.

## **d. Risk management explicitly addresses uncertainty.**

- Risk management explicitly takes account of uncertainty, the nature of that uncertainty, and how it can be addressed. Source: ISO 31000, 2009

# Risk Management Principles – ISO 31000

## **e. Risk management is systematic, structured and timely.**

- A systematic, timely and structured approach to risk management contributes to efficiency and to consistent, comparable and reliable results.

## **f. Risk management is based on the best available information.**

- The inputs to the process of managing risk are based on information sources such as historical data, experience, stakeholder feedback, observation, forecasts and expert judgement. However, decision makers should inform themselves of, and should take into account, any limitations of the data or modelling used or the possibility of divergence among experts.

## **g. Risk management is tailored.**

- Risk management is aligned with the organization's external and internal context and risk profile.

## **h. Risk management takes human and cultural factors into account.**

- Risk management recognizes the capabilities, perceptions and intentions of external and internal people that can facilitate or hinder achievement of the organization's objectives.

Source: ISO 31000, 2009

# Risk Management Principles – ISO 31000

## **i. Risk management is transparent and inclusive.**

- Appropriate and timely involvement of stakeholders and, in particular, decision makers at all levels of the organization, ensures that risk management remains relevant and up-to-date. Involvement also allows stakeholders to be properly represented and to have their views taken into account in determining risk criteria.

## **j. Risk management is dynamic, iterative and responsive to change.**

- Risk management continually senses and responds to change. As external and internal events occur, context and knowledge change, monitoring and review of risks take place, new risks emerge, some change, and others disappear.

## **k. Risk management facilitates continual improvement of the organization.**

- Organizations should develop and implement strategies to improve their risk management maturity alongside all other aspects of their organization

Source: ISO 31000, 2009

# **Appendix A – Attributes of Effective Risk Management**

# ISO 31000 - Attributes of Effective Risk Management

## A.3.1 Continual improvement

- An emphasis is placed on continual improvement in risk management through the setting of organizational performance goals, measurement, review and the subsequent modification of processes, systems, resources, capability and skills.
- This can be indicated by the existence of explicit performance goals against which the organization's and individual manager's performance is measured.
- The organization's performance can be published and communicated. Normally, there will be at least an annual review of performance and then a revision of processes, and the setting of revised performance objectives for the following period.
- This risk management performance assessment is an integral part of the overall organization's performance assessment and measurement system for departments and individuals.

# ISO 31000 - Attributes of Effective Risk Management

## A.3.2 Full accountability for risks

- Enhanced risk management includes comprehensive, fully defined and fully accepted accountability for risks, controls and risk treatment tasks. Designated individuals fully accept accountability, are appropriately skilled and have adequate resources to check controls, monitor risks, improve controls and communicate effectively about risks and their management to external and internal stakeholders.
- This can be indicated by all members of an organization being fully aware of the risks, controls and tasks for which they are accountable. Normally, this will be recorded in job/position descriptions, databases or information systems.
- The definition of risk management roles, accountabilities and responsibilities should be part of all the organization's induction programmes.
- The organization ensures that those who are accountable are equipped to fulfill that role by providing them with the authority, time, training, resources and skills sufficient to assume their accountabilities.

# ISO 31000 - Attributes of Effective Risk Management

## A.3.3 Application of risk management in all decision making

- All decision making within the organization, whatever the level of importance and significance, involves the explicit consideration of risks and the application of risk management to some appropriate degree.
- This can be indicated by records of meetings and decisions to show that explicit discussions on risks took place.
- In addition, it should be possible to see that all components of risk management are represented within key processes for decision making in the organization, e.g. for decisions on the allocation of capital, on major projects and on re-structuring and organizational changes.
- For these reasons, soundly based risk management is seen within the organization as providing the basis for effective governance.



# ISO 31000 - Attributes of Effective Risk Management

## A.3.4 Continual communications

- Enhanced risk management includes continual communications with external and internal stakeholders, including comprehensive and frequent reporting of risk management performance, as part of good governance.
- This can be indicated by communication with stakeholders as an integral and essential component of risk management.
- Communication is rightly seen as a two-way process, such that properly informed decisions can be made about the level of risks and the need for risk treatment against properly established and comprehensive risk criteria.
- Comprehensive and frequent external and internal reporting on both significant risks and on risk management performance contributes substantially to effective governance within an organization.

# ISO 31000 - Attributes of Effective Risk Management

## A.3.5 Full integration in the organization's governance structure

- Risk management is viewed as central to the organization's management processes, such that risks are considered in terms of effect of uncertainty on objectives.
- The governance structure and process are based on the management of risk.
- Effective risk management is regarded by managers as essential for the achievement of the organization's objectives.
- This is indicated by managers' language and important written materials in the organization using the term “uncertainty” in connection with risks.
- This attribute is also normally reflected in the organization's statements of policy, particularly those relating to risk management. Normally, this attribute would be verified through interviews with managers and through the evidence of their actions and statements.



*cutting through complexity*

© 2013 KPMG LLP, a Canadian limited liability partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative (“KPMG International”), a Swiss entity. All rights reserved.

The KPMG name, logo and “cutting through complexity” are registered trademarks or trademarks of KPMG International Cooperative (“KPMG International”).