

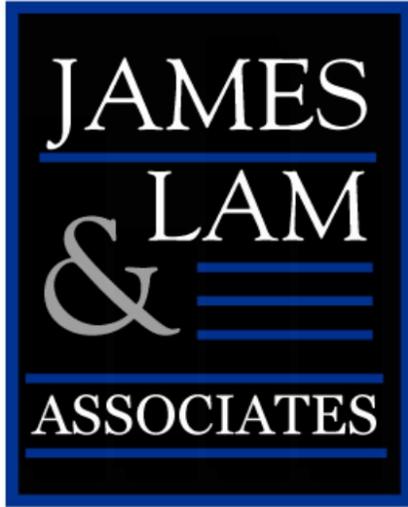


BOARD OVERSIGHT OF DISRUPTIVE RISKS

James Lam, President
James Lam & Associates, Inc.

Learning Objectives:

1. Define the three major types of disruptive risks.
2. Understand why they are so complex and difficult to deal with.
3. Learn practice ways to incorporate disruptive risks into board risk oversight.



Volunteer Leadership Institute

Board Oversight of Disruptive Risks

January 31, 2020

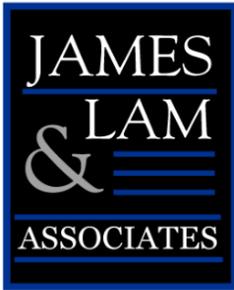
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Professional Biography



➤ Corporate Director

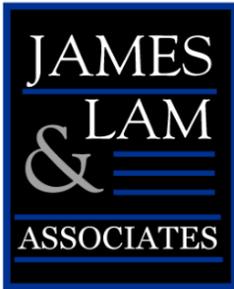
- Director and Chair of the Risk Oversight Committee, E*TRADE
- Director and Chair of the Audit Committee, RiskLens, Inc.
- NACD D100 Honoree, Board Leadership Fellow, and Faculty

➤ Management Consultant

- President, James Lam & Associates, Inc.
- Former Partner, Oliver Wyman & Company

➤ C-Suite Executive

- Former Chief Risk Officer, Fidelity Investments
- Former Chief Risk Officer, GE Capital Market Services



Founded in 2002, JLA is singularly focused on risk management

Our Approach

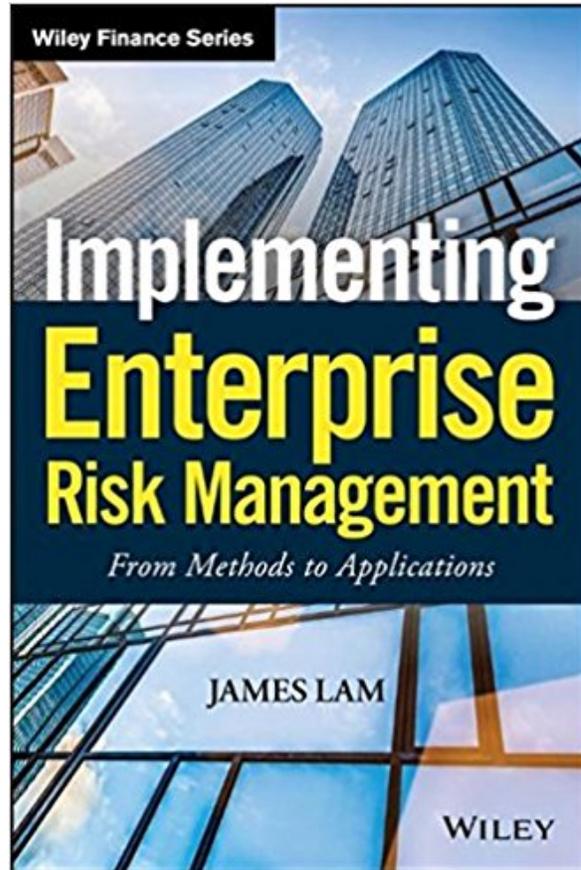
- Senior level engagement
- Customized client solutions
- Efficient use of resources
- Effective knowledge transfer
- Implementation oriented

Consulting Practice

- Cross industry sectors
- Over 75 ERM engagements
- Repeat or referred clients
- Two-way “put option”
- 100% client satisfaction

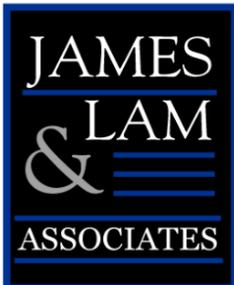


ERM should be defined as a value-added function



Risk is a variable that can cause deviation from an expected outcome.

Enterprise risk management is an integrated and continuous process for managing enterprise-wide risks – strategic, financial, operational, compliance, and reputational risks – in order to minimize unexpected performance variance and maximize firm value.



The evolution of ERM

State of ERM

Phase One
Early 1990s
to mid 2000s

Major Events and Risks

- Derivatives losses (1994): Orange County, Procter & Gamble, Gibson Greetings
- Rogue traders (1994-1995): Barings, Kidder, Daiwa
- Accounting fraud (2000/2001): Enron, WorldCom, Tyco

Key Developments

- Group of 30 Report
- Sarbanes-Oxley
- VaR models
- Real-time market risk management
- Operational risk management

Phase Two
Mid 2000s to
present

- Global financial crisis (2008): Lehman, Bear Sterns, AIG
- Recent events: Oil price drop; China slowdown, negative interest rates; cyber-attacks

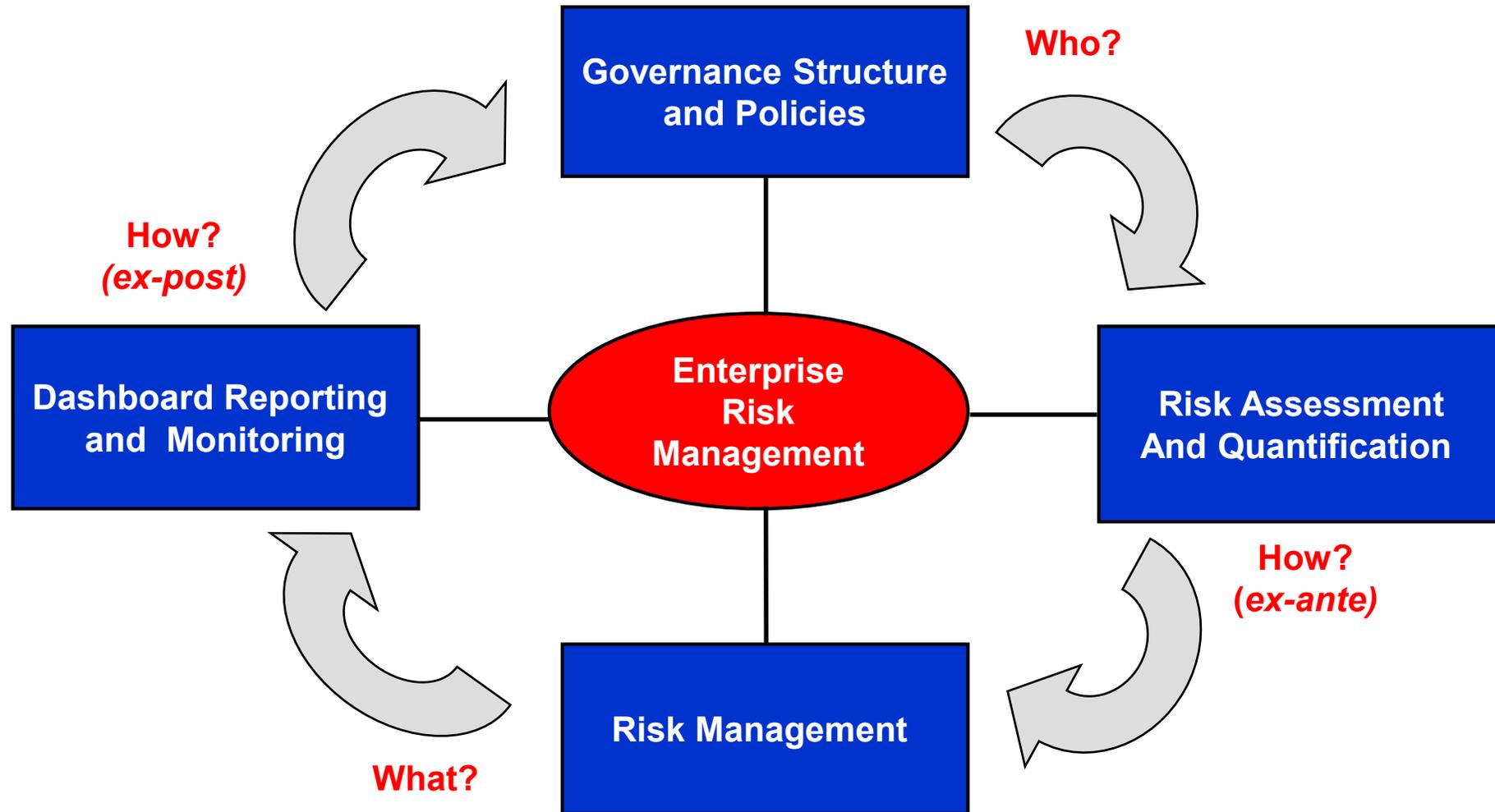
- Dodd-Frank
- Basel II; ORSA
- Stress-testing
- Scenario analysis
- Strategic risk management

Phase Three
The next 5-10
years

- Cyber security
- “Internet of everything”
- Climate change
- Geo-political risks
- Global terrorism

- Basel III and Basel IV
- Cybersecurity Disclosure Act
- Continuous ERM
- Collaborative reporting
- Evidence-based assurance

ERM Framework and Processes





Key components of an ERM program

ERM	Components and Practices
Governance Structure and Policies	<ul style="list-style-type: none">• Board-management governance structure and charters• Three lines of defense model• Risk appetite statement• Independent risk and compliance functions
Risk Assessment and Quantification	<ul style="list-style-type: none">• Risk-control self assessments• Loss-event database• Key risk indicators• Value-at-risk, stress-testing and scenario analysis models
Risk Management	<ul style="list-style-type: none">• Risk acceptance, avoidance, mitigation, and risk transfer• Risk-based pricing• Capital allocation and risk/return optimization
Dashboard Reporting and Monitoring	<ul style="list-style-type: none">• Intersection between strategy and ERM• Decision-based reporting• ERM performance feedback loop

ERM Success Story: Recology



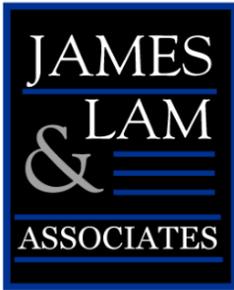
Company Profile

- ❑ Waste management company founded in 1920
- ❑ Based in San Francisco; 3,800 employees
- ❑ Over \$1 billion in revenue
- ❑ 100% employee-owned; ESOP structure
- ❑ Innovations in ESG: keeps 80% of waste out of landfills; runs internationally known art program

ERM Program

For 2018, one of the top 5 annual goals for Recology's CEO and Board of Directors was to implement a best-in-class ERM program.

- Established board-level risk committee, executive ERM steering committee, and cross-functional ERM implementation teams.
- Established ERM framework and roadmap, risk appetite statement, quarterly ERM report, earnings-at-risk analysis, risk culture survey, and loss-event database. Integrated ERM with strategic plan, M&A playbook, and cybersecurity.
- Recently honored with the RIMS 2019 Global ERM Award of Distinction.



We live in an age of disruption

The Current Environment

- Cyber Threats
- New Technologies
- Emerging Markets
- Investor Activism
- Advocacy Groups
- Role of Business in Society
- Changing business models
- Disruptive Competition
- Climate Change
- Resource Scarcity
- Global Regulatory Activism
- Increased Media Focus
- Speed of Innovation
- Economic Volatility
- Demographic Shifts
- Political Polarization
- Recycling

A New Mandate for Boards

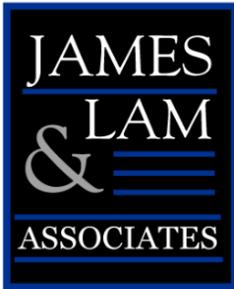
- Increased Accountability (see Marchand and Clovis cases)
- Growing Role in Strategy
- Increased Time Commitment/Preparation
- Business Disruptions Now the Norm
- New Areas of Oversight
- Focus on Long-Term Value Creation

NACD 2018 Blue Ribbon Commission Report: Board Oversight of Disruptive Risks



Disruptive risks defined:

- Risks that could have a **major impact** on a company's:
 - revenue
 - profitability
 - competitive position
 - reputation
- They could be **technology** related or not
- They could be **internal** to the organization and/or threats that come from **outside**
- They can occur **suddenly** or over **many years**



Recommendations of the 2018 NACD Blue Ribbon Commission

1. Develop a shared understanding of disruptive risks
2. Consider how to incorporate disruptive risks into the committee-levels and put into charter language
3. **Ensure that the ERM processes are robust**
4. Evaluate the culture of the board on dimensions such as level of openness of sharing concerns, acceptance of nontraditional points of view
5. CEO selection process should incorporate elements of disruptive risk
6. Talent strategy should incorporate elements of managing disruptive risks
7. Director re-nomination should not be a given
8. Board diversity is a strategic imperative not a compliance item
9. Incorporate ongoing learning into director evaluations
10. **Ensure board level risk reports provide forward-looking information**
11. **Establish time on the board agenda for substantive discussions of disruptive risks**

Interesting data points on disruptive risks

93% OF LEADERS EXPECT GLOBAL CONFLICTS TO INCREASE



90% of the world's **data** created in the last 2 years

Average time spent on
STANDARD
& POOR'S 500

33 years
(1964)



22 years
(2019)



12 years
(2027)



Poll of directors

62%

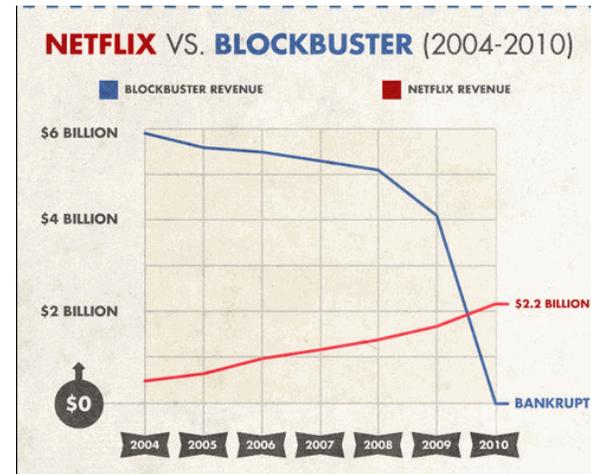
view disruptive risks as
"much more important"

82% confident with *known risks*

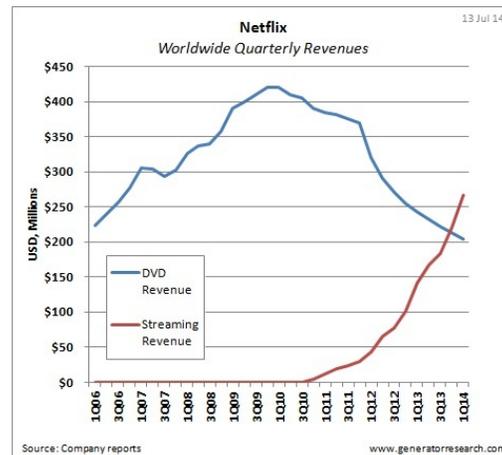
19% confident with *atypical, disruptive risks*

NETFLIX: The art of the strategic pivot

Market Shift - 1



Market Shift - 2



NACD Directorship Cover Story

Cover Story

An Animal Kingdom Of Disruptive Risks

Where was the board? As a corporate director, imagine you find yourself in one of these difficult situations:

- Unexpected financial losses mount as your bank faces a sudden collapse during a 1-in-100-year economic crisis.
- Customers leave and profits drop year after year as a new technology start-up takes over your No. 1 market position.
- Negative headlines and regulatory actions besiege your company following undesirable tweets and other belligerent behavior from the CEO.

These scenarios are not hard to imagine when you consider what unfolded before the boards of Lehman Brothers, Blockbuster, Tesla, and others. In the context of disruptive risks, these events can be referred to as black swans, gray rhinos, and white elephants, respectively. While each has unique characteristics, the commonality is that all of these risks can have a major impact on a company's profitability, competitive position, and reputation.

As presented in the 2018 NACD Blue Ribbon Commission Report on Adaptive Governance: Board Oversight of Disruptive Risks, most companies are unprepared for a volatile, uncertain, complex, and ambiguous (VUCA) business environment. In a recent NACD poll, 62 percent of directors viewed disruptive risks as "much more important" than five years ago. Only 19 percent of directors, however, expressed confidence in management's ability to address such risks.

This gap between awareness and confidence is well founded. According to a separate study, the average time companies exist within the S&P 500 index has declined from 33 years in 1964 to 24 years in 2016, and is forecasted to drop to 12 years by 2027. Indeed, value creation and destruction is occurring at an unprecedented and accelerating speed.

In a VUCA world, boards need to expand their risk governance and oversight to include disruptive risks. This article addresses three fundamental questions:

- What are black swans, gray rhinos, and white elephants?
- Why are they so complex and difficult to deal with?
- How should directors incorporate these disruptive risks as part of their oversight?

How boards can oversee black swans, gray rhinos, and white elephants.
By James C. Lam



24 NACD Directorship January/February 2019

An animal kingdom of disruptive risks



**Black Swans, or
“Unknown
Unknowns”**



**Gray Rhinos, or
“Known Unknowns”**



**White Elephants, or
“Known Knowns”**

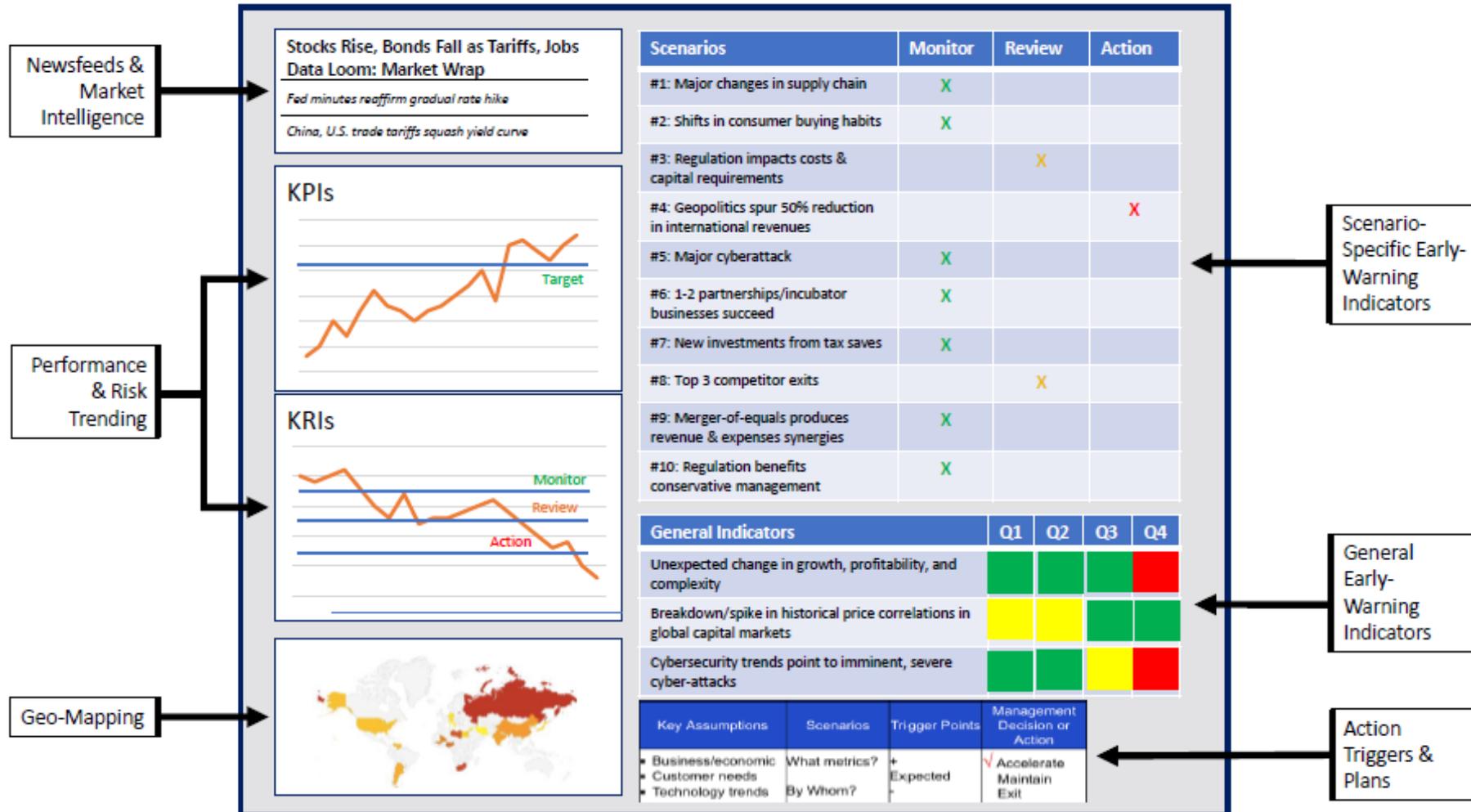
Identifying and addressing black swans, gray rhinos, and white elephants

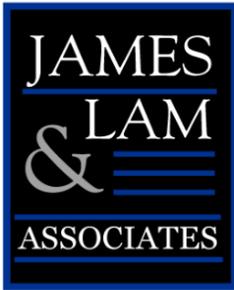
Risks	Probability	Challenge	Examples	Indicators	Strategies
Black Swans ("unknown unknowns")	Extremely Low	Prediction	Invention of the internet, 9/11 attack, 2008 economic crisis	Breakdowns in historical price correlations, sudden and unexpected shocks	Develop scenario analysis, early warning indicators and contingency plans. Goal: preparedness
Gray Rhinos ("known unknowns")	Moderate to High	Inertia	Disruptive technologies, cybersecurity, climate change	Emerging megatrends, capital formation and value creation by start-ups	Establish processes for innovation, experimentation, and change management. Goal: agility
White Elephants ("known knowns")	Extant	Subjectivity	Irrational or unethical CEOs, dysfunctional culture, dangerous products, #MeToo movement	No-win situations, conflicts of interest, emotional meetings, unexpected and sharp declines in business performance	Invest in good governance, company culture and values, objective advice, and crisis management. Goal: decisiveness

Scenario Analysis: 7 Steps



Dashboard reporting for disruptive risks

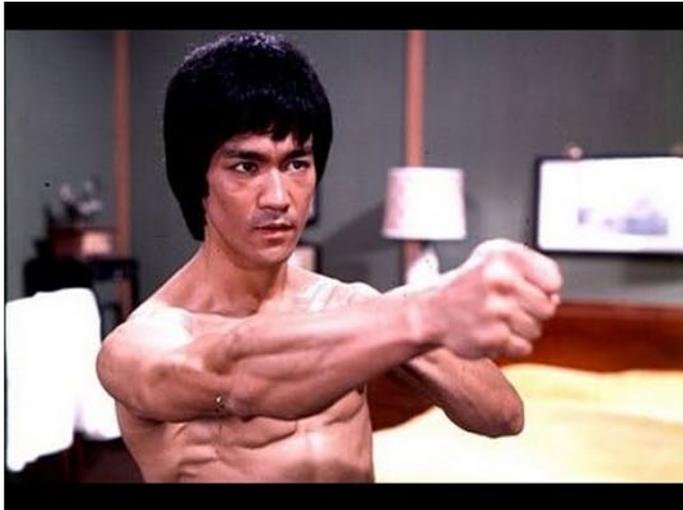




Key takeaways for credit union directors

1. Define the roles of the full board and its standing committees regarding risk oversight
2. Deep dive on business strategy, key assumptions and risks, and defined risk appetite
3. Ensure the company's enterprise risk management is effective, but also consider disruptive risks
4. Monitor the company's culture and incentive structure
5. Work with management to define the right risk metrics and reporting for the board

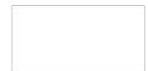
Final thought: a quote from my childhood hero Bruce Lee



"Before I learned martial arts, a punch was just a punch and a kick was just a kick.

When I studied martial arts, a punch was no longer just a punch and a kick was no longer just a kick.

Now I understand martial arts, a punch is just a punch and a kick is just a kick."



An Animal Kingdom Of Disruptive Risks

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How boards can oversee black swans, gray rhinos, and white elephants.

By James C. Lam





J.T.
MORROW

Black Swans

Black swans are events that are highly improbable, difficult to predict, and have massive impact. The 2008 financial crisis serves as a clear example. The fourth-largest investment bank, with a 158-year history, Lehman Brothers filed for the biggest bankruptcy in US history on Sept. 15, 2008, sending global markets plummeting. Other noteworthy examples include the invention of the Internet, the 9/11 attacks, and the dot-com crash. Such events could all be considered “unknown unknowns”—they were unexpected and their effects only became clear after the fact.

By definition, black swans are unforeseeable tail-risk events. Individually, these events are highly improbable, but collectively they occur far more frequently than one might expect. For example, New York City was hit by 100-year storms two years in a row—Hurricanes Irene in 2011 and Sandy in 2012. While we tend to view black swans as threats whose damage can be at best mitigated, it is important to recognize that they can also be great opportunities whose rewards disproportionately flow to the well-prepared. A timely and principled approach to even the most ominous events can generate outsized returns, such as the wealth creation by some hedge funds that shorted the markets prior to the 2008 crash.



Gray Rhinos

These probable, high-impact trends are clearly observable but often ignored. Disruptive technologies are great examples of gray rhinos. The rise of Netflix and the demise of Blockbuster occurred over many years. In 2000, Blockbuster passed up an offer to buy a start-up called Netflix for \$50 million. Blockbuster filed for bankruptcy in 2010; today Netflix is worth over \$100 billion. Gray rhinos could also be considered “known unknowns”: we know these emerging trends could have massive impact, but we don’t know how to react appropriately. Examples of current gray rhinos include artificial intelligence, blockchain, cybersecurity, and climate change. These



Tesla co-founder and CEO Elon Musk agreed in 2018 to step down as chair as part of a settlement with US regulators of a lawsuit alleging he duped investors with misleading statements about a proposed buyout of the company.

megatrends have been brewing for years, with visible risks and opportunities, but many companies have yet to respond effectively. For example, artificial intelligence is often treated like a shiny new object, though its origin dates back to 1956 at Dartmouth College, when a computer learned to beat humans at checkers.

While Elephants

White elephants are extant, existential risks that are difficult to address. Decisive actions are made difficult because they are no-win situations fraught with subjectivity, emotions, and loyalties. A classic “elephant in the room” example is a money-losing business favored by the CEO. These situations could also be considered “known knowns,” or big problems that we know about and that we know we should do something about, but toward which we fail to act appropriately. For instance, Tesla’s stock recently went on a roller-coaster ride during a period in which co-founder Elon Musk tweeted about going private and then appeared to be smoking cannabis on video. The US Securities and Exchange Commission fined Musk and Tesla \$20 million each and forced Musk to give up the role of chair (he remains CEO). How should any board deal with an iconic CEO who is misbehaving?

Other examples of white elephants can be found in the sexual harassment and abuse cases that collectively ushered in the #MeToo movement. In addition to dealing with powerful CEOs, boards often need to toe the line between growing profitable businesses and being socially and ethically responsible. Consider the alleged role of Big Pharma in the opioid crisis, or any company facing the dilemma of marketing a potentially dangerous product. Back in 1994, imagine how directors of the seven tobacco companies felt when they witnessed their CEOs testifying under oath and before the US Congress that nicotine was not addictive.

Complexities and Biases

Why are companies so ill prepared for disruptive risks? There are

PHOTOS: ASSOCIATED PRESS

three main challenges: (1) standard enterprise risk management (ERM) programs may not capture them; (2) they each present unique characteristics and complexities; and (3) cognitive biases prevent directors and executives from addressing them.

Standard tools used in ERM, including risk assessments and heat maps, are not timely or dynamic enough to capture unconventional and atypical risks. Most risk quantification models—such as earnings volatility and value-at-risk models—measure potential loss within a 95 percent or 99 percent confidence level. Black swan events, on the other hand, may have a much smaller than 0.1 percent chance of happening. Gray rhinos and white elephants are atypical risks that may have no historical precedent or operational playbooks. As such, disruptive risks may not be adequately addressed in standard ERM programs even if they have the potential to destroy the company.

The characteristics and complexities of each type of disruptive risk are unique. The key challenge with black swans is prediction. They are outliers that were previously unthinkable. That is not the case with gray rhinos, since they are generally observable trends. With gray rhinos the main culprit is inertia: companies see the megatrends charging at them, but they can't seem to mitigate the risk or seize the opportunity. The key issue with white elephants is subjectivity. These no-win situations are often highly charged with emotions and conflicts. Doing nothing is usually the easiest choice but leads to the worst possible outcome.

While it is imperative to respond to disruptive risks, cognitive biases can lead to systematic errors in decision making. Behavioral economists have identified dozens of biases, but several are especially pertinent in dealing with disruptive risks:

- Availability and hindsight bias is the underestimation of risks that we have not experienced and the overestimation of risks that we have. This bias is a key barrier to acknowledging atypical risks until it is too late.

- Optimism bias is a tendency to overestimate the likelihood of positive outcomes and to underestimate the likelihood of negative outcomes. This is a general issue for risk management, but it is especially problematic in navigating disruptive risks.

- Confirmation bias is the preference for information that is consistent with one's own beliefs. This behavior prevents us from processing new and contradictory information, or from responding to early signals.

- Groupthink or herding occurs when individuals strive for group consensus at the cost of objective assessment of alternative viewpoints. This is related to the sense of safety in being part of a larger group, regardless if their actions are rational or not.

- Myopia or short-termism is the tendency to have a narrow

view of risks and a focus on short-term results (e.g., quarterly earnings), resulting in a reluctance to invest for the longer term.

- Status quo bias is a preference to preserve the current state. This powerful bias creates inertia and stands in the way of appropriate actions.

To overcome cognitive biases, directors must recognize that they exist and consider how they impact decision making. Moreover, board diversity, objective data, and access to independent experts can counter cognitive biases in the boardroom.

Recommendations for Consideration

How should directors help their organizations navigate disruptive risks? They can start by asking the right questions in the context of the organization's business model and strategy. The sidebar below lists 10 questions that directors can ask themselves and management.

In addition, directors should consider the following five recommendations to enhance their risk governance and oversight:

1. **Incorporate disruptive risks into the board agenda.** The full board should discuss the potential impact of disruptive risks as part of its review of the organization's strategy to create sustainable long-term value. Disruptive risks may also appear on the agenda of key committees, including the risk committee's assessment of

Questions on Disruptive Risks for Boards

1. Does our board composition, culture, and agenda support oversight of disruptive risks?
2. What are the three to five scenarios that could kill the company?
3. What are the three to five scenarios that could increase market value by 10 times in the next three years?
4. Given our business strategy, have we stress-tested the most critical assumptions?
5. Do we have a set of early warning indicators for emerging and existential risks?
6. What opportunities have we missed over the past three years due to inaction rather than lack of knowledge?
7. If we operate "business as usual," what could be our greatest regrets in the future?
8. Are we honestly facing issues related to undesirable behavior or dysfunctional culture?
9. Are we fighting one fire after another without addressing the root causes?
10. Does our board reporting provide appropriate outside-in, forward-looking information?

enterprise risks, the audit committee's review of risk disclosures, the compensation committee's determination of executive incentive plans, and the governance committee's processes for addressing undesirable executive behavior. The key is to explicitly incorporate disruptive risks into the board's oversight and scope of work.

2. Ensure that fundamental ERM practices are effective. Fundamental ERM practices—risk policy and analytics, management strategies, and metrics and reporting—provide the baseline from which disruptive risks can be considered. As an example, the definition of risk appetite can inform discussions of loss tolerance relative to disruptive risks. As an early step, the board should ensure

To overcome inertia and deal with gray rhinos, the company needs to establish organizational processes and incentives to increase agility.

that the overall ERM framework is robust and effective. Otherwise, the organization may fall victim to “managing risk by silo” and miss critical interdependencies between disruptive risks and other enterprise risks.

3. Consider scenario planning and analysis. Directors should recognize that basic ERM tools may not fully capture disruptive risks. They should consider advocating for, and participating in, scenario planning and analysis. This is akin to tabletop exercises for cyber-risk events, except much broader in scope. Scenario analysis can be a valuable tool to help companies put a spotlight on hidden risks, generate strategic insights on performance drivers, and identify appropriate actions for disruptive trends. The objective is not to predict the future, but to identify the key assumptions and sensitivities in the company's business model and strategy. In addition to scenario planning, dynamic simulation models and stress-testing exercises should be considered.

4. Ensure board-level risk metrics and reports are effective. The quality of risk reports is key to the effectiveness of board risk oversight. Standard board risk reports often are comprised of insufficient information: historical loss and event data, qualitative risk assessments, and static heat maps. An effective board risk report should include quantitative analyses of risk impacts to earnings and value, key risk metrics measured against risk appetite, and forward-looking information on emerging risks. By leveraging scenario planning, the following reporting components can enhance disruptive risk monitoring:

- Market intelligence data that provides directors with useful “outside-in” information, including key business and industry developments, consumer and technology trends, competitive actions, and regulatory updates.

- Enterprise performance and risk analysis including key performance and risk indicators that quantify the organization's sensitivities to disruptive risks.

- Geo-mapping that highlights global “hot spots” for economic, political, regulatory, and social instability. This can also show company-specific risks such as third-party vendor, supply chain, and cybersecurity issues.

- Early-warning indicators that provide general or scenario-specific signals with respect to risk levels, effectiveness of controls, and external drivers.

- Action triggers and plans to facilitate timely discussions and decisions in response to disruptive risks.

5. Strengthen board culture and governance. To effectively oversee disruptive risks, the board must be fit for purpose. This requires creating a board culture that considers nontraditional views, questions key assumptions, and supports continuous improvement. Good governance practices should be in place in the event a white elephant appears. For example, what is the board protocol and playbook if the CEO acts inappropriately? In the United States, the 25th Amendment and impeachment clauses are in place ostensibly to remove a reprehensible president. Does the organization have procedures to remove a reprehensible CEO?

The chart on the opposite page summarizes the key characteristics, examples, indicators, and strategies for identifying and addressing black swans, gray rhinos, and white elephants. The end goal should be to enhance oversight of disruptive risks and counter the specific challenges that are presented. To mitigate the unpredictability of black swans, the company should develop contingency plans with a focus on preparedness. To overcome inertia and deal with gray rhinos, the company needs to establish organizational processes and incentives to increase agility. To balance subjectivity and confront white elephants, directors should invest in good governance and objective input that will support decisiveness.

The Opportunity for Boards

In a VUCA world, corporate directors must expand their traditional risk oversight beyond well-defined strategic, operational, and financial risks. They must consider atypical risks that are hard to predict, easy to ignore, and difficult to address. While black swans, gray rhinos, and white elephants may sound like exotic events, directors could enhance their recognition of them by reflecting on their own experiences serving on boards.

Given their experiences, directors should provide a leading voice to improve oversight of disruptive risks. They have a comparative advantage in seeing the big picture based on the nature of their work—part time, detached from day-to-day operations, and with experience gained from serving different companies and industries. Directors can add significant value by providing guidance to management and helping them see the forest for the trees.

Finally, there is an opportunity side to risk. There are positive and negative black swans. A company can invest in the positive ones and be prepared for the negative ones. For every company that is trampled by a gray rhino, another company is riding it to a higher level of performance. By addressing the

white elephant in the boardroom, a company can remediate an unspoken but serious problem. In the current environment, board oversight of disruptive risks represents both a risk management imperative and a strategic business opportunity. **D**

James C. Lam is president of James Lam & Associates, a risk management consulting firm. He is a director and chair of the risk oversight committee of E*TRADE Financial and an independent director of RiskLens. Lam served as a commissioner for the 2018 NACD Blue Ribbon Commission initiative on board oversight of disruptive risks. He was also a 2018 NACD Directorship 100 honoree. Email him at james@jameslam.com.

For Further Reading

James Lam, *Implementing Enterprise Risk Management: From Methods to Applications* (Wiley, 2017)

Nassim Nicholas Taleb, *The Black Swan: The Impact of the Highly Improbable*, 2nd ed. (Random House Trade Paperbacks, 2010)

Michele Wucker, *The Gray Rhino: How to Recognize and Act on the Obvious Dangers We Ignore*, (St. Martin's Press, 2016)

Report of the NACD Blue Ribbon Commission on Adaptive Governance: Board Oversight of Disruptive Risks (free download at NACDonline.org)

Identifying and Addressing Black Swans, Gray Rhinos, and White Elephants

Risks	Probability	Challenge	Examples	Indicators	Strategies
Black Swans ("unknown unknowns")	Low	Prediction	Invention of the Internet, 9/11 attack, 2008 economic crisis	Breakdowns in historical price correlations, sudden and unexpected shocks	Develop scenario analysis, early warning indicators, and contingency plans Goal: preparedness
Gray Rhinos ("known unknowns")	Moderate to high	Inertia	Disruptive technologies, cybersecurity, climate change	Emerging megatrends, capital formation and value creation by start-ups	Establish processes for innovation, experimentation, and change management Goal: agility
White Elephants ("known knowns")	Extant	Subjectivity	Irrational or unethical CEOs, dysfunctional culture, dangerous products, #MeToo movement	No-win situations, conflicts of interest, emotional meetings, unexpected and sharp declines in business performance	Invest in good governance, company culture and values, objective advice, and crisis management Goal: decisiveness