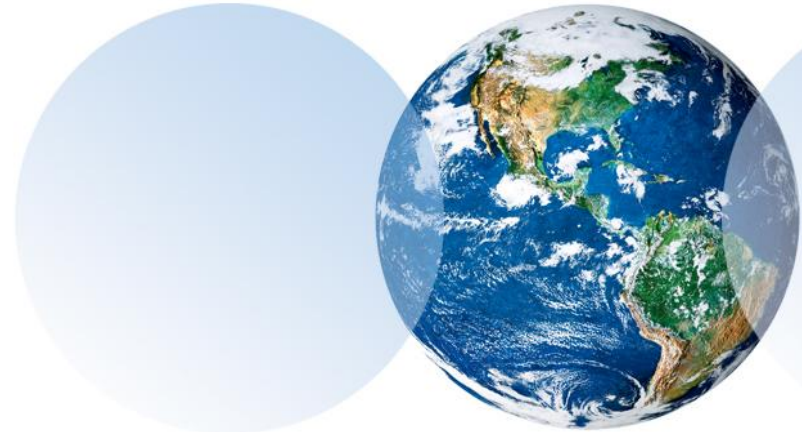


# “Trust But Verify ”: How to Account for the Weak Links in the Global Supply Chain



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February 4, 2010, Naples FL

## 1. The global dimension of risk

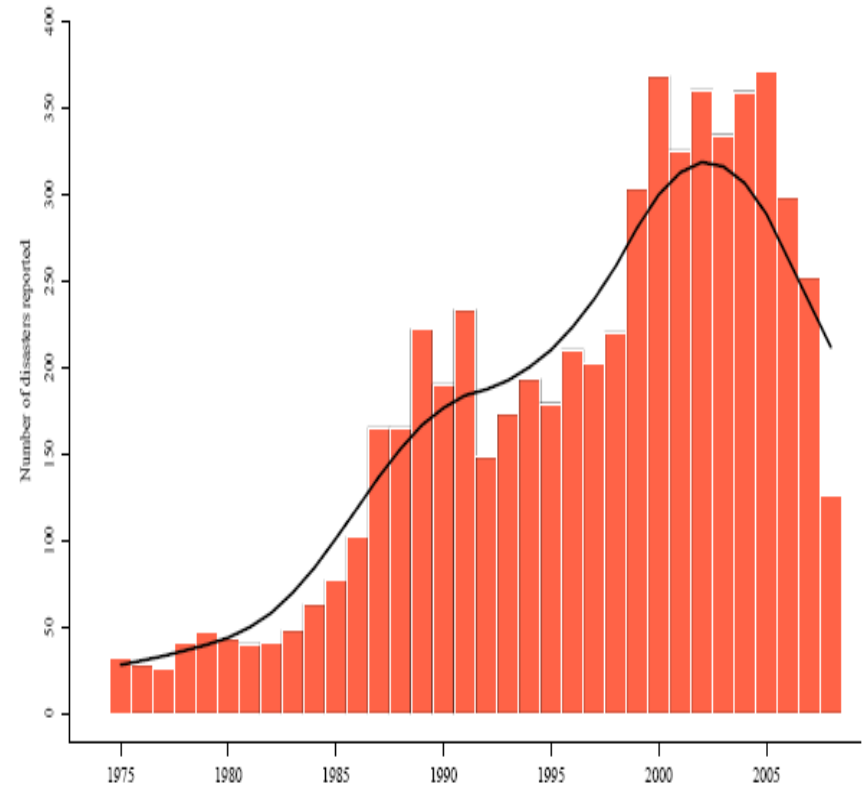
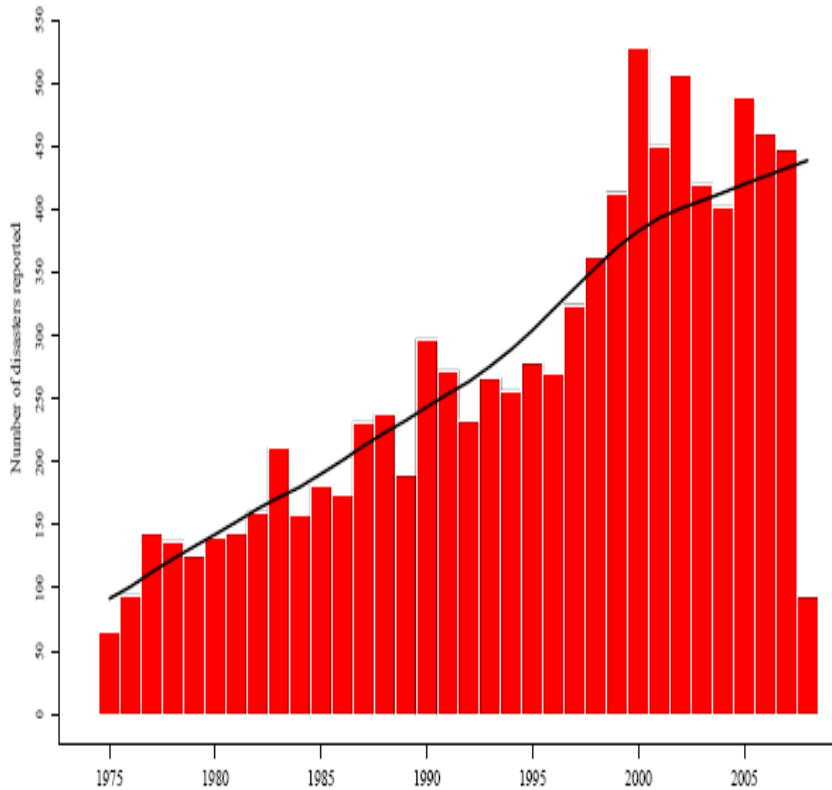
2. The rationale for strategic Enterprise Risk Management
3. Supply chain risk management in construction
4. Q&A

# What is Supply Chain Management?

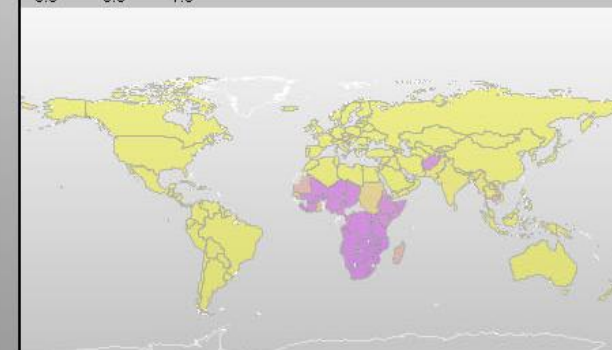
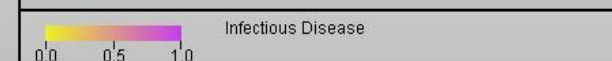
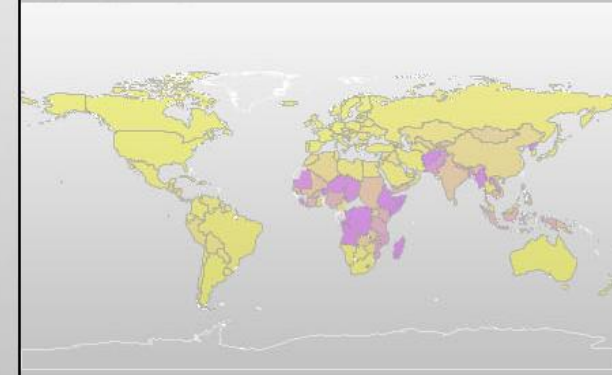
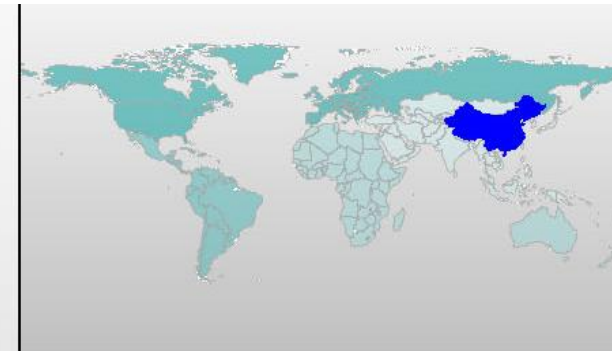
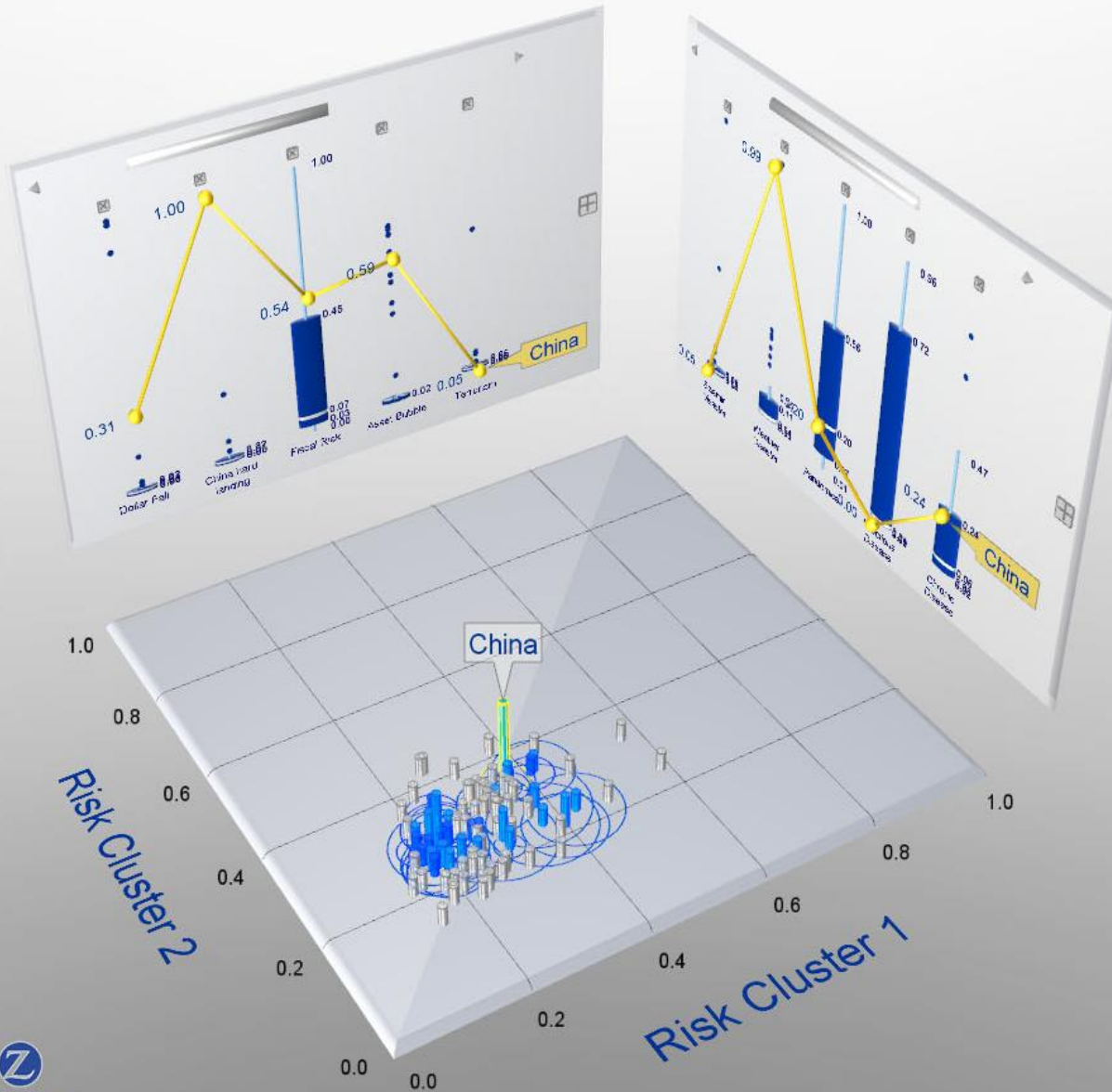


- Linkage of companies that turns a series of materials, products or services into a finished product for a client
- Members of the supply chain include the Client, Architect / Engineers, CM, Subcontractors and Suppliers
- Managing links can protect profitability from breaks in the chain!

# Natural and man-made CATs increasing



# Global Risk Assessment Module and WEF



# Global risks are here to stay...

## The global landscape has become riskier



ZURICH®

Economic	Environmental	Geopolitical	Societal	Technological
Food price volatility	Climate change	Terrorism	Pandemics	Breakdown of CII
Oil / gas price spike	Loss of fresh water	Collapse of NPT	Infectious diseases	Nanotechnology
Major fall in US\$	Desertification	US/Iran conflict	Chronic diseases	
Chinese hard landing	Earthquakes	US/DPRK conflict	Liability regimes	
Fiscal crises	Inland flooding	Afghanistan instability		
Asset price collapse	Cyclone	Transnational crime and corruption		
Retrenchment from globalization		Israel-Palestine conflict		
		Violence in Iraq		

- Increased risk
- Unchanged risk
- Decreased risk

Source: Global Risks Report 2009 / Zurich

# Agenda



1. The global dimension of risk

## **2. Rationale for strategic Enterprise Risk Management**

3. Supply chain risk management in construction

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# What are the benefits of ERM?



- Studies show that a strong ERM program is a factor in increasing revenue and shareholder value
- The incorporation of a sophisticated risk management program yields **increased resilience and agility**:
  - 80% increased management accountability (shareholder confidence)
  - 79% smoother governance practices
  - 59% increased profitability
  - 62% reduced earnings volatility (less volatility)
  - 86% **better informed decisions** (learn from risk info. and mistakes)

Source: 2005 study by The Conference Board

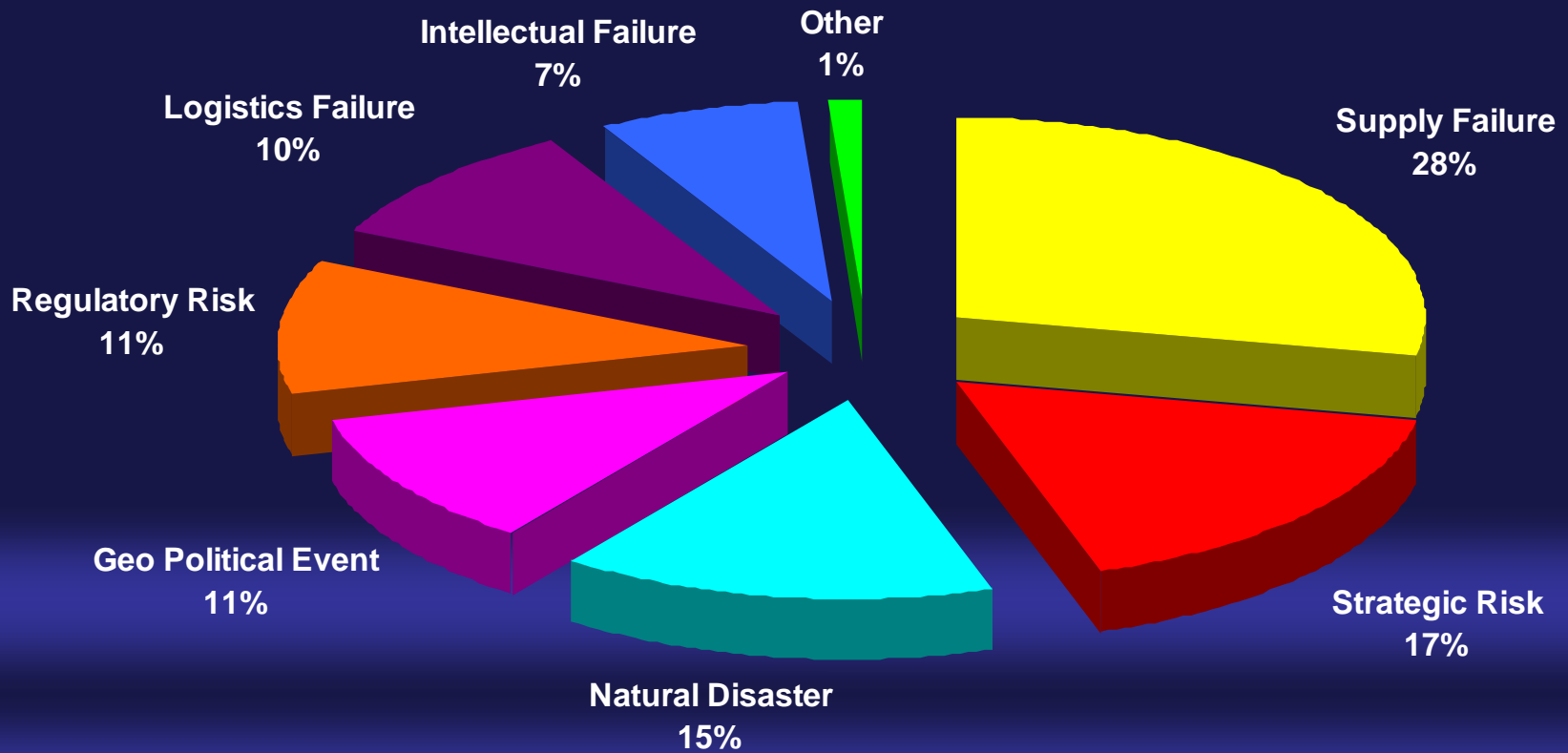
# The Imperative for SC Risk Management



- “Executives believe they face growing risks from disruptions to their supply chains – yet many are unprepared to manage those Risks”
- Almost two-thirds of respondents to McKinsey’s latest global survey (Supply Chain Risk) say the risks to their supply chain have increased over the past five years.
- Significant number of executives say their company doesn’t spend enough time or resources on mitigating risk.
- Nearly 1/4 say their company does no formal risk assessment, and almost half lack company-wide standards to help mitigate risk

Source: McKinsey Quarterly

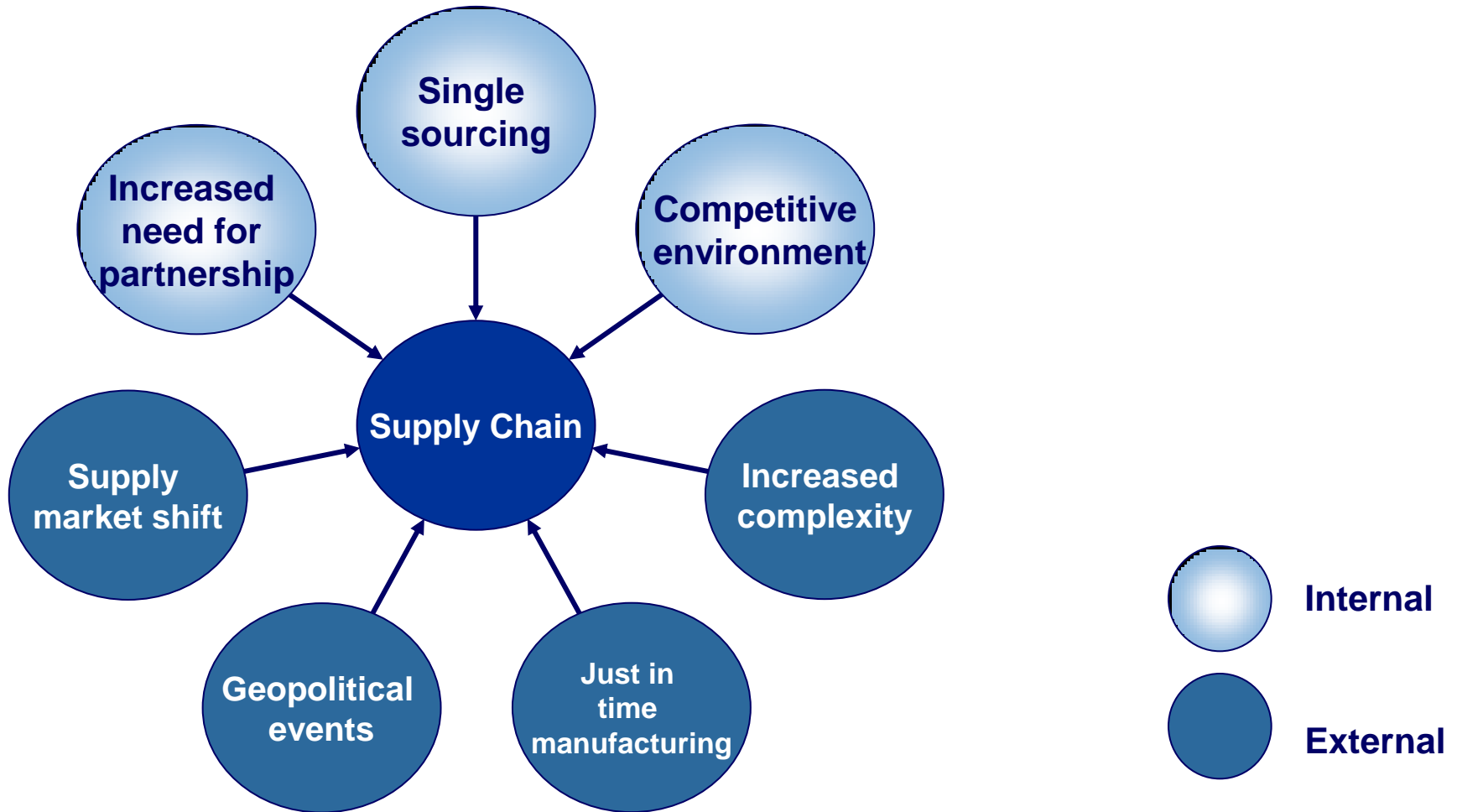
# Executives survey of supply chain risks



# Supply chain risks and their importance

- 
1. Damage to reputation
  2. Business interruption
  3. Third party liability
  4. Distribution or supply chain failure
  5. Market environment
  6. Regulatory/legislative changes
  7. Failure to attract or retain staff
  8. Market risk (financial)
  9. Physical damage
  10. Merger/acquisition/restructuring and failure of disaster recovery plan

# Internal and external influences

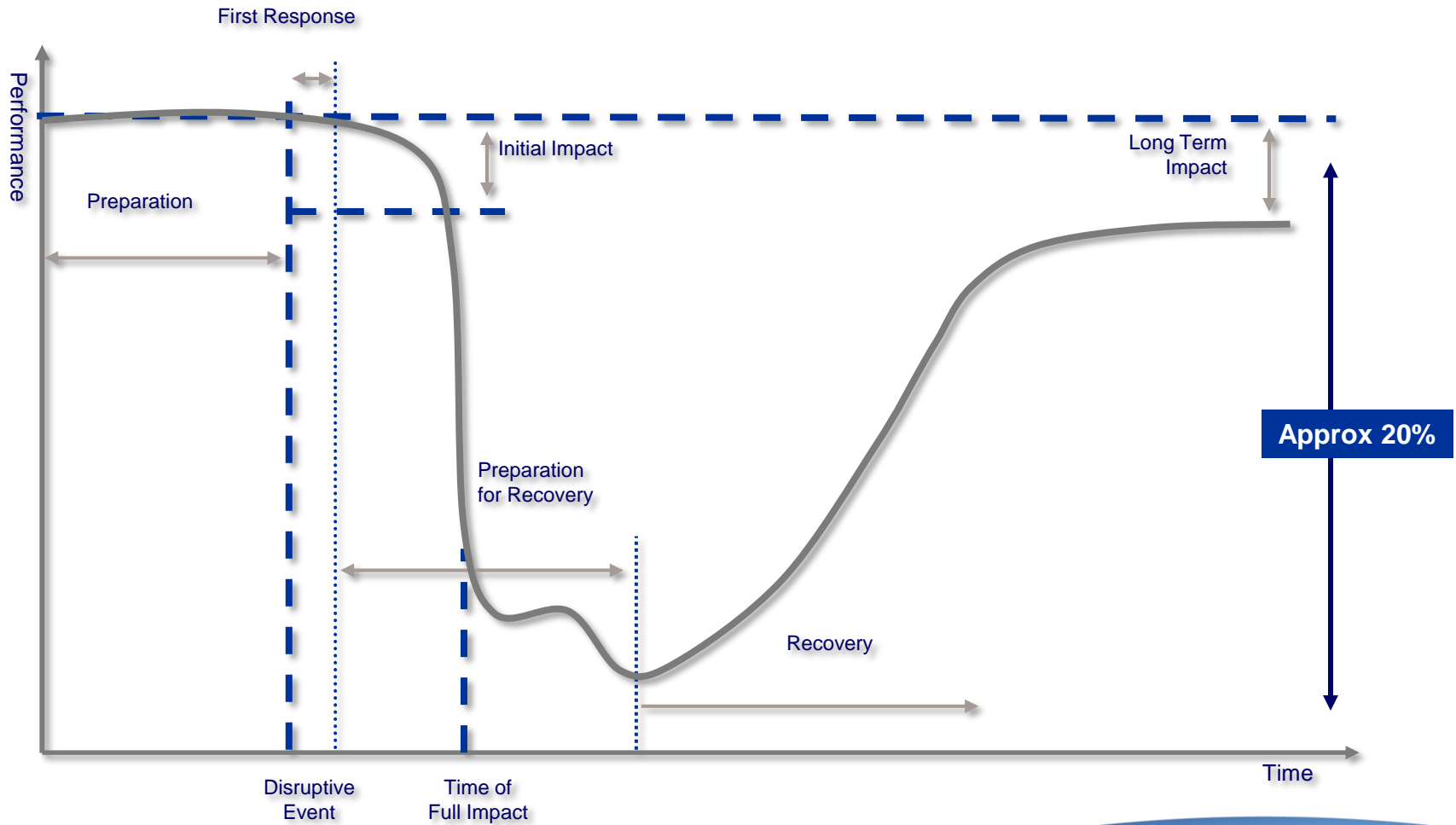


# CEOs cite supply issues for bad results



Source: FD Wire (sample size 12,000)

# Impact of disruption on share value



# Poor huge impacts with long recovery times

Company	Supply Chain Risk Area	Impact
<ul style="list-style-type: none"> <li>▪ <b>Ericsson</b></li> </ul>	Single source of supply for critical manufacturing element	<ul style="list-style-type: none"> <li>- Loss of \$400 million in sales after fire at microchip supplier plant and subsequent loss of business line</li> </ul>
<ul style="list-style-type: none"> <li>▪ <b>Airbus</b></li> </ul>	Design and production delay	<ul style="list-style-type: none"> <li>- 2 year delay leading to pay delay penalties demanded by customers</li> <li>- \$1.1 billion was paid as of July 2008</li> </ul>
<ul style="list-style-type: none"> <li>▪ <b>Sony</b></li> </ul>	Manufacturing issues at plant producing key system component	<ul style="list-style-type: none"> <li>- 3-month delay in European PS3 launch</li> <li>- Reduction of forecasted units shipped from 4 million to 2 million in 2006</li> <li>- Reduction in profit targets from \$130 billion yen to \$80 billion yen</li> </ul>
<ul style="list-style-type: none"> <li>▪ <b>Chevron</b></li> </ul>	Platform and rig delivery behind schedule	<ul style="list-style-type: none"> <li>- Delay the start of a 2.8 billion \$ oil project in Brazil by three months</li> </ul>

Source: IBM Global Business Solutions

# Examples of supply chain incidents



## PC industry faces laptop battery shortage

*ft.com, March 2008*

A fire at the LG Chemical plant in South Korea has contributed to a shortage of notebook computer batteries and is slowing growth in the emerging market segment for ultra low-cost notebook computers and ultra-mobile personal computers.

Earthquake damage to a Japanese factory supplying piston rings to 8 of the 12 Japanese car manufacturers disrupts production.

## Earthquake puts brakes on auto production in Japan

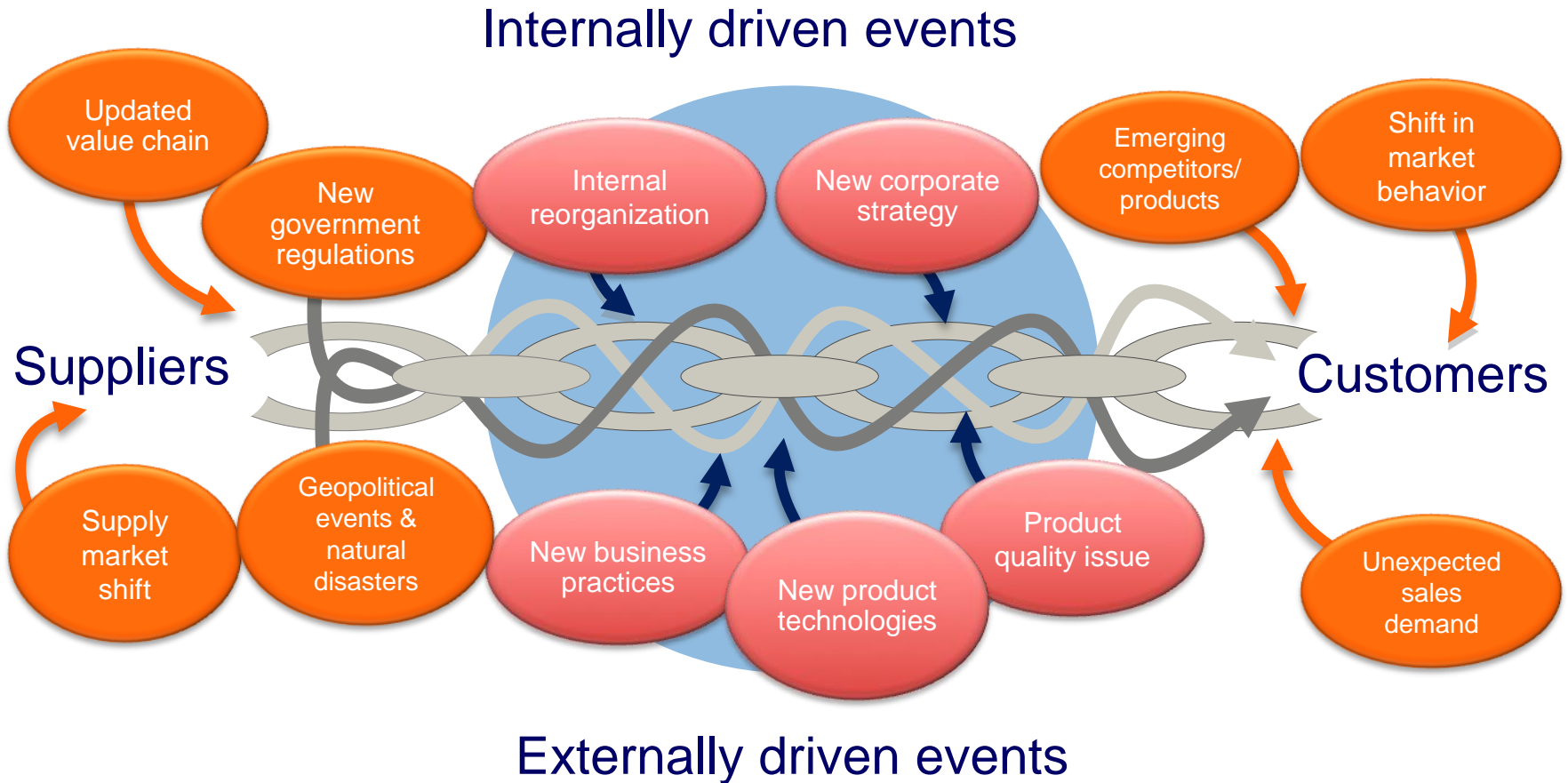
*USA Today, July 2007*

## Dockworkers take May Day off, idling all West Coast ports

*The LA Times, May 2002*

The shutdown of the West Coast ports due to the dockworkers strike caused, amongst other disruptions, a major automobile plant to be idle while parts were flown over.

# Exposures to supply chain integrity



# Many possible disruption scenarios

- Supplier insolvency
- Geo-political risks
- Transport failures
- Physical damage (from fire, flood, earthquake, windstorm)
- Failure of utilities, communications systems or fuel supplies
- Delays in supply (manufacturing production problem)
- Difficulty obtaining raw materials or components
- Problems with supplier's suppliers
- Supplier staff illness or strikes
- Cyber risks, virus etc at the supplier
- Restriction / denial of access to supplier's premises
- Issues with sourcing alternative supplies
- Port closures

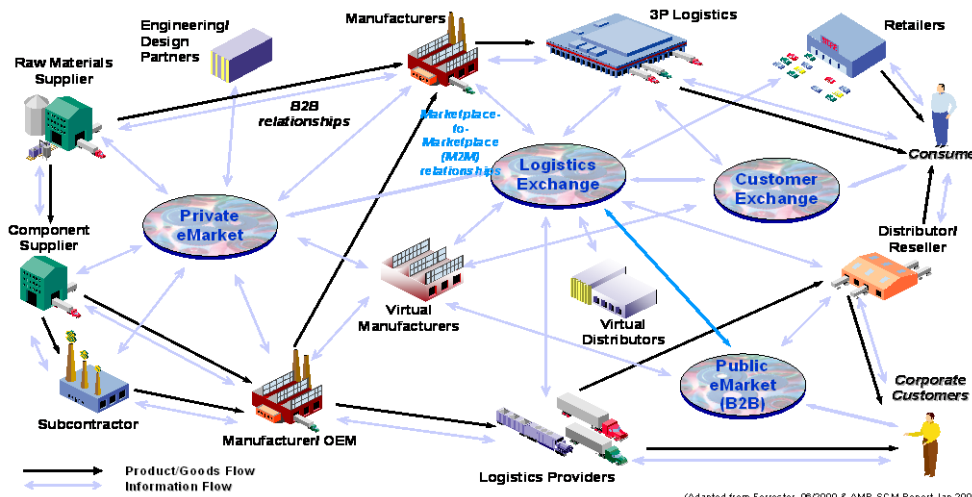
# Supply chains and BCM are complex challenges for risk management

## Environment

- Geopolitical instability
- Natural disasters
- Technology security

## Supplier

- Global sourcing
- Suppliers with 50% to 100% revenue from same OEM\*
- Move to outsourced manufacturing
- Financial viability



## Customer

- Changing customer tastes
- Volatile demand patterns
- Customers pricing power

## Manufacturer

- Global manufacturing and capacity constraints
- Distributed information
- Increased Product Complexity

\* Original Equipment Manufacturer

# Quick survey



- Do you have regular meetings to discuss your supply chain risks with your Supply Chain Director, Finance Director, etc?
- Is risk management integrated into your supply chain management process?
- Do you know the strategic suppliers that are critical to the business' success ....and the profit impact they can have?

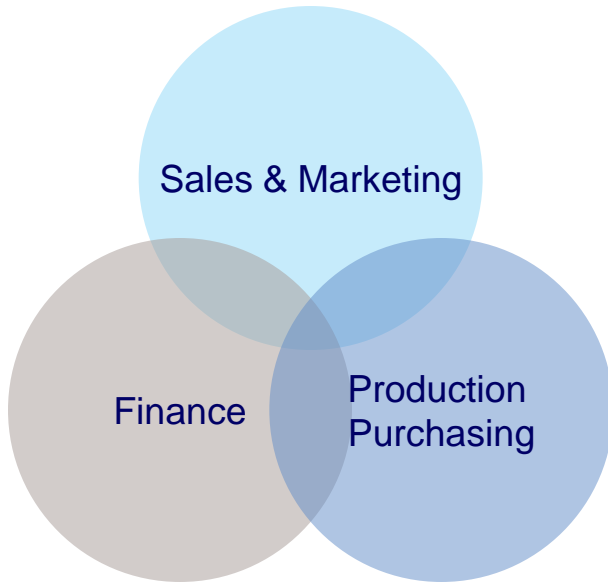
Source: Protecting Profitability if the chain breaks; the strategic risk manager  
Zurich Risk Insight, 2009

# The impact on overall performance



- Probability of disruption is great in an economic environment
- The impact of failure is also rising
- Executives will point the finger if an incident arises
- supply chain should be a key part of Enterprise Risk Management
- McKinsey's top 1/3 performers in supply chain risk management:
  - 1/4 better service
  - 1.7 cost
  - 2.7 inventory days

# Pressures and conflicts in risk assessment



Functional objectives	Inventory	Customer Service	Total costs
High customer service	↑	↑	↑
Short lead times	↑	↑	↑
Low warehousing costs	↓	↓	↓
Low transportation costs	↑	↓	↓
Reduced inventories	↓	↓	↓
Reduced labor costs	↑	↓	↓
Desired results	↓	↑	↓

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# Supply chain assessment



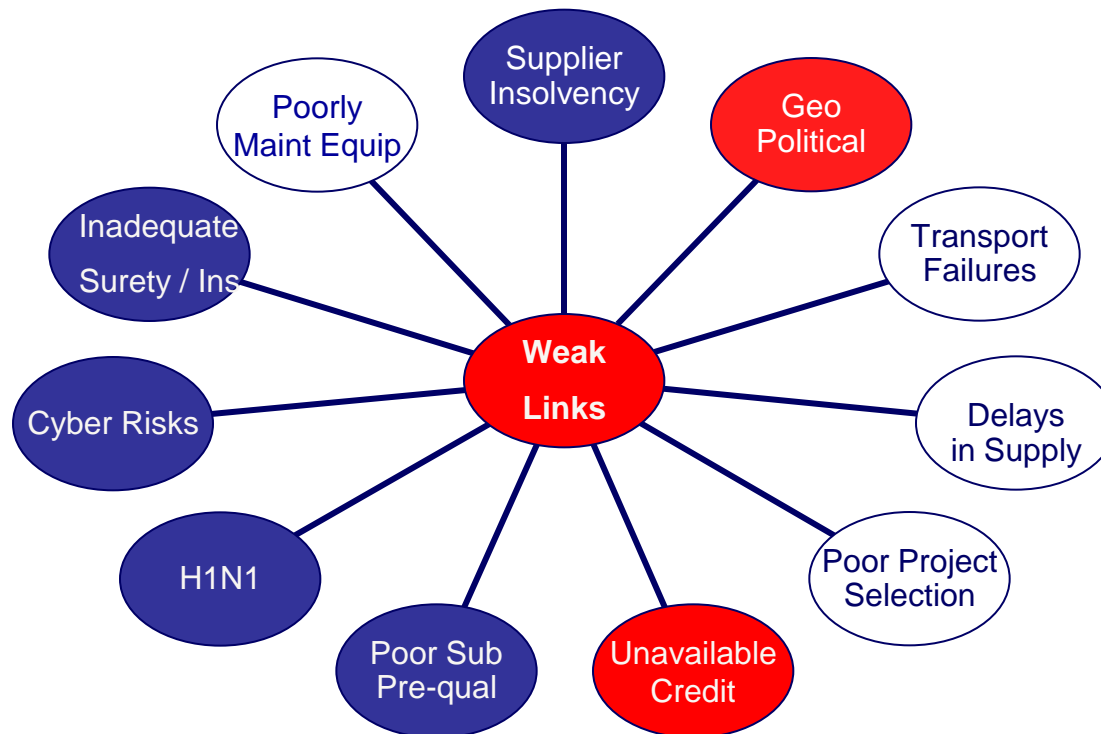
- Identify risks and exposures associated with key supplies/suppliers and procurement management controls
- Conduct assessment through a series of interviews and workshops
  - Involving managers with a role (direct or indirect) in supply chain risk management, e.g. procurement, logistics, product development, commercial/contracts, security, finance, IT systems, business continuity
- Evaluate scenario-based financial impact of disruption
  - Helps customer define limits and forms basis for insurance

# Assessing supplier insolvency

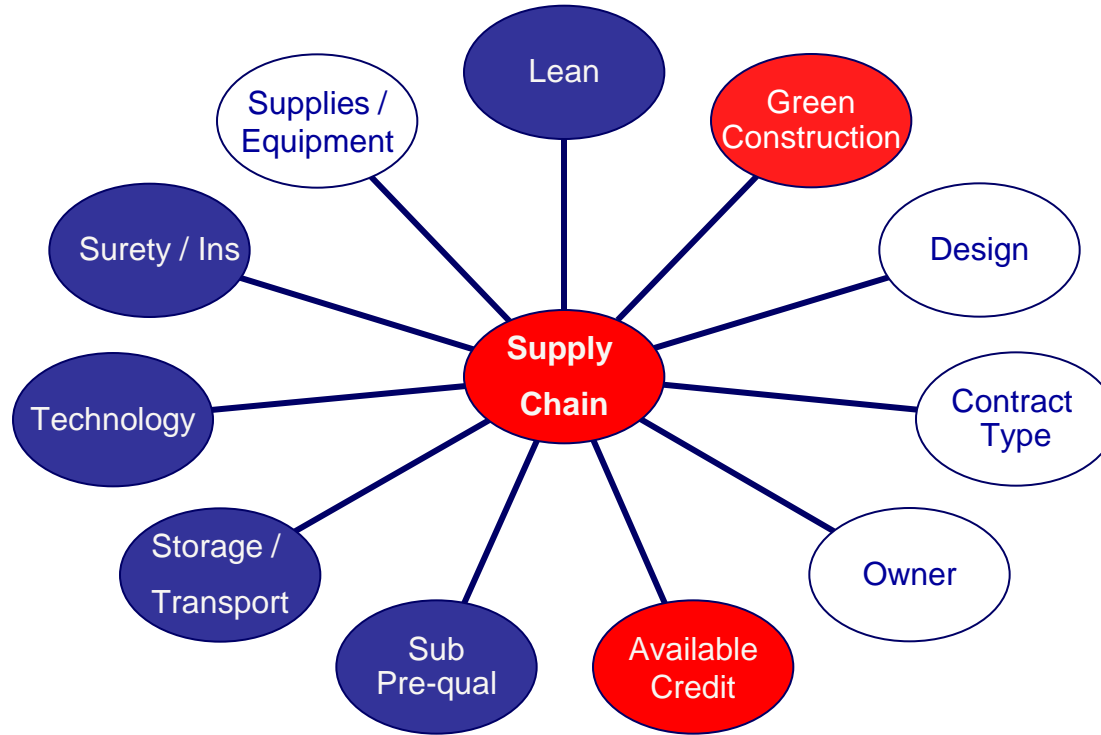


- Ensure accounts payable links to observe any changes in behavior
- Be aware of supplier not meeting lead times or quality deteriorating
- Capex plans
- Talk to sub-tier suppliers
- Listen to suppliers' sales reps
- Monitor online news feeds
- Is a large part of business in depressed industries?
  - Eg. Automotive – need to watch for the 'ripple effect'
- Instead of just D&B also use Fitch and Moody's predictive ratings

# Supply Chain weak links



# Supply Chain Management



# Supply Chain Risk Management planning



- Communication
- Owner and A/E Relationship
- Project and Market Evaluation
- Subcontractor Prequalification
- Project staffing
- Training
- Schedule coordination
- Safety Coordination and Planning
- Supplier relationships
- Supply/Equipment Management
- Contingency Planning
- Disaster Recovery Plan
- Insurance/Surety Products

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# Thank you!

Understanding our risks around **your** world



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