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The Geneva Association - General Secretariat - 53, route de Malagnou - CH-1208 Geneva
Tel.: +41-22-707 66 00 - Fax: +41-22-736 75 36 - secretariat@genevaassociation.org - www.genevaassociation.org

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Layout & Distribution: Valéria Kozakova

Potential Effects of “Supply Chain Risk Management” on Losses

Martin Wullschleger

Potential effects of Supply Chain Risks Management on losses

Head Lines

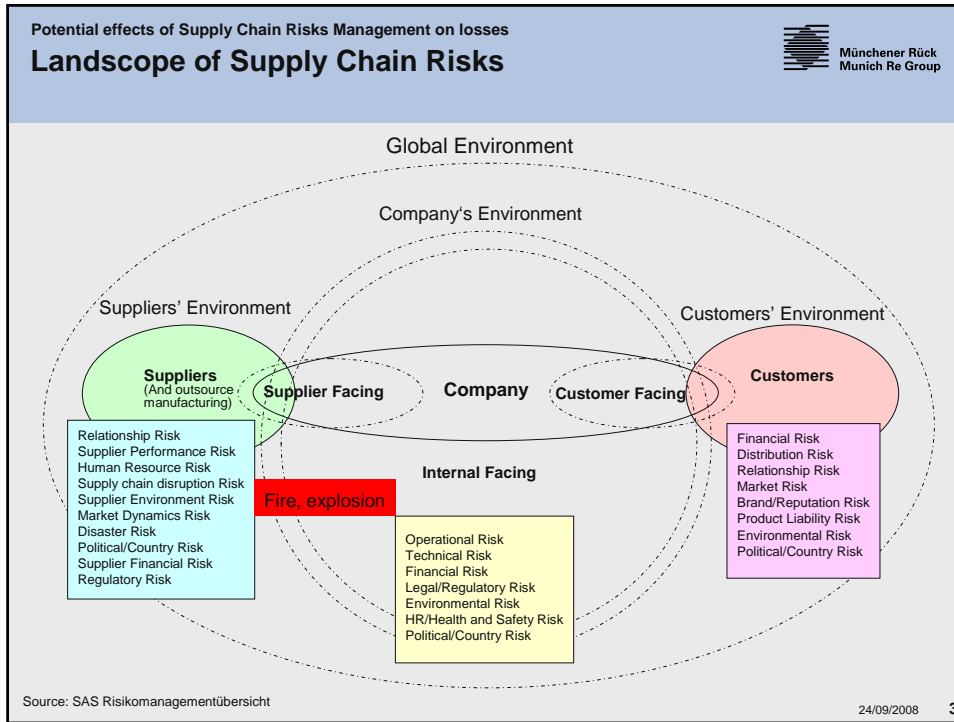


“In one industry after another, supply chains have been stretched farther than they have ever been stretched in the past”.

“Failing to plan for supply chain risk is like planning for the supply chain to fail”

Source: MarcusEvans_conferences2008





Potential effects of Supply Chain Risks Management on losses


General Statements of Risk Managers iro Supply Chain Risk Management

- ... A wide majority of risk managers say their exposures to supply chain risk have increased since 2005
- ... No risk managers say their company is "highly effective" at supply chain risk management
- ... Companies that are innovative at addressing supply chain risks are more likely to assess risk across a much broader portion of their supply chains.
- ... Innovative companies are twice as likely as their peers to have cross-functional teams in place and take more inclusive approach to tackling supply chain risk

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Potential effects of Supply Chain Risks Management on losses

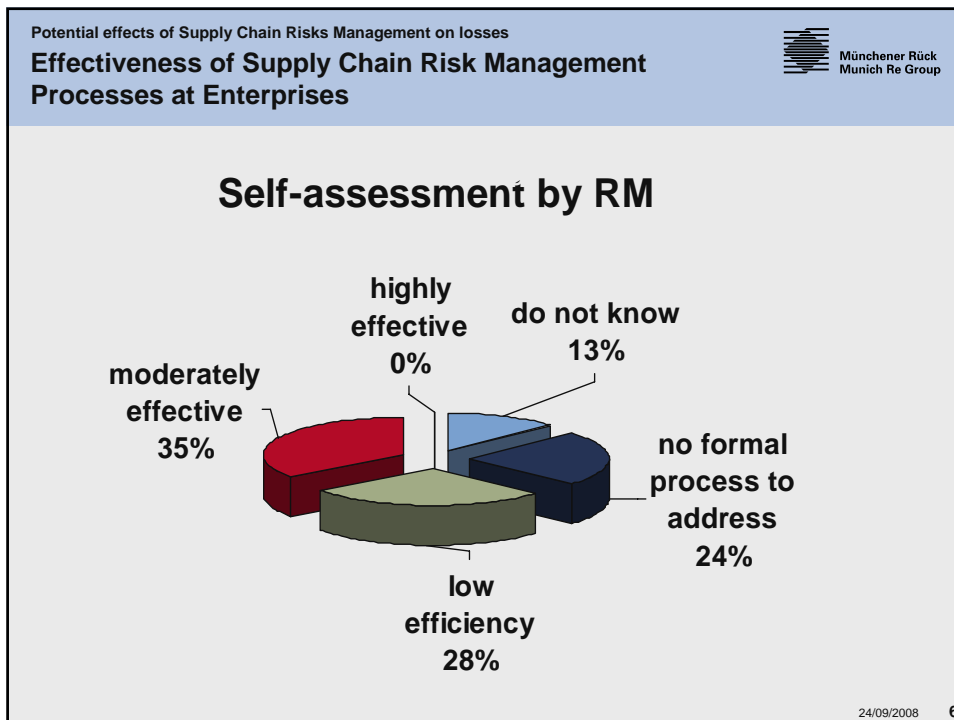
Top 10 of critical risks 2007

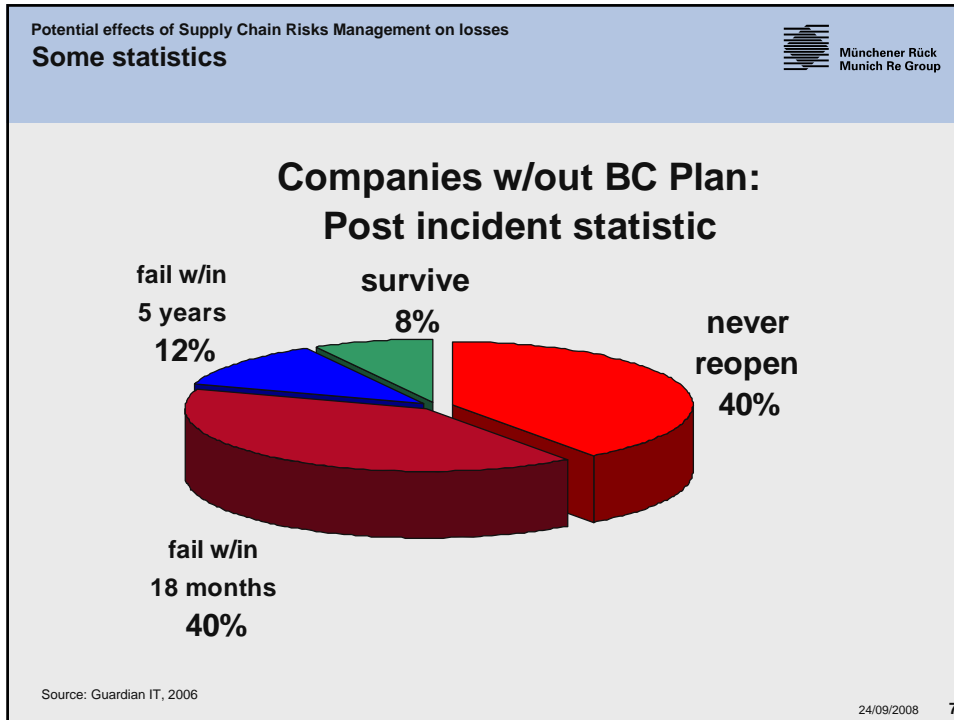


	USA	Europe	Asia/Pacific
1	Damage to reputation	Damage to reputation	Damage to reputation
2	Business Interruption	Third party liability	Weather/natural distasters
3	Third party liability	Business Interruption	Business Interruption
4	Distribution or supply chain failure	Market risk (financial)	Market risks (financial)
5	Market environment	Distribution or supply chain failure	Third party liability
6	Regulatory/legislative changes	Market environment	Environmental risk
7	Failure to attract or retain staff	Regulatory/legislative changes	Market environment
8	Technology failure	Merger/acquisition/restructuring	Inadequate succession planning
9	Failure of disaster recovery plan	Physical damage	Failure of disaster recovery plan
10	Loss of data	Failure to attract or retain staff	Distribution or supply chain failure

Source: Global Risk Management Survey2007/Aon

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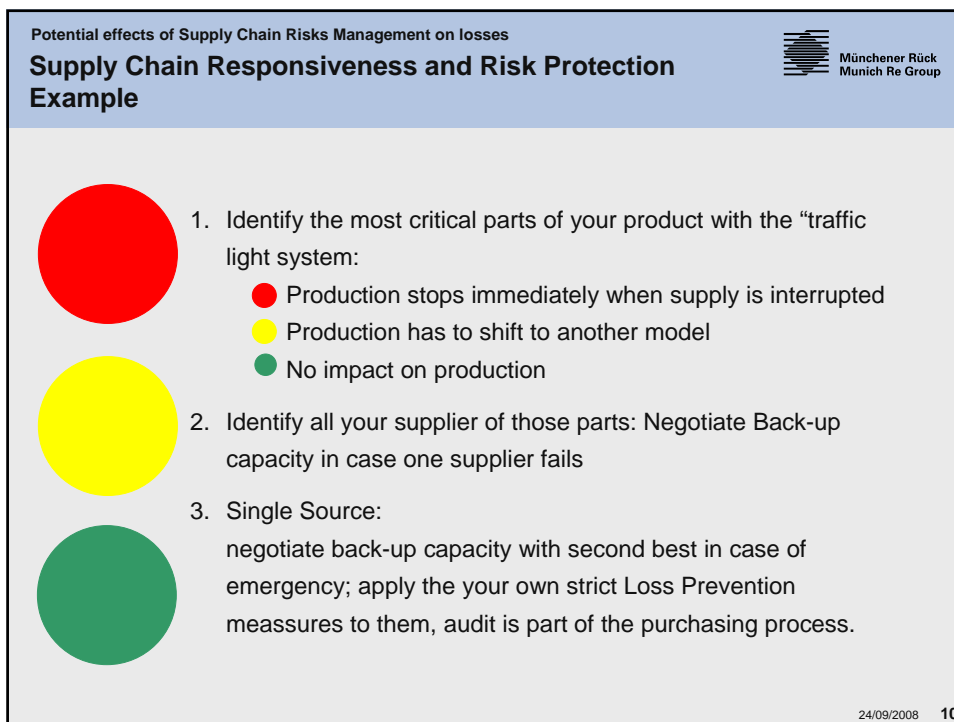
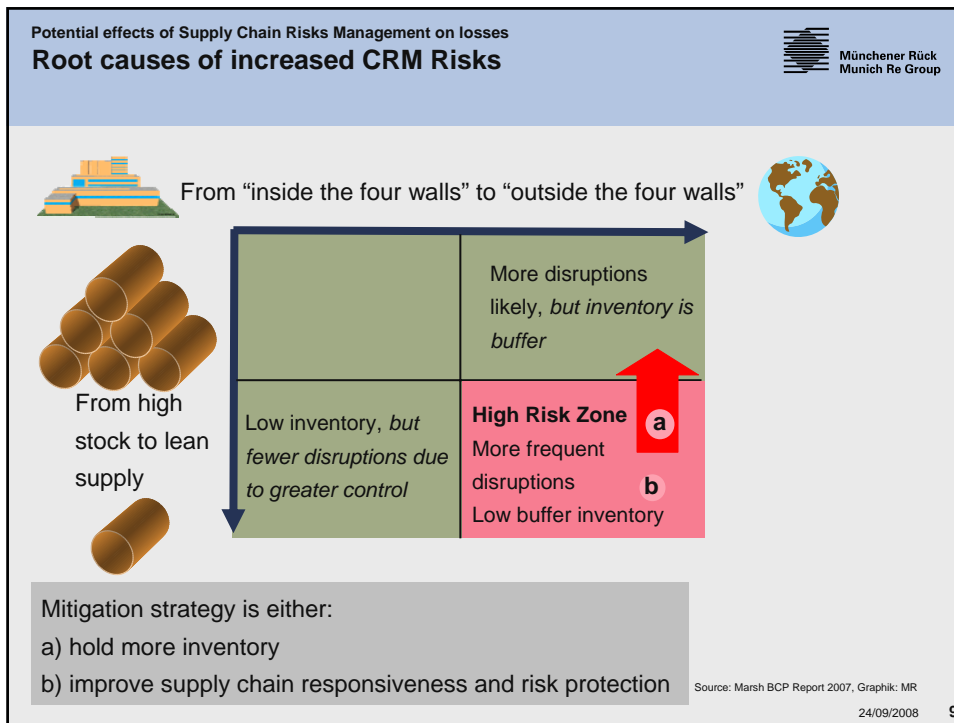
Potential effects of Supply Chain Risks on losses

The root causes of increased Supply Chain Risk




Increased Risks	Loss mitigation
<ul style="list-style-type: none"> Global and specialised production Increased reliance on outsourcing and partnerships Leaner supply chain Just-in-Sequence Delivery Flexible and integrated-value-creating processes in industry are changing very rapidly Single sourcing Little slack in the supply chain Competition 	<ul style="list-style-type: none"> Supply Chain Risk Management BS25999 the British Standard for business continuity BS7799/ISO17799 the British and International standards for Information Security Management

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Potential effects of Supply Chain Risks Management on losses

Most exposed industries iro accumulation risk




Industry	Exposure
Automotive	Most exposed industry for CBI accumulation losses; insured loss potential alone in the European automotive industry is estimated to some billion € as worst case scenario; Exposure in the USA quite similar. Suppliers go to considerable effort and expense to ensure that there is no break-down in the supply chain. Additionally to state-of-the-art Risk management, for example in the form of international manufacturing networks, mature products are made at a variety of locations, allow to keep exposure on that level.
Semiconductor	Very dependent on productions sites with most modern technology, highly modern production sites of the technology leaders can trigger high CBI accumulation losses.
Oil & Gas	significantly lower than Automotive and Semiconductor sectors. Substantial individual loss are possible, size of market, free trade ability, simple transport and ease with which raw materials do not affect massive loss of production by a large number of major companies
Pharmaceutical	Same as for Oil and Gas; CBI accumulation losses resulting from licensed production are relatively unlikely given the size of the company involved. Add. competing companies have concluded support agreements with each another for much-needed medicines.

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Potential effects of Supply Chain Risks Management on losses

Real life examples (1)



New Mexico, March 2000: a 10 min. Fire at Philips Semiconductor’s plant in Albuquerque (physical damage was around USD 15m) caused Contingent Business Interruption loss by Ericsson and Nokia, who used parts from the Philips plant for their mobile phones, estimated CBI loss for Ericsson was around USD 500m; Stock loss July 2000 14 %; overall loss in connection with this event was around USD 2bn (!)

Conclusions: Nokia’s response was two-fold. The company immediately created an executive-led „strike team“ that pressured Philips to dedicate other plants to making the RFC (radio frequency chips) that Nokia needed. Nokia engineers also quickly re-designed the RFC’s so that the company’s other suppliers in Japan and the United States could produce them. „The plan worked“: Through quick action, Nokia was able to meet its production goals, and even boost its market share from 27 % to 30 % - a level more than two times that of its nearest rival“.


Ericsson, however, reacted much more slowly. The company did not become aware of the supply problems for weeks, by which time its ability to meet customer demand had been seriously compromised. And because Ericsson relied exclusively on the Aluquerque for the RFC’s, Ericsson – unlike Nokia – found itself with nowhere else to turn for these vital components

Consequence: Ericsson cut ist-cell-phone business exposure by entering into a joint venture with Sony.

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Potential effects of Supply Chain Risks Management on losses

Real life examples (2)




Germany, October 2006: Automotive Supplier „Schefenacker“ (family enterprise) saved from insolvency
every 3rd driving mirror worldwide is produced by this company (Supplier for big OEM's Ford, Daimler-Chrysler, BMW). Fortunately there was no delay of delivery.

Action/Consequence: OEM's contributed to a rescue plan for Schefenacker. What had happened if Schefenacker went bankruptcy. But, what happened if there was no immediate action? Reconsideration: Alternative supplier available?

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Potential effects of Supply Chain Risks Management on losses

Real life examples (3)



Japan, July 2007: earthquake (6.6) in West Coast of Honshu Japan
The Company „Riken“, a main automotive supplier of piston rings for engines, was shut down for 2 weeks, (40% market share in Japan in piston rings for engines and a 70% share in transmission sealant components); Production at 12 Toyota's assembly lines has been disrupted – resulting in an output loss of about 46,000 vehicles; about 70% of Japan's domestic auto production had been interrupted, mainly Isuzu Motors Ltd., Daihatsu Motor Co., Mitsubishi Fuso Truck and Bus Corp., Nissan Diesel and Suzuki Motor Corp.; Overall losses unknown so far.

Action/Consequence: The auto manufacturers provided assistance with engineering and repair immediately after the earthquake and helped Riken restart much more quickly that it would have been able to on its own. Due to the effects of this earthquake Riken decided to spread out production of piston rings in Japan and abroad. **Notes:** Had a larger earthquake stuck, the plant could have been out of operation for months, which could have resulted in billions of dollars in losses.

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Potential effects of Supply Chain Risks Management on losses

Trends of Risk transfer for Supply chain risks




- **Cover without property damage**
 Besides conventional Contingent Business Interruption covers, industry is increasingly requesting covers for business interruptions with no underlying property damage (i.e. SARS, epidemics).
- **Market solution on the rise**
 certain CBI risks could also be transferred to the capital market in the form of securitisation (Notes: Insurance solutions are frequently superior to securitisation in terms of cost efficiency).

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Potential effects of Supply Chain Risks Management on losses

Supply chain management - Analysis of Dependence (example)



Key-Supplier	Location	Gross Exposure Mio. €(1)	Max. duration of Breakdown in months (2)	Net Exposure Mio. €	Loss mitigation measures
1	D	500	4	167	Outsourcing of production to another production location of enterprise
2	GB	200	6	100	Third party production
3	I	80	3	20	Changeover to another supplier
4	A	50	8	33	Changeover to another supplier

(1) % share of group turnover
 (2) Loss mitigation measures already included

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Special Enterprise Risks (SER): A new unit within Munich Re Group



With its new unit SER, Munich Re Group acknowledges the strong demand for innovative risk mitigation solutions which are not standardized available in the market, neither the insurance nor the capital market.

Example enterprise risks: Supply chain cover

- Supply chains in various industries are highly vulnerable due to increasing degrees of complexity and specialization. The risk of failure in a supply chain to deliver output according to order requirement (i.e. specifications, cost, quantity, quality, time, etc.) is present.
- Limited scope of cover under traditional policies available (limited to "traditional" property triggers like e.g. Fire and Nat Cat)
- Risk incident example: Needed components have been produced on time, but their shipment via waterway is not possible. Airfreight can hold up production line or, at least, mitigate delays in output – additional costs for airfreight are covered with an insurance

This concept does not cover ...

- claims of company's customers because of any possible output delays.
- further costs other than the airfreight like excess work.
- lost shipments or additional production.


➔

... as the company might have protection against this already – but the gap surely is bridging the one step causing supply chain interruption.

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Potential effects of Supply Chain Risks Management on losses

Final thoughts



Murphy's Law:

We Germans are ardent advocates of Murphy's Law:

“If anything can go wrong, sooner or later it will at the worst possible moment”.

However, we all too easily forget the American corollary: “...
but you can always find someone to fix.”

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