TOMORROW'S CHALLENGES


# THE FIVE PILLARS OF SUPPLY CHAIN RESILIENCE

## HOW COMPANIES IMPLEMENT RESILIENCE IN THEIR SUPPLY CHAINS

By IMD Professor Ralf W. Seifert and Florian Lücker – June 2014

**IMD**
Chemin de Bellerive 23
PO Box 915,
CH-1001 Lausanne
Switzerland

Tel: +41 21 618 01 11
Fax: +41 21 618 07 07
info@imd.org
www.imd.org

Supply chain resilience has drawn the attention of companies and policy makers. Numerous studies and analyses have appeared in recent times that underline the importance of this topic in a globalized world. But what about the implementation of supply chain resilience? Do companies have the capabilities to address resilience? And where do they still need to improve to make sure that they are prepared for the next disaster?

To address these questions we conducted a survey with 85 multinational companies across industries and conducted a series of 20 structured interviews. Our five-pillar analysis provides detailed insights on the strengths and weaknesses of companies with respect to their risk management strategies. The first pillar (Vulnerability) assesses the risk exposure of a company, followed by the risk identification pillar (Management Culture) and the actual mitigation pillars (Procurement, Operations, and Demand & Visibility).

**Pillar 1 – Vulnerability**

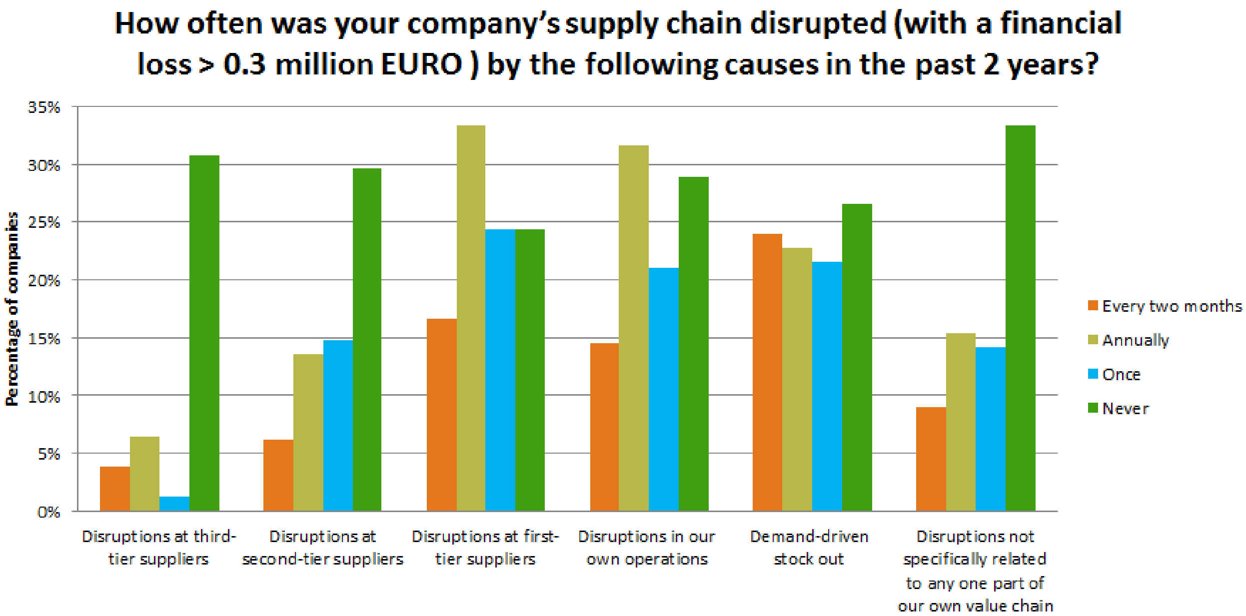
When analyzing the vulnerability of a supply chain, a key challenge is to identify its bottleneck as Joos Verstraete, Director of Supply Chain External Operations EMEA at a major pharma company, points out:

“A disruption like a natural disaster in certain regions where suppliers control the worldwide supply of certain components/products would affect all players in the industry.”

Looking at disruptions along the value chain (table 1), we find that “Demand-driven stockouts” are very frequent, followed by “Disruptions at first-tier suppliers” and “Disruptions in their own operations.”

We identify ‘’Product quality incidents,” “Demand shocks” and “Export/Import restrictions” as the top disruptions. Next to a “Loss in revenue” (67% of companies), companies are penalized with “Customer complaints” (55% of companies) and “Loss of Productivity” (51% of companies) among others.

Table 1:

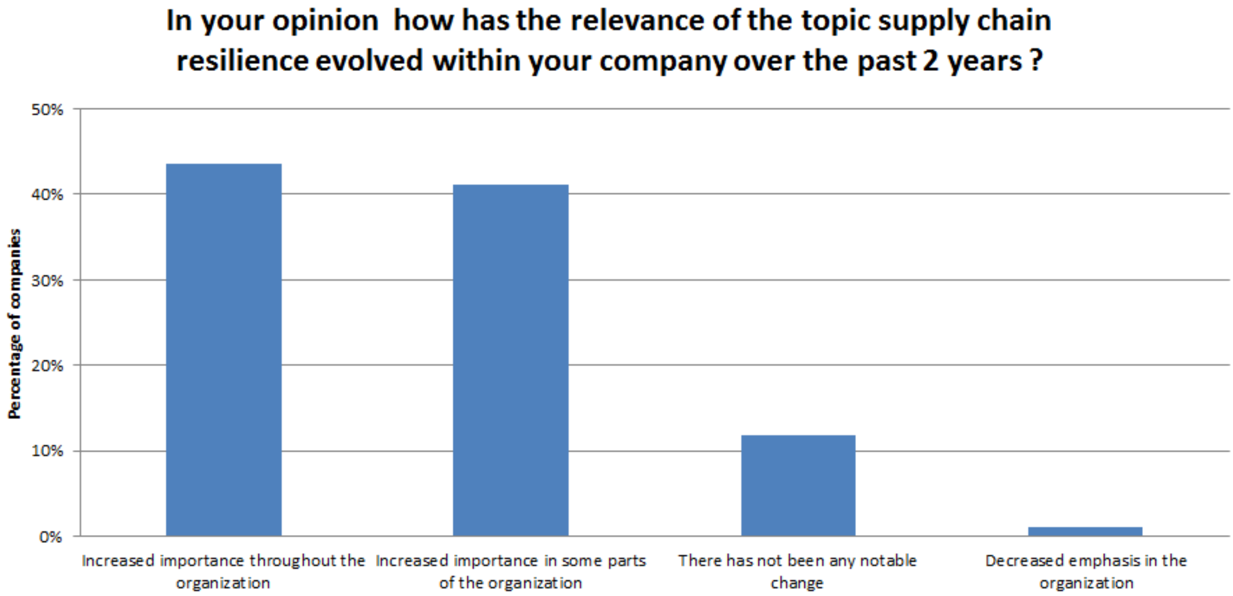



**Pillar 2 – Management Culture**

When it comes to the attention of top management, 33% of our survey participants indicate that supply chain resilience is a “High” priority for top management and for a further 27%, it is even considered a “Very high” priority. Table 2 indicates that for 85% of the companies surveyed, the topic has an increased importance either within the entire organization (44%) or in some parts of the organization (41%).

Yet, while companies agree on the importance of the topic, they still lack a best-practice approach for measuring resilience. Qualitative (20%), quantitative (30%) or a mixture of both measures (35%) are close to being equally preferred among survey participants.

Table 2:

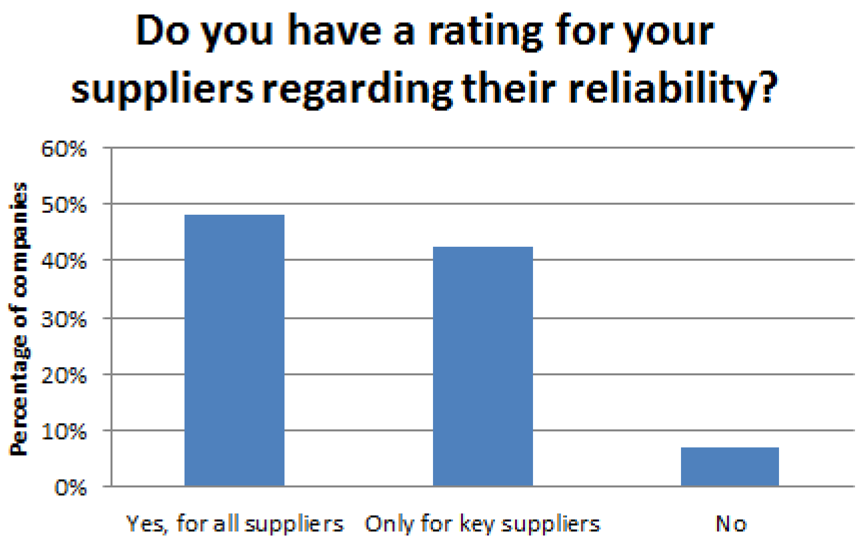



**Pillar 3 – Procurement**

On the procurement side, companies seem to have identified their vulnerability caused by disruptions at first-tier suppliers. They actively dual source their raw material (90% of companies), perform supplier audits (72% of companies) or rate their suppliers (see table 3). 94% of the companies follow long-term and collaborative relationships with their key suppliers.

But, despite these efforts, a strong vulnerability at first-tier suppliers remains (table 1). Efficient risk mitigation strategies call for an increased multi-stakeholder dialogue.

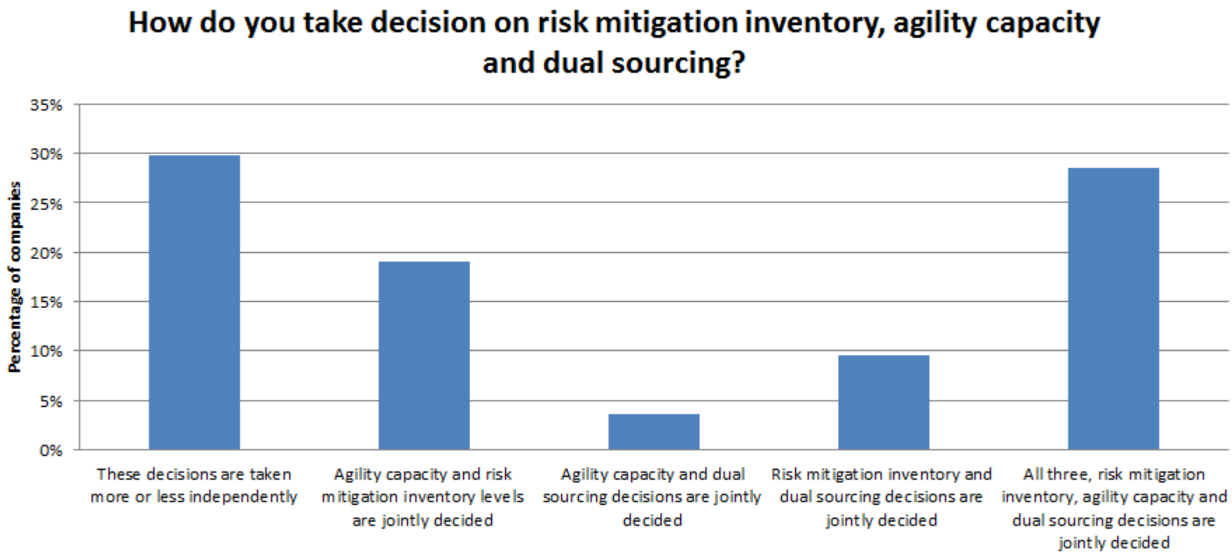
Table 3:



**Pillar 4 – Operations**

Internally, companies invest in dual/multiple source within the manufacturing process (78% of companies), risk mitigation inventory (on average 21-40 days of inventory for finished goods), or agility capacity (on average 10-15%). These investments reflect the importance of the topic for top management. But when it comes to implementation, only 29% of the companies manage to align the three mitigation strategies holistically (table 4). Further operational mitigation strategies are next to the classic "Cycle time" and "Lead time reduction" also "Production shifting" or "Overtime and subcontracting."

Table 4:



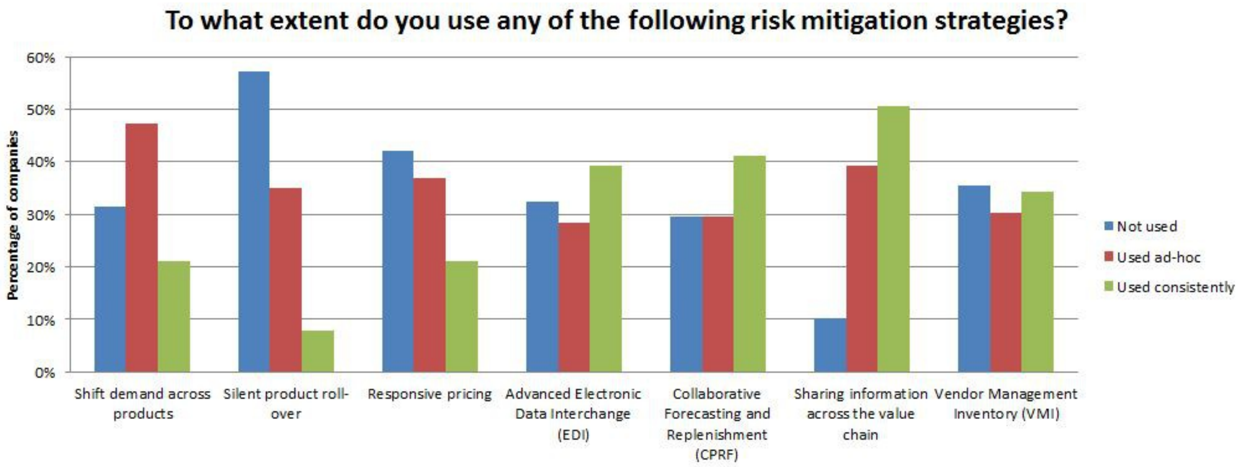
**Pillar 5 – Demand & Visibility**

On the demand side, companies focus on visibility-related risk mitigation strategies (e.g. EDI technology or data sharing, see table 5). Consequently, 80% of the companies have “High” or “Medium” visibility on their stockouts; but at the same time only a small proportion of the companies has “High” or “Very High” visibility on safety inventories carried by their distribution partners (40% of companies) or their customers (25% of companies). Additionally, only 22% of the companies have full visibility on the costs for their clients that are caused by their stockouts.

While visibility in their own operations is a good way forward, further visibility must be enhanced on the distribution partner or customer side. In this respect, a logistics leader at a pharmaceutical company remarks:

“The importance of this topic (supply chain resilience) is underestimated by commercial teams and should be part of their skills (need for people development).”

Table 5:




Supply chain resilience is not only about business continuity management. Resilience can also give your company a competitive advantage, as a leading tobacco company mentioned:

“After a disruption that affected the entire industry, we managed to recover quicker than our competitors, and hence gain additional market share.”

While commitment to supply chain resilience is not the whole story, companies still struggle with efficient implementation. To distinguish leaders from laggards, a substantial effort must be put forward as Richard Groenenboom, Head of Supply Chain Capabilities at a large pharma company, reflects:

“Supply Chain Resilience requires a holistic view, the commitment of our entire organization, substantial data collection, development of joint metrics, alignment of processes and ultimately also a significant financial investment to mitigate the identified risks.”

*Ralf W. Seifert is Professor of Operations Management at IMD and directs the Leading the Global Supply Chain (LGSC) program.*

*Florian Lücker received his Master’s Degree in Natural Sciences from ETH Zurich. After spending six months with a leading investment bank, he is currently pursuing his PhD at EPFL.*