

Monthly Threat in Focus

October

Threat to Supply Chains



Threat to Supply Chains



Threats to Supply Chains – Definitions 1. 2. 3.



“A supply chain is a network of individuals and companies who are involved in creating a product and delivering it to the consumer”.

This ‘chain’ includes everyone from those who extract the raw material, to the drivers delivering the end product to the customer and the customer themselves.

A threat on a supply chain does not just affect manufacturers, distributors and retailers, but also consumers.

INCONVENIENT CONSEQUENCES FOR CONSUMERS

- [Sony’s PlayStation 5](#) (released in November 2020) distribution disrupted due to a shortage of semiconductors, has led to years long waiting lists for the product and continues to affect distribution.

DEADLY CONSEQUENCES FOR CONSUMERS

- Supply chain issues contributed to deaths during the covid pandemic in many countries as they struggled to acquire necessary medical equipment.

Lack of faith in the supply chain provenance of goods can also be deadly for some end users.

- [Contaminated cough syrups](#) prepared in India for consumption in the Gambia killed 66 children.
- A stabiliser used in [vegan yoghurt](#) for a vegan wrap by coffee chain Pret a Manger (in Sep 17) was prepared by a company in an allergen un-safe environment resulting in the death of a dairy allergy consumer.

THERE ARE FOUR MAIN CATEGORIES OF RISK THAT INFLUENCE THE THREAT TO A SUPPLY CHAIN

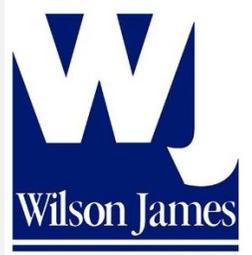
ECONOMIC – EXAMPLE - Bankruptcy can dramatically affect the supply chain of a business, but also boost the business of competitors. e.g. [Sri Lanka](#) 2022.

ENVIRONMENTAL – EXAMPLE - Winter weather experienced [in Texas in 2021](#) crippled their electrical power supply directly impacting the delivery of semiconductors, delaying delivery in a market already experiencing a shortfall in product.

POLITICAL – EXAMPLE [The war on Ukraine](#) has severely impacted almost every kind of global supply chain from energy, to wheat and sunflower oil.

ETHICAL – ESG concerns play a major role in supply chain decision making as customers demand the source of a product is increasingly more sustainable, has a robust provenance (not just of the end product but the entire life cycle of the supply chain) and its negative local impact significantly reduced.

Threats to Supply Chains – The Law ^{4.}



THE LAW

THE CORPORATE SUSTAINABILITY DUE DILIGENCE DIRECTIVE (CSDD).

WHAT - In February of this year the EU commission presented a proposal for a new law to strengthen supply chains.

Its aim:

“To ensure compliance with applicable human rights standards and environmental protection in order to promote a fairer and more sustainable global economy as well as responsible corporate governance.”

Its purpose, is to:

“Oblige companies to carefully manage social and environmental impacts throughout their supply chain, including their own business operations, and it goes far beyond existing legislation at national level.”

WHO ARE AFFECTED BY THE PROPOSED NEW LAW

“THE DUE DILIGENCE OBLIGATION APPLIES NOT ONLY TO AN ORGANISATION’S OWN BUSINESS ACTIVITIES OR THOSE OF ITS SUBSIDIARIES, BUT EQUALLY TO DIRECT AND INDIRECT SUPPLIERS AS WELL AS THE USE AND DISPOSAL OF THE GOODS PRODUCED.”

- European companies as well as organisations from other countries operating in the EU with >500 employees and a turnover of at > 150 million euros.
- Small and medium-sized enterprises are not directly affected by the law, but indirectly, e.g. as third party suppliers of larger affected companies.
- Stock corporations, partnerships limited by shares, limited liability companies, regulated financial companies and insurance companies.
- High human and environmental risk sectors.

HOW DO COMPANIES COMPLY

Companies must:

- Check exactly where the supplied goods come from.
- How they were produced.
- What consequences this had for the environment and climate.

Companies should:

- Conduct a continuous and comprehensive risk assessment.
- Engage a flexible business partner audit included in a Compliance Management System (CMS)

Threats to Supply Chains – Who / What / Why 6. 7. 8.



WHO

Most common **THREAT ACTORS** involved in Supply Chain disruption are:

1. **Breaches** (Cyber/data); 2. **IT system** (failures/lack of technological advancement); 3. **Third parties** (security vulnerability/digital supply chain resilience/due diligence); 4. **Mergers and acquisitions**; 5. **Compliance** (regulatory measures and the new proposed law The Corporate Sustainability Due Diligence Directive - CSDD); 6. **Competitors**; 7. **National infrastructure**.

WHAT

1. There are expected to be **twice as many cyber attacks in 2022** as there were in 2021. Third party partnerships, the growing ease of cyber attacks and working from home contribute to making us more vulnerable to this threat.
2. **IT outages** are the **main cause of supply chain disruption in the US** to date in 2022 say 68% of respondents. ^{5.} The inability to keep up with tech advances further exasperates the threat. EG. 67.4% of supply chain managers globally admitted using Excel spreadsheets as a management tool ^{5.}
3. **Third Parties increase threats** and vulnerabilities. More emphasis re due diligence needed for third parties to certify compliance and confirm functionality, from preventing disruption to our supply chain due to reliance on the product and it's supply chain, to the almost blind reliance on the third party's cyber security.
4. **Mergers and Acquisitions are the No.1 global cause of disruption** with 66% of respondents citing this as a concern ^{5.}. The added threat to a supply chain from third parties once again comes to the fore, highlighting even more risk and due diligence needs.
5. **ESG commitments, regulations and compliance** are emerging concerns for consumers as the sustainability and provenance of processes in the supply chain become increasingly more important, potentially damaging brand reputation and putting customers off. Example: 2017 [Pret a manger incident](#). A third party supplier was used for a dairy free ingredient, the product however was not produced in a dairy allergen free environment and a consumer died.
6. Threats from **competitors** can range from **poaching third party suppliers, under cutting** retail pricing or **colluding** to maintain, increase or decrease a certain **product price**. This creates financial and regulatory issues prompting governments (particularly during the cost of living/energy crisis) to engage in anti-trust enforcement actions addressing the exploitation of certain critical supply chains.
7. **Extreme weather** (responsible for 41% of global supply chain disruption and 62% in the US) ^{5.}, **natural disasters** or **national impacting events** affect national infrastructure and can immediately disable a supply chain. The [Suez canal crisis](#) temporarily crippled supply chains last year, exasperating threats to the already fragile supply chain market. The war on Ukraine by Russia has crippled supply chains in both countries, creating a ripple effect across the globe. Together they supply 30% of the World's wheat and 57% of all global sunflower oil exports (seeing a [1,000% increase in cost since the war started](#)).

WHY

Pre-COVID pandemic, supply chain risks were considered to mainly affecting large businesses. SMEs paid little or late attention to issues arising from problems within the chain (**43% of small business reportedly don't track their inventory end to end journeys**). ^{5.}

Post pandemic, SMEs are paying more attention to the logistics behind the supply chain as the consequences of a breakdown in that chain can severely impact a business, (**reducing supply chain costs from 9% to 4% can double profits**). ^{5.}

The increasing vulnerability of a supply chain has caused businesses to start storing more materials on site, further raising costs and adding risk (**firms are increasing their inventory by over 34%, without a similar increase in turnover**). ^{5.}

Supply Chains – Case Study

EVER GIVEN GROUND SUEZ CANAL MARCH 2021

- On March 2021 container ship the Ever Given ran aground in the Suez Canal after high winds blew it off course.
- The ship was stuck in the canal for six days and an estimated USD400 Million worth of goods per hour was obstructed (estimated by Lloyds List).
- When the ship was re-floated, more than 350 container ships were waiting to pass through the canal representing a further USD 9.6 billion worth of trade.
- The delays resulted in a domino effect on global supply chains.
 - Semi-conductors were further delayed.
 - Animal transportations were vulnerable.
 - Perishable goods spoiled.
 - Ports were overwhelmed when goods eventually arrived.
 - Distributors struggled due to shortage of drivers and fuel.
 - Alternative routes were sourced and promoted by other countries
- It gave rise to the awareness of how extremely vulnerable global supply chains are against national infrastructure and weather, at a time when they were already affected by the COVID pandemic.
- The [Safer Ghost ship](#) anchored off the Yemen coast (containing more oil than was stored on the [Exxon Valdez](#)) is in a precarious position in a conflict zone and is corroding. Any ensuing oil spill could close ports and access to the canal again. Efforts to remove the oil will cost USD 80 million and is currently being sourced.

[The Ever Given arrives in Felixstowe \(BBC NEWS 2022\)](#)



SEMICONDUCTORS AND GLOBAL RELIANCE

- *“It takes 2,500 parts to build a car...but only one not to.”* Ex-head of supply chain strategy, Tesla Model S, Peter Hasenkamp.
- If you waited a year for a Playstation5 during the pandemic or discovered unacceptable waiting times for a new car, its more than likely the delay was caused by a shortage of semiconductors (microchips).
- The automotive industry cancelled plans to build 10 million cars in 2021, expected to cancel another 8 million in 2022 and 4 million in 2023 due to the shortage.
- When the semiconductor shortage became an operational concern tech giants such as Apple and Dell set up 24/7 supply chain war rooms whose sole purpose was to source and procure semiconductors.
- The current crisis is expected to continue until 2023 (There have been seven semiconductors crises in the last 28 years).
- There are 50 choke points (any point in the chain where a single point of failure can jeopardize the entire supply chain and business) in the semiconductor global supply chain including:
 - The Suez Canal
 - Taiwan (as the world’s largest producer)
 - Of particular concern is the [Global technology decoupling](#) between China and the US.
- The global reliance on semiconductors has prompted some companies to integrate their product roadmap with the product roadmap of their third party semiconductor supplier.
- Others have resorted to setting up their own semiconductor capability (thought to be responsible for TESLA’s 87% growth in 2021).

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PROCUREMENT

- Basic **supply chain mapping** (map out who they are, what they provide and where they're located and keep it updated).
- **Diversify** supplier base.
- **Alternative suppliers** to fall back on
 - Find **closer third party suppliers**
- Consider **ABC inventory analysis**
 - A – Majority of revenue
 - B – Biggest Sellers
 - C – Least popular items
- Treat **suppliers** like **business/strategic partners**.

OPERATIONS

- **Modify** inventory planning and management **strategy**
- Recognise the potential of **scenario planning** and projecting the financial effects (increased in popularity after the pandemic).
- Utilise a **weighted average calculation** to assess risks impacting suppliers and score third parties.
 - Know the risks of your market
- **Segment suppliers** into – Key component suppliers and easily replaceable product suppliers.

DISTRIBUTION

- Good understanding of **carrying costs** (including: storage, insurance, taxes, labour, shrinkage, obsolescence etc).
- Good understanding of **opportunity costs** (compare carrying costs against the value of potential lost sales).
- **Reconsider** Just-in-time (**JIT**) Inventory system or move to modernised Just-in-Case (**JIC**) model.
- Last Mile as a Service Strategy (**LMaaS**)
 - Cheap, faster and more accurate deliveries puts pressure on retailers.
 - Ensuring / accounting each mile of your supply chain.
 - Improving customer experience.

INTEGRATION

- Integrate and improve the robustness and resiliency of the management of a Supply Chain (**SCM**) through:
 - Third Party Logistics (**3PL**)
 - **Cross Docking**
 - Temporary storage terminal reducing need for inventory storage, “ensuring goods are sorted and loaded onto outbound trucks asap”
- **Technology**
 - Update tech and management models regularly.
 - Advanced Planning and Scheduling tools (**APS**).
 - **Real-time monitoring** to Increase data integrity.

Supply Chains – Discussion Prompts for your Team

Who are the Threat Actors in your supply chain?

Where are the Choke Points in your supply chain?

What are the Control Measures available to mitigate and manage the threats?



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