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Auditing the supply chain
it is now a matter of urgency



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INTRODUCTION

Before Covid-19 and the Ukraine crisis, the supply chain was taken for granted, mostly. There was an understating that it mattered, but it was not subject to much focus. Move forward to 2022, and the importance of understanding the supply chain and mitigating supply chain risks has been elevated to the top - or near the top - of business priorities.

OCI is a supply chain specialist that has pioneered commercial process outsourcing — or CPO. In this paper, we consider the supply chain audit, what it means, why it is important and key considerations. This paper aims to throw light on this incredibly important but erstwhile and largely neglected part of business.

Highlights

The supply chain audit is now a vital business process. Understanding the supply chain helps companies significantly enhance their risk management approach, reduces the risk of disruption and can confer a major competitive advantage.

Competitive advantage is key — the supply chain audit isn't simply a defensive strategy designed to mitigate the chances of external developments impacting the viability of a business or product range; the organisation that has a detailed understanding of the supply chain can then act upon the insights of this understanding, creating a significant opportunity to increase market share and possibly seize new business opportunities.

Understanding the supply chain is mission-critical — it is time to understand more.

Changing the supply chain

The supply chain is complex: its interweaving parts are many, and it is not always easy to identify all the companies operating in a supply chain — the supplier, to a supplier to a supplier. The supply chain is analogous to an ecosystem, and it is not always viable to change a significant number of suppliers in a short time frame.

Furthermore, when considering the supply chain, competitors can also be partners — creating the concept of cooperation.

For one thing, economies of scale are such that one particular supplier may only be able to continue to operate if it sells its goods and services to multiple vendors. A particular vendor could outcompete other vendors, only to find that its cost of supply increases, while an individual supplier loses out on economies of scale, as the number of its customers decrease.

Whilst creating agility in the supply chain is important; there are limitations to the extent of this agility. This is why a detailed understanding of the supply chain is vital and why it requires a degree of resilience built into it. Resilience in the supply chain means that, as circumstances change, a company's existing supply chain is sufficiently robust to remain operational; and can be tweaked to cope with the change, rather than require a comprehensive overhaul.

The audit

We start with a definition. The word audit is often applied in the context of financial accounts.

Google audit, we are told, gives the best definition and is as follows:

"An audit is the examination or inspection of various books of accounts by an auditor followed by physical checking of inventory to make sure that all departments are following a documented system of recording transactions."

The definition continues that an audit "can be done internally by employees or externally by an outside firm."

OCI is not convinced by the above definition — which could be paraphrased by saying an audit is carried out by an auditor.

But the above definition also focuses on the financial or traditional usage of the audit. In business, the audit has a broader definition.

An audit does not have to apply to financial records. Examples of an audit can include a PR audit (defined here as a "special kind of research that helps determine the quality of PR in the enterprise, company or organisation; to find out strength and weaknesses of public relations." Or there could be a data protection audit, an ESG audit, AI audit or an inventory audit. In fact, you can audit almost anything.

Our definition: an audit involves a detailed description of a process or activity, which is presented using pre-defined criteria. This is initially produced from readily available records, but is verified by gathering first-hand evidence and is carried out by a qualified individual or a group of individuals.



The supply chain audit

A supply chain audit differs from many of the examples above because it typically, but not necessarily, focuses on external organisations.

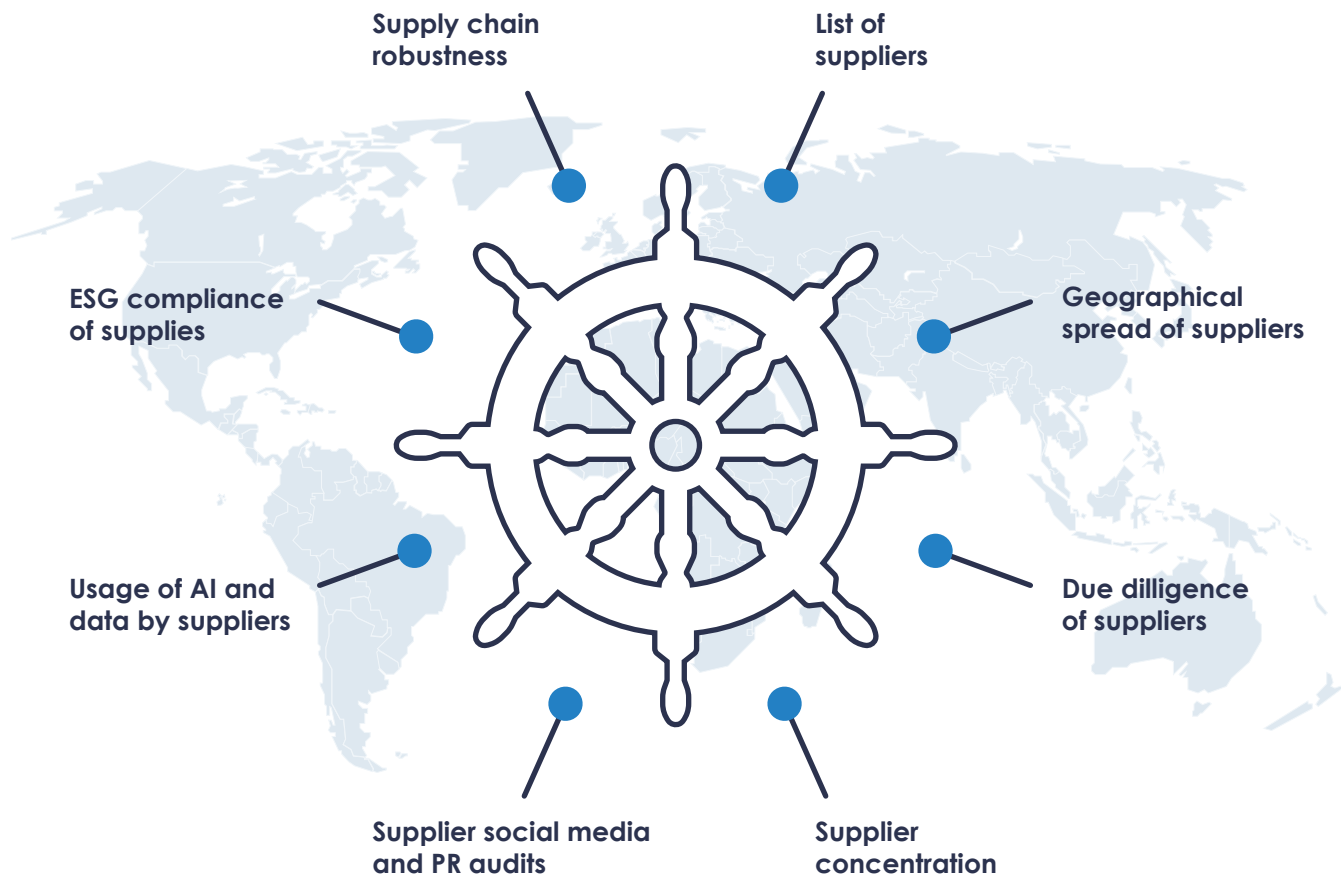
The exception to the above might be a virtually integrated organisation in which the supply chain is contained within the organisation.

The supply chain audit must focus on the entire supply ecosystem of a product or service, looking at the origin of every component in the process. It must detail suppliers, the processes they apply and consider each supplier in the context of agreed criteria.

The agreed criteria can include:

- A detailed overview of the product or service an organisation provides and the individual products and services that underpin it.

- A detailed overview of suppliers:
 - a consideration of the financial stability of suppliers,
 - further due diligence on suppliers, confirming legitimacy and identifying potential vulnerabilities,
 - their approach to relevant data and whether it is compatible with relevant regulation,
 - their ESG and GRC approach,
 - usage of AI and whether it conforms to best practice standards,
 - geographical location,
 - supply chain latency and redundancy.





A holistic overview

But consideration of individual suppliers is not sufficient; there needs to be a detailed analysis of suppliers in comparison to alternative suppliers, considering such criteria as:

- whether there is too much reliance on an individual supplier in a critical part of the supply chain,
- supplier clusters and whether too many suppliers are based in the same or approximate location, introducing geographical risk,
- product type concentration — whether there is reliance on specific components, thus creating vulnerabilities via reliance on specific product types.

Forward-looking risk analysis

The supply chain audit must also consider possible future developments, including potential future regulation or geopolitical developments.

It is not possible to predict the future with accuracy, but risk assessment of potential future developments is essential.

Recommendations

Finally, we suggest that the supply-chain audit includes recommendations, such as ways to introduce greater agility to the supply chain, reduce fragility and consider ways to find alternative suppliers.

It is desirable to implement agility and broaden the base of potential suppliers at times of stability, rather than in response to a crisis.



Minutia

The supply-chain audit is more complex than many audit types because of the intricate nature of the supply chain, with a suppliers' suppliers' supplier, for example, forming part of this web.

Remember also that the supply chain can include the provision of components we tend to take for granted — but such components are just as susceptible to supply-chain shocks.

Suppliers' own audit and verification

If every organisation in a supply chain carries out its own audit, then the supply chain audit becomes much easier to produce. Under these circumstances, there would be less need to drill down into the suppliers' suppliers' supplier. Instead, the organisation's direct suppliers should have audited their direct suppliers and so on.

However, verification remains important — tools such as AI, combined with human research, can be applied to check that what organisations say

about themselves is supported by hard evidence. For example, verification can be supported by an audit of social media, internet forums and other customer feedback services, considering what both staff and customers say about the supplier. Likewise, desk research considering local media coverage of a supplier and even detailed consideration of company reports can all help build a verification process.

Competitor considerations

A consideration of competitors is important for more than one reason.

For one thing, an understanding of competitors can reveal business opportunities and vulnerabilities.

But competitors are also important contributors to the supply ecosystem.

If your main rival uses common sources of supply, does this create a vulnerability?

The above narrative plays into the concept of coopetition, as described above — competitors can also be partners, and even rivals need each other to support the supply chain ecosystem.




Risk analysis

Once a detailed overview of the supply chain is produced, including a forward look at potential developments that can affect it, a risk report can be created.

Consideration in more detail

- Overview of suppliers — who are they? Draw up a comprehensive list of all suppliers in the supply chain and show how they interact with each other—creating a supplier ecosystem map.
- Due diligence of companies operating in the supply chain, checking their legitimacy— for example, are they a shell company?

Issues for consideration:

Do suppliers have real experience in the sector?	
	What do company accounts say?
What is their potential vulnerability ?	



We had a customer buying £50m goods a year from a supplier that only generated £55m in revenue. It is like the Wild West.

Oliver Chapman
CEO

Geographical spread of suppliers

Over concentration of suppliers within a supply chain can create vulnerabilities.

For example, a company may choose to source the supply of a certain component from China rather than Mexico, since China represents a cheaper source of supply. But over-reliance on China could create vulnerabilities; for example, when President Trump slapped tariffs on Chinese imports to the US, the equation sometimes changed in favour of Mexico. Likewise, rising transportation costs could make the cost of shipping goods from China prohibitively high. But, a supply chain with its intricate moving parts cannot be changed overnight. Moreover, the Chinese supplier may be a critical supplier to the financial stability of other companies in the supply chain. By reducing reliance on any one region in the first place, even if this can lead to higher costs in the short term, can create a more robust supply chain.

Fragility

The author, Nassim Taleb, writes about Antifragile. In his narrative, he emphasised the dangers of leverage.

To illustrate his point, he talks about kidneys.

Taleb says: "Layers of redundancy are the central risk management property of natural systems. We humans have two kidneys (this may even include accountants), extra spare parts and extra capacity in many, many things (say, lungs, neural system, arterial apparatus), while human design tends to be spare and inversely redundant, so to speak. We have a historical track record of engaging in debt, which is the opposite of redundancy (fifty thousand in extra cash in the bank or, better, under the mattress, is redundancy; owing the bank an equivalent amount, that is - debt - the opposite of redundancy).

Redundancy is ambiguous because it seems like a waste if nothing unusual happens. Except that something unusual happens—usually."

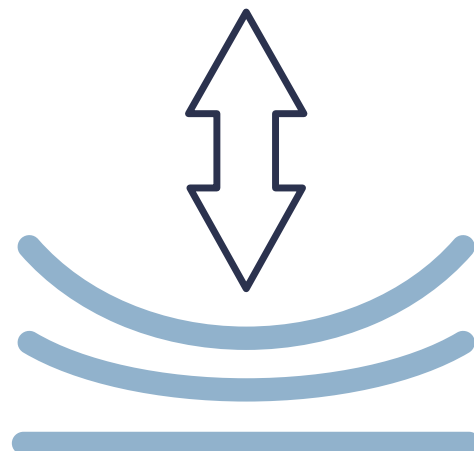
The above concept is equally applicable to the supply chain — with massive dangers if it relies on a limited number of suppliers.

The concept of anti-fragile relates is latency in the supply chain.

Importance of latency and resilience

- Resilience in the supply chain involves:
 - Increasing the ability to absorb shocks;
 - Redesigning the global network;
 - Setting new parameters for supply chain buffers;
 - Proactively managing suppliers;
 - Reacting faster when disruption occurs;
 - Managing the multi-enterprise supply chain.
- Redundancies throughout the supply chain act to:
 - Support any weak spots in the supply chain;
 - Prevent slowdowns or shutdowns;
 - Provide safety stock in case of delivery failures or losses;
 - Ensure competition, availability and design quality when redundancy of suppliers is implemented.

There is a parallel with a data centre. Resilience — the ability to recover quickly from catastrophes — and redundancy — building slack into a process, so that it can withstand shocks or unpredictable events — is vital. It is understood that a data centre must run 100 per cent of the time, including during power cuts or terrible weather conditions."





For too long, the supply chain operation has been taken for granted and ran on the assumption everything would go just right, with every interweaving part of the supply chain fitting just right, all the time. Now we are paying the price for such complacency.

Oliver Chapman
CEO

Disruption report

As part of the supply chain audit, a disruption report is essential.

Such a report should consider ways in which the supply chain could be disrupted, including:

- Potential risks caused by geopolitical developments, such as wars and economic sanctions.
- External developments can affect supply, such as extreme weather events, earthquakes, volcanoes, geomagnetic storms (CMEs — coronal mass ejection, such as the Carrington Event) and pandemics.
- Disruptive technologies, including what technologies could be developed in the future or under development that could transform the supply chain, is another important consideration.

Data and AI

Data regulations, such as GDPR in Europe and the California Consumer Privacy Act, highlight the importance of understanding the regulatory framework in regions relevant to suppliers. For example, as part of the supply chain, suppliers might share data with the organisation carrying out the audit but does the way this data is processed confer with relevant regularity requirements?

Usage of AI confers similar consideration, but only in the context of a more forward-looking approach, since AI regulation is still in its infancy.

But it is known that AI can create biased results, and this risk needs to be understood.

The supply chain auditors' kit

Tools available to the supply chain auditor include:

- Credit analysis, such as from Dun and Bradstreet
- A&L analysis — schedule of assets and liabilities
- IMB International Maritime Bureau — data and other information
- ESG scores

ESG in more detail

Environmental, social and governance issues are important considerations in auditing the supply chain.

At one level, the supply-chain audit can include ESG scores for suppliers and their suppliers', etcetera, although this may not be sufficient, since not all ESG scores are reliable. At the minimum, there is a need for ESG scores from more than one source to cross-reference readings.

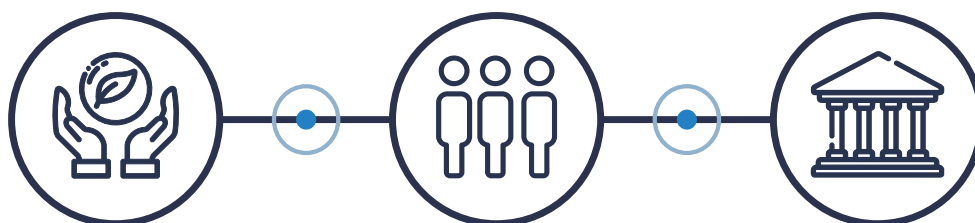
But, ESG scores are often controversial and have been associated with allegations of greenwashing.

To really audit the supply chain for ESG, it is desirable to ascertain the authenticity of the ESG credentials of a company. And this takes us to one other tool that is applied in auditing the supply chain, including for ESG considerations — a media and social media audit of companies within the supply chain.

Media and social media audit

A final tool in auditing the supply chain is to overview each supplier's PR— their press releases, statements on their website and what they say about themselves on social media is a good start.

But perhaps of more importance is what an organisation's stakeholders (including employees, customers and suppliers) say about it. So, media commentary and comments on social media can provide a detailed view of how a company is perceived and its potential weaknesses.



Conclusion

The inflation shock of 2022 has taught the world the importance and fragility of the supply chain.

A supply chain audit cannot solve all problems, but it is an important start.

The audit should start with listing all organisations operating within the supply chain.

From this, a detailed report highlighting vulnerabilities can be produced. The report must draw from various data sources, including company accounts, A&L schedules, credit references, ESG scores, media and social media commentary.

The supply chain audit needs to take a bigger picture approach, considering possible disruption and geographical risk. Reports from IMB International Maritime Bureau can also support with creating this bigger picture.

Once the audit is complete, it is vital to consider ways to make the supply chain more resilient, building latency into it whilst creating greater agility.

The supply chain audit can provide information that gives the company a competitive advantage.

By following the above practices, the result will be a supply chain fit for the 2020s and 2030s, more able to deal with shocks building more sustainable businesses.

Auditing the supply chain is not a requirement of regulations, but it is a requirement for any organisation looking for long-term sustainability and maximising long-term profitability.





