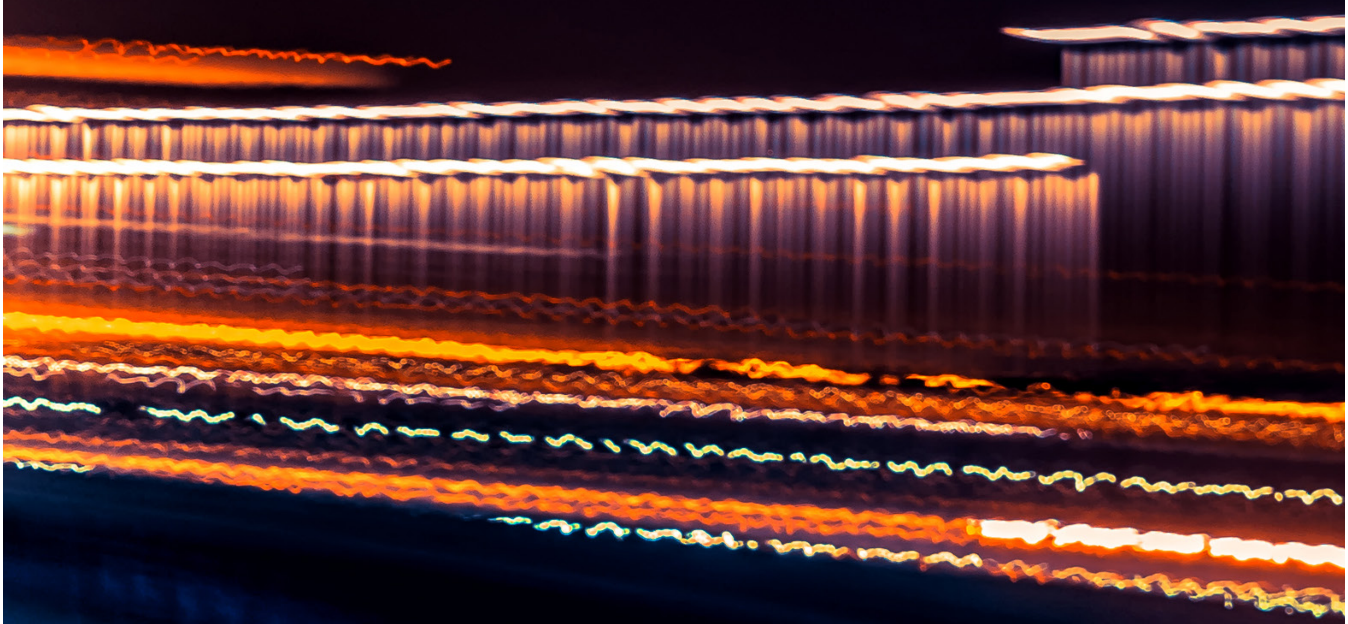
EPCA InBrief

01/2021

What Is Changing in the Supply Chains?

Arnoud De Meyer
Singapore Management University

EPCA is proud to have professor **Arnoud De Meyer** on our new team of digital advisors, helping the sector navigate increasingly complex digital universe and identify right innovative pathways for a future-proof business transformation.



De Meyer is world's leading voice on innovation management. A professor (and former president) at Singapore Management University, he previously led the Judge Business School at the University of Cambridge.

Looking at the (post)pandemic developments from both general and relatively advanced vantage point of East Asia, De Meyer sets out nine changes in the supply chains that are here to stay and will require further digitalisation:

Nikada / Getty Images

1. Slowbalisation

A slowing down if not reversal of the globalisation of supply chains. As the experiences in the early days of the pandemic lock downs have taught us, Europeans and Northern Americans had no control over or even understanding of the supply chains for what appeared rather basic products such as PPE or mouth masks. Governments will require increasingly better control over and transparency about the origins of critical/strategic products. This may lead to some on-shoring or near-shoring, of the production that had moved to China. To compensate for the increased cost because of on- or near-shoring I expect a much higher investment in automation.

2. Increased Traceability

The quest for transparency and control will require more traceability and only good digital systems can provide this. Many have indicated that distributed ledger or blockchain technology is a solution for this, though the real application to supply chains is still limited

3. Developing Robust Supply Chains

Until recently, we have seen a continued application of ever increasing lean operations to our supply chain. This lean approach finds its conceptual roots in the paradigm of the Japanese manufacturing methods, e.g. the Toyota Production System, developed in the 80s and early 90s of the 20th century. One of the basic themes of this was the reduction of waste, and the need to render the supply chains as efficient as possible. One of the consequences of the application of this paradigm was the development of very tight Just-in-Time (JIT) supply chains. Even before the pandemic, industry observers had warned that we may have gone too far in the application of Lean Operations, and that our supply chains have become very vulnerable. This was confirmed by the interruption of some of our supply chains. Therefore, I expect that in the near future the trade-off between efficiency and robustness of the supply chain will go more in favour of robustness.

4. Investing in Resilience

In view of the increasing VUCA (volatility, uncertainty complexity and ambiguity) with which business is confronted, supply chains will have to become more resilient and will have to withstand major upheavals. An interesting example of this was the hoarding of paper products at the start of the lock downs. Producers of toilet paper such as Kimberley Clark and Procter & Gamble had to scramble to get products out into the market. The shortage of paper products lasted several months in the USA because of the inflexibility of the production capacity and supply chains.

5. Regenerative Supply Chains

In this context of flexible response, some of my colleagues in China have described cases like that of the white goods producer Haier, where the companies can very readily ‘regenerate’ or flexibly adjust their supply chains to produce other products. In the case of Haier, they describe how the company was able to regenerate its supply chain for white goods in a couple of weeks to produce PPE and mobile Covid-19 testing labs. Such a regenerative supply chain can only be created with a sophisticated platform on which all suppliers and vendors are working together, such as Haier’s COSMOplat.

6. Building Redundancy into the Supply Chain

Overall here in South East Asia, Japan and Korea companies implement a China plus One supply strategy, i.e. have for each resource or component at least one supplier outside China (and preferably not China owned). As one of my good business friends mentioned: “Supply chain decisions can no longer be made purely on the basis of cost, productivity and efficiency. They will have to be made on political grounds too.”

7. Increased Customer Responsiveness

Increasing specialisation, higher customisation and decreasing batch sizes (often batch size one) requires a lot more sensors to pick up consumer/customer behaviour and the use of data analytics to predict/understand customer requirements. This enhanced customisation is combined with the increased expectations of consumers to be delivered overnight by online retailers. As a consequence, I expect the last finishing step in the production chain to be much closer to the centres of consumption.

8. A Supply Chain Is Not a Chain

The expression supply chain is a misnomer, as the supply does not come out of a ‘linear’ pipe. All supplier-buyer relationships are supported by a growing set of integrated services such as logistics, finance, insurance, regulators, inspection and authorities in general. Supply chains are no longer pipes or chains, but ecosystems of trade. Managing and reconfiguring such supply ecosystems requires a significant investment in digital supply services.

9. Building Digital Twins of Supply Chains

Virtually all of the previous 8 propositions require the construction of a digital twin of the supply chain in order to simulate, model and manage the actual supply chain.

The European Petrochemical Association (EPCA) is Europe's leading ideas marketplace for the global petrochemical community.

We enable industry's best and brightest to connect, collaborate and innovate, serving as:

A **networking hub** for synergies shaping the industry and the world.

A **showcase** for corporate leadership and excellence.

An **ideas factory** for business breakthroughs.

Over 700 companies from around the world make up our vibrant network – from producers and their suppliers, to customers, via supply chain and logistics service providers.

Learn more at **www.epca.eu.**

EPCA