



Open supply webs

80% of everything we use or consume has been on a ship

18,758,93 – number of TEU containers globally

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The shift from centralised production to decentralised manufacturing drives many to take a ‘smaller and distributed’ approach: Global supply chains are replaced by more regional, consumer-orientated supply webs and networks.

In the past companies have sought to manage their own supply chains to optimize control and effectiveness of delivery to production facilities and then on to distributors and retailers. With many organisations now seeking to take advantage of on-line efficiency opportunities while hedging supplier options, leaders see a shift not only to a multiple web of connections but also to one increasingly shared by competitors and collaborators alike. Key to this shift is increasing transparency, the need for fast global access to products and services and rising consumer expectations on product quality, cost and availability.

Moving things is clearly big business. Over 80% of everything we use or consume, it's been estimated, has, at some point or another, been on a ship, either as a finished product or a component or ingredient. Whether importing cocoa from Cote d'Ivoire, sending LCD displays from Seoul or exporting T-shirts from Bangladesh, the need for companies to plan, manage and execute timely provision of product worldwide has become a major source of competitive advantage for many years – and one that has become both strategic and long-term as well as short-term operational and tactical. For some, logistics prowess has altered the basis of competition: “Companies don't compete – supply chains do.”

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Over the past few decades, the investment made into setting up and optimizing global supply chains has been considerable. With multinationals manufacturing products in multiple factories across the globe, to supply to a growing yet dispersed consumer base, supply chain management became a core corporate USP. Whether in relatively simple food produce or complex automotive products, companies have set up complex supply chains across multiple tiers. Tier 1 suppliers - such as Bosch - provide myriad finished components, from air-conditioning units to fuel injectors to car brands globally; but they, in turn, acquire components from other Tier 2 and 3 suppliers around the world. As companies have sought to ensure continuous availability of products to customers globally, the ownership and control of supply chains has become pivotal to success.

However, changes are happening fast – from digital marketplaces and 3D printing to mass personalized distributed, local supply – and they are challenging the status quo. Digital marketplaces are not only improving the efficiency and access possible by more organisations, but are also significantly increasing transparency in terms of consignment location tracking and cost of shipment, making what was previously hidden within the organization visible to all. 3D printing, although still in the search for mass-market applications, is redefining the means of product delivery. It has already had significant impact in the aerospace sector and is now moving across to other industries. Rather than shipping product half way round the world, we may soon be able to print off components in our home – obviating the need for a supply chain except for the metal and plastic material and the 3D printer itself.

Interconnected systems



More companies are offering local finishing, whether for final assembly of consumer electronics to meet customer specifications or locating option fitting for a BMW at a local dealership, elements of end production is becoming more distributed and hence undertaken in smaller batches. Amazon has already filed patents for installing 3D printers in delivery trucks, thus taking the concept of real time to a new level.

Customer proximity is driving a need for more flexibility in a global / local world. This flexibility, or agility, now extends to the need to increasingly hedge options – not only against different production costs and currency exchange, but also against supplier risk. As the age of the vertically integrated corporation has started to recede, so new, more fluid, flexible alternatives have started to emerge.

Being more agile, streamlined and robust are aspirations to transform supply chains from logistics operations focused on cost management and efficiency into more dynamic networks that facilitate swifter response times. Companies are moving from running supply chains to establishing supply webs where the democratized flow of information, mostly in the cloud, enable a complex, three dimensional network of partners, customers and suppliers operate across a web rather than a chain.

When shipping lanes clog, infrastructure fails, currency exchanges fluctuate or a factory shut down impacts component supply, organisations can gain from a more responsive flexible network of different options to maintain product delivery to their customers. At the same time, a more transparent supply web allows low-level suppliers to see their positions and so compete on a more level playing field than before. According to Deloitte, supply chains have evolved into value webs that span and connect whole ecosystems of suppliers and collaborators. These webs can be more effective in many ways – by reducing costs, improving service levels, mitigating risk and driving learning and innovation. Moreover, as new technologies generate more data and so provide greater transparency, the move to the web approach may well accelerate. Organisations such as Caterpillar are ‘driving towards a lean, responsive, and resilient global supply network’ and are seeking to better ‘lead coordinate a vast and decentralized web of interconnected suppliers.’

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Although a number of companies have already moved to proprietary webs, or shared webs across partners, the cost of supporting multiple options has, for some organisations, increased liability. While flexibility has increased, so has the base-line cost of supporting the more complex global infrastructure. This largely technology enabled improvement of inter-firm coordination has also coincided with a long-term political shift – that of trade liberalization by some nations and regions around the world. Together the forces that have enabled offshoring, on-shoring and global outsourcing have changed the nature of trade and production. However, a key issue here has been the balance of local and global. Nestle, for example, sees that ‘food is a local issue’ and so has a core principle to ‘centralize what you must, but decentralize what you can.’ Webs that enable better collaboration are replacing traditional, closed arrangements associated with old-fashioned supply chains.

While private supply networks were constrained to a single company’s network and long-term strategy and so compromised by location and capacity of a single company’s facilities, shared supply webs reduced this constraint by sharing partners facilities. In an open shared web, operational efficiency is improved by opening space and assets to other companies’ short-term needs, geographic reach is extended and customers gain from fast and reliable provision from globally dispersed facilities. Companies that join in to

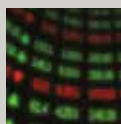
exploit a more open supply web have access to more distributed manufacturing, assembly and distribution facilities that can be used for both short and long term contracts – but without the requirement to be involved in large investments, long-term leasing or strategic partnerships that may need to evolve as markets change. It is argued that open supply webs allow companies to achieve better global distribution than ever previously available. Enabled by the digital marketplaces, driven by increasing demand for customer proximity and mass customization and able to provide multiple hedges, open supply webs are seen as the way forward for many manufacturers both large and small.

As we move forward, the core questions will be how will organisations seek to balance the reward of greater efficiency from adopting the shared, and open, supply webs approach to distribution against the apparent commercial risk of partnerships with competitors and the like. The reality, so some see, is that the transparency and effectiveness of a more flexible approach will become the main driver in making the open supply web the norm for the future.

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Related insights

Dynamic pricing



The algorithms of Amazon and Uber cross over to affect more businesses, from energy use to parking. Real-time transparency allows better purchasing at the same time as margins and yields are automatically enhanced.

Shifting power and influence



The centre of gravity of economic power continues shifting eastwards, back to where it was 200 years ago. Recent superpowers seek to moderate the pace of change but the realities of population and resource locations are immovable.

Optimising last mile delivery



Seamless, integrated and shared last-mile delivery replaces inefficient competition and duplication of goods distribution. Greater efficiency in moving things is as important as in moving people and so a major focus for innovation.

Standards driving trade



International regulation is progressively aimed at freeing up trade and making it simpler and less bureaucratic – but there are a number of agreements, standards and protocols that some are seeing as increasingly constraining.