GUIDE

Your guide to a simplified supply chain

Just-in-case, onshoring and vertical integration

Since the concept of 'supply chain management' was invented in 1982, systems for producing and distributing commodities have undergone seismic changes. Over the past 40 years, computer usage, the advent of the internet and globalisation have transformed transport and trade beyond recognition. Technological advances and international travel have unlocked new opportunities to save money and boost efficiency. Costs have been relentlessly slashed: by moving operations to where labour is cheapest, outsourcing the creation of component parts, and just-in-time production, where storage costs are minimised by keeping only just enough product in stock.

However, while some see this as prudent, lean management, others see a ticking time bomb. The modern supply chain is maximised for the lowest possible costs and maximum profits, while remaining globalised, complex and on-the-wire. Whilst this has enabled rapid growth for manufacturers and distribution companies, processes are operating with no or very little margin for error. There is little buffer of stock, staff or internal production capabilities for when things go wrong. Leaders are reliant on the efficacy of other companies in the chain – meaning any one failure or delay has far-reaching consequences.

The global pandemic revealed fragility in global supply chains. When all goes to plan, the modern supply chain is a paragon of efficiency. However, when there are unexpected changes, such as those created by the Covid-19 crisis – increased demand for some products, decreased demand for others, factory shutdowns, import issues – it was revealed as unequipped to adapt, resulting in shortages in everything from bicycles to consumer electronics. Make UK reported that many manufacturers had to significantly reduce production, as disrupted supply chains meant they could not obtain essential components or raw materials.

Unfortunately, the pandemic is not a one-off case of supply chain issues. Labour shortages, the Russian invasion of Ukraine, the Gaza conflict and resulting Suez Canal attacks and the EU border control changes in the UK are just a few examples of obstructions which have resulted in operational challenges. A recent study from business advisory firm BDO found that 77 per cent of mid-size businesses face persistent supply chain disruption. Volatility is unavoidable, as issues resulting from climate change, conflict and geopolitical shifts are likely over the coming years. In this unpredictable world, the modern supply chain – fine-tuned for profit, not adaptability – may no longer be fit for purpose in all situations. Modern manufacturing paradigms like outsourcing, offshoring and just-in-time production are being reevaluated. As the economic climate bites and global supply chain disruption becomes commonplace, progress might look like reconsidering previous models...

Reshoring: Bringing manufacturing production back to the UK

Offshoring refers to when companies locate their manufacturing abroad and started in earnest in the 1990s. Companies began to move production to countries where labour was cheap and plentiful – allowing production to be scaled up and down easily – and where governments offered compelling incentives for investment. The creation of Apple products in China is a key example, as is the British company Dyson offshoring assembly and manufacture of household goods to Malaysia and Singapore. Cheaper raw materials abroad were also a compelling reason to offshore. Though specialist workers in other countries did play a part in some cases, 43 per cent of businesses were motivated by reduced costs.

However, the situation has changed. Wages have risen in countries like China and Indonesia, meaning the cheap labour argument is no longer as persuasive. The nature of manufacturing is also in flux, with machinery taking the place of some frontline roles, meaning fewer staff are required for operations – making worker pay less of a deciding factor. Increasing speed of product development means that it is becoming less feasible to have factories located so far from where research and innovation is taking place. Developing a new food item or electronic product, for example, is far more difficult without the ability to access and tweak your production line directly when testing new ideas. Add to this time zone disparities, variance in standard units of measure and shipping time, and it is easy to see how a global supply chain becomes a barrier to swift product development and go-to-market. Increasing customer demands also mean that products are now expected immediately and reliably, whereas geographical distance extends delivery times. Perhaps most pertinent is the risk factor of offshoring; the longer the distance between factory and end-user, the more opportunities for delays and damages. Issues like the Red Sea disruption would have had far less of an effect if manufacturing had been closer to the point of sale.

As a result of the above push factors, a huge 90 per cent of UK manufacturers are engaged in the reshoring process. This can also be motivated by patriotism and a reaction against accusations of poor working conditions abroad, taking advantage of lax health and safety policies. As Environmental, Social and Governance (ESG) targets increasingly become a priority, production in the UK allows for greater assurances of a safe, happy workplace and cuts carbon emissions from freight. Firms must reassess the viability of offshore production strategies first established in a very different economic and global climate.

One business that has undertaken this process successfully is industrial hardware specialist Albert Jagger. They evaluated risk factors and financials, and came to the conclusion that when factoring in shipping, handling at ports and environmental factors, terms would be better for the customer and overall costs lower if production was relocated to the UK. It is worth noting that the change required significant initial investment in machinery and reskilling closer to home – but paid off in dividends, with the company able to increase production from 750,000 to 1,500,000 units per year. UK production and local suppliers and staff allows manufacturers to keep working even in times of crisis. Ford Engineering in South Tyneside managed to keep producing parts for the aerospace and automotive industries throughout the pandemic due to their UK plant. By not sourcing materials from South Asia, they also managed to avoid the rising costs of importing as shipping and air freight increased in expense.

Choosing a more local supply chain also reduces the chance of unpredictable cost variance, keeping account books stable . By exclusively using one currency for transactions, businesses engaging in onshoring can streamline their financial processes, reducing complexity and mitigating the risks associated with currency fluctuations. This approach simplifies accounting practices, eliminates the need for currency conversion fees, and enhances financial predictability, fostering greater stability in budgeting and forecasting. When underlined by a strong cloud-based financial management solution, a local supply chain makes it easier to assess a company's asset value and cash flow.

When offshoring has been in practice for decades, and moving production is a costly logistical feat, reshoring can seem like a daunting task, however much it makes business sense. However, manufacturers do not have to make the wholesale move back to the UK. They can also consider incremental steps like moving just a few elements of production or assembly back to the UK or choosing local suppliers. There is also the option of parallel supply chains, which sets up a possibility for UK production, even as the majority is completed offshore. This means there is base level infrastructure in place just in case of an event like a global pandemic; with a site already in operation, production volumes could be ramped up at short notice.

Offshoring served its purpose for a time, yet in a new world where customers expect next-day home delivery and ever-changing products, it may not always be the answer.
Consider whether a return to home shores could increase stability and resilience, and perhaps even be more cost-effective in the long run.

Nearshoring and friendshoring: Shrinking global supply chains

Even manufacturers who are not returning production to the UK are considering options closer to home. Local manufacturing offers a more sustainable production model, reducing environmental impact and improving a company's ethical standing. When the UK itself is not feasible, businesses are looking to close-by countries as a more eco-conscious alternative to factories and suppliers on the other side of the globe. Moving production to your neighbours also reduces risk factors, as the shorter the journey, the less chance of disruption.

Late 2023 brought into sharp focus the risks associated with cross-continental, lengthy supply chains, as container ships using the busy route through the Red Sea were the targets of attacks by Houthi rebels. In response, clothes manufacturers Asos and Boohoo ramped up production in closer-to-the-UK Turkey and Morocco, to avoid the longer lead times and inflated prices caused by the attacks. The Red Sea problems are just one example of how geopolitical events can cause supply chain disruption, and more issues could be on the horizon. The Panama Canal, another key strategic shipping route, is under threat from climate-change induced drought, and Taiwan, which much of Britain's semiconductor industry relies upon – feeding into the supply chain for everything from smartphones to cars – is at risk due to political instability. Rather than scrambling in response to issues as they arise, smart businesses are nearshoring now;
setting up contingency plans for the inevitable crises of the future.

For UK companies, Eastern Europe is a nearshoring hub, with 32 per cent of companies planning to relocate their activities there in the coming years. As advances in automation and robotics reduce the numbers of frontline workers needed, higher skilled roles become more important – and countries like Poland and Romania offer these at a lower price point.

While countries like India do have large amounts of skilled professionals, Eastern Europe benefits from operating on the same working hours as the UK, as well as its close proximity and a lack of travel restrictions. UK companies can cut costs via the lower wages, energy and transportation costs of Eastern Europe, while remaining only a short flight away and reducing the risks associated with lengthy freight journeys.

However, unlike onshoring, challenges around language and cultural barriers remain. Even though the distance from production to consumer is smaller, any crossing of borders comes with a chance of delays. For food and plant products, EU border control checks have now been brought into parity with the rest of the world post-Brexit. Choosing European suppliers does not bring the benefits it used to in terms of reducing the amount of certification and checks needed.

Some manufacturers are choosing friendshoring; where production is moved to countries that are political allies. Global trade restrictions are steadily increasing, from around [650 in 2017 to more than 3000 in 2023]. In this environment, manufacturers can increase the security of their supply chain by choosing to move production to countries that have a strong relationship with the nation where their business is based, and where the majority of their consumers are. This year, [a study was published by the McKinsey Global Institute that mapped the geopolitical distance between the US and different countries], based on their votes on high-profile UN resolutions. This offers a quantifiable way to see which countries are most closely aligned, and revealed that the US has shortened the geopolitical distance covered by its trade by ten per cent since 2017; demonstrating the rise of friendshoring. The UK, according to this map, is closest to other European countries, Canada, Australia, Japan, Turkey and South Korea. Friendshoring relies heavily on Government support, with Departments for International Trade able to strengthen relationships, offer incentives and launch initiatives to drive the creation of more secure supply chains, between allies.

Manufacturers can begin to reap the benefits of friendshoring, nearshoring and onshoring, auditing the countries they both produce in and from which they source their suppliers. They can then assess the security of these relationships, whether the geographical distance being traversed introduces an element of risk and whether cost savings could be made, or supply chain resilience increased, by seeking an alternate option. To do this, businesses must have a crystal-clear view of their real-time supply chain data. A strong software tool, like OneAdvanced's [Supplier Management], allows businesses to collate all suppliers into a single source of truth, with built-in dashboards and reporting – to see where onshoring, friendshoring or nearshoring could provide benefits. The success of any supply chain adjustment hinges on robust digitalisation and data insights. With the advanced tracking and monitoring technologies of Supplier Management, manufacturers can maintain a pulse on their supplier relationships, pre-empting potential disruptions, and refining their operations with granular precision.

The revival of the vertically integrated supply chain

Vertical integration means a company controls multiple stages of the production process. In its complete form, an integrated firm not only produces all components necessary for a finished product but also distributes it through its direct channels. This contrasts starkly with horizontally structured supply chains, where companies specialise in a specific function and link through various partnerships.

Historically, giants such as Ford and US Steel maintained their standing through significant vertical integration. Over time, the business landscape shifted, favouring specialisation and outsourcing. This led to a dissipation of vertically integrated models across many industries, with the benefits of agility and focus seeming more appealing than centralised control. The result is that the average manufacturing firm typically now relies on a host of external suppliers to source the component parts of the products it creates. Whilst this can be vastly more efficient, as supply chain disruption increases some manufacturers are reincorporating elements of vertical integration into their operations.

In a vertically integrated model, manufacturers can swiftly adjust production in response to supply chain interruptions. For instance, a company that has its own raw material sources can more easily maintain operations when external supplies run scarce.
This heightened control over production inputs and outputs is a powerful tool in managing and mitigating the risks associated with a globalised supply chain. It helps brands to guarantee that sustainability is preserved throughout the entire production process. In a world where Scope 3 greenhouse gases – the emissions resulting from a company's value chain – are likely to be 11 times higher than those created by the company itself, taking ownership of more stages of production is a way to ensure ESG targets are met. For example, Lancôme, a L'Oreal Group company, acquired 10 acres of land in the South of France in 2020, to grow roses for its perfume line, "enhancing L'Oreal Group's vertical integration strategy", according to commentators. L'Oreal are using regenerative and responsible farming practices on this land, with vertical integration allowing them to provide a promise of sustainability for consumers.

Vertical integration can take the form of 'backwards integration', where companies acquire a key supplier or take over a process typically done earlier in the supply chain. By eliminating the margin that suppliers and intermediaries would otherwise claim, companies can potentially reduce costs. Furthermore, direct oversight at every stage of production enables stringent quality control measures. Defects or discrepancies can be addressed immediately, reducing waste and the risk of defective products reaching the market. A vertically integrated system also allows for quicker innovation cycles. Manufacturers can experiment with new technologies within their controlled environment without needing to negotiate with external partners. This agility fosters a culture of continuous improvement, potentially giving vertically integrated companies a competitive edge in going to market with new products.

However, bringing stages of the supply chain under centralised control is not a one-size-fits-all efficiency solution. Effective implementation requires significant investment, whether this is in developing new capabilities, acquiring businesses, or integrating operations. There is also a risk of loss of quality as specialist producers are replaced. Finding the right balance is key. While vertical integration can be a boon for some manufacturing segments, it may not make business sense for others. Companies must assess their core competencies and strategic goals before committing to such a monumental shift in their operations. Additionally, they must be mindful of antitrust regulations, as vertical integration can potentially lead to a monopolistic concentration of power.

The resurgence of vertical integration in manufacturing signals a shift towards resilience and control amid a volatile global landscape. It is an option for companies to consider as they assess sprawling global supply chains. Rather than reverting to the old Ford model of all production under one name, it is most likely that manufacturers adopt a hybrid approach; strategically incorporating some elements of production, whilst outsourcing others to expert collaborators. Through careful assessment of their supply networks and strategic deployment of resources, companies can rediscover the advantages of vertical integration without losing the adaptive benefits of specialised global trade.

The end of Just-in-time: Just-in-case?

Another area of supply chain debate is the case of just-in-time (JIT) vs just-in-case (JIC) inventory management. As with vertical integration, there is no universally applicable answer, but each manufacturer must assess suitability based on their own needs and priorities. JIT involves only holding the amount of stock that is needed at any given time, working closely with suppliers so that input materials arrive just as production begins. Pioneered by Toyota in the 1960s, JIT has become ubiquitous as a way to reduce overheads from storage and avoid wasted stock. JIT views inventory as a liability – an asset that ties up capital and space, with the potential to become obsolete or damaged. However, this means that if demand suddenly increases, manufacturers cannot immediately ramp up production. Similarly, if there is a sudden bottleneck in transporting or creating the input products, companies have no buffer inventory to keep up with consumer demand. With a JIT methodology, if there is any snag in the supply chain, the entire production line grinds to a halt.

During the pandemic, JIT production was often blamed for shortages. Entire industries ground to a standstill due to a lack of essential components, many of which were sourced from disrupted regions. Companies scrambled to secure necessary stocks, even if it meant overstocking or abandoning the lean mantra that JIT had ingrained in them. The events of 2020 led to a resurgence in its alternative, JIC, where companies keep large inventories in case of a sudden increase in demand or blockage in supply. A study from Japan revealed how, post-pandemic, importers significantly increased local inventories of materials and supplies, work-in-progress and finished goods. Despite manufacturing production dropping, inventory ratio (the ratio of inventory to products shipped) spiked and continued to stay high. Increased costs and risk of waste is the trade-off for JIC – is the additional cost of inventory holding justified by the resilience it offers?

Now, years on from the pandemic, some companies are craving the efficiency that JIT provides . The manufacturing industry still faces disruption, from the Russia-Ukraine crisis to climate change challenges, and closer to home, new post-Brexit import regulations. However, many companies have innovated in other ways to become more agile and resilient, such as increasing their number of suppliers, sourcing more locally, and investing in technology that helps prepare for disruption. Manufacturer Saint-Gobain Group, for example, created a digital twin of their supply chain; a virtual copy they can then challenge with simulated scenarios. With modelling such as this, contingency plans can be made and pivoting to alternate sources becomes a feasible alternative to keeping vast amounts of buffer stock.

The Global Supply Chain Pressure Index peaked at the end of 2021 and has been steadily easing ever since. In this environment, some companies are realising they have brought too much inventory and are involved in the inefficient process of "destocking". Neither JIC or JIT has emerged as the clear winner. The answer may lie in adopting a new hybrid model, where the lean tenets of JIT complement the resilience of JIC. This fusion implies a recalibration of what optimal inventory management looks like, carving a path that gathers the best from both worlds. This would aim to forecast demand more accurately than the JIC method – using methodology like Saint-Gobain Group's digital twin – but maintaining higher stock levels than JIT. Inventory is kept cost-effective whilst maintaining enough stock to not be left high and dry when disruption occurs.

Global supply chains, and as a result manufacturers, have been subject to unpredictable conditions and rising costs in recent years. All this has led to an evaluation of existing processes and reconsideration of older and alternative models. With technology like AI and robotics also developing fast, change is the order of the day. However, whether this consists of wholesale transformation or strategic tweaks will depend on each individual business.

The key takeaway, however, is that an element of caution can be a welcome balance to the pursuit of efficiency and lean processes. Planning for worst case scenarios sometimes means considering smaller, simpler supply chains. Investing more money at the outset – whether this be in local factories, or buffer stock – might result in manufacturers that are better able to pivot and adapt during the next crisis. It is a gamble of its own kind, but perhaps one worth making in a world where climate change, geopolitical conflict and a slew of upcoming elections mean that the only real certainty is that there *will* be disruption. A reversion to old models is not always the answer, but should at least be considered as UK manufacturing prepares to weather multiple storms.

By embracing innovative strategies that blend resilience with efficiency, manufacturers can forge a path forward that not only mitigates risks but also positions them for long-term success. Balancing the simplicity of the past with all we have learned from modern, globalised networks is key, charting a course that ensures agility, competitiveness, and sustainability.

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