

X2 (UK) Ltd



Integration of JIT and 4PL Creating a Significant Competitive Advantage for Retailers and Manufacturers



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When it comes to inventory management and production planning, there are two contrasting supply chain models: Just-in-Time (JIT) and Just-in-Case (JIC). The JIT strategy emphasises efficiency and cost reduction by producing goods only when they are needed, minimising excess inventory.

JIC, on the other hand, is a more cautious approach that prioritises risk management over cost reduction, with companies maintaining higher inventory levels to buffer against unforeseen disruptions in supply chains such as raw material shortages or production delays.

While JIT represents a far more cost-effective “lean production” method, this approach was not suitable for the significant challenges of recent times, including Covid.

In this article, we'll look at..

- What exactly happened to JIT
- The benefits JIT offers in the current economic climate
- How integrating 4PL with JIT provides a significant competitive advantage for retailers and manufacturers



The JIT Story

Just in Time (JIT) was originally referred to as “the production of goods to meet customer demand exactly, in time, quality and quantity, whether the ‘customer’ is the final purchaser of the product or another process further along the production line”, later coming to mean “producing with minimum waste” with waste including time and resource as well as materials.

The history of JIT manufacturing starts with Toyota’s pioneering efforts to optimise its processes in response to manufacture vehicle orders in the quickest and most efficient way and took 30 years to develop. It was developed and perfected within the Toyota manufacturing plants by Taiichi Ohno who is referred to as the father of JIT.



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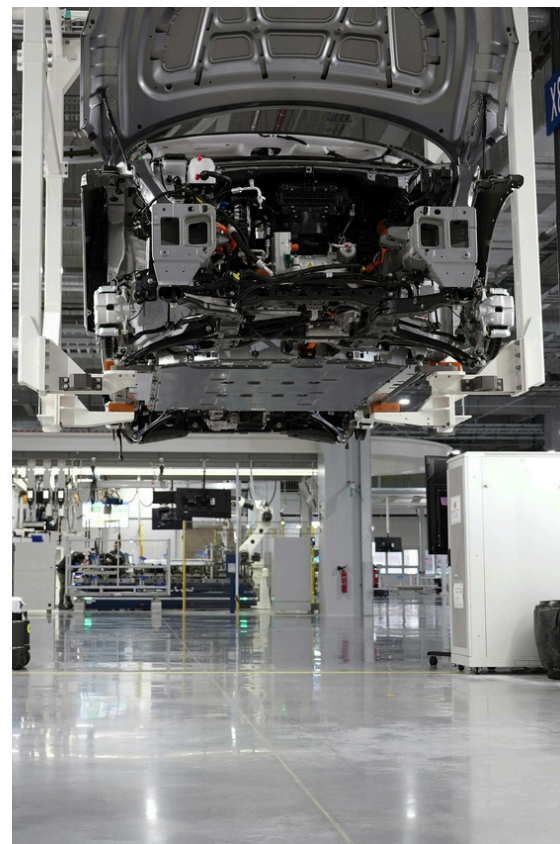
Amidst the 1973 oil crisis, coupled with Toyota sharing its “Toyota Production System” which included the JIT method, caused organisations to take notice of Toyota’s resilience. In the late 1970s and early 1980s, articles detailing JIT emerged in English publications, leading to its adoption in the United States and other Western countries.



JIT manufacturing is able to strengthen an organisation’s competitiveness substantially by reducing wastes and improving product quality and efficiency of production – with this management philosophy translating over to retail; JIT inventory management works under the principle of goods being received from suppliers only when they are needed, with the main objective of this method being to reduce inventory holding costs and increase inventory turnover.

With the substantial benefits provided to organisations as well as the environment due to the reduction in waste and overstocks, JIT had become embedded in many organisations globally.

JIT later rebrands to “lean”. While working in the International Motor Vehicle Program at MIT as a lean production researcher and consultant, John Krafcik coined the term “lean production” in an MIT Sloan Management Review, which was used in reference to both Ford and Toyota systems. Krafcik’s studies of 90 manufacturing plants in 20 countries to compare their quality and productivity formed the data behind The Machine That Changed the World, a study on Krafcik’s “lean production” – that said, although the terms are sometimes used synonymously they are different as lean focusses on providing value for the customer while JIT is a business-centric approach focussed on efficiency.



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Enter COVID-19

The pandemic of 2020 profoundly impacted global supply chains, prompting a significant shift from JIT to Just-in-Case (JIC) inventory management strategies. The unprecedented disruptions caused by the pandemic, including lockdowns, border closures and shifts in consumer behaviour, exposed vulnerabilities in traditional JIT systems and underscored the importance of resilience and flexibility in supply chain.

One of the primary drivers behind the transition to JIC during COVID-19 was the need to respond to large fluctuations in consumer markets. As governments implemented strict lockdown measures and consumers adapted to new restrictions and safety guidelines, demand patterns underwent rapid and unpredictable transformations. Certain industries experienced surges in demand for essential goods such as groceries, personal protective equipment (PPE) and cleaning supplies, while non-essential items saw sharp declines in demand.



In this volatile environment, companies relying solely on JIT practices found themselves ill-equipped to cope with these sudden shifts in demand. JIT strategies, which prioritise lean inventories and Just-in-Time delivery of goods, struggled to adapt to the rapidly changing landscape, leading to shortages, stockouts, and disruptions in supply chains. As a result, many businesses were forced to re-evaluate their inventory management strategies.



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JIC to the Rescue

During COVID-19, a major transition to JIC occurred, with higher inventory levels across the board providing a buffer against supply chain disruptions and lowering the risk of stockouts. By stockpiling essential goods and raw materials, companies were better positioned to meet unexpected spikes in demand and navigate disruptions in logistics and transportation networks.

Further to this, the pandemic highlighted the interconnectedness and interdependence of global supply chains, exposing JIT's reliance on Just-in-Time delivery of components and materials from overseas suppliers as a significant weakness. Disruptions in international trade, including port closures, shipping delays and trade restrictions, disrupted the flow of goods. People began to focus on diversifying supply chain sources and reducing reliance on single suppliers or regions.

Adapting to Economic Climates

Figure 1: Annual CPIH inflation rate unchanged from February while the CPI rate eases slightly

CPIH, OOH component and CPI annual inflation rates for the last 10 years, UK, March 2014 to March 2024



Source: Consumer price inflation from the Office for National Statistics

While both JIT and JIC are sound inventory management strategies, the specific advantages they offer are largely dependent on the prevailing economic winds. In more stable conditions, JIT is a more profitable strategy that minimises holding costs and streamlines operations. However, during periods of volatility or supply chain disruption, JIC provides a safety net that JIT doesn't offer. With the choice between the two strategies ultimately depending on demand predictability, market stability and supply chain resilience, where does that leave us today?



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How integrating 4PL with JIT Creates a Significant Advantage for Retailers and Manufacturers

With the pandemic's impact on the market behind us, companies are moving back to a JIT model, allowing for leaner inventory management amidst a relative stabilisation in spending growth and reduced supply-chain disruptions. As a leading provider of 4PL services, X2 (UK), allows companies to capitalise on the cost-effectiveness of the strategy without having to worry about sudden shifts in demand.

Our partner networks spans the UK and into Europe, and if necessary, we can mobilise anything from a van to a fleet of vehicles on the same day as receiving an enquiry. This means we are geared up and highly aligned to the JIT model. This level of flexibility for retailers and manufacturers, among others, is a path to significant competitive advantage.

Retailers, in particular, are recognising the improved reliability of the supply chain network and partnering with us to implement Just-in-Time strategies.

This preference for minimal inventory holdings is driven by an understanding that excess stock ties up capital, necessitates additional space and resources for management, and risks obsolescence as consumer trends evolve.

Vic Faulkner, Operations Director at X2 (UK), says, "By partnering with a 4PL who has access to an extensive partner network means there is no need for heavy capital investment or lengthy lease agreements, instead only pay for transport you need when you need it. The flexibility and scalability of 4PL, or asset-light logistics, works hand in hand with the flexibility required of the JIT model".



Vik Faulkner, Operations Director



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A Wider Return for the Strategy

Efforts to realign inventories with sales have been evident since 2022, with general merchandise retailers witnessing a decline in inventory-to-sales ratio, signalling a return to pre-pandemic levels.

Notably, companies like IKEA are also reverting to pre-pandemic import volumes and embracing a Just-in-Time approach to inventory management. And IKEA is not on its own.



The Big Guns of JIT

With JIT allowing businesses to respond more quickly to changes in customer demand and market conditions, several notable companies have embraced the strategy as a means to streamline their operations and enhance efficiency.

Dell

Renowned for its custom computers, Dell operates on a JIT principle, stocking raw materials based on customer orders, allowing them to deliver customised products swiftly.

McDonald's

The fast-food giant adopts JIT to maintain freshness by preparing food items only after receiving customer orders, ensuring consistency and customer satisfaction.

Apple

Apple utilises JIT principles by forging strong partnerships with suppliers and outsourcing production to reduce costs and prevent overstocking.

Amazon.com

The retail giant utilises a modified version of JIT by establishing dedicated space within key suppliers' warehouses, allowing Amazon to fulfil critical 24-hour delivery commitments.



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Adding X2 (UK) to the Mix

Beyond how JIT may benefit individual companies, the strategy offers distinct industry-specific advantages that advanced 4PL service providers like X2 (UK) can deliver seamlessly and dependably. Some of the sectors where our JIT strategies are making a profound impact include:

Manufacturing

JIT benefits manufacturing companies in several ways. It reduces inventory holding costs which frees up valuable capital—crucial for optimising cash flow and reducing expenses in a climate characterised by reduced consumer spending. JIT also enhances production efficiency and streamlines workflows by ensuring the prompt delivery of materials and components—which promotes leaner processes, minimises waste, and boosts productivity.



Retail

With retailers facing unique challenges like fluctuating consumer demand and perishable goods, JIT helps optimise supply chains, reduce excess inventory and mitigate stockouts. This improves cash flow, operational efficiency and overall customer satisfaction. What's more, JIT enables retailers to maximise limited warehouse space, especially valuable in urban areas with high rental costs.

Construction

By precisely coordinating material deliveries, construction firms minimise waste, shorten project timelines and optimise resource usage, which not only keeps projects on track but within budget. With JIT allowing leaner inventories, it reduces operational costs, improves cash flow, and makes managing perishable materials more efficient, reducing waste and spoilage risks.



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Maximising JIT with a 4PL MSP

That might be a lot of acronyms to digest but it's worth it, as the cost savings to any business that effectively implements JIT are significant. That said, the key word here is 'effectively'. With the most common concern about JIT being that businesses will be skating on thin ice in the face of market changes or inaccurate demand forecasting, effective JIT deployment still makes companies nervous. But it shouldn't—and for a very good reason.

The Tech Factor

One of the key advantages of partnering with a 4PL managed service provider like X2 (UK) is our ability to leverage advanced technologies to quickly and effectively react to changes in demand and market conditions. By managing all aspects of the supply chain—from resource management to strategic oversight—we deliver the expertise and technology needed to make JIT a reliable supply chain option.

What's more, MSPs like X2 (UK) specialise in providing tailored 4PL solutions that consolidate multiple suppliers into a single ecosystem that drives efficiency. By optimising network-wide inventory visibility and improving collaboration across the supply chain, we help companies to coordinate better with trading partners and suppliers, enabling them to respond proactively to changes in the market.

With the technology and expertise that X2 (UK) brings to the table, Just-in-Time becomes a viable way forward for any business looking to reduce inventory costs—even the nervous ones.



To discuss integrating 4PL with your existing solution

Get in touch

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