EXECUTIVE BRIEF

A digital supply chain is essential for automotive companies

Supply Chain Management

The microprocessor shortage that disrupted supply chains in 2021 continues to send shockwaves rippling across many high-tech industries. The automotive sector, one of the most severely impacted, has experienced **major stoppages and losses** as manufacturers have delayed production waiting for critical chips. Combined with other instabilities brought about by a global pandemic, these supply chain volatilities bring new challenges that have made agile supply chain planning truly essential.

Why are supply chain needs and operational techniques changing?

Supply chain strategies, like many other parts of a modern organization, must continue to evolve if they are to stay in line with overall business objectives. In an increasingly data-driven world, challenged with typical supply chain issues as well as COVID and economic shocks, all firms must be more focused and proactive with their supply chain efforts.

Companies need supply chain tools that deliver competitive advantages while tapping into extended resources, providing greater visibility, control, and engagement with supply partners across a wider and distributed network. This requires businesses to connect all parts of the business with trading partners to improve operations and knowledge across demand and supply planning, supporting more flexible and dynamic production schedules.

To support these efforts, modern supply chain tools can be deployed within an organization's technology stack to digitally transform the supply chain, improving resilience and innovation. Through automation and advanced analytics delivered in the cloud, companies can synchronize production and distribution activities to grow with demand across wide business supply ecosystems.

For automotive firms, the **current issue** is how to deal with lost production. The **latest estimates** show that the shortage led to a loss of production of 7.7 million vehicles in 2021, costing $210 billion in lost revenues. Global volatility is another growing problem for the automotive industry. Hot on the heels of global tariff battles in 2018, commodity prices rose rapidly. Then came COVID and, now, the impact from the semiconductor industry and wider supply chain problems.

The benefits of a digital supply chain

Any automotive industry business not already digitizing its supply chain will find itself at the back of a long and growing queue for commodities, parts, and other critical high-tech components. Those who were undergoing digitization before these issues, perhaps in response to previous crashes and market shocks, are now better able to adapt and respond to current and future challenges.

Digital supply chains driven by the power of the cloud and data insights, as well as the internet of things, robotics, and remote connectivity will improve business response times. These tactics add flexibility into a supply chain system that could be forced to flex or change again to address future crises.

Players within the supply chain also need to adapt to ensure they meet automotive manufacturers' **net neutral and carbon zero goals**, with many firms, including BMW and Mercedes Benz, looking to build carbon neutral value chains. A digital supply chain is critical to meeting the degree of reporting that such a goal requires.

OPTIMIZE COSTS	DRIVE ACTIONABLE INSIGHTS	BUILD AGILITY AND RESILIENCE
25% reduction in supply chain costs	**30% decrease in lost time due to changeovers**	**22% decrease in working capital**
40% reduction in wastage costs		**98% reduction in invoice process time**
>10% transportation cost savings		**Reduce transportation lead times by 2 days**

Operational and practical benefits of digital supply chains

Cloud-based, digitalized supply chains are already proven to bring tangible business benefits, as results from Infor's **global customer base** illustrate above.

These benefits and the improvements in operations enable companies to deal with the ongoing issues facing automotive brands and suppliers of all sizes. Recent practical examples of how automotive firms worked to mitigate and manage their supply chain across the COVID crisis include:

- A UK manufacturer recently claimed a world-first, **trialing a digital supply chain** for leather parts using blockchain technology. Using a digital twin system to track the entire leather production process using GPS, biometrics, and QR codes from source to vehicle.
- GM and Ford took a pragmatic approach to the chip crisis, **researching efforts with semiconductor vendors** to reduce the number of microcontroller units it uses by 95%. They are co-developing, sourcing, and manufacturing new products to restore predictability in their supply chain.

Benefits you can measure

Whether you are planning a company-wide modernization or want to focus specifically on the supply chain, there are many benefits of adopting advanced supply chain planning solutions now:

Apply data insights. Manufacturers can use technology to leverage data and make sense of economic indicators. Analytics will be an important weapon in this battle but must be applied strategically—projecting likely outcomes, as well as understanding historical influences.

Extend supply chain visibility. Supply chain visibility can bring significant benefits, but it must extend beyond tier one suppliers, down through all the layers of the supply network. Drilling down into this detail is the only way to obtain a true picture of potential bottlenecks and risks.

Mitigate risk. It isn't enough to observe potential trouble spots. Companies must act rapidly, reassigning orders or remapping shipping routes as needed to keep inventory moving, routed to the most optimal location. Platforms such as Infor Nexus™ that link trading partners via common processes and shared data can provide enhanced sense and respond capabilities, significantly reducing risk.

Collaborative innovation. Changing product design specifications may help ease some inventory gaps. Procuring consumer-grade chips with more capacity (and higher costs) may turn lower priority automotive accounts into ones that receive more attention from semiconductor producers.

Preparing for the unexpected

Volatility in business is nothing new, but today's global network of hyper-connected ecommerce seems to make the economic spikes and dives more extreme. Change is also more rapid and, sometimes, comes without warning. That rate of change isn't likely to slow down soon. Enterprises that recognize that and update their technology will be better equipped to adapt. Modernizing the supply chain is one of the most important steps a company in the automotive industry can take. Advanced solutions, with built-in AI and data science, will help forward-looking companies stay agile.

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