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EBOOK

Three Key Parts to Parts Shortage Management

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Parts Shortage Management

Volatility is inherent in today's supply chain, where various factors, ranging from unexpected demand surges to natural disasters and geopolitical unrest, can disrupt the supply, while demand remains unpredictable. Navigating intricate networks of trading partners requires agile responses to unforeseen demand despite having limited control over the supply.

This ebook addresses the challenges of critical shortages of essential components and outlines the methodologies for a prompt, profitable resolution. The discussion includes strategies for identifying shortages, acquiring urgently needed components, and assessing the financial and customer service ramifications of chosen courses of action.



Discover

what you don't know



Learn

how to reduce risk



Mitigate

disruptions faster

Supply Network Discovery

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Strategies for
collaborative
execution work

Understanding the
causes and
consequences
of critical
parts shortages

Three key parts
to parts shortage
management

Part A: Identifying
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Part B: Assessing
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Strategies for collaborative execution

Managing critical parts shortages takes one of two major approaches: either re-planning in response to disruptions within the extended network or finding ways to align original plans with the assets currently in motion. Re-planning can incur significant time costs, particularly when faced with closing margin windows or impending financial deadlines. Regardless of the approach, the challenge lies in adapting existing plans to the new supply constraints.

Here are five key functionalities that drive profitable and practical solutions within the execution window:



1 Connectivity to your trading partners



2 Multi-enterprise business process orchestration



3 Real-time analytics



4 Collaborative decision support



5 Real-time decision execution

These five elements collectively enable collaborative execution—empowering brand owners and manufacturers to harness the collective intelligence of their trading partner communities. The framework also facilitates efficient management of end-to-end supply chain processes and intelligent responses to continuous supply, demand, product, and partner changes.

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A collaborative execution framework provides companies with three essential options to address parts shortages during the execution window—enabling them to expedite, transfer, or re-route existing inventory that are not in the desired location or aligned with the required trajectory.

Understanding the causes and consequences of critical parts shortages

Critical parts shortages can arise from myriad factors, creating complex challenges for brand owners. The most common challenges include:

- Unanticipated demand spikes
- Rapid market expansions straining supplier capacities
- Natural disasters disrupting production and distribution
- Geopolitical disruptions
- Labor disputes
- The perennial issue of having the right parts in the wrong place

Supply disruptions come in all shapes and sizes:



Semiconductor chips - Significant shifts in demand create scarcity in supply.



Aluminum - The production of aluminum creates a huge carbon footprint prompting changes to production capacity and costs.



Cotton - The regulatory crackdown on forced labor in cotton supply chain creates reduced capacity and trade complications

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Regardless of the trigger, the outcome is the same: crucial components missing precisely when and where they are needed. The devastating impact of such shortages is evident in recent global events, such as supply chain disruptions caused by expanding regulations or geopolitical tensions from war. These disruptions create substantial challenges for suppliers and manufacturers, affecting supply availability and production rates.

The challenge intensifies for companies with widely distributed and outsourced supply chains, heavily dependent on partners beyond their organizational boundaries. A lack of visibility into the extended supply chain hinders timely problem resolution, leaving companies unable to address exceptions before they negatively impact customer fulfillment.

Natural disasters and abrupt shifts in supply and demand make disruptions between supply chain management and go-to-market planning inevitable. With blind spots in the ability to predict or prevent these challenges, the key is to unlock strategies to manage and resolve them more efficiently.



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A comprehensive parts shortage management solution involves three crucial steps:



Identifying and contextualizing the problem



Assessing the impacts of potential decisions



Embracing collaborative execution

Through electronic connectivity, nuanced data understanding, and real-time problem-solving, businesses gain resilience and strategic advantages within the execution window, fostering adaptability in a dynamic landscape.



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Part A: Identifying and contextualizing the problem

Effectively managing parts shortages begins with the crucial step of recognizing their occurrence, a task complicated when navigating through second and third-tier suppliers with limited visibility. Often, the issue remains concealed until the brand owner discovers an inability to meet a customer order, resulting in compromised service levels and revenues. To proactively address this challenge, achieving multi-tier visibility is paramount, enabling the detection of shortages issues in their early stages. Multi-tier visibility involves two essential components:

Electronic connectivity with trading partners:

Electronic connectivity with trading partners is the cornerstone of any effective parts shortage solution. Timely and efficient communication relies on it. Ideally, businesses should connect with partners of varying technical sophistication, from large enterprises with EDI connections to smaller entities using dial-up Internet or web-based interfaces.

Contextualizing data within business processes:

Establishing connectivity is just the beginning; the real value lies in contextualizing the data within shared business processes. Raw numbers devoid of context are mere noise. Transforming data into actionable insights requires mapping partners' business processes to one's own, addressing questions such as the data elements in an order, semantic consistency, workflow structures, dependent processes, and distinguishing genuine exceptions from inconsequential noise.

Established partner connectivity and contextualized data provide real-time visibility across the supply chain, enabling early detection of potential issues across multiple tiers and the opportunity to mitigate problems before they start. The next crucial question arises: how should the looming parts shortages be addressed?

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Part B: Assessing the impact of potential decisions

Addressing parts shortages involves a strategic choice between the two major approaches: re-planning amidst disruptions in the extended network or finding innovative ways to align original plans with existing assets in motion. It is only fitting that when we assess how we react to the shortage, we have to consider both the pros and the cons. Re-planning, although a typical response, consumes precious time and treats the shortage as a constraint rather than an opportunity to optimize the existing plan, but it also immediately addresses the pain of the missing part.

The key to success lies in making the current plan work, with potential solutions encompassing expediting, transferring, or re-routing inventory not yet positioned where needed. A practical solution involves two critical facets:

Visualization of the impact:

Understanding the impact of the current situation involves assessing the severity and duration of problems resulting from the shortage, determining whether it affects a single location or region, and discerning whether it pertains to a single component or an entire commodity group. Accurate contextualization of information allows for a clear picture of inventory levels across various stages, from supplier locations to in-transit and contract manufacturers.

Possible courses of action:

Once visualized, the next step is to run scenarios of potential courses of action, including an analysis of their impacts on key performance indicators (KPIs) such as revenue, profit, and customer satisfaction. Contextualized information is the raw material for devising solutions, enabling a thorough evaluation of the shortage's potential implications. With a real-time overview of component inventory at all stages, targeted analytical tools can help determine the optimal re-allocation, expedited transfer, re-routing, or transfer of critical parts to maximize revenue and customer satisfaction while maintaining profitability.

By combining impact visualization and analyzing possible scenarios, businesses can make strategic and informed decisions to navigate parts shortages with agility.

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Having identified the optimal course of action within the time and available inventory constraints, the next step is leveraging a supply chain platform that facilitates collaborative implementation of these decisions. The combination of connectivity and business process harmonization forms the bedrock for solving intricate, time-sensitive supply chain issues collaboratively. For example, proposing solutions to trading partners in real-time allows them to confirm execution as required or suggest alternatives, all without the errors and delays introduced by manual processes.

Collaborative execution thrives on seamless connectivity, efficient business processes, and problem-solving interactions. This crucial capability helps companies boost profitability in the critical period after planning and within the lead time needed to overcome constraints.

Also, collaborative execution offers a means to tackle challenges and transform them into opportunities. When critical components are scarce due to supply disruption or heightened demand, the first company to detect the impending shortage gains the advantage of securing necessary supplies before competitors can intervene. This “early warning system” provides both a defensive edge and an opportunity for strategic purchases to control critical parts and gain competitive leverage.

Ultimately, the ability to observe situations as they unfold in real time equips companies with the agility and adaptability needed to survive and thrive in an increasingly volatile world. Collaborative execution enables businesses to navigate disruptions with agility and seize competitive advantages amidst uncertainty.

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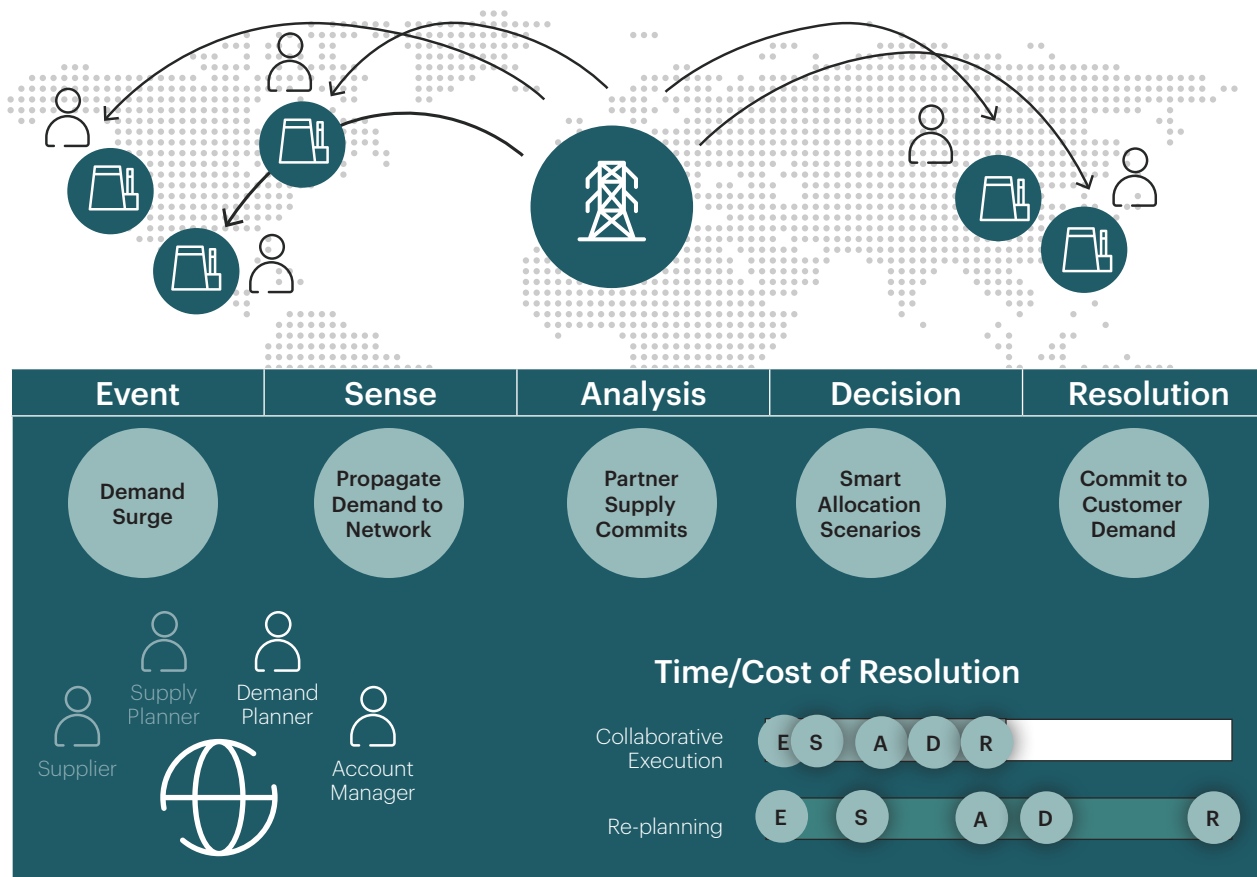
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To illustrate the effectiveness of collaborative execution, consider a real-world scenario: the launch of a new tablet product that experiences an unforeseen surge in demand. As retailers place significantly more orders, the brand owner must increase the existing order with the contract manufacturer within one day to avoid losing business to competitors.

Within a collaborative execution framework, key personnel at both the brand owner and the contract manufacturer, such as account managers and demand planners, receive immediate alerts about the demand spike, eliminating internal and inter-company communication delays. Analytical elements in this environment provide the demand planner with a comprehensive view of demand, enabling collaboration with supply planning colleagues to assess the potential impact on critical long-lead-time parts.



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As the supply planner navigates the system, they identify a shortfall in a critical component, a high-resolution digital camera. The system facilitates a thorough check for parts availability throughout the supply chain, considering supplier options, alternate sources, and in-transit inventory reaching destinations in time. Visibility into other products using the same component allows the possibility of diverting resources to meet urgent demands. The planner evaluates multiple scenarios, including re-allocation and expediting, to gauge impact on key metrics like revenue, profitability, and customer satisfaction.

Relevant parties receive prompt communication of the chosen action, enabling them to confirm or decline specific actions in real-time. Continuous, real-time communication ensures the swift execution of decisions, minimizing latency. Systems of record, typically enterprise resource planning (ERP), document the implemented solution for auditable, closed-loop exception resolution. This seamless process enables the acceptance of the order, satisfaction of the customer, and maintenance of crucial relationships with minimal impact on margins.

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In the ever-unpredictable realm of supply chain management, a technology and business process platform that facilitates collaborative execution is vital. It provides your organization unparalleled flexibility and responsiveness. Unexpected disruptions can unravel even the most meticulous plans—a truth that holds equally true for supply chain organizations. While scenario planning is valuable, it has limitations. It cannot foresee every twist of circumstance, especially when critical exceptions, like shortages of essential parts, strike at the most inconvenient times.

Critical parts shortages can stem from various sources, including natural disasters, geopolitical events, demand spikes, and resource shortages. When confronted with these challenges, organizations have a finite set of responses: re-planning or strategically working to make the original plan viable by expediting, transferring, or re-routing inventory in motion. In a collaborative execution framework, companies go beyond constantly needing new planning and navigating their existing plans, even when reality throws a curveball.

This ability to act swiftly within the execution window has many benefits, including increased profit margins, superior customer service, and reduced risks to financial or operating targets. By embracing collaborative execution, organizations weather disruptions and emerge stronger, showcasing the power of agility and adaptability in the face of an ever-evolving business landscape.



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About e2open

E2open is the connected supply chain software platform that enables the world's largest companies to transform the way they make, move, and sell goods and services. With the broadest cloud-native global platform purpose-built for modern supply chains, e2open connects more than 480,000 manufacturing, logistics, channel, and distribution partners as one multi-enterprise network tracking over 15 billion transactions annually. Our SaaS platform anticipates disruptions and opportunities to help companies improve efficiency, reduce waste, and operate sustainably. Moving as one.™ Learn More: www.e2open.com

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