How-to Guide

Managing Inventory Amid Disruption

kardex remstar

Introduction

Turns out many supply chains are not nearly as secure as once thought.

Starting with the truck driver shortage, accelerated by the COVID 19 pandemic, and pushed forward by the continued warehouse labor shortage, natural or other disasters (ex. Texas winter storm, Suez Canal crisis) and geopolitical events (ex. Brexit, Russia sanctions, etc.) – getting the right goods to the right place at the right time has never been more challenging. As companies have experienced – and continue to experience – disruptions to their supply chains, they've adapted.

Companies are focusing on long term supply chain resilience by adjusting their inventory management strategies to better insulate themselves from an unpredictable global supply chain. Here are 5 ways to better manage inventory amid supply chain disruption:

- Transition to a just-in-case inventory strategy
- Implement warehouse automation
- Consider a multi-warehousing approach
- Emphasize inventory visibility
- Focus on inventory forecasting

Managing Supply Chain Disruption

They key to inventory management is to not have too much inventory (inventory costs money); but have enough so you don't run out (causing missed orders or production shutdowns). It's a delicate balance made even more difficult with an unpredictable supply chain. There are some things you can do to mitigate the impact of supply chain disruptions to your operations.

Transition to Just in Case Inventory strategy

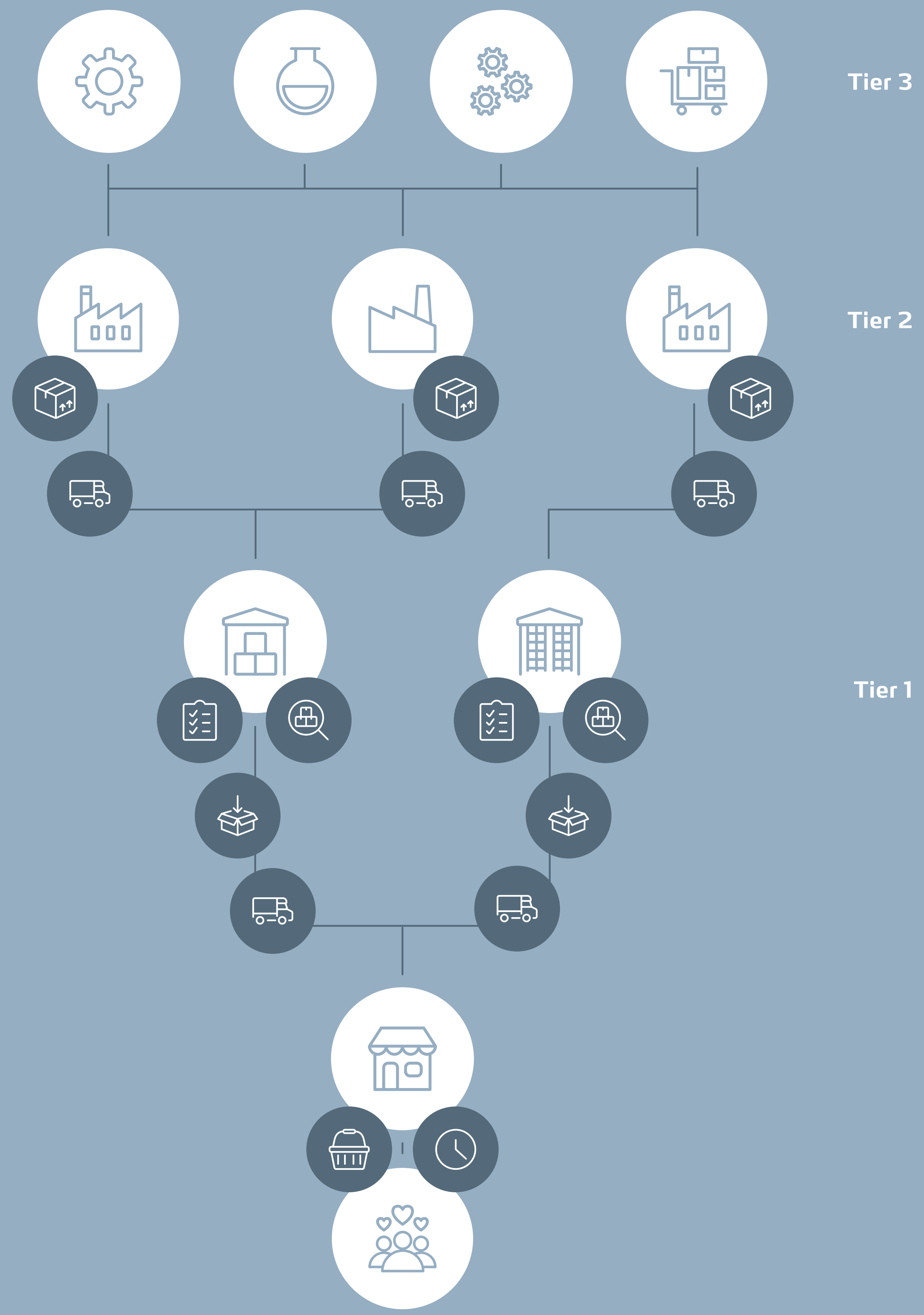
Most warehouses use a "just-in-time" (JIT) inventory management strategy which means inventory arrives just in time or right before it's needed. This widely accepted strategy (aka lean manufacturing or Toyota production system (TPS)) originated in Japan and was adopted in the Western countries in the 80s[1]. It is designed to increase efficiencies, cut costs, and decrease waste. JIT is common in manufacturing and has gained popularity in distribution centers (eCommerce) with the aim to reduce obsolete inventory and decrease inventory costs.

To avoid supply chain disruptions, many companies have shifted to a "just-in-case" (JIC) inventory strategy – prioritizing preparedness over the cost of holding stock. Aiming to reduce or prevent future supply chain disruptions, warehouses are rethinking their safety stock levels and holding more inventory than normal[2]. Keeping additional inventory in key locations limits the risk to your supply chain.

Determine your safety stock (and then consider increasing it!)

[1] Reference: "Just in Time (JIT) Inventory Management", The Balance Small Business, March 2021

[2] Reference: "Just-in-Time vs Just-in-Case: Choosing the Right Strategy", Orcale NetSuite, May 2021



Implement warehouse automation

An unavoidable side effect of holding more inventory is it creates space constraints within the warehouse. Warehouses are struggling to hold 10%, 20%, 30% more inventory overnight. Companies are "building up" existing warehouses by implementing automated storage and retrieval solutions (ASRS) to utilizing ceiling height and quickly gain more inventory capacity in their existing space. For older buildings with shorter ceiling heights, these solutions can be built within an outside enclosure and accessed from within the building to create more space.

Further, ASRS, co-bots and autonomous mobile robot (AMR) technologies are being deployed to increase efficiencies in traditionally labor dependent warehouses. These automated technologies focus on low touch or no touch order fulfillment – making optimal use of the warehouse workers available today and further reducing supply chain friction.

Consider a multi-warehousing approach

Limit opportunities for disruption by spreading inventory among multiple warehouses. This creates redundancy, insulating your inventory from localized events (worker strikes, weather events) while keeping inventory closer to the customer for faster fulfillment and decreased costs.

Additionally, a multi-warehousing approach is also making it easier to meet rising same day and next day customer demand – a direct result of urban customers who prefer to use their mobile devices for purchases and expect immediate delivery[3]. Many distribution centers are leveraging existing retail locations as micro-distribution centers or partnering with 3PLs in key locations to retain these customers and create inventory redundancy within the supply chain.

They key to successfully managing a multi-warehouse operation is inventory visibility.

[3] Reference: "Why Urban Fulfillment Centers?", Deloitte, 2019

Emphasize inventory visibility

To effectively manage inventory, it's critical to connect people to the data that matters. For starters, warehouses must know what inventory they have and where it is – in real time. The ability to track inventory in real time across multiple warehouse locations allows companies to automate order management (the decision of how best to fill the order and meet delivery times at the lowest cost).

In addition to tracking inventory, a hearty inventory management software solution will set automatic reorder levels to prevent inventory shortages and suggest when to remove deadstock to make space for inventory that sells.

Having a real time view of inventory allows you to identify potential gaps and better utilize the DC space, particularly when available capacity is very low. Inventory visibility tools will help better track and store products and as a result, deliver them to customers on time and on budget consistently. At the same time, full transparency will support more efficient replenishment too, despite increasing consumer demands.

Leveraging IoT

Companies are leveraging the Internt of Things (IoT) to maximize inventory visibitlity and connect real time data to their inventory management software system. IoT uses in the warehouse include[4]:

- **GPS and RFID tags to track inventory as it moves through the supply chain**
- **Smart sensors to monitor sensitive inventory conditions, such as temperature and time spent in transit for food, or humidity for electrical burn-in time**
- **Scanners and wearable technologies such as smart glasses, smart watches and headsets to improve order picking efficiencies**

[4] Reference: "11 inventory management trends to watch for in 2022", Unleashed Software, June 2021

Focus on inventory forecasting

Ultimately a big part of good inventory management comes down to inventory demand forecasting – and good inventory forecasting is difficult. An inventory demand forecast predicts what inventory the company will need in the coming month, quarter, year. There are two basic types of inventory demand forecasts: passive demand

Passive demand forecasting is derived from data about past sales. This can work well for seasoned companies with comprehensive sales data and stable market share[5].

To compensate for an unpredictable supply chain many companies have transitioned to active demand forecasting – which is more work but can be more accurate in this climate. Active demand forecasting takes internal and external market forces into consideration when projecting inventory demand[5].

For example, using active inventory demand – review historical sales data for spikes and valleys – such as the holiday season (then consider will these events happen again?). Research how the event will impact demand (will the economy impact the holiday shopping season positively or negatively?). Look at industry and consumer trends (will cheetah print be popular this holiday season? Are teletubbies making a comeback?). Then use these variables in addition to data about past sales to actively predict inventory demand.

[5] Reference: "A 2021 Guide to Demand Forecasting", Ware2Go A UPS Company, May 2021

Supply Chain Resilience

It's always good to have a backup plan, especially when it comes to your supply chain. Consider these actions to create supply chain resilience[6].

Perform a supply chain audit

Audit your current supply chain to identify potential gaps. Physically draw your supply chain on a map or in a diagram to visualize the different ways you can move inventory around during a supply chain disruption. Plan for potential environmental, social and political conditions that may impact you current supply chain.

Diversify suppliers

Work to have suppliers in different areas to create redundancy in the event one supplier has an unexpected shortage. Make a shortlist of additional suppliers and start to build relationships and onboard them so you can use them in a pinch.

Take steps to localize

Take steps to near-shore your supply chain. Identify local alternatives to your current suppliers who might pose less risk. Even if they cost more you might save the difference through reduced freight costs.

Learn more about improving inventory management using Kardex Remstar solutions.

[6] Reference: "Combatting Ecommerce Supply Chain Disruptions and Steps You Can Take to Minimize Impact", Big Commerce