SUPPLY CHAIN RISKS

Managing Sudden Demand Changes

Nolte
PRECISE MANUFACTURING

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INTRODUCTION

Manufacturers Need Strategies to Manage Sudden Demand Changes

Today's manufacturers are faced with enormous challenges in the fight to stay profitable in a fluctuating economy. While buyers and inventory managers are expected to keep inventory levels as low as possible, they are also required to meet sudden demand changes as consumers and the markets respond to periods of economic growth.

According to the Institute for Supply Management's latest **Report On Business**, economic activity in manufacturing grew in June, making it the 30th consecutive month of expansion for the manufacturing sector.

In reality, today's marketplace is subject to significant fluctuation. The potential for sudden demand changes can lead to serious supply chain challenges.

Complicating the challenge is the looming threat of the skills gap crisis. As baby boomers leave the workforce, they leave behind a host of vacant skilled labor jobs, for which most of the upcoming workforce is not qualified. The skills gap means that not only may businesses find their workforce thinning, they also may find their supply chain manufacturers to be limited in what they can deliver, due to labor shortages.

> "Of the 18 manufacturing industries, 11 are reporting growth in June in the following order: Furniture & Related Products; Wood Products; Nonmetallic Mineral Products; Miscellaneous Manufacturing; Food, Beverage & Tobacco Products; Electrical Equipment, Appliances & Components; Transportation Equipment; Fabricated Metal Products;

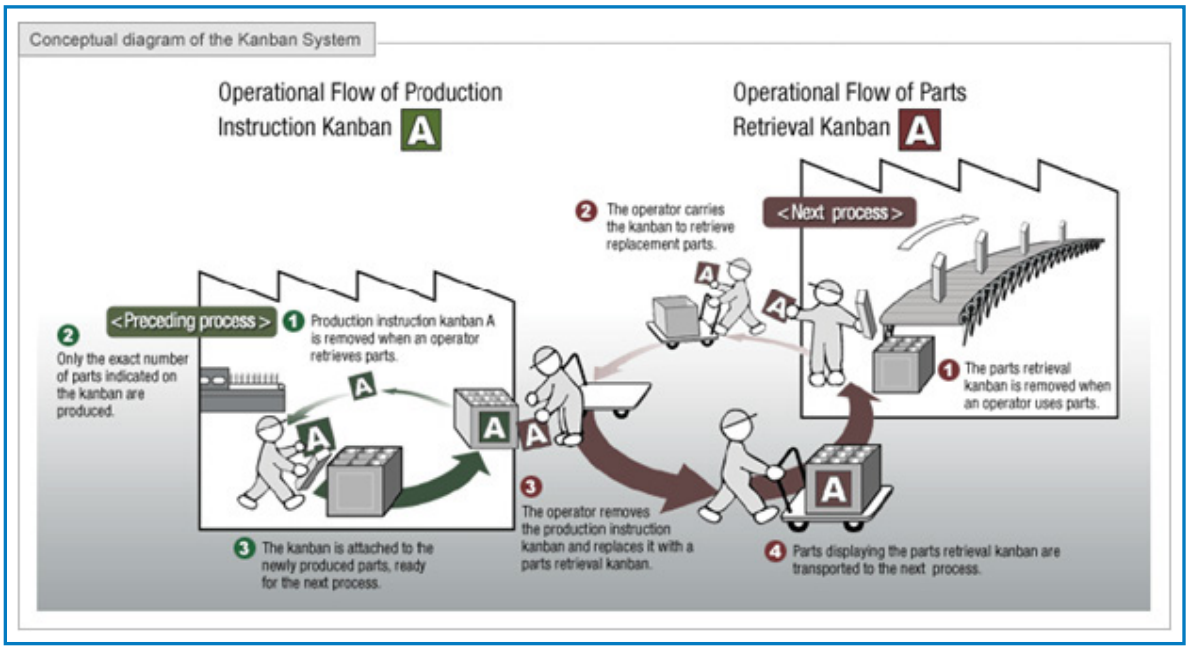
> Chemical Products; Paper Products; and Computer & Electronic Products. The four industries reporting contraction in June are: Petroleum & Coal Products; Primary Metals; Plastics & Rubber Products; and Machinery. "

Given these challenges, businesses need to develop a supply chain strategy they can depend on to keep their operations lean, but also prepared and profitable.

KANBAN

Where Inventory Meets Demand

Pioneering in lean strategies, grocery stores were among the first types of businesses to apply “just-in-time” inventory management. By only ordering new stock only as supplies were depleted, they used shelf space efficiently and avoided waste from excessive inventory. In the 1940’s, Toyota was inspired by this supply chain strategy and developed a similar system for their manufacturing line. Called Kanban, which is a Japanese term meaning a “visual signal”, the Toyota system used visual cues to communicate what needed to be ordered and when. Today, the Kaban system is successfully used to match inventory with demand, optimizing a variety of manufacturing processes.



The Kanban system determines process production quantities, helping to facilitate just-in-time ordering systems and production. The system uses a labeled bin, card, or other device to indicate when more components are

needed for a process. Kaban eventually eliminates overproduction, a primary source of manufacturing waste.

Kanban allows manufacturers to work with suppliers to optimize work-in-progress, production flow, and inventory through the following principles:

Visualize Work

Develop a visual model of the process and workflow to identify problems and points for improvement. This also helps facilitate communication and collaboration between manufacturer and supplier.

Consider Work Flow

Improve the work flow by analyzing and optimizing the processes involved. Focusing on work flow reveals opportunities for improvement, and helps anticipate potential problems that can be addressed with suppliers.

Reduce Waste

Limit the amount of time needed to cycle through the process. Eliminate the need for task switching and reprioritizing by working with your supplier to keep components available as needed.

Continue to Improve

Consider effectiveness on a continual basis by tracking work flow, quality, production, lead times and other areas. Testing and analysis can enhance the process to improve the supply chain relationship.

PULL VS PUSH INVENTORY SYSTEMS

When it comes to supply chain strategy, shifting from a conventional *push inventory system* to a *pull inventory system* has created many advantages for manufacturers. Part of the trend toward lean management, pull inventory systems are aimed at streamlining processes, reducing costs, and cutting production downtime. Making inventory processes more efficient improves cash flow, creates floor space, and reduces waste. Smart manufacturers are working with suppliers who are knowledgeable and experienced in establishing pull systems to manage inventory.

With the focus on lean management philosophies, OEMs naturally began to look at their push inventory systems, in which orders were based on estimated need. The problem with this approach is that it does not account for and accommodate sudden demand changes. When demand spikes, manufacturers are left short; when demand drops, they are left with excess inventory that is costly to store and manage.

Pull inventory systems are better suited to handle sudden demand changes because component part orders are based on actual use rather than projections. Stock levels are matched to demand, which results in a smoother work flow and production process.

Working with suppliers who understand and implement pull inventory systems can help manufacturers to manage sudden demand changes and market fluctuation. This strategic supply chain partnership allows OEMs to better allocate all resources including funds, labor, space, and capital.

SUPPLIER STABILITY IS THE KEY

At the heart of a profitable supply chain relationship is a dependable supplier. Supply chain managers need a partner in meeting emerging challenges such as consumer price pressure and demand for faster response.

Whether you have an existing supply chain that works for you, or are interested in establishing or expanding a supply chain with new partnerships, it is essential to know that your suppliers are flexible and dependable. This will only become more imperative as the traditional supply chain landscape transforms. According to a new study released by MHI and Deloitte, radical changes are expected over the next five to ten years as a result of increased competition, new technologies, and consumer demand. Finding suppliers who are on the leading edge of this transformation will be critical for successful OEMs.

Deloitte.

MHI
THE INDUSTRY THAT MAKES SUPPLY CHAINS WORK™

How can manufacturers identify stable and capable suppliers?

Just as you would not hire an employee without reviewing his or her qualifications, you should not enter into a supply chain relationship without scrutinizing the supplier's record. When evaluating a potential supplier, a few things to consider include:

- Industry experience
- Level of technical expertise
- Manufacturing capabilities
- Company's financial stability
- Availability for technical assistance
- Shipping logistics
- Supply chain approach
- Investment in workforce development
- Investment in new technology
- Delivered cost

A stable supplier will be forward thinking, on the leading edge of industry transformation, and actively engaged in averting the skills gap labor problems that lie ahead for all manufacturers.

CONCLUSION

Setting Up a Reliable Inventory System and Supply Chain

Understanding the impact of lean manufacturing approaches such as Kanban and pull inventory systems can provide you with the strategies you need to manage supply chain risks and sudden demand changes. A stable and experienced supplier will partner and collaborate with you to establish an effective, efficient, and profitable supply chain. This partnership in productivity will facilitate not only stability, but also provide the tools necessary to avert risks and identify opportunities for improvement.

As a manufacturer and supplier with extensive experience in the application of lean strategies, Nolte Precise Manufacturing has observed the advantages first hand. Over 15 years ago, Nolte was among the first manufactures to adopt Kanban and pull inventory principles as a means to better serve our customers. Our full precision machining capabilities give us the resources to be a dependable supplier for manufacturers who need low to high volume precision machined components and assemblies. Through our supply chain partnerships, we understand that things like exceptional quality and on-time delivery are an expectation, not just a differentiating factor we offer as a supplier.

Supply chain partnerships with suppliers who are invested in optimizing your process and work flow through the application of new technology and lean strategies will help you profitably manage sudden demand changes and avert risks.

Need some assistance in setting up your strategic supply chain? We have compiled a list of trusted resources to get you on the right track.

Additional Resources

- National Association of Manufacturers: Workforce Development and Training
  http://www.nam.org/Issues/Workforce-Development-and-Training/

- Monster.com: Behind the employment data – the hidden manufacturing job opportunity
  http://www.monster.com/blog/b/hidden-manufacturing-opportunity

We feel as though the best resources are the projects and experiences that our customers have. Contact us to tell us about what you are working on, we would love to add it to our resources.

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