



5 Best Practices:

Minimize Costs and Risks of Global Supply Chains Erratic Demand

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Unpredictable Changes

Over the last several years, manufacturing companies have seen wild swings in demand including major unpredictable changes.

Could you have predicted in 2007, or even in 2008, that Chrysler and GM would go through bankruptcy and restructuring. Aerospace and defense has had major shifts in key projects and direction over the last several years. Are we going to put people on the moon or are we going to go to Mars? Which defense projects are staying or going. The Nuclear industry has seen decades of no new plants in North America, which might continue or is there a chance this industry could see new plant growth via safer controls and an appetite for clean energy.

A great example of the dynamic and unpredictable circumstances companies experience is the scope of the Toyota recalls. Until recently Toyota was the king of the automotive market and could do no wrong. How could you see that short term production would get canceled and long term demand would take a hit even in late 2009? Now, is Ford the new king of the global automotive industry? How will the rapidly growing Chinese automotive OEM's fair in all this market turmoil.

Our global supply chain and lean disciplines were developed based on an expectation of steady market demand. However, the recent years growing economic and market uncertainty translates into erratic customer demand amplified through the supply chain creating unanticipated higher risks and costs. Best practice suppliers have demonstrated a 1% to 10% total purchase and supply chain cost advantage over traditional supplier practices.

Common manufacturing supply chain challenges from the new hyper-dynamic global marketplace and current limited slow response capabilities:

- 1) 25% to 50% average reduction of OEM RFQ planned volumes vs. actual production
 - a. Some programs get cancelled early
 - b. New competitive offerings take more market share
 - c. Quality or recall issues
 - d. Production, supplier, weather or employee issues
 - e. Consumers have increased buying power and alternatives
- 2) Customers demand more for less
 - a. Many parts and systems spread across multiple platforms or products
 - b. Global applications require unique capabilities with common elements
 - c. Increased part level complexity with added price pressure
 - d. Unacceptable extra inventory costs or shortage expediting costs
 - e. Six sigma quality required at entry level
 - f. Build in and maintain best design
- 3) OEM and supplier ERP and Scheduling systems are slow to respond to major market or product changes
 - a. Product mix and design revisions must be more responsive to market demand to have the best supply chain and the best growing customers
 - b. Current supply chain systems abhor change – too hard, too costly, too complex, too much time needed
 - c. Major early release planning discrepancies are common – an OEM will have a 20% change in demand from planned volumes for a particular product version that will take 3 to 12 months to reach their supply chain system which issues the early customer releases to their Tier 1 suppliers.
 - i. Tier 1 suppliers listen to these unintentionally exaggerated demands and over order to be sure they don't run short (expediting and penalties are more expensive than paying for extra buffer inventory)
 - ii. Process is amplified to Tier 2, Tier 3 and below suppliers. (Ranges from 90% reduction or 200% increase to actual shipments).
- 4) Global demand creates complex multi-country supply chain requirements with high foreign exchange rate risks
 - a. Without more detail future BOM modeling by plant, country, customer, and currency exchange rates, companies risk losing planned profits
 - b. Traditional simple currency hedging can be expensive, especially when many of the bigger exchange risks are hidden due to demand variations from the previous strategic business plan
- 5) Global strategic purchasing is being asked to reduce internal supply chain costs
 - a. Keeping up with greater BOM and part complexity
 - b. Inaccurate volume mix forecasts across the enterprise
 - c. ERP systems that focus on collecting historical data rather than purchasing productivity and supporting future cost reductions
 - d. Lack of systems that support accurate short, mid-term and long term purchasing and supply chain details with an integrated and audited analytic view to quickly take action

High hidden costs result from current ERP, supply chain, forecasting and planning information largely integrated with Excel incapable of accurate future analytics and quick action:

- Extended global supply chains build too much inventory or worse experience supply shortages resulting in premium freight or lost sales.
- Long term supplier price agreements based on wrong volume assumptions
- Supplier relations challenged by lack of frequent and accurate updates
- Active quotes use historical standard costs rather than latest leveraged actual supply chain costs
- Nearly impossible to balance future supply chain foreign exchange, political and total delivered costs to focus strategic purchasing
- Historic backwards looking KPI's is reinforcing poor future profit, cost and risk optimization decision making that is reducing future margins
- New critical need for analyzing and connecting the best future purchasing cost improvement opportunities to rapid supplier RFQs and customer quote responses

To manage these challenges, here are five best practices that we have seen:

- 1) Reduce variation from planned total program-part volumes to actual production
 - a. Create global enterprise demand driver forecast to connect all parts or products to globally agreed future demand details
 - b. More than 80% of leading automotive suppliers use [CSM](#) best practice global forecast which CSM updates globally each month
 - c. OEMs and non-automotive manufacturers gain insight by creating a enterprise level view of the market demand drivers to predict future short, mid, and long term to attach the BOM for more accurate product and component forecasts
 - d. Capture Customer, Optimistic, and Pessimistic forecast estimate in combination with most likely forecast estimate and share cross functionally to improve decision making
- 2) Expose common parts and materials forecast for both historical and future demand
 - a. Understanding current production BOM usage to establish base
 - b. Accurately link in real time to up to date BOM usage forecast for production, awarded, quoted and targeted part demand visibility
 - c. Enable analytics view of overall cost and profit impact at various forecast scenarios
 - d. Create prioritized list of materials and components to do rapid new quotes via more accurate volume plans supported with detail forecast data
- 3) Integrate global demand forecast for a rolling business plan with actual part # level shipments and latest customer early releases to anticipate demand changes and take countermeasures sooner
 - a. Maintain up to date actual, customer releases, and at least monthly forecast updates coordinated globally exposes production scheduling and planning and forecast issues easily
 - i. Requires moving from manual Excel to real time enterprise forecasting database with minimum monthly updates

- b. Increase advanced sales and marketing planning leaders productivity while exposes future issues with time to take countermeasures (3 to 24 months earlier)
- c. Eliminate whipsaw effect for Tier 2, Tier 3 and below suppliers all use a common future demand drumbeat like CSM that creates a more realistic level load to achieve single digit variations out 3 months in advance even during the last 2 years period of wild demand fluctuations, which compares to their -50% to +200% variation in the traditional ERP, EDI and manual Excel process
- 4) Market forecasting tools require built in future foreign exchange modeling and best and worst case capability
 - a. Reduce hedging costs
 - b. Apply currency fluctuation hedges that work
 - c. Analysis turn around time improved by weeks
- 5) [Rolling business plan](#) integrated with [advanced purchasing](#)
 - a. Full BOM or highest value portion of BOM blown out via most likely forecast (production, awarded, quoted and targeted business)
 - b. Detailed product mix and forecast banding scenarios expose purchasing risks and opportunities earlier
 - c. Purchasing teams leveraging integrated [rapid eRFQ](#) process for quick feedback on new and improve volume intelligence by better collaboration with suppliers
 - d. Same system exposes anticipated risk and opportunity value in current year, next year, and over three to five years for effective continuous future profit improvement
 - e. Cost savings and causes of variation are easily viewed and discernable across many years of commercial opportunities lifecycle

New Closed-Loop Commercial Management Software and Low Cost Computers Support Rapid New Supply Chain and Purchasing Best Practices with Fast Payback and High ROI

Just as the original MRP software and computer systems made the manual process of monthly plant scheduling with dozens of people able to reschedule plants daily; the [enterprise closed-loop commercial management](#) (CLCM) best practices are productively enabling strategic future purchasing improvements daily and weekly versus the traditional quarterly or annual purchasing update process. The most important efforts focus on frequent worthwhile cost improvements:

- 1) Up coming critical quotes to improve win rate and margins,
- 2) Constant evaluation of potential major business plan volume, exchange rate, and cost changes in time to make a difference weekly or monthly
- 3) Identify previously unseen major competitive cost improvement opportunities across all facets of the company.