

**INTERNATIONAL INSTITUTE
OF MANAGEMENT**
IMPROVING SUPPLY CHAIN IN YOUR BUSINESS
BY

HARI PERUMAL

Understanding the best practices of Supply Chain Management,
acquiring and deploying the best of the breed
proven strategies for your business.

Executive summary

With today's global trade, raising oil prices, maintaining best of the breed supply chain management is extremely important to keep growing the top line revenues while finding lower cost sourcing opportunities on a global scale. Evolution of technology and the technology based businesses are becoming easily accessible for businesses to efficiently manage their process metrics in supply chain and track their key performance indicators that keeps tabs on the bottom line.

What is Supply Chain Management?

Supply chain management is the integration of key business processes from end user through original suppliers that provides products, services, and information that add value for customers and other stakeholders. Logistics is part of the supply chain process that plans, implements, and controls the efficient, effective flow and storage of goods, services, and related information from the point-of-origin to the point-of-consumption in order to meet customers' requirements.

Best Practices in Supply Chain

Several focus group workshops with large multinational corporations and a literature research were conducted to identify supply chain "best practices" and supply chain relationship characteristics. The following synopsis of basic practices can be regarded as necessary for a supply chain to function properly.

Cross-organizational integration focuses on the integration of supplier and customer network processes. The purpose is to create an optimized material flow pipeline, free of all obstruction and wasteful activities.

Collaboration between supply chain partners will reduce risk and greatly improve the efficiency of overall pipeline. Supply chain efficiency therefore relies heavily on the successful long-term relationships/partnerships where information sharing, joint problem solving and trust are key success factors.

EDI makes it possible for different firms to integrate their systems and databases despite differences in

compatibility. It's increasingly replaced by more flexible, cost effective e-commerce and other web-based systems.

Total Quality Management and continuous improvement encompasses quality management of the entire supply chain and include all the suppliers and customers in the supply chain down to the final customer.

The focus of Just in time (JIT) is zero inventory and waste reduction. JIT aim's to reduce inventory and waste to zero and will ultimately ensure that the objectives of supply chain management are met. A great deal of trust and cooperation in the various links between firms are required.

Supplier development and the evaluation of the supplier's performance is the first issue of managing the supplier relationship. If the supplier's performance is perceived as inadequate, it should be assisted to enhance its performance by means of training and continuous improvement teams.

Characteristics of excellence of Supply chain

The studies conducted by U.S based Industry Advisory Council (IAC) and European Advisory Council (EAC) has concluded that excellent supply chains have four main characteristics.

They both support and enhance the strategy of the business, by being an integral part of the overall design of the business. Excellent supply chains are based on a complementary, not necessarily unique, operating model that creates competitive advantage.

They emphasize high-performance execution, where performance is measured by a balanced set of business-relevant objectives or metrics. Excellent supply chains leverage a tailored set of business practices. Specifically, strategy, operating models and operational objectives are interrelated and mutually supporting.

Thus, an excellent supply chain will almost always be found in companies that have a clear business strategy enabled by complementary operating model aimed at achieving a balanced set of operations objectives. The success of the supply chain excellence depends on how well a company achieves its operational objectives. These objectives identify what's important to the company.

These are grouped into following three categories:

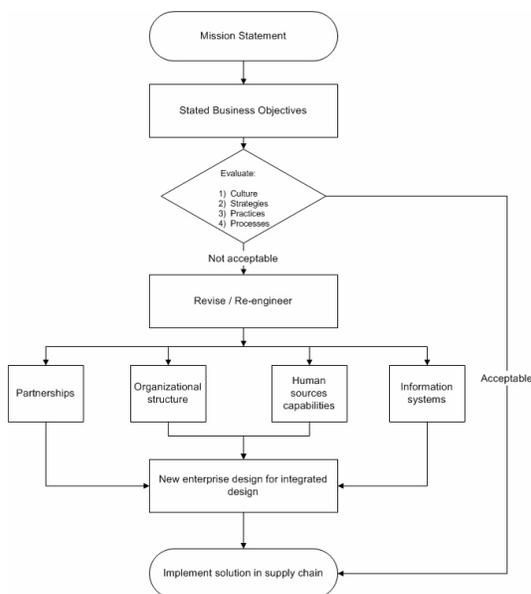
Customer response: E.g. like order cycle time, perfect order fulfillment rates, quality, and a new product time-to-market, etc. Companies in industries with high-margin, short-lifecycle products often emphasize

this set of objectives. These industries include pharmaceuticals, fashion apparel, toys, and computers. E.g. Best buy, Apple.

Efficiency objectives: These objectives are internal measures that assess how well the company converts inputs into output. E.g. include labor productivity, labor content, supply-chain costs, wastage, etc. Cost conscious companies such as food and beverage, consumer electronics, non-fashion retail, and industrial supplies often focus on these types of metrics. E.g. Wal-mart, Dell.

Asset utilization objectives: This objective focuses on how effectively the company is leveraging its assets such as facilities, inventories and working capital. Capital intensive companies like semiconductor fabrications, petrochemicals, and commodity materials makers, all try to make the most of their plant and equipment with 24x7 operations. E.g. Amazon, IBM.

Leveraging value of existing supply solutions



“Most of the supply-chain investments we are seeing now have to do with trying to get more from current applications, either by adding visibility and performance-management tools, by trying to fill gaps to get a more complete solution or by just making information from existing tools more accessible to users,” says Noha Tohamy, a principal analyst at Forrester Research, Cambridge, Mass. To begin with, companies generally are using only 25 percent to 50 percent of existing functionality, estimates Brad Householder, Principal at PRTM Management Consultants, Waltham, Mass.

- Companies are realizing that it is cheaper and more productive to re-evaluate what they have bought, but not properly used, rather than trying to get a new project going.
- Understanding a company’s overall business goals and its value proposition clearly is essential to making the most of both past and future technology investments.
- Critical factor in making the right investment decisions is to have an IT roadmap for the enterprise which shows the various pieces needed to support stated business goals and how they all fit together.
- To get more value from existing applications fine-tune the existing business processes.
- Easier integration – Enterprise application vendors are responding to the pressure to facilitate integration by breaking their products into components. These can be deployed, extended and maintained separately, using a common platform and a standard component frameworks accessible to third-party software developers
- New Architecture – Some software companies are employing this type of Service Oriented Architecture (SOA) to extend functionality in a similar way. Because it is re-usable and modular, SOA components do not create “the brittle, point-to-point infrastructure”. The idea is that once the building blocks are in place, the entire system can be build.

Mitigating Supply chain disruption to maintain corporate competitiveness

- (1) Improving the accuracy of demand forecast
 - Dynamic adjustments to reflect changes in demand, lead times, transit time, capacity, and transportation and distribution routes, as well as events outside the organization that could have a material effect n forecasts.
- (2) Integrate and synchronize planning and execution
 - Can avoid majority of the problems by better coordinating and integrating planning and execution.
- (3) Reduce the mean and variance of lead-time
 - Remove non value-added steps and activities.
 - Improve the reliability and robustness of manufacturing, administrative and logistics processes.
 - Pay close attention to critical processes, resources, and material.
 - Incorporate dynamic lead-time considerations in planning and quoting delivery times.

- (4) Collaborate and co-operate with supply chain partners
 - Collaboration and co-operation among supply chain partners will only happen if there is trust among the parties, upfront agreement on how to share the benefits, and a willingness to change existing mindsets. Once these elements are in place, supply chain partners can do joint decision making and problem solving, as well as share information about strategies, plans, and performance with each other.
- (5) Invest in visibility
 - Identify and select leading or forward looking indicators of supply chain performance (suppliers, internal operations, and customers).
 - Collect and analyze data on these indicators.
 - Set benchmark levels for these indicators.
 - Monitor these indicators against the benchmark.
 - Communicate deviations from expected performance to managers at the appropriate levels on a real time basis.
 - Develop and implement processes for dealing with deviations.
- (6) Build flexibility in the supply chain
 - To enhance responsiveness, companies need flexible strategies that match their operations, such as product design, sourcing, manufacturing and postponement.
- (7) Invest in technology
 - Web-based technologies can link databases across supply chain partners to provide visibility of inventory, capacity, status of equipment, and orders across the extended supply chains.
 - Supply chain event management systems have the ability to track critical events and when these events do not unfold as expected send out alerts and messages to notify appropriate managers to take corrective actions.
 - RFID technology has the promise to improve the accuracy of inventory counts as well as provide real-time information on the status of orders and shipments in transit and what is being purchased by customers.

Extended ERP and SCM optimization

The major advantage of extended ERP is that it removes the integration hassles that are typically associated with best of breed vendors. Extended ERP

gives competitive advantage by better business and finance planning, better accountability and better predictability. An ERP with integrated PLM capabilities can manage a product from concept to production. It enables transfer of product information and enterprise content between departments and supply chain partners, optimizing the investments in assets, resources and knowledge throughout the product life cycle. Product data can be navigated beyond the enterprise boundary between partners that is critical for the success of the supply chain. This is useful in conducting secure communication of project related information between partners, contract manufacturers and suppliers. This also helps in complying with international regulations and patent regimes.

Conclusion

Supply chain challenges are real in today's competitive environment. Evolution in technology forces companies to re-think their supply chain strategies. The effectiveness of the supply chain lies in its ability to react to new demand situation and ever changing needs of the customer. Supply chain optimization is a continuous process and there is no one solution for all supply chain optimization problems. For effective supply chain optimization, specific strategies to specific supply chain issues must be deployed.

About the author

Hari Perumal has more than 15 years of global manufacturing and IT experience. During this tenure he has worked on several functions related to Six-sigma, GMP, lean manufacturing, Global supply chain management, JIT, Kanban, process improvements and information systems. Hari holds a B.S in Mechanical Engineering from Madras University, M.S in Computer Information Systems and MBA in Supply Chain Management from California State University, Hayward, CA.

References

- James R. Stock & Douglas M. Lambert., Strategic Logistics Management, McGraw-Hill Irwin 2001.
- JA Badenhorst-Weiss, Ms I fourie, Mr JD Neil, University of South Africa, The applications of supply chain management best practices by small business suppliers.
- Global Logistics & Supply Chain Strategies (Jan 2005, April 2005, May 2005).
- Kaplan Robert and Norton David, The Balanced Scorecard, Harvard Business School Press, Boston, 1996.