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Challenges For Supply Chain Management In Today's Global Competitive Environment

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Supply chain management- The means by which firms engaged in creating, distributing, and selling products, can join forces to establish a supply network with an unbeatable competitive advantage- has emerged as one of the most powerful business- improvement tools around. Companies all over the world are pursuing supply chain as the latest methodology to reduce costs, increase customer satisfaction, better utilize assets, and build new revenues. In this fiercely competitive environment, the gap between firms that are succeeding and those that aren't is rapidly expanding. Companies are being impacted right now by Supply Chain Management and if any company thinks that supply chain will not affect it, then it is wrong. The concept is appearing in various industries and is moving into smaller companies. Start to understand what it is and what it means to you. Supply Chain Management is a dynamic paradigm driving through companies. Add in the global impact of customers, competitors and suppliers; and the magnitude of the supply chain is very significant.Supply Chain Management is a reverse of prior practices where manufacturers supplied product to customers. Now customers tell suppliers how and when they want their inventory delivered. The driver behind Supply Chain Management is to remove inefficiencies, excess costs and excess inventories from the supply pipeline which extends from the customer back through his suppliers' supplier and so on back. By having the program driven by the customer, it is hoped that inventories, caused by uncertainties and slow response, will be significantly eliminated. While there are sales incentives to major suppliers with the carrot of category management or similar programs, the success of Supply Chain Management rests with logistics. The present paper is aimed to understand the Supply Chain Management and its relation to logistics, to discuss the challenges of SCM, how to achieve maximum level of customer satisfaction through Supply Chain Management, to recognize the key issues responsible for effective Supply Chain Management.

Field of Research- Management, Supply Chain Management

1. Introduction

Supply Chain Management is a reverse of prior practices where manufacturers supplied product to customers. Now customers tell suppliers how and when they want their inventory delivered. The driver behind Supply Chain Management is to remove inefficiencies, excess costs and excess inventories from the supply pipeline which extends from the customer back through his suppliers and through his suppliers' suppliers and so on back. By having the program driven by the customer, it is hoped that inventories, caused by uncertainties and slow response, will be significantly eliminated. While there are sales incentives to major suppliers with the carrot of category management or similar programs, the success of supply chain management rests with logistics.

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Functional Areas of Logistics:

1. Network Design
2. Information Technology
3. Transportation
4. Inventory and Storage
5. Warehousing
6. Materials Handling, Loading and unloading
7. Packaging and Re-packaging

The customer requirements may vary by customer, but they do have certain consistencies to logistics--

- Quick response to orders from order receipt through shipment to invoicing
- Complete and accurate orders / no backorders
- Delivery windows or appointments
- Special shipment preparation as to packaging, marking, labeling, stenciling, slip sheets or pallets, etc.
- Bar coding
- EDI
- Carrier selection

The initial benefits of supply chain management accrue to the customer, the initiator of his supply chain. He earns the reduction in inventories by driving out excesses inventories which he must purchase, store and be responsible for. The impact of supply chain management to the supplier may be more difficult to classify, initially, as benefits. They may vary, but may include--

- Fewer orders initially while the customer draws down excess inventories.
- Small and more frequent orders.
- Vendor carries inventory, not the customer.
- Higher warehousing costs for picking smaller and more orders.
- Higher freight costs for shipping smaller order and more orders.
- Penalties for not meeting the customer's requirements.
- Possible loss of business for not meeting the customer's requirements.

If a company has one hundred customers, he may have one hundred customer practices. This is the most challenging job for SCM to keep all the customers satisfied rather delighted. Emphasis is presently on the initial customer-supplier link. The effects ripple through the supply chain, it is more like a "whisper down the lane" impact, where suppliers are not clear as to their role and what they must do. Customers want more quality, design, innovation, choice, convenience and service, and they want to spend less money, effort, time and risk. The supply chain of a company consists of different departments, ranging from procurement of materials to customer service.
Supply Chain Management means transforming a company’s “supply chain” into an optimally efficient, customer-satisfying process, where the effectiveness of the whole supply chain is more important than the

effectiveness of each individual department. The five key issues of Logistics Effectiveness are core to Supply Chain Management-

- Movement of Product
- Movement of Information
- Time/Service
- Cost
- Integration, both internal and external, both organizations and systems

Supply Chain Management requires a logistics model based on quick order to delivery response. A model which focuses from vendors' doors through to delivery to customers' doors. The model must meet the customers' demanding and specific requirements. It requires organizational flexibility and responsiveness, internal and external teamwork and demands the use of processes and technology. A common practice which causes inefficiencies, excess inventories and high costs is forward-buying. On the surface, it looked like a way to purchase at a low price. But in reality, this practice is inefficient and results in additional, higher costs and negative impact throughout the supply chain. Forward-buying strains the capabilities of suppliers to respond and for the distribution department of customers to handle the products. It creates an operational and cost inefficiency for both supplier and customer. By forcing excess sales through the supply chain, then the hidden costs of manufacturing and distribution valleys, after the huge peak caused by the forward-buy can be significant. Supply Chain Management is about what the customer demands. It is not about what the supplier is capable of doing at present.

2. Literature Review

(John Storey, Caroline Emberson, Janet Godsell, Alan Harrison, 2006) in their paper **"**Supply chain management: theory, practice and future challenges**"** critically assess current developments in the theory and practice of supply management and through such an assessment to identify barriers, possibilities and key trends. The paper reveals that supply management is, at best, still emergent in terms of both theory and practice. The paper identifies the range of key barriers and enablers to supply management and it concludes with an assessment of the main trends. (Omera Khan, Bernard Burnes, 2007) in their study "Risk and supply chain management: creating a research agenda" develop a research agenda for risk and supply chain management. The paper shows that there are a number of key debates in the general literature on risk, especially in terms of qualitative versus quantitative approaches, which need to be recognised by those seeking to apply risk theory and risk management approaches to supply chains. In addition, the paper shows that the application of risk theory to supply chain management is still in its early stages and that the models of supply chain risk which have been proposed need to be tested empirically. (Mary J. Meixell , Vidyaranya B. Gargeya, 2005), in their paper "Global supply chain design: A literature review and critique" they review decision support models for the design of global supply chains, and assess the fit between the research literature in this area and the practical issues of global supply chain design. The classification

scheme for this review is based on ongoing and emerging issues in global supply chain management and includes review dimensions for (1) decisions addressed in the model, (2) performance metrics, (3) the degree to which the model supports integrated decision processes, and (4) globalization considerations. They conclude that although most models resolve a difficult feature associated with globalization, few models address the practical global supply chain design problem in its entirety. We close the paper with recommendations for future research in global supply chain modelling that is both forward-looking and practically oriented. A supply chain design problem comprises the decisions regarding the number and location of production facilities, the amount of capacity at each facility, the assignment of each market regionto one or more locations, and supplier selection for sub-assemblies, components and materials (Chopra and Meindl, 2004). Experts maintain that global supply chains are more difficult to manage than domesticsupply chains (Dornier et al., 1998; Wood et al., 2002; MacCarthy and Atthirawong, 2003).Substantial geographical distances in these global situations not only increase transportation costs, but complicate decisions because of inventory cost tradeoffs due to increased lead-time in the supply chain.Firms that implement Advanced Planning Systems (APS) may integrate production decisions across the supply chain by including supplier inventory and capacity constraints into their scheduling function, striving to avert supply problems before they occur (Rohde, 2000; Bowersox et al., 2002). These integration practices also affect global supply chain design. Several authors (Dornier et al., 1998; Brush et al., 1999; Trent and Monczka, 2003) discuss the value and need for integration between facilities in the global supply chain. An integrated, well-coordinated global supply chain is difficult to duplicate and so plays an important role in competitive strategy. In current study lot of research has been done to understand what the Supply Chain Management is and how it is affecting organisations, what are different challenges and it can be proved as a tool for improving overall performance in today's global competitive environment.

3. Methodology and Research Design

The current condition of a supply chain can be described visually using "Value Stream Mapping". The value stream comprises all the steps necessary to bring a product from its raw materials through production to delivery to the customer. With value stream mapping, all the steps in the supply chain process are identified and assessed as to whether they add value or create waste. Typically, there are two streams or flows to be described and analysed. These are the flow of product and the flow of information. Mapping is a tool to visualise what goes on. The picture is a way to see the non-value, waste-creating actions for both the product and the information flows. The two flows should be integrated. Otherwise opportunities for non-value added activities and for inconsistent actions are created. Draw the process – from what triggers the purchase order, back through the suppliers and logistics providers, to delivery.

4. Discussion of Findings

More than 25% of purchase orders are not shipped as planned or are not delivered as planned. This significant statistic presents a real opportunity to reduce waste. Supplier performance and supplier lead times are important areas for potential waste reduction and process improvement.

Also, the distribution network may be outdated. It may have been built years before with different store or customer configurations, different products, and other topics. It may have been built when the focus was on storing inventory in warehouses, unlike now when inventory velocity is emphasised. Touching the product to store it often adds only time – a waste result, not value (see map at bottom of facing page).

Bypassing warehouses with cross dock or other transfer facilities at ports can remove time and inventory. Supply chain execution technology can give visibility from the purchase order through to delivery order. It can provide the way to allocate product in transit. Making this part of the new process reduces two key wastes – time and inventory.

Global supply chain management has significant "built-in" time because of the distance involved. This runs counter to domestic supply chains. The extended time can, in turn, create uncertainty and the need for many companies to build and carry additional inventories. Yet time and inventory are two areas of waste for lean to improve. So lean international logistics faces an additional challenge because of its inherent scope and the impact throughout the supply chain, especially within the company.

Identifying non-value added activities is especially important for worldwide supply chain management. Any activity that adds time and inventory and cost to the already complex activities can obstruct supply chain effectiveness. Value stream mapping is a tool for seeing and identifying waste, both internal and external. Seeing the current activities and the waste can form the basis of plans to improve the supply chain. This procedure is especially critical for high-volume and high-margin products where the impact on the company bottom line is significant.

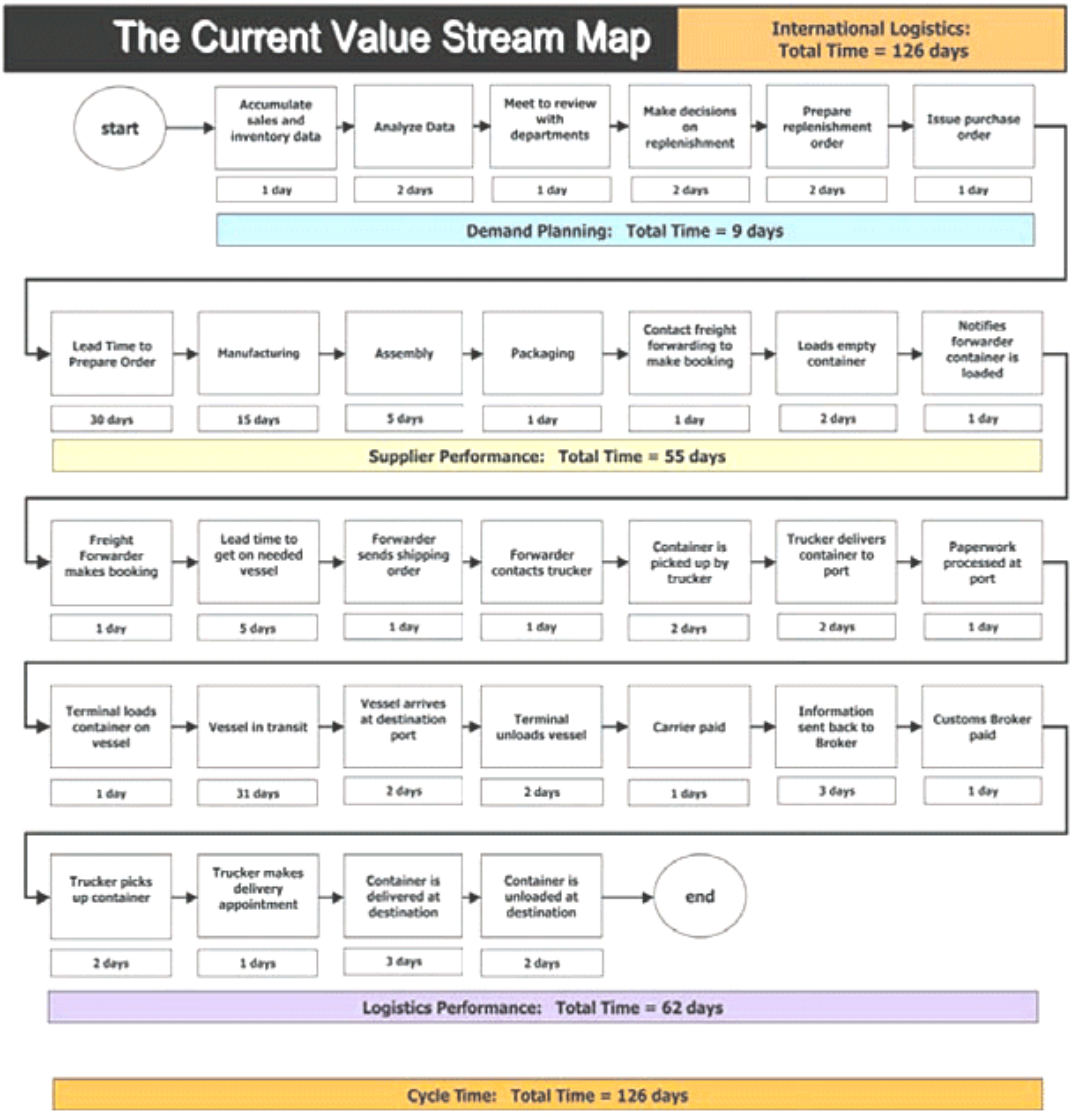
Collaboration and co-operation within the company organisation and between and among trading partners is important for truly removing waste across the entire supply chain. Accelerating cycle time, increasing inventory velocity and reducing costs for the high-volume and high-margin products can affect return on investment and drive the benefit of lean for everyone to see.

Value stream mapping provides an important tool for understanding the present supply chain and designing a new one.

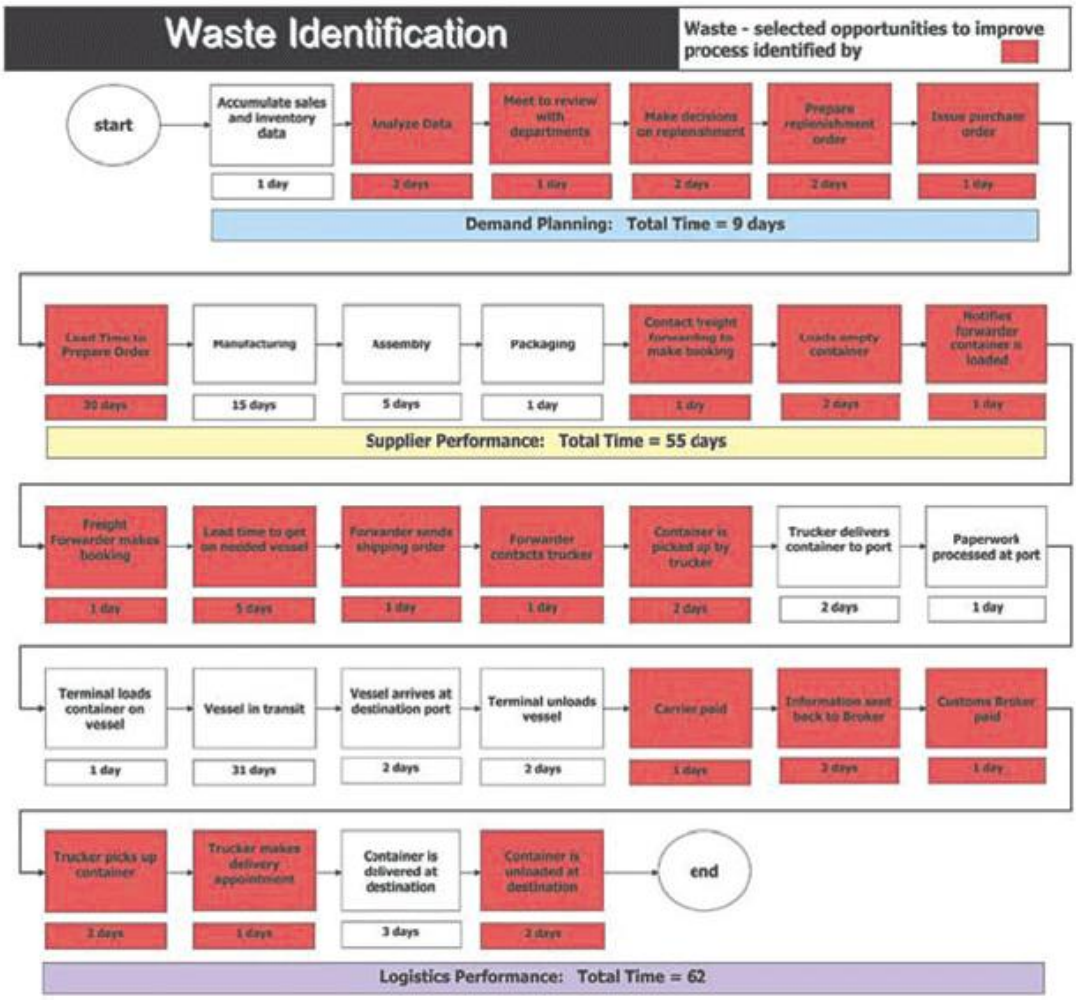
Supply chain management (SCM) should be an integral part of the company's drive and direction. SCM represents the way to customer retention and

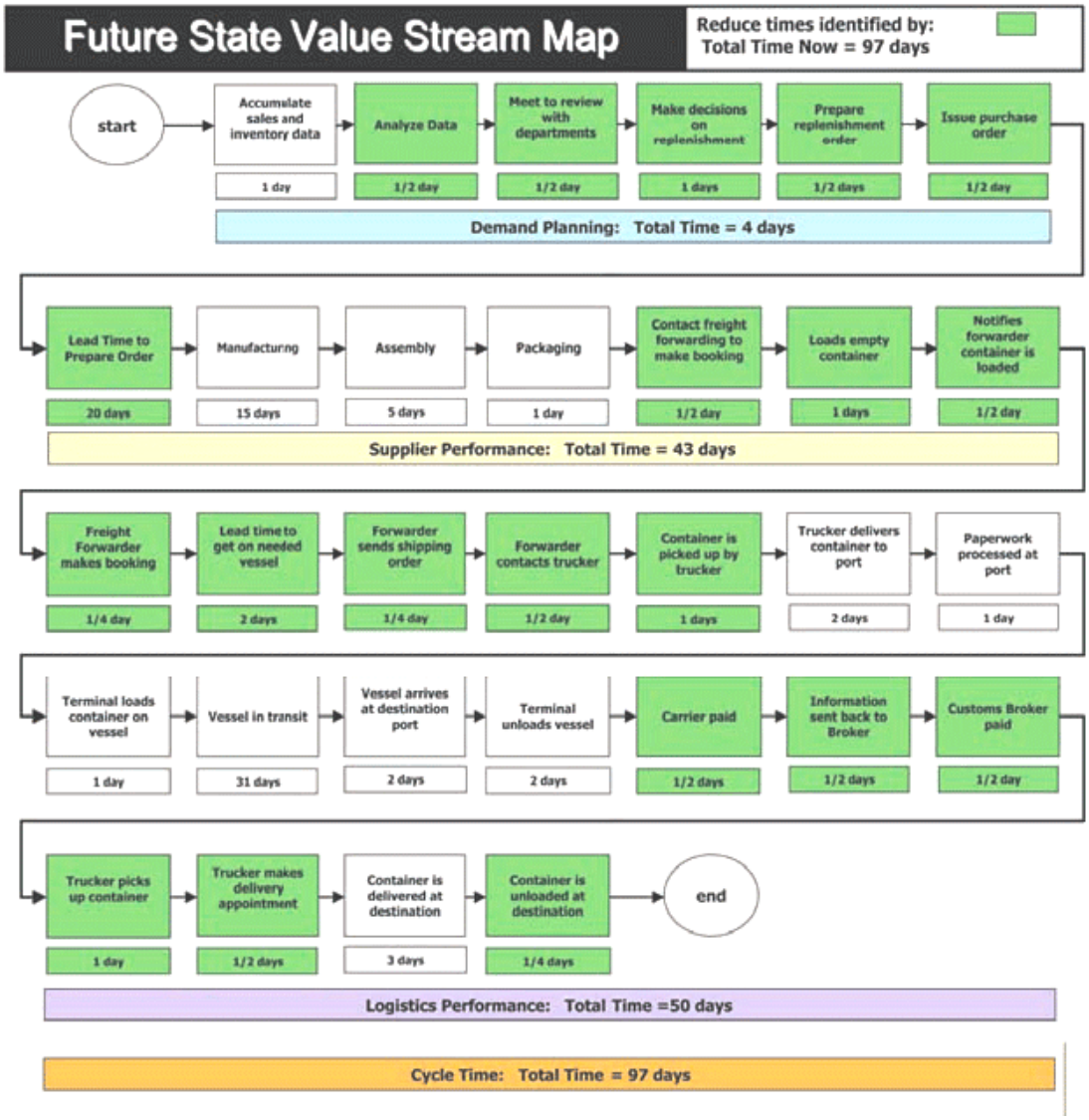
growth, competitive advantage and profitability. Successful supply chains have top management approval and support.

Value stream mapping is a picture of the process or what is used as a process. The lack of a real process can create waste, or non-value-added activity. Global supply chain waste occurs as unneeded cycle time, inventory and cost. The cost waste often appears in the transportation and warehousing activities.



It is easy to place responsibilities on external parties without understanding what your company does to trigger their actions. See where the process is being forced to fit your company or some other entity and, as a result, creates significant waste. Designing the new process requires clear analysis and thinking beyond traditional logistics. Otherwise, one flawed process can replace another flawed process.


Waste Identification
Waste - selected opportunities to improve process identified by
start
Accumulate sales and inventory data
1 day
Analyze Data
2 days
Meet to review with departments
1 day
Make decisions on replenishment
2 days
Prepare replenishment order
2 days
Issue purchase order
1 day
Demand Planning: Total Time = 9 days
Lead Time to Prepare Order
30 days
Manufacturing
15 days
Assembly
5 days
Packaging
1 day
Contact freight forwarding to make booking
1 day
Loads empty container
2 days
Notifies forwarder container is loaded
1 day
Supplier Performance: Total Time = 55 days
Freight Forwarder makes booking
1 day
Lead time to get on needed vessel
5 days
Forwarder sends shipping order
1 day
Forwarder contacts trucker
1 day
Container is picked up by trucker
2 days
Trucker delivers container to port
2 days
Paperwork processed at port
1 day
Terminal loads container on vessel
1 day
Vessel in transit
31 days
Vessel arrives at destination port
2 days
Terminal unloads vessel
2 days
Carrier paid
1 days
Information sent back to Broker
3 days
Customs Broker paid
1 day
Trucker picks up container
2 days
Trucker makes delivery appointment
1 days
Container is delivered at destination
3 days
Container is unloaded at destination
2 days
end
Logistics Performance: Total Time = 62



5. Conclusion and suggestions

Assessing supply chain performance leads to identification of problems and opportunities. Having a strategy and measuring key parts are necessary to understand and take control of your supply chain. Put the process, people and technology in place to create competitive advantage, both for today and tomorrow. If you do not, a competitor will. Supply chain success involves process, people and technology. It gives definition to the company purpose. It enables all participants to know what is required. This in turn provides agility to handle exceptions and to adapt to changes. Having those three elements is important to having metrics, ones that are useful across the organization. All three working together in a company provides coordinated, unified effort to use supply chain management as a driving force in customer satisfaction and in having competitive advantage, with service and productivity.

Effectively managing inventories requires proper process, people and technology. It means integrated management of the supply chain from the

suppliers' doors right through to the customers' docks. Inventory should move, not sit in warehouses and plants. Inventory velocity is key to supply chain success, company profitability and shareholder value.

Senior management may not speak of logistics in their corporate goals and programs. But logistics is often a key factor in the success of these. Logistics must exercise a leadership role in demonstrating creative vision and programs to top management. Be committed to the corporate programs. Make sure your corresponding logistics programs are aligned with and support the corporate plans.

Supply chain management is here. It is not about shipping orders; it is not about making product then pushing it out the door. Supply chain management is about developing a process to respond to the different requirements of each customer. Customers are driving suppliers' practices. Being successful requires logistics effectiveness. Customers, competitors and vendors are global. This is an exciting challenge and opportunity for companies who see the potential and make it happen.

At one time, suppliers dictated how they would accept and ship orders to customers. No more, now customers are dictating to their suppliers how they will handle their orders. Turn around time. For each action, there is an equal and opposite reaction. So it is with supply chain management-type programs. Management should understand the programs that each of their customers have and what it means to their company.

*Recognize that supply chain management has different meanings in different industries. The importance of transportation cost or inventory or information technology can impact the design and operation of the logistics process.

*Understand what each of your customer wants and why. Each customer may have his own requirements. Know them. Ask questions. Communicate internally and work together.

*Reduce your internal total logistics cycle time, with purchasing, manufacturing, customer order and shipping, to have product ready and available for delivery to the customer.

*Develop and communicate to your suppliers what you are doing, why you are doing it and what you expect of them. Learn their processes to help you design the best one.

*Learn your international supplier's operations and logistics cycle time. The lead-time with international sourcing and its impact in inventory and on operations makes this very important.

*Inventory levels. Inventory stands out on the balance sheet. This is true whether it is raw materials, packaging, MRO, work-in-process or finished

goods. Inventory ties up working capital, capital which may have alternative uses to benefit the company.

*Unclear Mission. Supply chain management requires a rethinking of the company and the logistics mission. Is it customer or is it cost? These can be conflicting goals. Saying the mission is service, then measuring it by cost can cause organizations to lose focus on what must be done. Supply chain management is a new concept and requires a reassessment of what the company is doing, where it is going and how it wants to get there.

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