

## *What is a Supply Chain?*

Supply chains are the foundational process, which define the movement of raw materials from simple resources to higher value added products. The five parts of the supply chain are: 1. The Plan, 2. Purchasing, 3. Manufacturing, 4. Transportation Logistics, and 5. After Sales Service.

1. Planning provides an outline of how the supply chain will operate. How does each contributor fit into the planned framework and what is the most efficient model?
2. Purchasing involves all buying decisions as they relate to the product. Direct and indirect materials must be accounted for.
3. Manufacturing is a value added process including quality control, packaging and shipment preparation. The goal is to minimize costs and maximize productivity and production volume.
4. Transportation logistics include supplier shipping, warehousing, distribution, and payment. The transportation method, route, and shipment size are critical to maximize efficiency.
5. After sales service and returns are policies for products sent back or repaired onsite. Associated costs affect finished products, therefore optimization is vital to retain profit margins.

## *So Why is this Important?*

Old models of product manufacturing operate in isolation, merely focusing on a single step in the process. This is detrimental to the entire product flow where costs grow with greater inefficiencies. Therefore we must ask: How does each stakeholder fit into the whole supply chain?

New models consider the entire design of material movement through the value added process. To do this effectively all contributors must agree on four critical components: 1. Optimal Service Level, 2. Optimal Model, 3. Optimal Inventory Levels, and 4. Efficient Transportation Logistics.

## *What are the Advantages?*

### Reduced Inventory Costs

Inventory management creates optimal levels of materials, components, and finished goods. If you are holding too much or too little stock the overall costs may be higher than necessary. If you are ordering incorrect products, then resources are not being effectively utilized.

### Improve Product Flow and Lowered Total Costs

Product flow is about moving materials through the value added process smoothly at the lowest possible cost. By decreasing lead times, improving service levels, and lowering inventory, eventually unnecessary expenses can be reduced as well.

### Increased Information Transfer

Information technology is an enabler to maximize the efficiency of the supply chain. By implementing current software tools, data can be more readily transferred between all stakeholders involved.

### Reduce Risk

Supply chain management can reduce many of the risks companies commonly face. By optimizing the supply chain, inventory levels become more consistent, lead times can be reduced and the overall service level will be improved.

Supply chain coordination is about helping each stakeholder understand their role in the entire process. Each company must agree on the best model, the optimal service level, cost-effective inventory levels, and the transportation methods that tie the entire design together. In the end, product flow will move more efficiently and the finished products profitability will be maximized.