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## **Logistics Management**

“At Becton Dickinson, we’ve reduced inventories by \$100 million a year on a \$400 million base as a result of smoothing out the supply chain with help from transportation partners, warehouse management partners, and freight-forwarding partners.”

- Alfred J. Battaglia, Becton Dickinson

### **INTRODUCTION**

Fierce competition in the marketplace coupled with rapidly evolving customer demands have been impacting the ways businesses operate. The competition is continuously innovating while the consumer keeps on demanding shorter lead times, better quality, and lower prices. Due to these trends, the leverage in the manufacturing industry’s supply chain has been shifting from producers to retailers and consumers. If a company cannot meet these expectations, its competition will. Therefore, companies are desperately trying to obtain a competitive advantage and logistics has become a major area of focus.

### **WHAT IS LOGISTICS?**

Logistics is the set of activities associated with the *flow* of goods, information and payments among suppliers and consumers from the origination of raw materials through the end user. These services, typically classified as shipment, tracking or communication, occur throughout the entire supply chain and require coordination among suppliers, plants, warehouses, customers and transportation companies.

To compete in today’s business world, a company needs to be able to deliver product, with low costs, in a timely manner to *any* location in the world. World-class companies are able to source materials and deliver product on time without backorders, high expediting costs or missed deadlines. In other words, for a logistics system to work properly, a company should not even notice the operation because the flow of goods and information is flawlessly executed. For any company that competes in the global marketplace, they must adopt appropriate best-in-class logistics practices to maintain their market share and profitability.



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## **WHAT IS THE SIZE OF THE LOGISTICS MARKET?**

Logistics represents a significant and rapidly growing segment of the United States economy, accounting for more than \$700 billion annually. This value is expected to increase in the future because global trade is projected to more than quadruple over the next fifteen years. Therefore, the management of logistical processes has become an increasingly critical role as companies continue to globalise.

The concept of analysing the various steps in the supply chain has become critically important to understanding the entire business and delivering the desired product to the end-user in a timely fashion. In general, about 15% of a product's sales prices are derived from product and material transportation costs. Therefore, logistics is an area that is emphasized because of the ever-increasing cost pressures on businesses today. Since costs are difficult to pass on to consumers, manufacturers are trying to lower their costs in every way.

## **WHY HAS LOGISTICS OPTIMISATION BECOME SO POPULAR?**

- *Impact on customer service* - Since consumer demands are constantly changing, companies must develop the infrastructure and culture to quickly and efficiently adapt to become more customer-centric. By increasing the integration throughout the logistics network, a company can increase its responsiveness to the customer, which will positively affect its customer service levels.
- *Reduced costs and increased competitiveness* - Companies are optimising their logistics function because they are beginning to realize that the concept can be realized into a competitive advantage. Companies have utilized Just-in-Time, bar coding, the integration of information systems, strategic partnering and outsourcing, which have allowed firms to decrease inventory holding costs, decrease cycle time and reduce capital investments. Most companies can typically cut logistics budgets by 20-40%.
- *Development of Information Technology* - For a company to survive, they must efficiently manage costs while providing a high-quality product in a timely manner. This task is extremely difficult and can only be performed with the assistance of state-of-the-art information systems. Information, such as customer orders, production schedules, and the status of inventory, must be inputted and/or accessed in real-time to insure accuracy and speed throughout the entire enterprise. The current information technology allows companies to integrate all of the necessary information on a global basis. Since 1990, there has been a dramatic increase in the implementation of information technology to support logistics functions.



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## **WAYS TO OPTIMIZE THE LOGISTICS AREA**

- *Integration of Information Systems* - Companies have significantly improved their speed and costs by modifying or integrating new systems into their logistics areas. This sharing of real-time information integrates the supply chain and provides for lower operating costs and better strategic decision-making.
- *Transportation Cost Reduction* - An area that may be overlooked is the costs of transportation which include freight, fleet and distribution. Many firms are optimising this area by performing an evaluation of the transportation requirements and becoming more efficient in the management of truckloads, fleets, rail cars, express packages (both ground and air) and most importantly, rate negotiations.
- *Outsourcing to Third Parties* - Since companies have become more focused on their core competencies, the trend of the past decade has been to outsource areas of their business that do not possess a competitive advantage. This will allow a company to more efficiently utilize capital and resources in the areas that they perform the best. Areas such as logistics, payroll, and legal, are examples of functional silos that have been outsourced in the past.

## **HOW HAVE COMPANIES IMPROVED THEIR LOGISTICS OPERATIONS?**

- *Microsoft* - Because of Microsoft's location in the Pacific Northwest, the company maintained a fairly unresponsive logistics network since many of its customers were on the East coast. This geographic limitation increased the lead times of all of their products, especially to their major markets in the Midwest and East. Microsoft decided to relocate their distribution centre to Indianapolis and partner with Inter-American Group to operate the facility. This strategic move has allowed Microsoft to reach over 80% of its customers within two days, a vast improvement to the previous lead-time of seven to ten days. In addition, another facility was located in Toledo, OH to handle problem shipments and slower-moving inventory. A third-party logistics firm also runs this warehouse.



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- *Digital Equipment Corporation (DEC)* - Robert Horne, Vice President of Logistics at DEC, was determined to further integrate the logistics network throughout the company. DEC invested over \$10,000 just to research the customer's requirements before proceeding with this initiative. The project was highlighted by the implementation of several information systems to allow for faster, more accurate information transfer. The goals were to achieve higher customer service levels, lower costs, and better information flow. The project yielded the following results:
    1. 37% overall reduction in inventory
    2. 55% increase in revenues/person
    3. 25% reduction in cost/order
    4. 50% reduction in overtime
    5. Achieved 97% customer service levels
  - *Amdahl Corporation* - Amdahl, a multi-billion dollar company that sells computers, has a significant number of foreign customers. To distribute their product to their major overseas markets, the company has become heavily dependent on vendors in Europe and Asia. However, the company did not have a good handle on the breakdown of their logistics costs. There was a main cost pool but the information was not segmented into lower level details. Therefore, the company performed frequent cost reviews to better understand their cost structure while simultaneously linking and managing their inventories on a global basis. Within two years, the company cut over \$50 million in expenses, which decreased the logistics costs from 8.5% to 5% of sales. These savings have a significant impact on the firm's bottom line.

## **BENEFITS**

Although logistics may seem like a small percentage of the operating expenses, improvements in this area can have significant effects on other areas such as manufacturing, inventory management and labour. The list below highlights benefits that have been realized by companies that have emphasized the logistics area as a source for competitive advantage.



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- *Decreased order cycle time* - The logistics aspect of product delivery is one component of lead-time along with production lead-time and raw materials lead-time. By further integrating the logistics functions, a company can reduce the logistics-related lead times which will, in turn, reduce the total lead time. This will allow the company to be more responsive to the consumer.
  - *Decreases overall costs* - The improvements in logistics will have a tremendous effect on other areas of the business. First, the biggest cost improvements come from the reduction in inventory as a general note. Other gains can be captured by improving the material handling processes that are a function of accuracy, the amount of handling, and queue times. This will also allow the firm to reduce the order cycle time since product travels at a higher velocity through the entire system.
  - *Improved customer service* - By developing a world-class logistics function, a company must provide their products, service and replacement parts at a tremendous velocity. In certain markets, consumers are actually emphasizing the speed of delivery as opposed to the typical mindset of quality, price or features. In fact, some corporate strategies highlight the time to market as their cornerstone to differentiation among the competition.
  - *Financial Benefits* - By increasing the speed of delivery and simultaneously reducing costs, a company will be better positioned to react to the changing markets, increase market share, and reap higher profits and revenues.

## **OBSTACLES**

- *Obtaining a balance between in-house staff and outside resources* - When a company commits to improving the logistics area to a world-class level, one of the most important questions has to do with resources. Outsourcing immediately provides logistics expertise and the flexibility to easily adjust the amount of dedicated logistics resources. However, the costs would be higher and the company would probably have to deal with the downsizing of the current in-house logistics personnel. This balance must be determined on a case-by-case basis depending on factors such as the corporate strategy, amount of internal expertise, and current logistics status.



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- *Difficult to fully integrate* - Many companies are focusing on the management of their entire supply chain, especially in the area of logistics. Although companies may have world-class functions, it is extremely difficult to master the *entire* logistics area. This is because of the conflicting goals of the functional areas such as customer service, production, marketing and finance. Studies have been performed that show that the highest level of logistics integration yields the high customer service levels, the most attractive financial results, and the corporate agility to respond to changes in the business environment. In other words, companies have used logistics as a competitive advantage and have succeeded.
  - *Resistance to change* - To create a world-class logistics group, the organization must be wholeheartedly committed to change and continuous improvement. This type of culture must be gradually developed and is very difficult to establish. Changing the processes that people use to perform their work is very difficult to do and is typically met with a great deal of resistance. This is one of the major stumbling blocks of the implementation process.
  - *Information Systems* - To obtain a high-velocity distribution system, it is critical for the appropriate groups to quickly and easily obtain the necessary information. This is also a large obstacle for companies that are trying to integrate their logistics operations because of the information systems selection process, the large capital investment and the available resources that must be dedicated to make the project work.

## **ROLE OF THIRD PARTY LOGISTICS**

There is a wide range of services available to companies, ranging from consulting on specific issues to complete outsourcing to a full-service provider. The trend that is developing in the 1990's is for companies to focus on their core competencies and outsource their business support functions. These services are typically in the form of material requirements planning, inventory and distribution management, warehousing, electronic data interchange (EDI), cargo packing or freight forwarding.



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The third-party logistics industry is estimated to be \$25-50 billion. These logistics specialists provide value-added activities such as order fulfilment, transportation and inventory replenishment. These services have become extremely popular since these companies have vast experience in the emerging markets relating to vendors, local customs, duties and regulations as well as an established network of distribution centres. Since these third-party firms provide such an efficient, values-added service, the logistics firm can become further integrated into the company's corporate strategy and operations. This increases the probability of a long-term relationship between the two parties.

As the relationship between a third-party logistics firm and a company begins to grow, the amount of risk sharing increases. This partnership encourages both companies to minimize costs and financial risk in order to obtain mutual benefits. This relationship is a function of the amount of trust and the length of the partnership.

## **CONCLUSION**

Increasingly, companies view logistics as a crucial element in their corporate strategy. If companies are to meet customer demands for responsiveness, customisation, quality, and value, they must link their entire supply chain into a highly integrated and efficient logistics system. Many business consultants, such as Peter Drucker, believe that the last major cost-cutting frontier is logistics and that overall management of the supply chain is the future of global strategic advantage. Logistics has become increasingly important to ensure that the *total* product costs and the time to market are minimized. By properly managing the logistics function, a company can reduce costs, improve profitability and simultaneously realize higher service delivery rates. This translates into immediate tactical savings that will directly affect corporate cash flows that can be reinvested to fund longer term, strategic initiatives.

“In the future, the companies with the competitive advantage will be the ones who have integrated their supply chain as much as possible.”

- Glenn R. Miller, Xerox Corporation



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