Managing Distribution Inventories

One of the most important challenges facing enterprise distribution management is the effective control of inventory. Distribution inventories consist of the raw materials, components, assemblies, and finished goods necessary to support demand throughout the distribution channel. At the core of inventory management resides a fundamental dilemma. In the distribution environment, inventory is necessary and useful; however, too much or the wrong inventory is destructive of the well-being of the firm. Inventory ties up capital, incurs carrying costs, needs to be transported, requires receiving and material handling, needs to be warehoused, and can deteriorate or become obsolete over time. When it is improperly controlled, inventory can become a significant liability, a huge financial millstone around the neck of the enterprise, reducing profitability and sapping away the vitality of strategic initiatives targeted at increasing competitive advantage. On the other hand, the value of a properly managed inventory exceeds its cost. Product availability at the time, location, quantity, quality, and price desired by the customer supports business plan, customer service, profit, and return on investment objectives. When it is effectively controlled, inventory management is closely integrated into the firm’s marketing, sales, and logistics strategies and provides the lubricant for the smooth flow of material and service value from supplier to customer.

Chapter 6 describes the nature of effective inventory control in the distribution environment. The chapter begins by defining the nature and function of distribution inventories. Following these introductory comments, the chapter proceeds to a discussion of the current trends in inventory management and control and how they are impacting the distribution enterprise. The chapter then continues with a detailed discussion of the inventory planning process. Inventory planning requires the enterprise to establish the inventory strategy necessary to support the marketing and sales plan, to define the level of inventory accuracy and the tools to maintain targeted levels, to detail how inventory costs are to be calculated and used for effective performance measurement, and to choose the ordering techniques necessary to ensure inventory
availability. Afterward, attention is shifted to an examination of how inventory costs can be defined and effectively managed. Among the topics reviewed are the elements of inventory cost, costs relating to inventory operations and decisions, and the various methods of valuing inventory. The chapter concludes with an analysis of the utility of item classification models and cycle counting, and a review of inventory performance measurements.

NATURE AND FUNCTION OF INVENTORY

The proper planning and control of inventories resides at the very core of distribution. The prime purpose of inventory is to provide the enterprise with the ability to satisfy the customer with the proper product at the time and place required. Unfortunately, whereas everyone in the enterprise can agree on the purpose of stocked inventories, there has been considerable disagreement among business functions in regard to how it should be managed. The sales department, for example, considers inventory availability as fundamental to customer service and views the ratio between customer orders filled and lost as the prime measurement of enterprise success. Finance, on the other hand, while accounting for inventories on the asset side of the balance sheet, nevertheless considers inventories as a necessary evil that ties up capital and should be eliminated whenever possible. Finally, operations is caught somewhere in between. Inventory management must often walk a thin line between two contradictory measurements: They must continually search for ways to reduce carrying and inventory costs while at the same time stocking just the right quantity of products to satisfy targeted customer service levels.

In responding to these apparent contradictions residing at the heart of the distribution function, the responsibility of inventory management is to balance inventory costs against anticipated demands. According to Plossl [1], this balancing requires decisions that fall into four major categories:

1. What is the desired balance between inventory and customer service? As a general principle, it can be stated that the higher the stocked inventory and the wider the variety of production selection, the higher the customer service level, and vice versa. Although Just-In-Time (JIT) and Quick Response (QR) have provided inventory managers with new techniques designed to increase service while reducing inventories, determining the level of inventory and customer service to be achieved by the firm is a fundamental decision facing today's enterprise.

2. What is the desired balance between inventory investment and associated carrying costs? As inventory grows in response to better customer service, the carrying cost will grow proportionately. Inventory planners must be careful to ensure that costs resulting from decisions calling for