

## Physical Distribution under the New Marketing Concept.

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### 1. *The Role of Physical Distribution in the Economy and the Company.*

In recent years an increasing attention has been given to the area of the business world which by Peter F. Drucker is termed as the »Economy's Dark Continent«, and by Paul D. Converse. »The Other Half of Marketing«. Both authors refer to the field of physical distribution which today probably presents some of the biggest challenges and problems in American Marketing.

Viewing physical distribution as a marketing function it can be defined as the process of moving and handling goods in their ultimate consumable form from the point of finished production to the point of physical transfer to the ultimate consumer.

Although the process of moving raw material from origin to the point of production also could be referred to as physical distribution it does not seem appropriate to include this problem under the present topic, as it presents quite different aspects of the marketing strategy.

While the first half of the century has been centered around production problems, productivity control, automation, cost-accounting, advertising studies, etc., it is surprising to discover that the physical distribution function has been almost neglected both in theory and practice. Transportation and logistic problem have been thoroughly explored only since World War II, partly because of the introduction of linear programming techniques and electronic dataprocessing. These two managerial tools have had their significant impact because of the logic procedures involved in the problem solutions, and because mathematic models and statistical techniques have found more sophisticated and useful applications than ever before.

However, although notoriously no commonly accepted procedures for physical distribution cost-accounting are found today, it still remains a fact that several economists submit as conservative guesses that the costs of physical distribution amount annually to approximately 100 billion dollars, or approximately 25 cents out of every sales-dollar, or 20-25 % of total Gross National Product in the U. S. Compared to the amount of theoretical literature and public discussions submitted on the the subject of advertising which amounts to approximately 12 billion dollars annually, one feels justified to talk about physical distribution as the economy's dark continent.

### 2. *Functions performed under Physical Distribution.*

Considering the fact that the physical distribution function is the basic function of marketing, that is the process of distributing goods from production point to consumption point, a recent research study by the author shows that a number of com-

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panies in the consumer goods industries are beginning to enroll the distribution function under the marketing department, simply because it performs most efficiently as a part of the marketing mix. On the other hand many companies still consider physical distribution as a »necessary evil« which just adds to the production costs of the product, because the product has no utility value before it is in the customer's hand.

Physical distribution can be divided into two basic groups, the introvert and the extrovert. The introvert relates to the functions which are performed within the company only, i. e. transportation, warehousing, and inventory-control, a function of the flow of products; the extrovert functions relate to the customers, the distribution and the acceptance of same by the customers.

Viewing physical distribution as a part of the new marketing concept must consequently start with the consumer's problems and demands. This subject will be discussed in detail under section 8.

Assuming that a company operates through warehouses or distribution centers, the transportation function can be divided into two parts, primary distribution referring to the distribution between production point and distribution center, and secondary distribution, referring to distribution between distribution center and customer. In consumer goods industries the means of transportation will most commonly be railroads and trucks, depending upon the size of the individual shipments. It follows naturally that railroad transportation is more often used in primary distribution, as the bulk-breaking process at the distribution center often creates smaller cargoes which may be destined to the point where railroad facilities are inadequate for the purpose.

In the secondary transportation pool-car rates and in-transit rates play an increasingly dominant role, also in solving logistics problems. Pool-car rates apply to situations where either the load consists of mixed products or where there are more than one receiver to the load. In-transit rates are applicable when transportation takes place in a straight line from raw material origin to customer-destination, only interrupted at the production point for processing. These rates find most application where the end-products have their origin in agricultural production, e. g. coffee.

The transportation function combined with the marketing objectives have the significant impact upon the location of a warehouse or a distribution center. The marketing approach to the solution of the logistics problem suggests that a certain geographical area – with an estimated sufficient sales potential – can be adequately served from the distribution point; the word adequately takes into consideration the desires to shorten the delivery time, i. e. the time between order-taking and delivery of the goods, delivery dependability, etc. – Once these characteristics have been determined, assuming that the size of the market in terms of sales-volume justify a distribution point, linear programming techniques are most useful in locating the area in which the distribution center will most economically serve its purpose. At this point in the analysis a multitude of different transportation combinations enter the decision-making process, as the rates play the significant role in the overall economy of distribution; and here the in-transit rates can be determining for the outcome of analysis. The specific site for a distribution center, or warehouse, will also be depending upon the price of the site, the cost of labour in the area, and a number of other factors which enter an investment decision of this size.

Previously the large corporations had a number of distribution points scattered around the country, sometimes several hundreds as e. g. General Foods, Borden Foods,

Jewel Tea Co.); in the last few years a centralizing tendency has been prevalent, where the companies have consolidated their smaller units into large-size distribution centers; with the service level given electronic data-processing techniques have made possible improved inventory-control to such an extent that it now is more economical to centralize the distribution points, thereby maintaining lower inventory costs per sold unit and perhaps pay slightly higher physical transportation costs per unit. Electronic data-processing have created statistical concepts such as order-points and order-quantities which provide a more efficient constant control with inventory levels and flow of goods through the total system.

Savings of up to one and two million dollars per year have been achieved through this more efficient data-processing system which would present greater problems in case inventory had to be maintained at a larger number of locations.

### *3. Marketing objectives of the physical distribution function.*

In view of the new marketing concept a statement of the objectives of the physical distribution function can be formulated as follows: The physical distribution system of a company must at any time provide the competitively most efficient service to the customer at the most economical scale of operation in pursuit of the company's general objective.

The subject of most economical scale of operations was treated in the previous section. However, it shall be mentioned here, that while the companies have benefited from including their physical distribution activities under their marketing performance, and thus obtained considerable savings, the centralizing tendency and the increased efficiency has provided a more realistic picture of the costs of the individual shipments. The customers have benefited from these changes to the effect that a general reduction in transportation costs per unit has followed the increased control by which the scheduling of shipments has provided the customers with an opportunity to reduce safety-inventories. Moreover, an incentive through a more realistic rate-structure has caused larger loads per shipment, which has meant savings to the customers who have concentrated their shipments. Furthermore an increased use of pallets in the loading and unloading procedures have reduced handling costs considerably.

While the above mentioned factors are measurable in terms of money and profits, the subject of customer service becomes more intangible. Two important factors in handling physical distribution problems towards the customers are delivery cycle and delivery dependability, and source of information from the company to the customer.

Regarding delivery dependability the first responsibility on behalf of the shipper is to see that stock-outs do not occur, as the customer will be expecting to be able to get goods as ordered. The earlier mentioned improved inventory-control techniques have increased the confidence of the customers considerably, as the stock-levels are now more in line with sales, and probabilities for stock-outs consequently reduced. The centralizing tendency has improved delivery dependability by which is understood that the customer receives the ordered goods at the time and place which have been agreed upon. This problem has been a significant obstacle between company and customer, as the customer normally will schedule his operations according to the time when deliveries are expected, and in many instances hire extra work-force to the unloading process. It goes without saying that money are wasted when time of delivery is not kept.

Moreover it has an inconvenient effect upon company-customer relationship that inquiries in a number of instances could or had to be made at several point in the shipper's distribution system, while the centralizing tendency has brought about only one reporting-point. This also implies a significant change in the daily sales-operations, because the companies operating with large distribution centers will tend to station their daily-sales-service personnel at these points, and only carry out general sales policies at the corporate level.

It is implicit that a complex physical distribution system involves a great administrative task which more and more is being executed through electronic data-processing equipment; but by the same token the company is also in a position to carry out a more accurate sales control which has turned out to be an important problem today in business, especially in relation to business forecasting procedures which in the final analysis are the basic requirements for investing in a physical distribution system.

#### *4. Seven procedural steps in a physical distribution analysis.*

In order to analyze the efficiency of a physical distribution system which is set to accomplish a marketing task, the seven following steps are suggested:

1. Define the tasks to be accomplished by the physical distribution function; preferably place the function under the marketing department.
2. Determine the service objectives towards customers and define ways and means by which to set up limitations.
3. Define a cost-accounting system which will reveal the actual costs of operating the physical distribution system. Furthermore determine break-point where change to new techniques must take place.
4. Define an inventory-control system by which at any time to keep an inventory level of the individual products, relative to sales volume.
5. Analyze the structure of the physical distribution system in terms of transportation equipment, distribution centers etc. in order to ensure the optimum flow of products from production to consumption.
6. Logistics policy must be defined in order to determine long term profitable investment in distribution points which will satisfy future demands.
7. Set up a cost- and sales control system which will provide a constant check upon the total marketing operations in regard to physical movement of goods.

A recent study indicates that with the exception of raising prices a rationalization of the physical distribution function is the key to profits in today's marketing operations.