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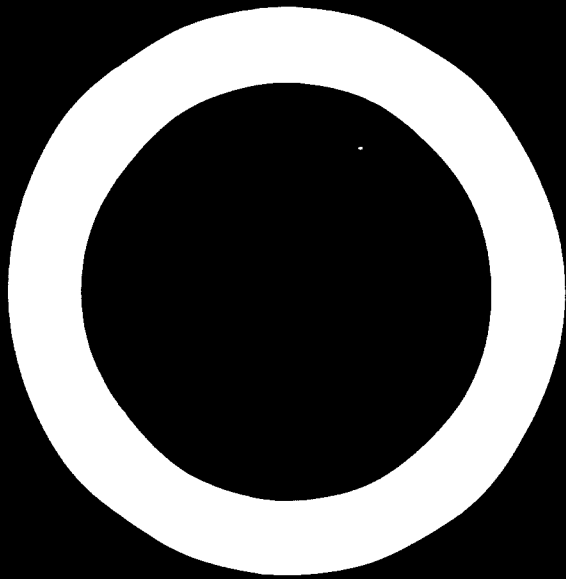
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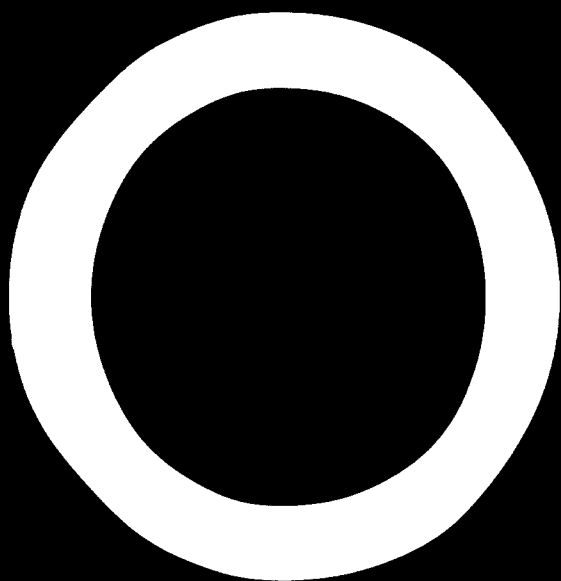
New Perspectives in Management Development
Monograph No. 3

**TECHNICAL ASPECTS
OF MARKETING
CAPITAL GOODS
AND
INDUSTRIAL SUPPLIES
IN THE
DEVELOPING COUNTRIES**



UNITED NATIONS





UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
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New Perspectives in Management Development
Monograph No. 1

**TECHNICAL ASPECTS
OF MARKETING CAPITAL GOODS
AND INDUSTRIAL SUPPLIES
IN THE DEVELOPING COUNTRIES**



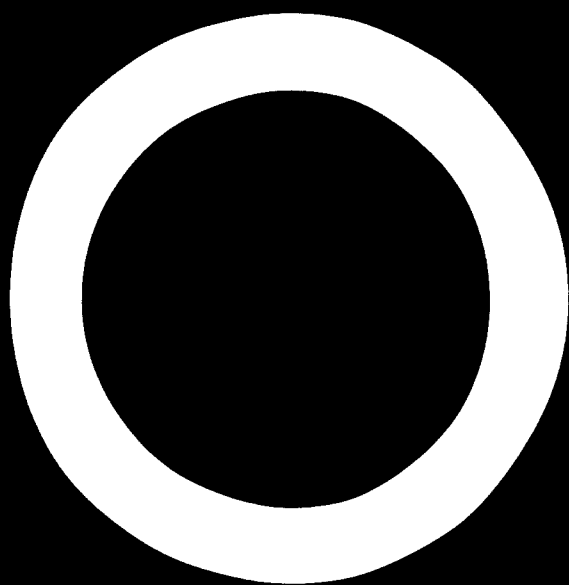
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Preface

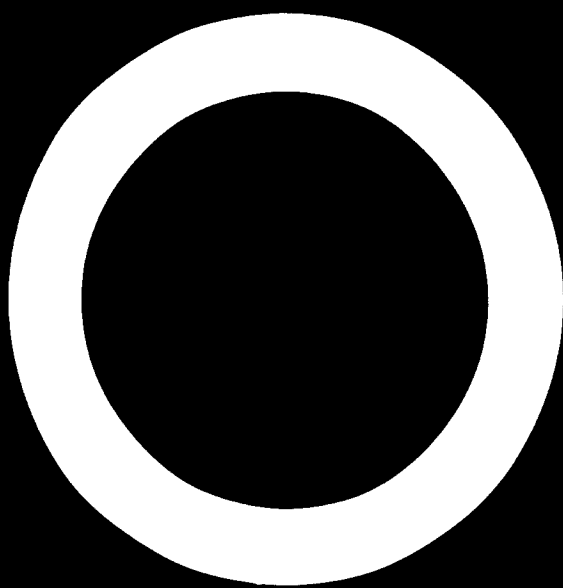
This series of monographs is based on the premise that the United Nations Industrial Development Organization (UNIDO) can meet the management needs of the developing countries effectively and efficiently only if technical assistance programmes are focused on the practical problems confronting managers and industrial administrators in these countries.

This monograph is concerned with industrial marketing and refers to some specific aspects of marketing capital goods and industrial supplies. It discusses technical topics and operational problems relating to the improvement of marketing management, distribution methods, promotional systems and other strategic marketing activities. It examines the profile of the market and of the buyer of capital goods and industrial supplies and proposes marketing techniques that may be applied in different contexts, depending on local needs and conditions. It gives examples of the application of these techniques to illustrate the importance of industrial marketing and its impact on all major aspects of manufacturing. Finally, it indicates the type of assistance that UNIDO may provide in industrial marketing.



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Background

In December 1974 an Expert Group Meeting on Marketing Management and Strategy for the Developing World was organized by UNIDO at Vienna. It was attended by representatives of Government institutions and industrial enterprises from developing countries. The purpose of the Meeting was to examine the role marketing plays in industrialization and to detect factors hampering industrial development with respect to distribution, production, pricing, market information, marketing expertise and commercial policies. The recommendations, drawing general attention to the necessity of improving industrial marketing capability at the sectoral level, were unanimously approved by the Meeting.

In March 1975, the Second General Conference of UNIDO held at Lima adopted a Plan of Action setting a target of at least 25 per cent of world industrial output for the industrializing countries to attain by the year 2000. Such a target has many implications for industrial marketing.

Recognizing the need for providing timely and adequate assistance to developing countries in the field of industrial marketing, UNIDO has undertaken a series of steps with a view to contributing to the improvement of marketing expertise and marketing in industrializing countries. This monograph is part of this effort.

Technical aspects of marketing capital goods and industrial supplies

In its simplest terms, a market is composed of sellers and buyers (the way to identify the impact of these two components on the national economy is to think of them as representing the extractive industries, the manufacturing industries, the marketing system and the consumers or users)

The flow of industrial products normally proceeds from the extractive industries (local or foreign) through the manufacturing industries to the users or consumers via the marketing system

The manufacturing industries form a sector characterized by both an external and internal product flow

Externally, the sector faces in two directions

(a) It procures raw and semi-finished materials from the extractive industries, while providing them with capital goods and other industrial supplies.

(b) It sells capital goods and industrial supplies to government agencies, institutions, marketing organizations and individual consumers or users

Internally, the sector is engaged in processing the exchanges of semi-finished or finished products, component parts, operating supplies and equipment for the use of manufacturing enterprises

Thus, industrial marketing encompasses both the movement of materials from the extractive industries and the return flow of capital goods and industrial supplies to these industries. It also includes the movement of these goods to non-manufacturing business users and enterprises within the manufacturing sector itself.

On the supply side, the major participants in the industrial marketing system are the extractive and the manufacturing industries, on the demand side, they are business and industrial users, government agencies, marketing organizations and private consumers or users.

Producers and users of capital goods and industrial supplies are linked by a third group of participants, the industrial marketers, or middlemen. These are the merchant wholesalers, distributors, brokers, commission agents and

experts who normally perform a variety of promotional and distribution functions. Several other types of industrial marketers participate in the marketing of capital goods and industrial supplies. They are important in terms of number of establishments and volume of sales. These include manufacturers' branches and the sales representatives.

All these industrial marketers constitute the bridge between the flow of these goods from producers to consumers in part. The relationships that exist among them can be classified as formal or informal. Among the formal relationships are the various sales contracts and franchise agreements setting out the respective responsibilities and rights of sellers and buyers. Among the informal relationships are those based on loyalty, reputation, and tradition.

The market for capital goods and industrial supplies can be divided into three groups or markets based on product type: (a) market based on derivative demand and (b) market based on the specific needs of the consumer or user.

The demand for capital goods and industrial supplies may exist at any or all levels of the market from raw materials to finished products. The proper choice of a marketing strategy, of the type of distribution channels, and of the means of promotion often depends on the way in which they classify these products.

The following classification of capital goods and industrial supplies is normally accepted in industrial countries:

(a) **Major equipment**, which consists of large machines, tools, automatic and control tools whose unit purchase price is so large that expenditures for them are normally charged to a capital account. Major equipment, therefore, becomes part of the firm's capital structure rather than a current expense. Its purchase may involve financial problems for the buyer.

(b) **Accessory equipment**, which is machinery used in its maximum capacity. Its unit price is usually lower than that of capital equipment and its cost is generally charged to current expenses. For this reason, such purchases are likely to be made in a routine manner involving less negotiation and the approval of lower executives in the buying firm than in the case of major equipment. The items of accessory equipment are standardized and normally, their demand is horizontal in nature and not confined to one specific industry. As a result, the organization for their marketing must be broader than that for some of capital equipment.

(c) **Component parts**, which are industrial supplies generally bought on the basis of specifications prepared by the purchaser although some of them (such as batteries and tires in the automotive industry) are standardized by the manufacturers. In other cases, the purchase is based on long-term supply and the buyer wants to be assured of uniformity of quality, specifications and

delivery time so that he can keep his stocks to a minimum and thus not tie up unnecessary capital. The marketing of these goods is complex as the marketer should be able to establish and maintain his position in the market through the price commissions he can offer and the reliability of his delivery service.

2. Process materials. This category closely resembles the component parts category. It includes the ingredients, most carriers and indistinguishable parts of the mixing catalyst necessary to produce the final products. As a result, little is usually to be gained by advertising such items. They are bought upon buyers' specifications or according to standards established by trade or government norms. The marketing of such goods takes place normally through purchasing contracts of considerable importance, and negotiations are generally handled at a high executive level.

3. Operating supplies, which differ from process materials in that they do not become part of the finished product, but are continuously worn out or used up during the manufacturing process. Such items as paints, soap, detergents, oils and greases, cleaning materials, pencils and ink, ribbons and stationery belong to this category. The methods by which they are marketed resemble those used in marketing consumer goods. They are bought in relatively small quantities for a designated period on a fixed basis and in a routine manner. The purchasing contracts may be subject to much negotiation, but the work of placing delivery orders becomes a matter of routine even in the absence of such contracts. These products are usually standardized and promotional activities are reduced to a very minimum.

4. Raw materials which are the basic supplies for the manufacturing industries. They usually have undergone only such processing as is necessary for convenience in handling or in shipping. The sales transactions are negotiated at very high levels and involve large quantities. The mechanism of negotiation is, however, fairly simple and direct although the details of the purchasing process can be rather complex. Raw materials are traded in the open market on the basis of established standards and specifications. Various kinds of marketing agents, especially brokers, are involved in marketing raw materials.

The major aspect of marketing capital goods and industrial supplies is that concerning the derivative demand, which refers to the indirect way in which the demand for such goods is generated. For example, the demand for metals, sheet, derives from the demand for end-products made of them and generates, in turn, the demand for major equipment to cut or shape them.

The demand for an item used in maintenance and repair (auxiliary equipment) depends on the actual or expected level of production.

The industrial buyer is motivated by considerations of profit and costs and his purchasing decision is based upon the measurable performance of the product. For the most part, the factors that influence marketing and purchasing decisions are price and service, as well as the saving that can be anticipated from a balanced combination of these three elements. A recent study reported in a specialized magazine indicated that industrial buyers ranked motives for purchasing capital goods and industrial supplies in the following order of importance: quality, technical assistance, service and price.

Quality concerns the characteristics of the product in relation to the purpose for which the buyer intends to use it. Its specifications are, in fact, expected to match exactly the manufacturing purpose, for the buyer is as reluctant to pay for extra quality as he is to pay for inferior quality. For example, a firm bought stainless steel discs chamfered on one side at a price of \$0.18 each. The chamfering was not needed. Another supplier offered the same discs without this feature at a price of \$0.05 each. Another example is provided by a firm that was supplied for a long time with a specially made wheel cap screw at the price of \$4.90 a hundred. A new supplier proposed a standard screw which proved to serve the same purpose at the price of \$0.30 a hundred. A third example is provided by a firm buying radiators with specifications of 120 tubes per unit. The supplier lost the bid, even though his price was lower, because he offered radiators with 140 tubes. Such radiators increased the weight of the final product by 15 percent.

The industrial buyer is likely to be favorably influenced by the characteristics of capital goods or industrial supplies that increase the life expectancy of his equipment or make his end product more appealing to customers. Assured consistency of quality also reduces the costs of inspection, testing and maintenance.

All these economic values should be carefully studied by the industrial marketer in order to outdistance competitors.

Price is not such an important factor in marketing capital goods and industrial supplies as quality and service. That is perhaps the main difference between the marketing of capital goods and the marketing of consumer goods. It is true, however, that price is the obvious piece of evidence a purchasing officer can submit to management. But price alone is not the decisive factor influencing the decision to purchase. For example, the price of a certain piece may be low, but it may be costly to apply. Minimum features are expensive, but expenditures for installation and maintenance are much lower than for other features.

The marketing technique normally used in dealing with these customers, **inputs a "value analysis"** the purpose of which is to determine the economic effect that a capital product or a supply will have on the final cost of the end-product. To determine the effective price of capital goods is not

the relatively simple process of summing quoted figures, but a rather technological operation involving many economic factors.

Value analysis may be defined as the systematic study of the possible optimum performance to be obtained by industrial products through achieving economies in their manufacturing cycle and reducing costs in proportion to usefulness. The promotion of such values is among the major factors influencing purchasing decisions.

Value analysis proceeds from the identification of existing product specifications in the light of use requirements and in the identification and elimination of unnecessary cost factors. In industrial marketing, a programme of value analysis is an organized sequence of research challenging existing product specifications and design, as well as production and stockage methods, in order to reduce the cost of end-products and to enhance their salability and their competitive profile.

Technical assistance and service are concerned with product information, maintenance and repair and delivery service.

Some industrial marketers supply the market with illustrative material, hoping it will enable the customer to become acquainted with the rather complex technical use problems in using the equipment. However, any exhaustive, highly detailed technical documentation does not appeal to the potential customer, who normally prefers the direct personal and technical advice of the industrial marketer.

A maintenance and repair service, availability of spare parts and prompt delivery can strongly influence purchasing decisions, since the concern of industrial buyers is to reduce the downtime of machines and to keep to a minimum the stock of spare parts. Marketing capital goods and industrial supplies may be hampered if distributors carry inadequate stocks or lack satisfactory facilities for servicing clients.

The market for capital goods and industrial supplies is notable for its heterogeneity. It consists of specific market segments, such as government agencies, institutions, and manufacturing or merchant enterprises, including retailers and wholesalers, technical service companies, hotels, laundries, recreational concerns and certain professional groups, such as dentists, laboratories and technical associations. Each of these market segments is measurable in terms of the actual or potential volume and value of purchases, which makes it possible to devise an industrial marketing strategy.

Devising industrial marketing strategies for capital goods and industrial supplies is much more difficult than for consumer goods, where the purchasing decision merely depends on individual preferences, behaviour, and income and the willingness to spend it. For capital goods and industrial supplies, the demand is subject to uncertainties deriving from possible changes in technology and conditions of financing. For example, the

development of electronic transistors largely destroyed the market for tubes. An improvement in the technology of making castings may increase the demand for castings, but it may also reduce demand for equipment or parts for making them. Technological advances in making and using plastics may take business away from metals or woods. The development of synthetic or petroleum-derived fibres affects the market for textiles and for textile machinery.

It once was the job of industrial marketing to sell what was produced. With the shift from a sellers' to a buyers' market, the job of producing and marketing has become more sophisticated and complex. Now before production can plan what to make and when, marketing must indicate, through research, what can be sold, in what form, at what price, in what quantities, when and to whom. The chief purpose of industrial marketing is to provide guidance to production planning and to financial planning.

The components of the industrial marketing mix are research, promotion, pricing, ~~personal selling, distribution and~~ technical service. The central problem is to find the optimum combination that will result in a greater volume of sales and increased net cash inflow.

The first step in planning industrial marketing is to collect marketing and technological ~~information from outside and from inside~~ the enterprise concerned. A second step is to set the objectives for the industrial promotion activity, dividing the market into geographical targets, customer and product groups. An effective management tool that can be used in planning and implementing industrial marketing strategy is PERT (Programme Evaluation and Review Technique). It consists of four steps:

(a) On the basis of research findings, all specific tasks are specified in detail.

(b) A network of the sequence in which these tasks are to be completed is drawn up.

(c) Three basic estimates concerning the completion of each task (optimistic, most likely, pessimistic) are made.

(d) Critical paths and factors that may hamper the attainment of individual targets are located and the tasks are adjusted accordingly.

Industrial marketing planning takes into account questions of distribution, pricing, inventory, promotion and logistics. Accordingly, the industrial marketer has to find an answer to questions such as:

(a) What channels of distribution should be used in marketing capital goods and industrial supplies?

(b) At what price should these products be sold and what pricing or credit policies should be adopted?

- (c) What should be the policy with respect to inventory and stocks?
- (d) What promotional appeal will be most effective for increasing sales?

Industrial marketing strategy must be synchronized with the availability of the products in the stock of the marketer and of the buyer. Whether the demand for a product is saturated or whether it is declining must also be considered, in order to replace the product at the proper time according to technological changes and market demand.

In this regard, specific studies should be carried out to assess the reasons for

- A declining volume of sales for each market segment
- A falling rate of profit
- A declining share of the total market
- An increase in competition

The competitive profile of the market for capital goods and industrial supplies is characteristic of the structure of the manufacturing industry as a whole. In principle, a few large enterprises handle the bulk of the market, a somewhat larger group of medium-sized firms and a considerable number of small enterprises capture a rather small percentage of the market but exercise a direct influence on the whole market.

Both medium-sized and small enterprises tend to compete with the large ones, even if their technical, financial and marketing capabilities are inferior, their product lines are narrower and their service is rudimentary. Their very appeal to the market is represented by price, against which larger enterprises can do little without the risk of violating anti-trust laws or generating local price conflicts. Moreover, many capital goods and supply items marketed by smaller firms are of standard type, as established by local governments or trade associations. Standardization and price appear, therefore, to be the factors that offer small and medium-sized enterprises the best opportunity to capture a larger share of the market and to maximize profit. The nature and intensity of the competition they provide varies in accordance with the life cycle of their products, which can become obsolete owing to more technically advanced products promoted by the larger competitors.

In terms of price, the industrial marketer may choose between a skimming price or a penetration price. Each has its advantages. Discounting is a characteristic feature of marketing capital goods and industrial supplies. The most common types of such discounts relate to quantity or single orders or on volume bought over time, as well as in special allowances for cash payment. In establishing a discount policy, the industrial marketer must take account of commercial and legal matters. Problems of price alteration are acute in industrial marketing; they concern factory pricing, delivery price

arrangements, freight allowances and other accommodations, not always legal.

Any discussion on organizing industrial marketing will take into consideration the technical nature of the products to be marketed, which differs substantially from the nature of consumer goods.

Industrial marketing is not directly influenced, as is consumer marketing, by the geographical distribution of the market, since industrial plants operate in the same way wherever they are located, and their needs for equipment, capital goods, raw material or supplies are generally the same. The geographical factor should be recognized but not so much emphasized as it is in the marketing of consumer goods. Because of the technical nature of industrial supplies and capital goods, their specific uses and the reasons for purchasing them, industrial marketing is normally based upon product organization, whereas consumer-goods marketing is generally based upon functional organization.

Another form of industrial marketing organization is the customer organization, where certain common functions, such as research, sales analysis, promotion and advertising are carried out on a customer-group basis because of the highly specialized characteristics of the customer and of the products. This type of industrial marketing organization is, however, not always recommended, owing to the tendency of industrial customers to diversify production.

In industrial marketing, promotion and advertising occupy a much less important position than in consumer-goods marketing. Some recent statistical surveys carried out in various countries indicate that the average expenditure for promoting capital goods and industrial supplies is about 2 per cent of the sales volume. This confirms that industrial marketing is not characterized by the huge promotion or advertising budgets common to consumer-goods marketing.

A technical advisory service is an important factor in marketing capital goods and industrial supplies. In some enterprises this work is performed by specialized teams outside the marketing department, normally in the engineering department. This situation sometimes results in conflicts between marketing and technical personnel, duplication of service, contradictory advice and customer confusion. In principle, it is wise to assign the technical advisory service to a specialized unit of the marketing department, composed of engineering personnel, strictly under the marketing management. Such a unit should maintain close relations with the research and development service, which may recommend the creation of new products, new processes or the improvement of old ones to keep ahead of the competition.

All activities related to physical distribution are referred to as industrial marketing logistics, which also include such additional activities as equipment leasing and special stocking of spare parts, which, even if not closely related

to the physical movement of industrial supplies and capital goods, have an important bearing on the ultimate success of marketing.

The importance of marketing logistics arises basically from the carrying cost of inventory, since industrial buyers are generally prone to keep stocks as low as possible without causing production stoppages. Control over stocks can be greatly affected by the efficiency of suppliers. However, industrial marketers are also motivated by cost factors to keep their own inventory low without jeopardizing their ability to meet the market demand.

The basic components of a marketing logistics system are warehouse facilities, a transportation network and fixed points of distribution.

The marketing logistics system requires a well co-ordinated method of both external and internal communication. External communication is concerned with the flow of information and products between the marketer and his customers. Internal communication is concerned with the information flow among the various technical, administrative and marketing units participating in the physical distribution system. The marketing logistics function comprises storage, inventory, materials handling, packaging, processing of orders, warehousing, transportation, administration and information functions. Traditionally, all such activities have been performed by separate units, causing confusion and dissatisfied customers. Today there is an increasing tendency to co-ordinate them under the responsibility of the marketing management.

The industrial marketing activity cycle is completed with the establishment of rules and means of control. The aim of control is to diminish the risks of failure by assessing the causes of past failures and by planning and implementing new courses of action. The function of control in industrial marketing has three aspects:

(a) Setting standards of performance. Such standards are the marketing targets, the marketing budgets, the sales records, the sales quotas and the marketing costs detected by cost analysis. The cost-analysis data are especially useful in managing distribution channels, selecting customers, determining promotional initiatives and direct marketing development efforts;

(b) Checking actual performance against standards. Performance can be measured through research, reports and observation of the market. The data and information must be selective in view of their use for adjusting promotional, sales, distribution and technical-service strategies. The success of marketing control activities depends on the validity of data and information collected externally and internally;

(c) Developing marketing action.

Conclusions

In industrialized as well as industrializing countries, industrial marketing orients and co-ordinates the production, promotion and distribution of capital goods and industrial supplies. Thus, marketing is an integral part of industrial development. The requirements and behaviour of market participants are conditioned by needs, budget, quality and service, which, in turn, affect or determine marketing relationships.

Marketing increases in importance when a community develops and when new technologies are introduced. As a result, marketing should be considered a vital component of the total production system, having a direct impact on economic growth, industrial expansion, employment and living standards.

In most industrializing countries, industrial marketing progress is being slowed down by several adverse conditions prevailing, at different degrees of intensity, in each sector of industry. The following are, in the experience of UNIDO, the most critical factors hampering marketing development and, in turn, industrial expansion:

(a) Scarcity of market data and information concerning demand, consumption, opportunities and competition.

(b) Inadequacy of the professional marketing expertise of government officials and of industrial managers.

(c) A general distrust towards marketing intermediaries, which is reflected in policies establishing direct government intervention in marketing, distribution and promotion activities.

(d) A reluctance of national planners to include the marketing factor in national development plans;

(e) A tendency to maintain excessive price controls on production with little concern for the effects on the retailers or distributors;

(f) A notable lack of special marketing or purchasing credit programmes, which reflects a widespread belief that production is the most important factor of industrial development and that marketing adds little to its final value;

(g) An increasing preoccupation with transport facilities, which may mean eventually neglecting other equally important marketing infrastructure

such as marketing extension services, marketing communications and information systems, and national, regional and sectoral co-operative research and promotion campaigns.

b) A lack of awareness, at national and regional levels, of the close interrelationship between metropolitan and provincial marketing areas and too little understanding of the causes of changes in the industrial market system. Metropolitan and regional marketing areas are considered separately rather than as two related aspects of an integrated national marketing system.

In the developing countries, industrial marketing has not yet received the full recognition it merits, even if the expansion of industrial enterprises is normally the result of market opportunities and marketing expertise. Inadequate appreciation of the importance of industrial marketing is critical to the healthy growth of industry. Production, without recognition of the impact of marketing, becomes wasteful and unprofitable, especially when severe external and internal competition exists.

Industrial marketing is a highly specialized activity. However, even though the functions and problems of production and marketing are inseparable, national planners and industrialists in most developing countries tend to concern themselves primarily with production, management and the financial aspects of industrialization. Unless this attitude is modified and marketing development encouraged, the industrialization of the developing countries may continue to limp.

Until now, most requests from developing countries for UNIDO technical assistance in industrial marketing have been for expert advice on the development of marketing management or for help in identifying the types of products to be manufactured. In addition, UNIDO assistance in industrial marketing has been requested for the establishment of national marketing advisory units or marketing extension services or for carrying out market surveys and consumption studies to identify market opportunities for locally manufactured products.

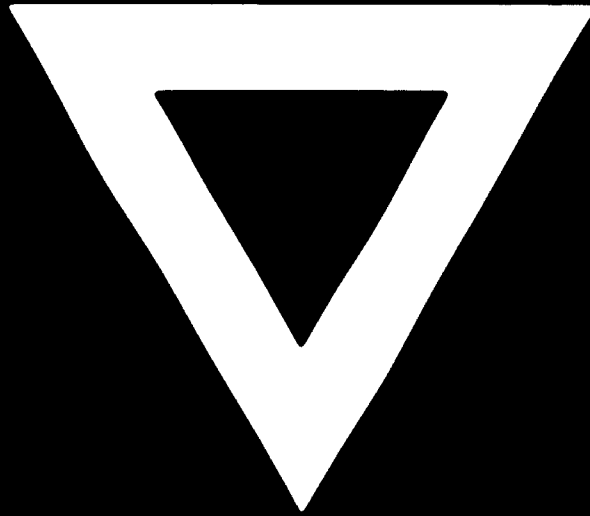
Only in the more industrialized of the developing countries has the need been felt for increased assistance in industrial marketing. Requests from these countries have mainly concerned the improvement of distribution methods and logistics facilities within the domestic market or the creation of marketing information systems and means of assessing market opportunities, both domestic and foreign.

On the whole and in spite of the evident need, the number of such requests is still relatively small. There are, however, reasons to believe that Governments of the developing countries will come to realize the dynamism of marketing and accordingly will seek technical aid from UNIDO through its Industrial Marketing Programme.

For further information on the type and characteristics of technical assistance provided by UNIDO in industrial marketing, communications may be addressed to:

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