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# Some Factors in Industrial Market Segmentation

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*Buyer-seller relationships are complex, especially in industrial marketing. A model for segmenting industrial markets is proposed and implications for organization buying behavior are summarized.*

## INTRODUCTION

This article shows how market segmentation is understood and applied in some Swedish firms. A model and a method of identifying variables to measure and group industrial customers in meaningful segments [1] is proposed. The differences between industrial marketing and consumer marketing have been emphasized in the literature (Kotler, Håkansson, Sheth, and Dodge). Usually the distinction is made that industrial marketing involves selling goods and services to industry, government or individuals, who use their purchases for the purpose of carrying on their business operations. A further distinction is sometimes made of two types of goods sold to users, namely those that are consumed in production and those that become a part of a new product in a manufactured form. Segmentation is an analysis of the users to determine if there are significant differences in their

expressed needs to warrant special considerations either in production and manufacture or in marketing services. For example, packaging may be important to an industrial consumer for labor saving costs—the development of liquid phosphorous in electrically heated tank cars—or bottom opening box cars for granular fertilizers. The quality of a given component used in manufacture can be either too high or too low depending on the final user of a specific product. The industrial consumer can be identified, but the buying behavior (Håkansson, Wootz, and Melin) is not so readily dissected and analyzed [2]. Most writers believe industrial purchasers are more rational and less emotional about their purchases, though recent work [3] indicates such purchases are not devoid of emotional reaction. Most certainly the more expensive and complex the product, the harder it is to identify the decision making unit (DMU).

Because there is less industrial impulse buying, one can conclude that impact must be made early in the purchasing process. This implies there is a need for more education, more awareness of product or process, and greater concept of price, quality, and service. It has been concluded [4] that the decision making process is more complex—that price and quantity, that derived demand and reverse elasticity relationships be understood. Therefore the need of a model is implied in analyzing industrial

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customers. In principle, the industrial seller needs to adopt the marketing orientation of satisfying and knowing his customer as much as does the consumer product industry. "Its value was highly dubious in technical and industrial markets where buying behavior was so very different" [5]. One of the authors verifies this directly in international marketing from countries such as Poland and Yugoslavia, where production orientation is still highly practiced. There is no effective feedback from user to producer so market knowledge and the concept of segmentation is nil. Unless there is knowledge of the industrial user's needs the manufactured product usually has the lowest common denominator—price. Quality and service are unknown quantities in these "primitive marketing" conditions. Perhaps it can be generalized about any market, that where there are too many middlemen, especially where self-serving skills are involved, there is very little marketing orientation. Historically, the original merchants were speculators and finance people, not marketers oriented to customer service [6]. (Fugger Family 1380).

In industrial marketing the channels of distribution are often direct and selling is mainly by contact between manufacturers and their customers. This often demands considerable technical knowledge, as orders are likely to be of large volumes and may be attributable to technological, fiscal, financial, economic, political, cultural, or demographic changes. They may be further classified as normal, seasonal, cyclical, and erratic. Cyclical fluctuations vary with industry, national and international economy, and individual firms [7]. There is not just one type of cycle and there is no simple explanation; individual business cycles require separate evaluations and anticipa-

tions of these movements remains exceedingly difficult [4]. Marketing research is not likely to predict erratic trends.

The reasons for purchasing industrial products will be different [8]. It has been assumed that industrial buyers are more rational because their errors are exposed to a large number of people and affect them as well. Nevertheless a buyer's professional activities may be tempered by a fundamental instinct to survive and to enhance his career. In larger companies especially, a great part of the efforts of business executives goes toward minimizing uncertainties. Wilson [9] suggests that personality traits of purchasing agents may significantly affect their style of decision making. On the other hand, in some cases, production technique may be so technical and demand such expert knowledge that the buying procedure becomes sophisticated enough to considerably diminish the buyer's role. Five roles have been defined in the buying process—gate keeper, user, influencer, buyer, and decider [10]. The *gate keeper* in the buying team deserves special consideration by suppliers. His identity may not be easily discovered. "It is important to know the identity of the specific gate keeper and the extent of his or her influence in purchasing a particular type of goods. The *user* influences the type of product and frequently the origin of supply. (The gate keeper may be a technical leader of researcher in the plant.) The *influencers* are communicators within the organization and may be formal or informal."

Frequently an experienced executive in the top ranks may be consulted or may offer an opinion as a result of previous personal experience—these remarks may often be negative. Personal affronts by indiscreet salespeople can result in long-lasting negative influence. "The well-known tendency of consumers to reduce post-purchase anxiety by discussing their purchases with other users appears to be absent from industrial markets could be tempered by other internal reinforcements with the organization" [11]. Opinion leadership—another factor or variable affecting consumer buying—seemed to be largely ineffective with organizational suppliers. However, that refers to external sources; internal sources are *influencers* [12] and word-of-mouth communication is important internally. Cooperation may exist even among competitors so generalization can be misleading.

Normally a purchaser spreads his risk among several suppliers. Conversely the purchaser may not spread his amount of purchase equally. The Howard-Sheth models for consumer buying [13] and industrial buying theorized relationships believed to affect buying procedures. The

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industrial model (as also the MSI Marketing Science Institute model [14] serves only as a framework to illustrate the complexity of the process. The set of assumptions that affect the situation and the relationships between them define the model concept. For example it is highly desirable to develop efficiency in making sales calls. The number and frequency of calls can be related to the size and importance of the customer but the judgment value of individual salespersons and their sensitivity to their customer needs and knowledge of their customer usage and the nature of current competition are probably more important to individual sales than any formula. Therefore the need for a better industrial market segmentation tool is visualized particularly for Swedish firms. However, it should also be applicable to other countries and industries.

## DEVELOPING SEGMENTATION MODEL

The following two problems should be considered in industrial market segmentation strategy.

1. Is there a need for segmentation? If so, what conditions should be met?
2. How to identify segmentation variables—useful and relevant to evaluating industrial markets?

*Market segmentation is appropriate for industrial firms when their products are heterogenous.*

The customers, both large and small, meet the 80-20 rule. The 20% of large customers demand or desire special attention whereas the 80% of small customers are often served by middlemen (distributors, agents, etc.) in order to economically cover the market. The middlemen construct one or more separate segments and the large customers are segmented either individually or grouped together. Some products and services are technologically complex and therefore require qualified technical sales support, technical service, research, and development—sometimes jointly with the customer firm. Other products are less complex and less expensive and can be mass-marketed through conventional advertising and promotion methods.

*Market segmentation is appropriate when an industrial firm's products are applicable to a variety of industries.*

If the same product can be used in different areas and for different applications it is possible to segment the market to a greater extent than for only a few applications. Examples are the manufacturers of heat exchangers

that can be used in steel mills in the chemical process industry, and in the food industry. Frequently the same product, or a slightly modified product has different uses which contribute market segments and therefore require special organization and resource allocation by the manufacturer.

*Market segmentation is appropriate when heterogenous customers have (1) different profitability requirements; (2) different buying strategies and environmental characteristics; and (3) different supplier requirements.*

(1) Some end-user customers in a boom economy have different needs. A machine builder (OEM), a new task group entering a new investment situation, or a replacement buyer each have different requirements relative to profits. When a customer is in a hurry, time is important, and in a boom price sensitivity is supposedly not high and competition is more remote.

(2) A small private firm as compared to a governmental purchasing authority with its formal bidding, budgeting decision process has a different buying strategy. Similarly, compare customers who have regional offices with a partially decentralized buying process as well as a partially decentralized decision-making unit to a customer with a highly centralized purchasing system. In international markets the multinational firms and the main contractors present special problems in segmentation marketing to the manufacturing exporting firm.

Similarly, a changing environment poses a need for the manufacturer to consider risk allocation and creates a desire to both avoid poor risks and capitalize on opportunities. This assumes a thorough understanding of the market and its behavior. For example, a welding machine manufacturer with large customers in the auto industry, ship-building yards, and nuclear energy field must seek other customers during a recession, or perhaps even change its marketing structure and strategy permanently. On the other hand, a manufacturer selling to more stable markets (less cyclical) such as food machinery or even farm machinery does not have the short cyclical changes so characteristic of the welding industry.

(3) Some industry direct sales are heterogenous and consist of customers buying simple components or complicated systems, customers buying as end-users, such as contractors or original equipment builders, or lastly buying replacement parts, perhaps for resale. Because this kind of distribution is complex there is a need for exploration of market characteristics that lead to segmentation

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# The more heterogenous the market the more the need for segmentation.

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opportunities, i.e., development of different distribution channels. In summary it might be said:

- "The more heterogenous the product assortment the greater the need for market segmentation."
- "The more the customers differ on buying strategy the greater the need for segmentation."
- "The more heterogenous the market the more the need for segmentation."
- "The more the environment changes and the greater the search for expansion into market opportunities the greater the reason for segmentation concepts."

## IDENTIFYING MARKET SEGMENT FACTORS

Under problem 2 five major criteria are proposed for identifying market segmentation variables—technological, economic, market, competition, and organizational characteristics.

*Technology* i.e., the customer's method of production, his or her role in the production system. The customer's technology will be the basis for his or her need of goods and services. High-technology chemical process industries may use sophisticated instruments for measuring and registering flows in their process, showing their role as potential customers. This has implications for the other customer characteristics that can serve as possible segmentation variables.

*Economy* is connected with the customer's buying power and willingness to pay for quality. Is the buyer price sensitive? The chemical process industry may not be as price sensitive regarding instrumentation as it is only a small part of the process equipment. The OEM customer, on the other hand, may be very price sensitive to instruments, having offered a fixed price for the equipment and needing to keep cost within limits.

*Market* i.e., market potential, number of potential customers, market growth (positive or negative) are important customer characteristics for they represent the future demand. Likewise, forecasts can be related to the customer's economic situation, buying power, and perhaps profitability.

*Competition* for the customers must be considered—will segmentation allow manufacturers to opt for the best markets? Can the number of customers lost be offset by lessening the competition? This can be accomplished by offering a degree of superior product advantages to certain customers. By producing a differential product one achieves segmentation.

*Organization variables* can be designated as the customer's buying process ( $CO_1$ ) and the customer's decision-making unit (composition of) ( $CO_2$ ). Taking the first letters of the above heading, you can apply the formula  $TEMCO_1CO_2$ , in which one searches for customer characteristics, and thus segmentation variables. One can group customers into segments: high technology-low price sensitivity; big market potential-low competition. Even though the buying process is centralized the DMU will be in the hands of highly qualified engineers or project leaders. The seller can manage and match this buying behavior. Conversely another segment may have reverse values on  $TEMCO_1CO_2$  and be appropriate for another manufacturing firm.

The suggested selection criteria can be used to identify segmentation variables. For example, these variables might include product/process, application (field of use), branch (SIC), market size, customer location, buying process ( $CO_1$ ), buying center ( $CO_2$ ), previous relations of seller to buyer, and end-user (environment). The selected segmentation variable can then be incorporated into a model which is intended as a guide to variable evaluation. Arndt [15] has described a model with segmentation variables suited to consumer markets. Therefore, in Table 1, we propose the following model for industrial markets. It is admittedly subjective.

## CONCLUSION

Industrial market segmentation implies an analysis of many customers organizational problems. There can be organizational problems for the seller when segmentation strategy is applied. Segmentation may be more of a problem of resource allocation than of measuring, calculating, and statistical analysis. Alternative segmenta-

**TABLE 1**  
**Industrial Segmentation Factors**

Variable Group	Identifiable-Measurable	Conceptually Available	Predictive Strategy	Degree of Usage
Product/Process	H	H	L(?)	H
Application (field of use)	M	M	H(?)	H
Branch (SIC)	H	H	M-L(?)	H
Market Size	M-H	H	M-H	H
Customer Location	H	H	?	H
Buying Process (CO <sub>1</sub> )	M-L	M-L	?	H
Buying Center (DMU)	M-L	M-L	H(?)	M-L
Previous Relations of Seller to Buyer	L	L	H(?)	L
End-User (Environment)	M	M	H(?)	M-H

H = High, M = Medium, L = Low.

Question marks in "Predictive Strategy" column imply a need for further research.

tion, customer groupings, and possible segmentation strategies should be sought and evaluated.

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