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APPLIED INFORMATICS IN MARKETING SEGMENTATION MODELS FOR OIL INDUSTRY

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Abstract - ***Market segmentation is a technique used by companies selling oil products in order to identify their target market and then divide customers into distinct groups or niches. Based on a range of demographics, particular needs, consumption priorities, and other psychographic or behavioural factors, market segmentation generates "subsets" of the market. Ignoring the market segmentation phase in the process of marketing petroleum product is equivalent to completely disregarding the target market, which means the company will have no customers and nothing to sell. Increased competitiveness, customer retention, and, last but not least, the growth of the petroleum product sales market will result from the development of suitable segmentation. Brand loyalty, existing customer loyalty, and differentiation from the competition are all enhanced by using market segmentation techniques. Messages that are effectively communicated will make the promoted products more noticeable.***

Keywords: business market segmentation, petroleum product, customer, segmentation variables, consumer, buyer, target market petroleum product marketing, marketing.

1. INTRODUCTION

Selecting and defining the criteria and segmentation models of a market for trading oil products can be a challenging task that requires careful consideration and practical market research.
The process of market segmentation and related strategies play a significant role in the marketing initiatives of the majority of supplier companies.
Three steps must be taken in order to determine the target market for the commercialization of oil products:

a. Market segmentation, the division of market for the commercialization of oil products into small groups of buyers with distinct needs, behaviour and characteristics, requiring different products or marketing mixes;
b. Identification of the market, assessment of the level of attractiveness for each segment;
c. Market positioning.

2. THE CRITERIA FOR BUSINESS MARKET SEGMENTATION IN THE FIELD OF MARKETING OIL PRODUCTS

The business markets can be segmented using many of the variables generally employed for the segmentation of oil products, complementary and LPG refills markets, such as territorial distribution of demand, benefits sought and frequency of use. The main business market segmentation variables are:

Table 1: The main business market segmentation variables are:

VARIABLE	TYPES
DEMOGRAPHIC	
Industry	Which industries are important?
Firme size	What kind of firms should be approached?
Secure	Geographical areas covered?
OPERATIONAL	
Technology	What kind of beneficiary technologies should be addressed?
Use (non-user) status	Focus on permanent, regular, occasional or non-regular users.
Customer possibilities	Address customers who want a lot of services or those who want few services.
SOURCING	
Organization of the procurement function segments	Importance given to firms with centralized or decentralized procurement services?
Power structure	Focus on firms dominated by engineers, economists or other professionals?
Nature of relations segments	Attention directed towards companies with which we have close relationships or towards companies open to collaboration.
Procurement criteria	Attention directed towards companies that prefer to use their own cars or those that use the supplier's cars?
RANDOM FACTORS	
Emergency	Focus on businesses requiring fast delivery and service?
Using	Attention to certain uses of our products, avoiding general use?
Size	Focus on large or small orders?
INDIVIDUAL CHARACTERISTICS	
seller – buyer segments	Focus on companies whose staff and values are similar to ours.
Attitude	Focus on risk-taking or risk-avoiding customers?

loyalty	Focus on firms that are loyal to their suppliers?

Using the key questions listed in the table, marketers in the oil products commercialization sector decide which market segments and consumers to target. The company must first determine which industries it will serve, taking into consideration the following differences:

- carriers have certain requirements for economic operators in agriculture or construction;
- economic operators using oil products for heating have certain quality and price requirements.

Once the branch of activity has been selected, the business can proceed with market segmentation, considering the size of the client, so as to develop marketing campaigns in line with customers' needs.

The segmentation is then further performed in relation to specific criteria for the supply of petroleum products. Transport companies differ in their criteria for purchasing petroleum products, some requiring low prices and contracts, others quality and environmentally friendly products. Marketers identify different segments by going through a sequential segmentation process.

Example: A company that sells petroleum products first performs a macro-segmentation, whereby it first selects the target market, which includes fuel heating and automobile owners. Presuming it has selected the automobile owner market, the company must decide how best to use petroleum products (oil, diesel, and gasoline); if it has selected diesel, it must choose the largest clients. The next step is microsegmentation, where the company must decide which customers are sensitive to price, service, and quality issues. For example, it can select a market segment where interest falls primarily on service. The only benefit of this segmentation strategy is that there is a choice of products available for each segment.

Three types of businesses were distinguished, based on the stage in the decision-making process, as it follows.[2]

Prospective buyers are those who, prior to making a purchase, seek out a supplier who is trustworthy, understands their industry, and provides the best explanations;

Novices are customers who only want instructions on how to use the product after purchasing it, claiming to be in permanent contact with the supplier's sales agents, who can provide them with information;

Sophisticated clients demand quick sourcing, supplier customization, and high-quality technical assistance.

These business groups might have different preferences for the distribution of their goods. As a result, prospective buyers may be dissatisfied with catalogues and prefer to be able to address the supplier directly, while the most sophisticated buyers change their preferences to favour a specific method of product distribution. In this regard, four types of businesses can be identified.

First type the "programmed" buyers, who consider the oil product not very important for their business, buy it out of habit, paying for its value and transportation. These firms form a very profitable segment for the seller.

Second type the "stable" consumer*s* consider the oil product to be relatively important for their business and are informed about what the competition offers;

Third type the "negotiator" buyers consider petroleum products to be very important to their business and are sensitive to the price and service offered by the supplier, usually obtaining price discounts. These firms are informed about the competitors' offers and are ready to change a supplier for a better price, at the expense of quality.

Fourth type the Bargain seekers consider the petroleum product to be very important, demanding big discounts and the best service. They know the competition very well and because they have a strong bargaining power, they will easily switch from one supplier to another if their demands are not met.

The oil marketing company can more easily determine which business categories to target with higher-priced and higher-quality goods and services by using this segmentation scheme.

Profile of consumer segments:

Each category of consumers needs to be described in detail, drawing on their demographic, psychographic, psychographic, environmental, attitudinal and behavioural characteristics.

Requirements for effective segmentation:

There are several ways to segment a market, but not all of them are effective. To be efficient, market segments must fulfil five conditions:

- ***Be measurable***: the size, measurability and profile of consumer categories must be determinable; however, some segmentation variables are difficult to measure,
- ***Be relevant***: the segments must be large and profitable enough to serve them: a segment must be as large and as homogeneous as possible to be worth applying a marketing program designed for it;
- ***Be accessible***: market segments need to be addressed and served efficiently;
- ***Differentiable***: segments must be distinguishable and react differently to different programs and elements of the marketing mix;
- ***To be able to act on them***: the marketing program aims at attracting and satisfying different categories of consumers in an efficient way.

3. IDENTIFYING THE TARGET MARKET FOR THE COMMERCIALIZATION OF OIL PRODUCTS. THE ASSESSMENT OF MARKET SEGMENTS

The market segments show how the company selling oil products can make use of these opportunities in order to meet the needs of different consumer segments. To do this, the following instruments for choosing and evaluating market segments can be employed:

Evaluation of market segments:

When evaluating different market segments, the firm selling products marketing should consider three essential factors: the size and growth of the segment, the attractiveness of the segment's structure, its objectives and resources.[8]

1.Segment size and growth: „appropriate size" is a relative notion. As a consequence, the company selling petroleum products will prefer segments that 'generate' high turnover, often avoiding or ignoring small segments, which generate less profit. Segment growth is an essential feature for the firm to continuously increase its sales and profits, while it must also be alert to competitors who will rapidly enter the growing market segment.

***2.Attractiveness of segment structure*:**

Even though market segments may have the appropriate size and growth, their profit potential may be zero. There are five forces that determine the attractiveness of a market or market segment, viewed in terms of long-term profitability (figure 1).

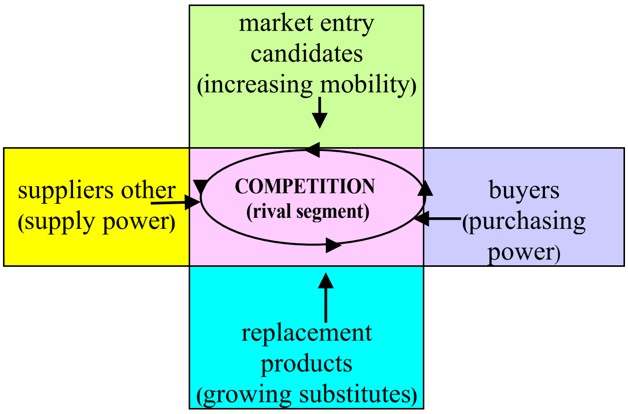

Figure 1. The five forces that determine the attractiveness of a segment structure

The oil products marketing firm has to estimate the impact on its long-term profits in terms of five main factors: competitors in same industry, market entrants, substitutes, buyers and suppliers.

These factors pose threats to other firms for the following reasons:[20]

- ***the great rivalry at market segment level:*** it cannot be attractive if a large number of strong or aggressive competitors are operating in it, so the situation may worsen if:

the size of the segment is stable or decreasing, if there is excess marketing capacity, or fixed costs are high, or barriers to market exit are high, orcompetitors have strong positions in the market segment.

These conditions contribute to frequent price wars, advertising battles, new product launches, and increased competition costs.

- ✓ ***New entrants*** will struggle to increase market share, and entry will be difficult if there are 'high' entry barriers associated with antagonistic relationships between existing firms, with the most attractive segment being where entry barriers are 'high' and exit barriers are low;

		exit barriers: small	exit barriers: big
entry barriers	small	small, stable income	small, unreliable income
	big	big, stable income	big, unreliable income

Figure 2. Barriers and profits

If the market has high profit potential and high entry and exit barriers, few new businesses can enter it, but there is a chance that underperforming companies will remain. (Figure 2).

If both entry and exit barriers are low, then firms enter and leave the market easily, with stable but low revenues.

Low barriers to entry and high barriers to exit represent a situation where the absorptive capacity of the market is exceeded, reducing the profits of all market participants.

- ***Substitutes*** (wood, gas, coal, coal, methane) do not make a market segment attractive, they lead to the formation of price and profit "platforms", the firm having to constantly monitor the evolution of prices of substitutes and their presence on the market; when these types of products are heavily marketed, there is a dramatic drop in prices and profits in the initial market segment;
- ***Customers' increased bargaining power*** does not make a market segment appealing because they will attempt to negotiate lower prices for better products or more goods or services at the same cost; When buyers are better organized, when products make up a large portion of their overall spending, when the product is not differentiated, when switching costs are low, when buyers are price sensitive because of low profits, or when they are able to integrate "downstream" to defend themselves, sellers can select the buyers with the least amount of bargaining or switching power; the best defence is to offer products with superior qualities that buyers cannot refuse; these factors all contribute to increased buyer bargaining power.
- ***Suppliers' increased bargaining power***: a market segment is unattractive if the firm's suppliers for the marketing of petroleum products do not have the possibility to increase prices and reduce the quantity of delivery. Valued suppliers will be those that are organized, when there are few substitutes for the products they offer to their customers, when

switching costs are high, and when suppliers can integrate 'upstream'

- ***Own objectives and resources:***
  Even if a market segment is structurally large, attractive and growing, the petroleum products marketer will need to consider its objectives and appropriate resources in relation to that market segment. Some attractive segments may be eliminated if they are not in the long-term interests of the firm. Furthermore, even if the market segment meets these objectives, the firm should consider whether it has the necessary skills and resources to succeed in the segment.

There are specific requirements for success in each market segment. The company should refrain from pursuing a market segment for which it lacks one or more of the required capabilities, or is unable to acquire them; however, in the event that it does, it will need to forge several advantages for itself by only entering those segments where its offer is better than the current one .

4. CHOICE OF MARKET SEGMENT IN THE MARKETING OF OIL PRODUCTS

The petroleum products marketing company must choose which and how many market segments to serve after evaluating the various market segments. This is known as the target market choice. The five target market selection models must be followed in order to accomplish this (figure 3):[7]

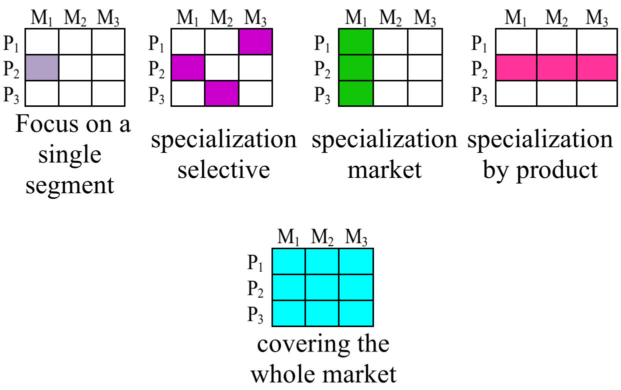

Figure 3. The five target market selection models

1.Focus on a single market segment:

With focused marketing, the company can gain strong position in the market due to a good knowledge of consumer needs and a good reputation among consumers. But the oil products marketing firm can also make savings from operating by specializing in LPG refills production, distribution and promotion. If the firm succeeds in taking a leading position in this market segment, it can achieve greater efficiency from its investments.

Focused marketing also involves taking on

risks, due to the fact that at some point in time the conjuncture characteristic of the market segment in question may become unfavourable to the petroleum products marketing firm, for example, the market segment being invaded by a competitor.

2. Selective specialization:

Depending on its goals and available resources, the petroleum products marketing company selects a number of attractive market segments. These segments may or may not be connected, but they all have the potential to generate revenue. One benefit of the strategy is that it spreads the risks faced by the firm across multiple market segments. The company still makes money from the other market segments even if one of them loses its appeal.

3. Market specialization:

The company focuses on satisfying several needs of a single category of consumers, selling them petroleum or complementary products, as well as LPG refills.

Risks will occur when consumers abruptly reduce their spending and, as a result, their purchases.

4. Product specialization:

The firm is focused on acquiring a single particular petroleum product, which it sells to different categories of consumers.

For instance, the business sells petroleum products to builders, farmers, and transporters, but it also offers distinct products to each of these costumer groups separately. It establishes a positive reputation in the industry while using this strategy. When these products become available on the market at reduced costs or with improved quality, the risk will be activated

5. Covering the whole market:

The firm will try to satisfy all categories of consumers, offering them all the products they could possibly want. Only large firms can adopt a strategy of covering the whole market through***: undifferentiated marketing or differentiated marketing.***

Undifferentiated marketing means that the firm ignores the differences between market segments and tries to cover the entire market with a single offer. It focuses more on the common elements that relate to consumers' needs and less on the elements that differentiate them, creating a marketing program aimed at the largest possible number of buyers.

General distribution and advertising policy serve as the foundation for its operations. The company's policy of only distributing liquefied gas (LPG) in 12.5-liter containers is an example of undifferentiated marketing. This type of marketing is based on the advantage of cost savings, as the undifferentiated advertising program keeps advertising costs low.

Additionally, if market segmentation research and related activities are not conducted, marketing research and product commercialization expenses are mitigated, and the company will lower prices to appeal to price-conscious customers.

Marketers, while acknowledging that "some measures have a reputation for being able to meet the demands of a wide variety of consumers", note that "it is not easy for a brand to meet the needs of people in a particular social class; it is rarely possible for a product or brand to mean everything to the majority of consumers".

When undifferentiated marketing is practiced, competition is intense in the larger segments of the market, leaving smaller segments unsatisfied.

Differentiated marketing: the company selling petroleum products operates in a few market segments and carries out differentiated marketing programs for each segment, offering petroleum products, complementary products and LPG refills. Compared to undifferentiated marketing, differentiated marketing typically produces higher sales. This leads to increased operating expenses, of which the most likely to increase are:[22]

- ✓ ***product acquisition costs:*** changing orders to meet the requirements of different market segments usually entails higher research and sourcing costs;
- ✓ ***Administrative costs***: the firm has to develop different marketing plans for distinct market segments, which requires additional effort in terms of market research, forecasting, product market analysis, promotion, planning and management of distribution channels;
- ✓ ***storage costs****:* compared to small stocks, managing large product inventories is more costly;
- ✓ ***promotional costs****:* the firm has to attract different categories of consumers through specific promotional programs, which increases planning costs.

The oil product trading company should avoid the alleged over-segmentation of the market. However, if this happens, counter-segmentation or expanding its own number of clients will be employed.

5. ADDITIONAL CONSIDERATIONS ON THE ASSESSMENT AND CHOICE OF MARKET SEGMENTS IN THE MARKETING OF OIL PRODUCTS

The following aspects should be taken into account when assessing and selecting market segments:[15]

1. ***The ethics of choosing market 'targets'***: The selection of market segments can occasionally lead to controversy, such as consumer discontent when marketers exploit underprivileged groups (the urban poor) or disadvantaged groups (the elderly, the disabled). When these complaints come up, marketers need to treat other people with respect.
2. ***Relationships between segments and groups of segments****:* when serving several segments of the market, the petroleum marketing company must pay close attention to the relationships between segments in terms of costs, outputs and marketing technologies used. In order to reduce unit fixed costs (sales force, marketing departments) new items will have to be added to the product line, thus attempting to achieve economies of scale, which can be as important as economies of scale. The firm needs to identify and operate more at the level of groups of segments rather than isolated segments marketing LPG refills through its own network of petroleum product distribution stations.
3. ***Segment-by-segment" attack plans:*** when the firm intends to attack a segment, it is better to penetrate one segment at a time, hiding its real intentions. Thus, competing firms will not realize or will realize late which segment should be attacked. To this end, the petroleum marketing firm will need to draw up a well-defined plan of attack.

6. CONCLUSIONS

In conclusion, the benefits of market segmentation in the marketing of oil products are as follows:

It contributes significantly to business growth and development: The more a petroleum marketing company understands its target market, including its needs and behaviour, the quicklier it can implement strategies to highlight its products and services in a way that appeals to the market it wants to reach.

It allows for analysis and identification of new directions for expansion: research and development within a company is essential; most companies start locally and, after a while, a small proportion of them manage to expand nationally or even internationally. Without market segmentation and detailed knowledge of the customer profile, development is not possible.

Provides business clarity: the better the members of a company get to know their target market, the more strongly they will be able to sediment the values and principles adopted by the company, becoming more involved in the work they do within it; they will also anticipate which products/services are suitable for their customers according to their profile.

It helps to achieve the marketing mix: once the customer profile of each company is known, it becomes clear what improvements need to be made, what are the promotion strategies and the means whereby products/services will reach consumers.

Increasing brand awareness: Businesses with well-defined customer profiles are able to satisfy their clients' needs by offering goods or services that meet their demands; the more satisfied customers are, the more likely they are to become brand ambassadors.

Maximize profit and reduce costs: Sales strategies will become more effective when focus is directed towards the most demanded petroleum products (goods and services), which offer the highest conversion rate for a potential customer; expenses will be decreased as unprofitable goods and services or distribution channels that are excessively expensive in relation to the outcomes will be eliminated.

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