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MARKETING DECISIONS IN INVESTMENT PROCESSES AND THEIR INFLUENCE ON DISTRIBUTION SYSTEM

1. APPLICATION OF RESULTS OF MARKETING RESEARCHES IN INVESTMENT DECISIONS

Areas of marketing researches are gradually expanding. One of the newer areas of marketing researches is represented by researches aiding investment processes and aimed at maximization of socio-economic effectiveness of investment projects, resulting in increment (both quantitative and qualitative) of consumer goods supply. These researches — as far as we know — were first initiated in the United States where they are further developed at present [1].

Demand for similar researches seems to exist also, or perhaps first of all, in centrally planned economies. This is due to two reasons:

1. Any investment project in conditions of the centrally planned economy is supposed to be optimally effective from socio-economic point of view, its potential and planned social effectiveness is gaining a growing importance in the socialist process of distribution if a given investment project envisages a prospective increase of consumer goods supply;

2. Investment decisions are supposed to possess a high degree of social accuracy, as its reduction will simultaneously increase social costs of production and consumption (the effects of which will obviously be felt later on), and dislocate — to some extent — socio-economic pro-

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[1] See e.g. B. Wickstrom, *Research in Marketing at Universities in the United States and Sweden.* [In:] Selected Problems of Marketing, Acta Universitatis Lodziensis 1979, vol. 40, p. 165—170. It should, however, be added here that these researches are mainly oriented at maximization of economic, and not so much, social effectiveness of investment plans. Their character in the market economy does not seem to require any additional comments.

portions of the plan. Lower than desirable degree of social accuracy of investment decisions is especially dangerous in a situation when, on one hand, the investment plan of the national economy is very strained, while on the other hand there is equally strained situation of the market equilibrium — which is quite a common phenomenon in the case of a rapidly developing economy, as it is confirmed by Poland.

The need for marketing preparation of investment processes aimed at increasing their social effectiveness is, however, not always perceived by the socialized investor. On the contrary, it might be said that in many cases investment processes are not properly prepared. This sometimes produces a paradoxical situation: with tense investment plans and in conditions of big market tensions there are taken investment decisions, as a result of which there is launched production of goods that, in turn, are not approved by buyers and are either not accepted at all in the market or are accepted only to a small extent. This refers mostly to such investment decisions which lead to introduction of new products into the market or new types of products the market position of which is already consolidated [2]. Social costs of such undertakings are especially high although — due to their complex character — they are difficult to estimate.

There is simultaneously dislocated the rationality and usefulness of economic management, which cannot be fully reconciled with guidelines of the socialist planning system and development of the planned economy.

2. MARKETING VARIABLES IN INVESTMENT PROCESSES

Let us assume that an economic organization intends to launch production of a single, new product and that this intention can be carried out only on the way of constructing a new industrial plant. Let us assume, furthermore, that this intention was carried out and that production was started. The volume of production of the new plant can be described by means of the production function e.g. of the Cobb-Douglas type:

[2] Such an investment project, which lacked proper marketing preparation, was construction of a big industrial plant in Łódź which was to produce bistor fabrics (of cremplene type). In this case a new product was not accepted in the market — to the expected degree — which created a need for gradual shift of production (almost from its start) towards application of traditional raw materials. Undoubtedly in this case poor accuracy of earlier investment decisions led to considerable increase of social costs and equally drastic decrease of socio-economic effectiveness of this investment project.

$$Q = g(x_1, x_2) \tag{1}$$

where: x_1, x_2 are the so-called production factors (x_1 — fixed assets, x_2 — employment).

Since for a given investment variant we can accept that fixed assets are fixed, then the only independent variable of the production size will be employment. Its measure can be total working time of people directly employed in production (w). Thus the function (1) will take the form of:

$$Q = g(w) \tag{1'}$$

Thus the variable (w) will provide a steering variable of the production size. Obviously it must meet the requirement of

$$w \leqslant W \tag{2}$$

where: (W) is maximum total working time of people directly employed in production.

On the other hand, the level of demand for a newly produced good (D) depends, from the marketing point of view, on the price fixed for it (P) assuming that the economic organization possesses rights to fix (to some extent) prices for its products, and on outlays for promotion (N). This correlation can be described by means of the following function:

$$D = f(P, N) \tag{3}$$

In any period a company steering the production of a given product will be fixing it at such a level that the production volume does not exceed demand, which can be formally described as:

$$f = (P, N) \geqslant g(w) \tag{4}$$

Economic effectiveness of already existing production of a new product is described by the revenue (profit) function of the economic organization. In the case discussed by us this function will take the form of:

$$\max Z = P\,g(w) - N - cw \tag{5}$$

where:

Z — represents the revenue (profit) of the economic organization, with the economic organization being interested in maximization of this magnitude,

c — parameter of costs understood, for example, as average value of one working hour.

Obviously, while maximizing the magnitude Z there should be observed the following, already listed, conditions, and namely:

$$W - w \geqslant 0 \tag{6}$$

This inequality results from the condition (2).

Then

$$f(P, N) - g(w) \geqslant 0 \tag{7}$$

This limitation is a consequence of condition (4).

Finally steering variables

$$P, N, w \geqslant 0 \tag{8}$$

On the other hand, it can be accepted, that from the marketing point of view the social effectiveness of production of a new product will be determined by appropriately high demand for it, which will imply in practice a high degree of the product's acceptance in the market.

That would be a simplified model of production of a new product already started, in which the only steering (decisional) variable will be, in accordance with (5), the consumed working time of those directly employed in production.

We should point out here that this statement refers to a situation when as a result of previously taken investment decisions, the production has already been launched, while the size of fixed assets, which can be described by the size of the economic organization, and its capital intensity and automation level, has already been determined and thus decided upon by those earlier made investment decisions. We can thus draw a conclusion that the total working time of those directly employed in production constitutes a function of fixed assets (M) employed in the investment process, that is:

$$w = h(M) \tag{9}$$

In other words, the size of production in a plant already put on stream will be dtermined, first of all, by earlier investment decisions defining the level of fixed assets employed in the construction of a new plant. To simplify it, let us accept that the level of employment of fixed assets will be characterized by the size of the plant, by which we understand its technical and technological structure (a big plant is a plant possessing a big production capacity expressed by big production capacity of fixed assets it has been equipped with at the construction stage).

If we remember here about the correlation 3 supplemented by correlation 9, and if we take into account our short comment on these correlations, we can say that strictly marketing investment variables include [3]:

[3] We are omitting here, of course, costs connected with the product promotion as they are rather connected with postinvestment marketing activity.

1. The expected level of demand for the product to be turned out by a given plant on the basis of earlier taken and carried out investment decision,

2. The level of price fixed for the product.

Both these variables of decisional character determine the accuracy of decisions concerning the size of the plant to be constructed, and the size of production to be launched as a result of construction of the plant of a definite size.

3. UTILIZATION OF MARKETING VARIABLES IN DECISIONAL INVESTMENT PROCESSES

A starting point for our analysis of this problem is a thesis that an economic organization, making an investment decision in the field of production of a new or relatively new consumer product and involving construction of a new production plant, operates in conditions of a far reaching uncertainty. This uncertainty is due to two facts:

1. A priori lack of information about the expected level of demand for a given product, and

2. Lack of any rational (apart from cost) criterion of price fixing for the product.

Let us briefly analyze the first problem. The economic organization may accept a priori that the envisaged demand for a given product will be big, medium, or small. The matter would be quite simple if the level of the envisaged demand (which might be roughly estimated by marketing researches) was to determine the size of the investment project, i.e. the bigger the expected demand — the bigger the need for construction of a bigger plant. There arise here some difficulties while two of them seem to be most important. Firstly, there is a need for conducting here very thorough and extensive marketing researches aimed at definition (even very general) of the expected level of demand. As it was already mentioned by us, the economic practice still rather unwillingly applies marketing researches at the level of creating investment decisions giving preference here, to a large extent, to decisions of voluntary type.

Secondly, even if we assume that such researches will be carried out, they will encompass mostly the period of preparation and implementation of investment projects, and not their postinvestment period — which appears to be quite normal and obvious. On the other hand, demand represents a market category being changeable in time

and accordingly the results of researches on it, based on earlier periods, can be properly approximated for later periods.

The problem becomes still more complicated when we have to take into account the level of expected demand jointly with the expected level of prices in investment decisions. That is due to the fact that the cost basis will not suffice for establishment of a new price. There must be taken into account here also other elements of the price-forming type and primarily price relations of „our" product to prices of other products being already in the market (especially prices of substitutes in relation to „our" product) and coefficients of price elasticity for products similar in their properties to „our" product. Finally, in conditions of only partial decentralization of pricing decisions and of fixing some price brackets by the economic centre, the price of „our" product must absolutely correspond to the price bracket determined by the centre.

Thus, while determining the optimal size of the investment project to be constructed we shall be dealing, according to the level of marketing variables, with several variants of the expected demand and expected (estimable) level of prices simultaneously. Obviously, among these variants we shall be looking for an optimal variant with regard to the expected value of product sales with a given level of demand and prices, which — in turn — will allow us to create among others prerequisites for selection of the optimal size of the projected plant.

It is impossible to present a concrete numerical example in a brief article. Further although scarce examples concerning this problem can be found in specialist marketing literature [4].

Of great interest are, on the other hand, methods of determination of marketing attitudes in relation to selection of the optimal size of a projected plant, and in this way they were presented by us. These are generally speaking methods belonging to the theory of decision-making, and more precisely — criteria of decisions made under uncertainty. The basic criterion applied here is the already mentioned criterion of the expected value of sales. Applying this criterion and determining the expected values of sales we can, among others, construct the so-called payoff matrix and use further on the minimax criterion, or construct the so-called regret matrix and apply the minimum regret criterion.

Obviously in conditions of a big risk, none of the above mentioned criteria can be considered — as it is underlined in the economic lite-

[4] See e.g. P. Kotler, *Marketing Decision Making. A Model Building Approach*, A Holt International Edition, London 1974, p. 257 and on.

rature of the subject — as dominant or best. This, at any rate, depends on circumstances in which they are applied, and especially on the type of investment processes and goods they refer to. However, in any case, the socio-economic calculus acomplished by their means aims at achieving optimal decisions in the field of the size of the newly-built plant at the expected demand and price, and thus by applying an instrument of decisional marketing variables.

4. MARKETING DECISIONS IN INVESTMENT PROCESSES AND THEIR IMPACT ON THE DISTRIBUTION SYSTEM

It is hard to say that marketing decisions in investment processes directly affect the distribution system. These are relationships of rather indirect character. We were trying to present their general idea in the first part of this paper. These remarks should, however, be supplemented by a short comment.

In conditions of tense market equilibrium and in the case of predominance of the seller's market, an economic organization acting the role of both an investor and producer reduces its activities in the field of marketing analysis of preinvestment processes proceeding from quite a simple (and also quite logical) assumption that — briefly speaking — whatever will be produced, in quantitative and qualitative sense, will be also sold. This even so simple situation poses already a potential danger of social character: it does not imply at all that the consumer, on the social scale, will accept a product being a result of earlier made decisions of the investment production type. He is usually forced to accept these decisions in the market due to lack of other alternatives in the market, which obviously does not imply that such acceptance is synonymous with full satisfaction of his real market and consumption needs. Thus in conditions of the seller's market consequences of inaccurate investment decisions are borne not by the distribution system but by the consumer.

The situation becomes quite different when a new investment project, aimed at production of consumer goods, provides for production of such a group of commodities in relation to which, we can say, there has been formed and consolidated the seller's market. Lack of marketing prerequisites for investment processes may lead here (and most often leads) to considerable dislocations just in the distribution system. In such a situation lack of adaptation of supply to demand in the sense of predominance of supply over demand produces instantaneously a problem of excessive and indisposable stocks in trade, a need for

application of more elastic (which does not imply more favourable) pricing policy, increase of storage costs, outlays for promotion of a product etc. All these factors to a different — but totally quite considerable degree — reduce economic effectiveness of the distribution system. Analyzed on the social scale — they reduce the socio-economic effectiveness of the system.

It seems justified to realize the importance of the problem already now, all the more so that along with development of our economy and market the problem of proper adaptation of supply to demand (and not vice versa) will become a common problem and will call for multidirectional activities and marketing decisions, including also decisions concerning marketing preparation of investment processes.

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DECYZJE MARKETINGOWE W PROCESACH INWESTYCYJNYCH ORAZ ICH WPŁYW NA SYSTEM DYSTRYBUCJI

Praca dotyczy badań związanych z marketingowym przygotowaniem procesów inwestycyjnych. Jest to stosunkowo nowy obszar badawczy marketingu nabierający szczególnego znaczenia w działalności inwestycyjno-produkcyjnej organizacji gospodarczych, w gospodarce planowanej centralnie.

W opracowaniu zwrócono szczególną uwagę na wpływ niektórych zmiennych marketingowych (postulowany poziom cen, spodziewany poziom popytu) na decyzje dotyczące projektowanej wielkości zamierzonej inwestycji i zainstalowanych w niej mocy produkcyjnych.

Wykorzystując klasyczne metody z zakresu teorii podejmowania decyzji pokazano możliwość wyznaczenia optymalnej wielkości nowo budowanego zakładu w oparciu o pewne znane statystyczno-matematyczne kryteria decyzyjne. Omówiono również krótko wpływ decyzji i ustaleń marketingowych na system dystrybucji.