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PROCESS-TECHNOLOGY ORIENTED APPROACH FOR DEVELOPING MARKETING MODEL OF AN INDUSTRIAL GOOD

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Abstract. The article investigates the competitiveness of goods related with building product models according to structural, structural-dynamic and process approaches. In the article it is determined that widely used marketing models of product (model of three levels and five levels) do not meet for all the complexity of consumer behavior, because they do not take into consideration the process of meeting the needs within a particular consumer consumption technology. The developed product model includes three conceptual level (the principle of customer needs meeting, the method of realization of the principle and the physical realization of the method) complements the existing models and creates the preconditions for a comprehensive assessment of competitiveness of the goods taking into account the technology of consumption, which is based on certain consumer behavior.

Keywords: marketing, product model, competitiveness, technology, consumption.

Introduction.

The central place of any marketing strategy is a product as one of the key elements of marketing mix to provide the company's competitiveness on the market. This led to considerable attention to the problem of developing of the concepts of the product presented by marketing models, which are used as basic elements for evaluating the goods competitive ability. Analyzing works in the field of marketing it is possible to mark, that actually for today within these models the structural and structural-dynamic approaches are applied to construct the model of product that exists in statics or in a dynamics. The most popular for today models of product, particularly, is a three-level model of Ph. Kotler (the core product, the actual product and the augmented product)



(Kotler, Keller and Pavlenko, 2008), that represents the static reveal of goods in the certain point in time, and also extended four-level model by V. Blagoyev (basic features, physical descriptions, extended descriptions, descriptions related to the personality differences of consumer) (Pavlenko and Voichak, 2003) and five-level model of T. Levitt and Ph. Kotler (Kotler Ph. et al, 2008) (core benefit of the product, generic product, expected product, augmented product, potential product) that represents possible development of the product up to its technological and consumer limit, after that there is a substitution by new product generation. Perceptual approach refers to the model of customer's estimation, which is based on the concept of multiattributive good and describes the process of forming evaluation of a good by customer (Bozyk, Kovalik, Maslova, Rozova and Teor, 2012).

It is possible to notice that also the model listed above has market-based elements (including process of analysis of needs, benefits and values of consumer) but not take into consideration all aspects of sophisticated consumer behavior that determines competitiveness of company's product in real buying situation (Zozul'ov, 2004). According to this there is a need to work out the model or conception of product, that would be related to the process of consumer need's meeting (with the decision of his core problem).

Process-technology oriented marketing model of the industrial good

On the assumption of the above-mentioned, it is possible to set some requirements to the necessary model:

- ✓ based on the strength of marketing conception, the model must be built on marketing principles;
- ✓ such model must consider the influence of market conditions on the process of consumer's estimation of goods, and influence of marketing environment on product competitiveness as well;
- ✓ the model must take into consideration the patterns of consumer behavior, that was formed during consumers' life as a result of their vital experience and also skills of making decisions to solve their problems;



✓ the model must take into consideration technological aspects of the process of consumer's needs meeting (decision of their problems);

✓ the model must correlate between themselves the requirements that listed above.

According to requirements listed above within the process-technology approach to consumer need's meeting the product model for the industrial good includes three levels (figure 1).

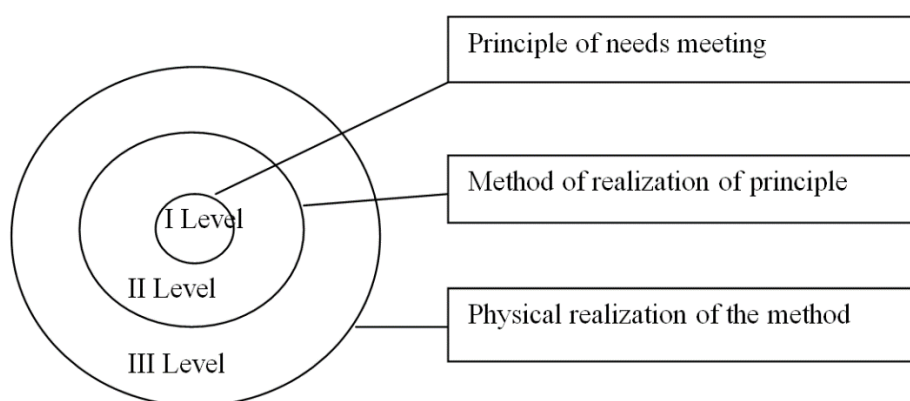


Figure 1 – Model of product as technology of meeting consumer's need

Source: own development

Let's expound more detailed description of this model with some examples.

1) The first level: principle of needs meeting. At this level, it is defined base technological principles, which are necessary to consumer's needs meeting. For example, all consumers sometimes have a need in clean hands. Some technological principles can be used for this purpose: washing off or disinfection. At this level we can define substitute goods that will compete at the market for solving mentioned problem.

2) The second level: method of realization of base principle. It is determined at this level how certain principle, defined at the first level, can be realized. Elaborating the above-mentioned examples it is possible to take notice that disinfection can be made by means of ultraviolet irradiation, or by chemical means (popular lately to gel or spray-disinfector for hands), or by the use of ions of silver and others like that.



Washing off can be proceed by using of water with addition of different chemical components. At this level, the competitiveness of good is related to the technical and economic features of technology of needs meeting. Notably it is a competition between goods-analogues.

3) The third level: physical realization of the method. It is defined at this level, how the principle and the method from the previous levels will be realized: what technical equipment and means will be needed according to a specific consumer situation of meeting of his needs, that influences on the competitiveness of the good in the certain situation of its consumption. For example, if we use principle of washing off, and it is realized in form of hard soap, then for the technological process of need meeting such product needs water only. However, if to leave hard soap in the places of the public use, then users can appropriate it. However, it's very difficult to appropriate soft soap in the public places if it is used with the fixed metering device. Therefore, in particular, in public places and on a railway transport soft soap is used with the fixed (bound to the wall) metering device, and in household hard soap is used widely. Thus, it is possible to see that the third level substantially influences on the competitiveness of goods on the different types of market or for different market segments according to the situation of employment. Other example: in a public transport water is frequently absent, and there is not possibility to provide a requirement in clean hands differently, as by means of spray, gel and moist napkins.

According to the above-mentioned, we see that such model of product is extremely useful to the analysis of competitiveness of goods and gives possibility to define competitors among substitute products, products-analogues in every concrete case related to the process of meeting of consumers' needs.

Evaluating the competitiveness of goods using the introduced model

The analysis of a product based on the use of the offered model gives to companies a possibility to define, what financial resources will be needed for sales promotion of a product at the market. It is defined by the underlying thing such as whether a product "lays" on the existing consumer's model of meeting of his need, or a company will demand a considerable advertisement budget in an order to change existent consumer



patterns. For example, most consumers in Ukraine got used to launder their clothes in washing machines that use mechanical principle of wash with cleansers. Therefore, washing machines using ultrasound to disinfect and clean clothes didn't get wide distribution in Ukraine. It points that the competitiveness of product is determined by combination of three components given on figure 2: established patterns of consumer behavior, situation of consumption and technological aspects of consumption provided in a product (principle, method and its physical realization).

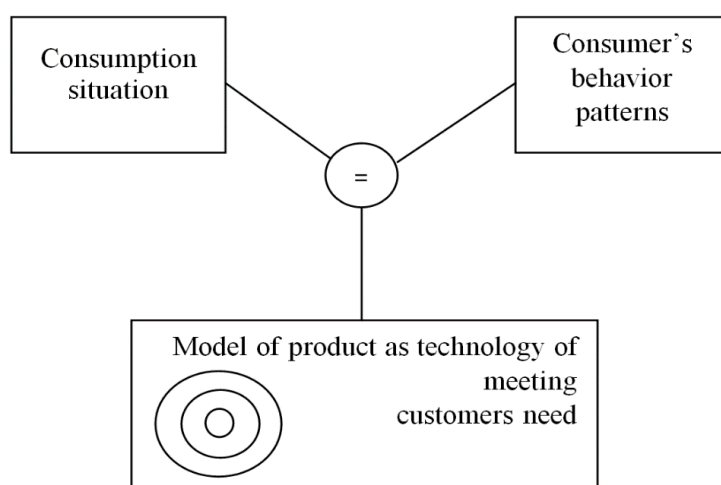


Figure 2 – Components combination of that determines the competitiveness of goods

Source: own development

It allows complementing existent positions in relation of the evaluation of competitiveness of goods (Zozul'ov, 2005), given on figure 3.

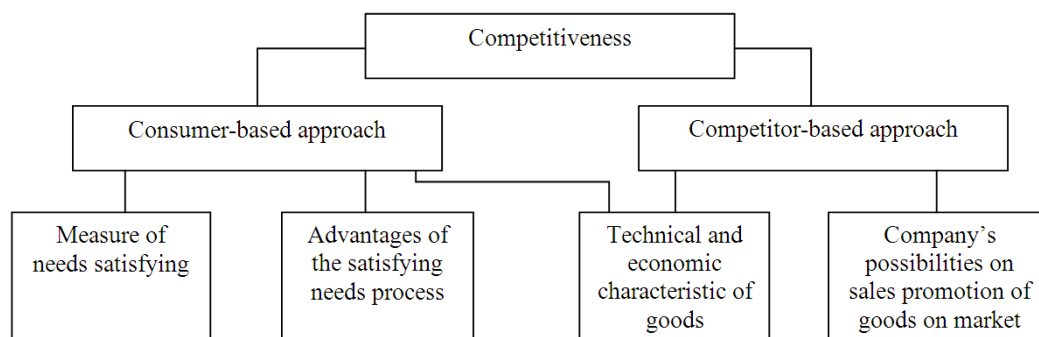


Figure 3 – Components of evaluation of competitiveness of goods with taking into account of process approach

Source: own development



The pointed components create base for forming of matrix to determine the measure of competitiveness of goods (see figure 4).

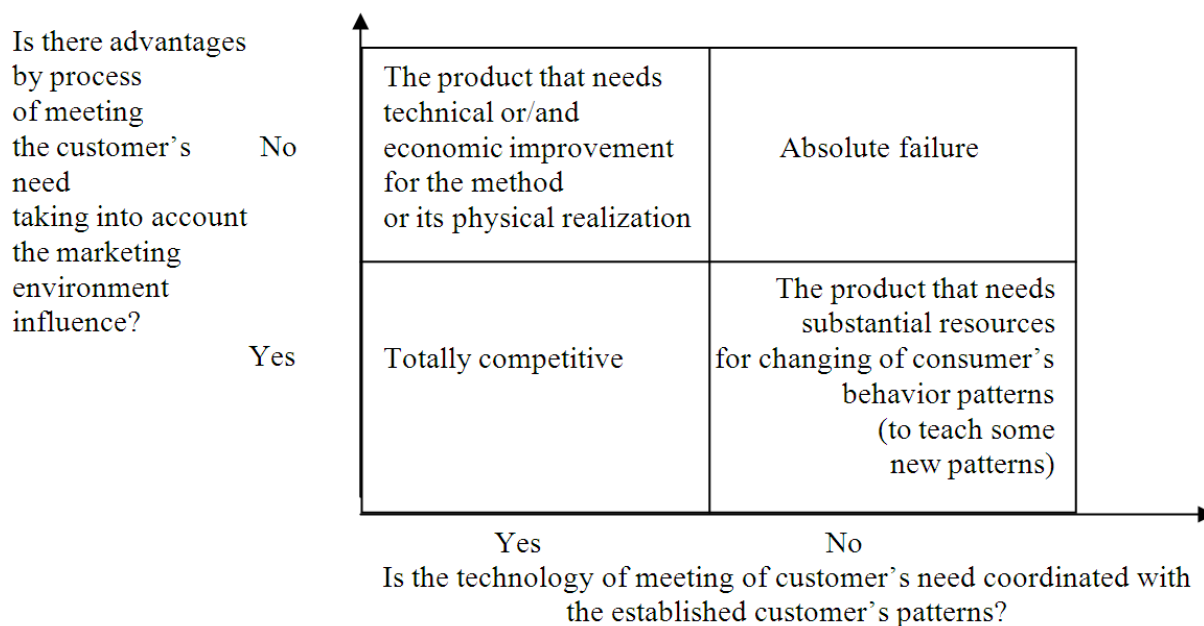


Figure 4 – Matrix of competitiveness of a good as technology of needs meeting

Source: own development

The concordance of technology of meeting of consumer's needs with established patterns of consumer's behavior if connected with advantages of process of needs meeting gives obvious competitive advantages to the good towards to competition suggestions. If a product by its technology of meeting of need is coordinated with the model of behavior of consumers, but takes no advantages by the process of need meeting – he is potentially competitive, but needs revisions after positions, in that he loses to the competitors. Absence of concordance on technology of need meeting and models of consumer behavior requires teaching consumers the necessary models, but it can be quite expensive and can need considerable time. Negative values for both directions of measuring, marked on axes talks that there is no sense to bring the good to the market.

Summing up the reflections, it is possible to form the pyramid of competitiveness of good at the market (figure 5).

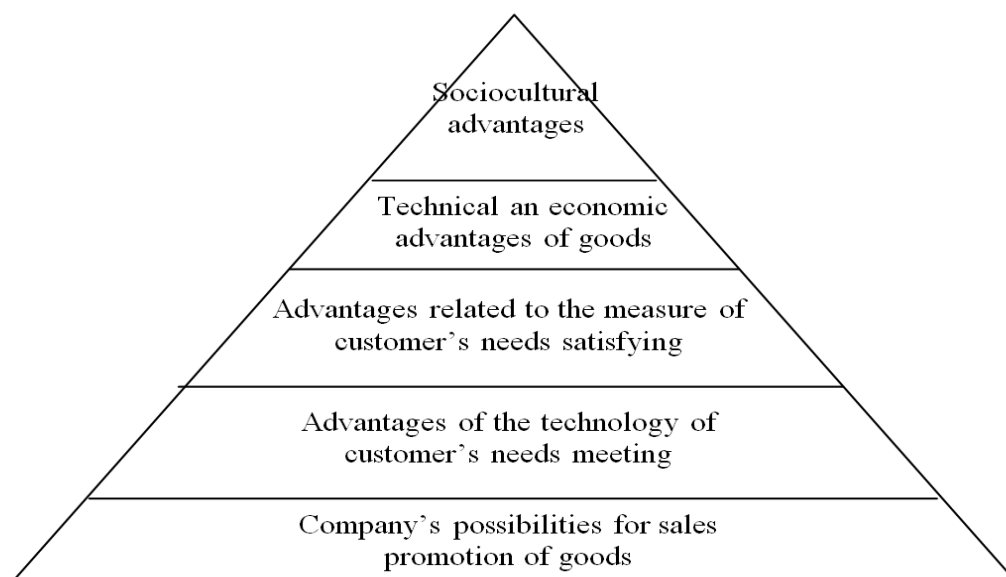


Figure 5 - Hierarchy of competitiveness of goods at the market

Source: own development

Company's possibilities for sales promotion of goods define its potential influence on consumer's behavior towards of forming of necessary model/pattern. Advantages of technology of meeting of needs of consumers are based on the established model of their behavior. Within the technology of customer's needs meeting the measure of satisfaction specified by the process of meeting, could be varied. Identification of technical and economic advantages of goods demands of comparison of products-analogues, which are used within one technology of needs meeting and determining of sociocultural advantages, requires the analysis of such components of consumer's use value as social recognition, prestige, and others like that.

Summary and conclusions

According to our study, it is possible to notice that for today we have three models of product, that organically complement each other: 1) the model that analyzes concordance of technology of consumer's needs meeting with established patterns of consumer's behavior; 2) the model that analyzes the method by which goods are physically realized on the certain period of time and 3) the model that analyzes possible interactive implementation of goods according to production technology's



development. It allows at further researches to improve certain methodology of complex evaluation of competitiveness of goods.

References:

1. Bozyk, S., Kovalik, L., Maslova, T., Rozova, N., Teor, T. (2012) *Marketing*, 2. Zozulov, O. (2004) *Consumer behavior*, Kyiv, Znannya
2. Zozulov, O. (2005) *Industrial marketing: strategic aspect*, Kharkov, Studsenter
3. Kotler, Ph., Keller, K.L., Pavlenko, A.F. (2008) *Marketing management*, Kyiv, Himdjest
4. Pavlenko, A.F., Voichak, A.V. (2003) *Marketing*, Kyiv, KNEY
5. Rähse, W., Hoffmann S. (2003) Product design – The Interaction between Chemistry, Technology and Marketing to Meet Customer Needs, *Chemical Engineering and Technology Journal*, Vol. 26, No. 9, pp. 931-940.
6. Tsarova, T.O. (2014) Estimating competitiveness of the goods: five-level model of technology as goods, *Business-Inform Journal*, Vol. 437, No. 4, pp. 413-418.

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