

THE WIDE ASSORTMENT MODELS OF FORMATION IN THE RETAIL NETWORK

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Abstract. Retailers with an extended range of reasons for lack of required diagnostic efficiency of their activities. The organization of the retail network should take into account, the basic problem that is associated with the formation of the range.

Keywords: product assortment, product groups, indicators of assortment, structure of assortment.

At the confronting, the challenges with the formation of the assortment must consider the following factors influencing its formation. This include common factors in demand (profitability, raw material, material and technical bases, industrial organizations, scientific and technological progress, and others.) and more specific major trading organization, distribution channels of goods, methods of sales promotion and formation of demand, material-technical base trading organization).

This takes into account the properties and indicators of assortment: [5,51]

1. The breadth of assortment determined by the amount of product groups and evaluated coefficient of range of assortment:

$$A_b = N_g / T_n \quad (1)$$

where, N_g – number of groups of goods at the time of determination, units.; T_n – total number of commodity groups, units.

In a saturated market makers and sellers seeking to meet the diverse needs. When supply exceeds demand needed commercial efforts to create consumer preference, and that's the achieved due to increase breadth of assortment. The breadth stands as one of the criteria for competitiveness of firms.

2. The completeness of assortment – is a conformity of the actual availability of types of goods developed by assortment list, existing demand. Expressed completeness of assortment by the coefficient the fullness A_c assortment, which is determined by the formula:

$$A_c = T_g / T_n \quad (2)$$

where, T_g – the actual amount of types of goods at the time of inspection units.; T_n – number of types provided for the assortment list, contract of supply, standards and etc., units.

3. The depth of assortment is determined by the number of product varieties for each item. The coefficient of depth assortment evaluated by the formula:

$$A_d = V_p / P_n \quad (3)$$

where, V_p - the actual amount of product varieties at the time of verification units.; P_n – number of varieties, provided for the assortment list, terms of contract, pricelists, etc., units.

4. Stability assortment characterizes the constant availability of the relevant type the goods (variety) in the sale. The factor of stability A_s is defined as:

$$A_s = 1 - (P'f_1 + P'f_2 + \dots + P'f_n / P_H N n) \quad (4)$$

where $P'f_1 + P'f_2 + \dots + P'f_n$ – the actual amount of species (kinds) of goods, from the available the assortment list and is not commercially available at the time of the individual tests, units .; P_H -number of species of goods, provided for the assortment list, units .; n – the number of inspections.

Stability coefficient assortment as a rule determined by for a particular period (month, quarter, year).

5. The novelty of assortment characterizes the emergence of new product varieties for the certain period of time and is evaluated coefficient of novelty A_n :

$$A_n = P_n / P_a \quad (5)$$

where, P_n – the number of new product varieties that appear at the time of checks units .; P_a – average number species, units.

The coefficient of novelty characterizes the degree assortment of renovation appearance of new products.

For the adoption of decision about structural changes in the range of products and sales volumes necessary to conduct diagnostic reasons for insufficient efficiency undertaken by the organization trading activities.

One of the methods determine the structure of assortment taking into account named principles is a computer simulation modeling. The method lies in the iterative selection of the most rational structure of assortment among the well-defined intervals of decisions. Primary objective is that the task of this interval, i.e selection limiting. At the structural simulation of assortment as the restrictions are the principles of its rationalization. Limitation of the right should characterize solution that gives the maximum satisfaction of demand for goods. In the formalized form it looks as follows:

$$\Pi_{\max} > \sum_{i=1}^n Q_i P_i \geq D \quad (6)$$

where, Π_{\max} – the maximum profit obtainable by the given decision about structure of assortment; Q_i - the number of i -th goods at a given decision; P_i -The price of i -product; D - aggregate demand for all kinds of products in a given range.

$$D = \sum_{i=1}^n Q_{id} P_{id} \quad (7)$$

where, Q_{id} – the magnitude of demand for the i -th goods; P_{id} price of i -goods corresponding demand

For optimization of assortment, it may be proposed also by a method of linear programming. In the form as an optimization model of formation of product assortment has the following appearance.

The objective function of:

$$\Pi_{\max} = Q_1 P_1 + Q_2 P_2 + \dots + Q_n P_n. \quad (8)$$

at the balance conditions:

$$\begin{aligned} Q_1 C_1 + Q_2 C_2 + \dots + Q_n C_n &\leq C_{\max} \\ Q_1 + Q_2 + \dots + Q_n &= D \\ Q_1, \dots, Q_n &\geq 0, \end{aligned} \quad (9)$$

where, C_{\max} – restrictions on resource of trade company; C_i - the resource costs of implementation the i -th of goods.

Thus; essence of the problems of formation assortment is the following steps:

- definition current and future needs of buyers, ways to use given production and features in the behavior of buyers in the relevant markets;
- assessment of relevant analogs of competitors;
- a critical assessment of product assortment of trade enterprise from positions of buyers;
- the formation of assortment based what commodity positions to add to the range, which is excluded from it because of the change in the level competitiveness, whether or not at the expense to diversify assortment of other goods beyond the scope of the assortment profile;
- consideration of proposals on inclusion in assortment of improved products continue to product line ; new products, techniques and areas of their use;
- applying of the formalized methods to optimize product assortment;
- the calculation and analysis of prices, trade margins and profitability of product assortment;
- conducting market of testing products considering potential consumers;
- development of recommendations for commercial services relative quality, style, price, name, packaging, services, etc. in accordance with studies results are given;
- estimation and revision of the product assortment.

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