METHODOLOGY FOR THE DEVELOPMENT OF STRATEGIC FORECASTS FOR THE PRODUCTION OF LIGHT INDUSTRY GOODS

МЕТОДИКА РАЗРАБОТКИ СТРАТЕГИЧЕСКИХ ПРОГНОЗОВ ПРОИЗВОДСТВА ТОВАРОВ ЛЕГКОЙ ПРОМЫШЛЕННОСТИ

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ABSTRACT

PRODUCT RANGE, FORECASTING, PRODUCTION OF LIGHT INDUSTRY GOODS, SEASONALITY OF DEMAND, TRENDS IN DEMAND

The article proposes a methodology for the development of light industry goods production forecasts in the Republic of Belarus. The data from the Statistical Annual published by the National Statistical Committee of the Republic of Belarus are taken as initial information. The method is based on the classical theories of seasonality of goods consumption, involving the construction of seasonal demand waves. The method of W. Parsons was chosen as the optimal method for constructing seasonal waves. After the construction of seasonal waves of demand for goods, a forecast of their production was made. Forecasting was carried out on the basis of statistical data of goods production from January 2010 to December 2018 and forecast values from January 2019 to December 2022 using a linear trend.

АННОТАЦИЯ

ТОВАРНЫЙ АССОРТИМЕНТ, ПРОГНОЗИРОВАНИЕ, ПРОИЗВОДСТВО ТОВАРОВ ЛЕГКОЙ ПРОМЫШЛЕННОСТИ, СЕЗОННОСТЬ СПРОСА, ТЕНДЕНЦИИ ИЗМЕНЕНИЯ СПРОСА

В статье предлагается методика разработки прогнозов производства товаров легкой промышленности в Республике Беларусь. В качестве исходной информации взяты данные из статистического ежегодника, издаваемого Национальным статистическим комитетом Республики Беларусь. Методика основывается на классических теориях сезонности потребления товаров, предполагающих построение сезонных волн спроса. В качестве оптимального метода построения сезонных волн выбран метод У. Парсонса. После построения сезонных волн спроса на товары был составлен прогноз их производства. Прогнозирование осуществлялось на основании статистических данных производства товаров с января 2010 по декабрь 2018 гг. и прогнозных значений с января 2019 по декабрь 2022 год при помощи линейного тренда.

At the present stage of development of the economy of the Republic of Belarus, the tasks of improving the management of the product range are of particular relevance. However, these tasks are far from being fully resolved. Producers do not sufficiently take into account the changes in demand during optimizing of the assortment and developing production programs.

The issues of goods production forecasting are also of high importance. By analyzing trends in demand, developing goods consumption forecasts and possible consumer preferences, the company will be able to develop the optimal range and successfully manage it.

When studying the issues of market forecasting, one of the important directions of diagnostics of its development is the analysis of seasonality of demand.

The reasons for seasonal fluctuations are explained by the features of product supply and consumer demand in different periods of the year. The problem of eliminating the influence of seasonality of light industry goods sales can be solved by identifying the features of consumer demand for the relevant goods changing during the year in order to fully satisfy the existing demand. To achieve this goal, it is necessary to deeply and systematically study the seasonality in the sale of each product in the market.

As a result of the analysis of methods for predicting the development of regional commodity markets taking into account seasonal fluctuations it is determined that the most accurate are the methods by which the measurement is made directly on the basis of empirical (statistical) data without their preliminary processing.

Thus, the W. Parsons method was chosen as the optimal method of forecast development, which allows eliminating the error caused by the influence of the general trend with the help of the average coefficient of rise (decrease) of the general trend in complex percentages [1].

The data from the statistical yearbook published by the National Statistical Committee of the Republic of Belarus are taken as initial information [2].

Analysis and calculation of forecast values was carried out for the following light industry goods: fabrics, carpets and carpet products, knitwear, hosiery, shoes.

At the same time, to make the forecast more accurate, the data were used in natural units of measurement, which did not require adjustments to take into account the level of inflation.

To obtain the forecast values for September - December 2019, the simple moving average method was used.

On the basis of the data obtained using the method of W. Parsons seasonal waves of production of fabrics, carpets and carpets, knitwear, hosiery, shoes are constructed taking into account the demand.

The following results are obtained from the constructed seasonality curves:

- the maximum volume of production of fabrics falls on the period from April to June, the minimum-from July to September;

- the maximum volume of production of footwear falls on the period from April to June, the minimum – from October to December;

- the maximum volume of production of knitted products falls on the period from October to December, the minimum – from July to September;

- the maximum volume of production of hosiery and carpets falls on the period from April to June, the minimum – from July to September.

After the construction of seasonal waves of production of fabrics, carpets and carpet products, knitted and hosiery, and footwear goods, the production forecast for light industry goods by Belarusian manufacturers was made taking into account the dynamics of demand and seasonality. Forecasting was carried out on the basis of statistical data [2, p.287] production of goods from January 2010 to December 2018 and forecast values from January 2019 to December 2022 using a linear trend. Table 1 presents the forecast values of the volume of production of light industry goods from 2019 to 2022.

Table 1 – Forecast values of production volumes of light industry goods from 2019 to 2022

Goods	2019	2020	2021	2022
Carpets and carpet products, thousand of square meters	1720	1648	1577	1505
Fabrics, millions of square meters	164.1	163.6	163.0	162.5
Knitwear, million pieces	35.4	32.0	28.5	25.0
Hosiery, million pairs	173.8	179.9	185.9	191.9
Shoes, million pairs	7.3	6.0	4.8	3.6

As a result of the calculated values for the production of light industry goods, a sharp reduction in the production of carpets, knitwear and shoes, a slight decrease in the production of fabrics and a distinct increase in the production of hosiery are projected.

The seasonal waves of production of fabric, carpets and carpet products, knitted and hosiery products, as well as shoes confirm the seasonal nature of the production of these goods.

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