

ARTICLE

POSSIBILITIES OF IMPORT SUBSTITUTION IN THE FOOD INDUSTRY ON THE EXAMPLE OF THE SUBJECT OF THE RUSSIAN FEDERATION

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ABSTRACT

In the context of economic and political sanctions, there is an urgent need for a practical solution to the problem of import substitution. The situation in the food market is highly dependent on imports of agricultural raw materials and food. This raises the issue of food security of the country as a top priority. At the same time, the food industry is central to ensuring food security. In particular, with the food embargo, the import into Russia of certain types of agricultural products, raw materials and foodstuffs is prohibited. Lactose-free cheeses also got into this list, their number on the market has noticeably decreased. Since 20% of the population of the Russian Federation has lactose intolerance, this makes lactose-free products necessary and in demand. In this regard, the release of lactose-free cheese was considered under the conditions of LLC «Agrosila-Moloko» in the Republic of Tatarstan. An analysis of the raw material base was carried out to increase production volumes. A marketing analysis of the Republic showed that the overwhelming number of respondents agrees to buy lactose free cheese in the price range from 100 to 150 rubles for 250 grams and LLC «Agrosila-Moloko» can count on a 24.3% market share. For the year of implementation of this project, LLC «Agrosila-Moloko» can receive a net profit of 3.6 million rubles. Costing, acquisition and depreciation of an installation for the production of lactose-free cheese were reflected in the Alt-Invest program.

INTRODUCTION

The sanctions against Russia imposed by the US and European countries, which limited investment and borrowed funds, slowed down the development of the agro-industrial complex of Russia [1]. Food self-sufficiency is becoming one of the fundamental factors in ensuring Russia's national security. Despite the sanctions, in recent years, the problem of food safety for consumers has become sharp in Russia, caused by the growing supply of dangerous and low-quality food products to the market. According to the National Consumer Rights Protection Foundation, more than 40% of imported food products are falsified [2].

Together with agriculture, in terms of the total volume of production, the processing and food industries occupy the second place in the country's economy [3]. In this situation, consistent import substitution of food products and the gradual reduction of their share in the Russian market is one of the ways to solve this problem [4, 5].

LLC «Agrosila-Moloko» is a major milk processor in the Republic of Tatarstan and the only large agricultural enterprise in the republic with a full production cycle: agrofirms, cows, dairies. The company was registered in 2013. The entire property complex of Vamin-Tatarstan OJSC, which was declared bankrupt, was transferred to the management company.

Due to the presence of 21 own agrofirms in the Republic of Tatarstan, LLC «Agrosila-Moloko» has and processes its own raw materials from 1,000 to 1,200 tons. Today, the company has nine dairy plants: Kazan, NaberezhnyeChelny, Nizhnekamsk, Bugulma and Mamadysh, etc. A limited liability company produces various types of cheeses, dairy products, milk, butter, sour cream, cream, yoghurts [6].

The data of the Ministry of Agriculture and Food of the Republic of Tatarstan in [Fig. 1] indicate that as early as 2010, 1932.9 thousand tons of milk were produced, then until 2011 there was a stabilization of the production rate, but in the following periods 2012-2013, there is a decline in production and in 2014 there was an increase in milk production, then a slight decrease to 1,700 thousand tons.

Thus, we can conclude that the company LLC «Agrosila-Moloko» has a significant raw material base for increasing production volumes. At the same time, the resource base is located in the zone of the best transport accessibility, which ensures:

- low level of costs for the logistics of raw materials;
- high quality raw materials.

MATERIALS AND METHODS

The material for the work was the data of the Accounts Chamber of the Russian Federation, the Ministry of Agriculture of the Republic of Tatarstan.

Market analysis of the market is the activity of assessing, defining, modeling and forecasting the processes and phenomena of the market, as well as the activity of the enterprise itself, using economic, statistical and other research methods [8]. An important aspect of the company's activity is to achieve its

KEY WORDS

information economy,
import substitution,
production, economic
efficiency, food industry.

Received: 20 Aug 2019
Accepted: 28 Sept 2019
Published: 4 Oct 2019

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financial independence, which is ensured by the adoption of optimal investment and financial decisions, competent marketing policy, and increased competitiveness [9]. Its main element is the analysis of market capacity - the amount of product that can actually be sold on a well-defined market in a specific period of time. It is believed that retail research is one of the main areas of marketing [10]. On a temporary basis, the market capacity can be daily, monthly (quarterly), annual. On a territorial basis - local and niche. An important component of the marketing analysis of the market is the consumer experience already gained - this is the cognitive and emotional evaluation by customers of the purchase process [11]. Also, the market capacity may be potential (maximum possible here and now), actual (total sales volumes of all operators) and available (that part of the market that your company can conquer), shown in [Fig. 2].

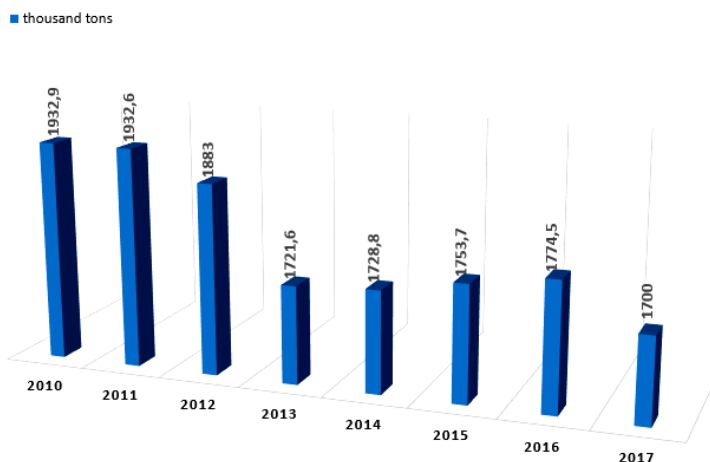


Fig. 1: Dynamics of milk production in the Republic of Tatarstan, thousand tons [7].

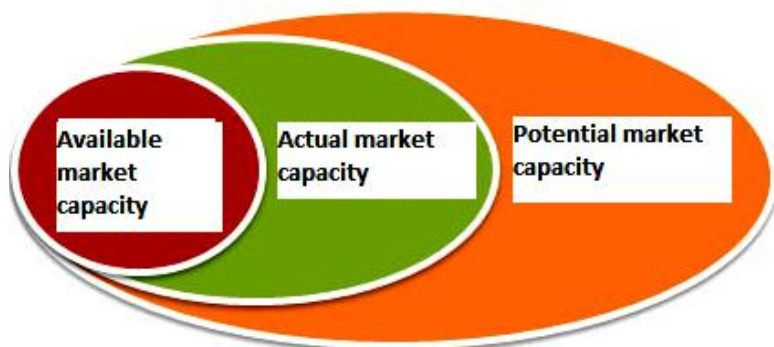


Fig. 2: Types of market capacity.

The technique of calculating the capacity of the market consists of the following steps:

- calculation of the maximum potential capacity by the formula 1;

Total potential market capacity:

$$SC * PE * SC, (1)$$

where

KA is the number of audience (households),
PE - the frequency of consumption of goods,
SC - the average price of the goods.

- identification of the audience using the product;
- determination of the period of purchase;
- calculation of the average purchase check;
- determining the share of competitors;
- calculation of market capacity.

Information processing was carried out in the Alt-Invest program. The Alt-Invest program is designed to prepare, analyze and optimize investment projects of various industries, scope and orientation. The program is a set of interrelated spreadsheets in the environment of Microsoft Excel [12]. This method of

implementation allows you to study all the calculation formulas, to follow the logic of the formation of results from the source data, to freely navigate in the methodology and calculation tables.

The program allows you to evaluate the project from three main points of view [13]:

- investment efficiency;
- financial soundness;
- project risk.

Baseline information required to perform the calculations:

- project revenues (sales revenue);
- current expenses;
- investment costs;
- sources of financing;
- description of the economic environment.

The program corresponds to the UNIDO methodology, is adapted to the Russian economic conditions (in particular, taxation, accounting, reporting, inflation) and is open [14].

The openness of the program means that the user has the ability to:

- select and set the necessary structure for the description of the source data for the calculations;
- view the algorithm for performing calculations;
- to adjust the algorithm of calculations based on the specifics of a particular project (enterprise);
- supplement the program with new tabular forms and indicators.

Using the openness of the program, the user can independently form non-standard tables, build new charts, calculate any additional indicators.

The tables and indicators added by the user become equal elements of the model, all the service capabilities of the program are applied to them. If necessary, the protection mode of the calculated formulas against changes can be set. The program provides ample opportunities for modeling.

Consider the release of lactose-free cheese in the conditions of LLC «Agrosila-Moloko». We will conduct a marketing analysis of the market.

Calculate the total potential capacity of the market using the formula 1.

Considered time interval: quarter. Considered territorial market: the Republic of Tatarstan with a population of 3855037 people, the number of audience is 1285012 households, the frequency of consumption 1 time per month, 3 purchases per quarter. The next step is to calculate the average market value (only 1 competitor) in [Table 1]:

Table 1: Calculation of average market value

| Valio, Ltd | The price | The price for 1 g |
|-------------------------------|--------------|-------------------|
| Altermoney cheese 17%, 250 g. | 270 RUR/pcs. | 1,08 |
| Cheese 17%, 250 g. | 380 RUR/pcs. | 1,52 |
| Average | 325 | 1,3 |

Thus, the average market value of lactose free cheese is 250 g. - 325 rubles The average volume and type of product - lactose free cheese, packaging, 250 grams. Total potential market capacity = $1285012 * 3 * 325 = 1252886700$ rubles. However, it is necessary to bring these figures closer to commercial realities, and it is necessary to understand that lactose-free cheeses are intended for people with lactose deficiency.

According to a study [15], 10-20% of the Russian population has lactose intolerance, which makes lactose-free products necessary and in demand, so the second step is to determine the audience using the product: $1285012 * 15\% = 192751.8$ households - an indicator of the market in which competitors operate.

The next step is to calculate the available market capacity. Since the delivery of cheese to final consumers of Valio LLC is carried out through large retail chains, we conditionally consider a market share of 75.7% - the percentage of residents of the Republic of Tatarstan living in cities. LLC «Agrosila-Moloko» can count on a market share of 24.3%, that is, 46838 households or 7025804 rubles / month. [Fig. 3] shows the market capacity chart.



Fig. 3: Market Capacity Analysis.

However, it is necessary to understand that not every household can afford cheese costing 325 rubles for 250 grams. In this regard, we conducted a sociological survey of the local population of the Republic of Tatarstan and a survey on the social network. The results show that the vast majority of respondents agree to buy lactose free cheese in the price range from 100 to 150 rubles for 250 grams.

Consider the organization of the production of lactose-free cheese in the Naberezhnye Chelny dairy plant LLC «Agrosila-Moloko».

The production of lactose free cheese can be divided into the following technological processes [16]:

1. Preparation of raw materials.
2. To obtain lactose-free milk, lactose is removed from the feedstock by dialysis using as a dialysing liquid whey with a pH of 6.75-6.8, from which lactose is removed by fermenting it to lactic acid.
3. Getting cheese in its primary form.
4. Mechanical processing.
5. Maturation.
6. Product design.

To organize a new production, it is planned to purchase an installation of the P8-OLK.000 “Universal” worth 2,970 thousand rubles. The installation is easy to maintain, easily disassembled and washed [17]. Further, the calculation of costs, acquisition and depreciation of an installation for the production of lactose-free cheese will be reflected in the Alt-Invest program.

Taking into account general production, plant-wide and commercial expenses, the total cost of 1 kg of lactose-free cheese, according to the calculations of the program, will be equal to 355 rubles, 250 gr. - 89 rubles. To ensure guaranteed sales of planned products, LLC «Agrosila-Moloko», having a large margin of safety for production costs, is able to set the selling price for cheese in the amount of 500 rubles. per kg., 125 rub / 250 gr., which fits into the price framework obtained in the framework of a sociological study. Construct the break-even point of the investment project in [Fig. 4].

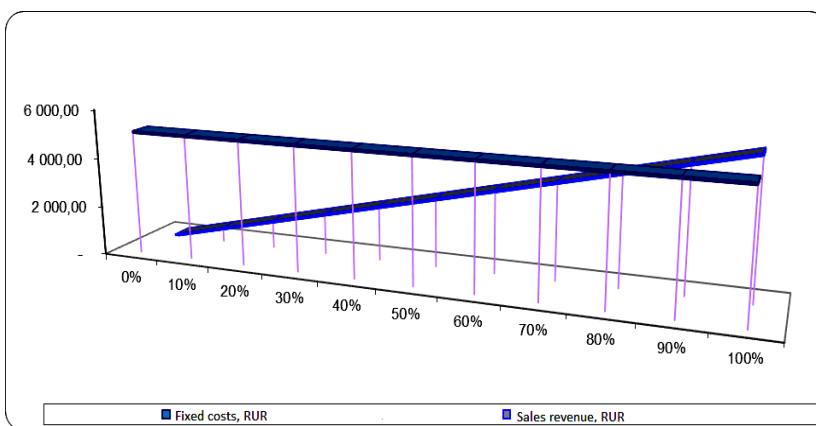


Fig. 4: Construction of the break-even schedule of the investment project.

Thus, the profit is ensured by the production of 10094 kg of cheese in physical terms at a cost of 5047 thousand rubles. The ratio of revenue to total cost can be seen in the following diagram in [Fig. 5].

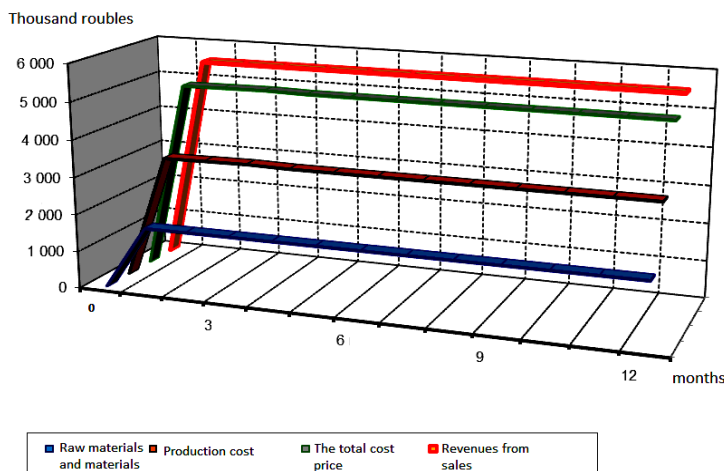


Fig. 5: Revenue total cost ratio.

And the amount of net profit can be seen in the following diagram, shown in [Fig. 6].

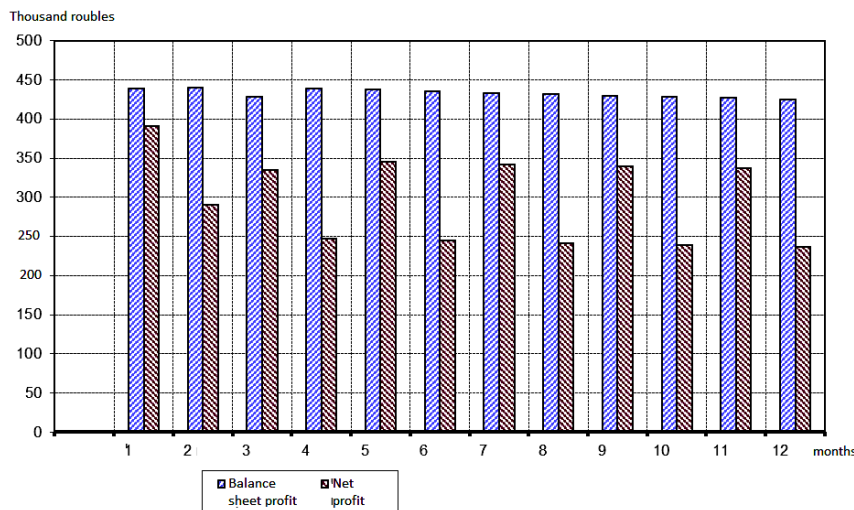


Fig. 6: Net profit amount.

The payback period of the project is 11 months. Attracting borrowed funds will ensure the implementation of the investment stage of the project, purchase equipment, debug the technology, go to a given production program. According to the calculations of the program, the project for the production of a new type of dairy products will require an investment of 4,281 thousand rubles. The solution of the problem can be a loan issued for 4 years at a rate of 20% per annum.

CONCLUSIONS

For the year of implementation of this project, LLC «Agrosila-Moloko» will receive a net profit of 3.6 million rubles. In addition, the increase in production and income of the enterprise will increase the taxable base, which will make this project socially significant, aimed not only at increasing employment within the enterprise, but also at increasing payments to budgets of all levels. During the period under review, more than 3.72 million rubles will be transferred to the budget.

The financial calculations made show the attractiveness of this project, which allows the company to receive additional profits. A small number of competitors, taken the course of import substitution, the attention of the state contributes to the opening of new industries and allow you to efficiently load the existing production capacity. Thus, LLC «Agrosila-Moloko» is recommended to introduce lactose free cheese into production.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

The work is performed according to the Russian Government Program of Competitive Growth of Kazan Federal University.

FINANCIAL DISCLOSURE

None.

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