



Factors of Survivability of Khabarovsk Territory Food Manufacturing and Processing Industry in Modern Conditions of Consumer's Market Development

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Abstract

Purpose The article is aimed at analyzing the current economic situation of the food market of Khabarovsk Territory and identifying the main factors that influence the increase in the survival rate of local food producers. **Design/Methodology/Approach** The methods used in the research include theoretical, statistical, regulatory, and legal data compilation on the status and development prospects of the food manufacturing and processing industry in the current state of Khabarovsk Territory consumer's market; as well as the methods of systematizing the facts identified during the analysis of factors that affect the survivability of the enterprises of the region. The methods of mathematical modeling and factor analysis have been used to develop recommendations for price formation to ensure the survivability of food manufacturing and processing enterprises. **Findings** The modern food market of Khabarovsk Territory has been noted as a market with intense competition. Local enterprises face a number of problems and have to find solutions to ensure market survivability. The authors have identified and formulated some factors that allow increasing the survivability of enterprises. Effective pricing is considered as the most significant one. The price formation studies are held on the basis of the JSC DAKGOMZ as one of the examples of food manufacturing and processing industry. It has been concluded that enterprises should look for approaches and opportunities to overcome the problems in all aspects of their activities to survive and continue working in the market. **Originality/Value** Diversification of activity of local food manufacturing enterprises working at the territory of Khabarovsk Territory with the regard of the

factors formulated in the article will ensure their survivability and further functioning in the market.

Keywords

Consumer market • Survivability • Food manufacturing and processing industry • Competition • Khabarovsk Territory • Pricing

JEL Classification

D40 • D57 • L66

1 Introduction

Over the past few years, there has been a rapid development of the food market in Russia and in Khabarovsk Territory. It is primarily associated with the development of modern trade forms and formats, a change in the structure of the consumer's market, and penetration of large federal food producers to local markets.

One of the tasks for domestic food producers (particularly for minor local producers) is the search for solutions to ensure their survivability in the face of intense competition and further development. That is why the researches aimed at identifying and analyzing the factors contributing to local companies' survival in the modern market conditions are becoming very relevant.

Studies of the Russian food market have shown that the share of markets as a format of trade in retail goods turnover has decreased more than two times over the past 10 years. At the same time, the share of retail chains in the formation of retail trade in the food trade segment increased 1.6 times over six years and amounted 38.6% in 2018.

The growth in the share of modern retail chains is still taking place (Larchenko & Shusharina, 2020) and is characteristic both of the Russian Federation and of regional

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markets, in particular, the Khabarovsk Territory market. According to the Ministry of Agriculture, Trade, Food and Processing Industry of the Khabarovsk Territory, the share of retail trade turnover in the total retail turnover increased from 14.9 to 20.3% in the period from 2018 to 2019 (Ministry of Agriculture, Trade, Food and Processing Industry of the Khabarovsk Territory, 2019).

The analysis of the Khabarovsk Territory food market has shown that federal retail chains do not work in the territory so far. At the same time, regional retail chains are actively developing; they build up and strengthen ties (including direct ones) with federal food manufacturers and suppliers. Development of trade logistics leads to the entry of a wide range of articles to the regional market and their increase in the share of goods produced outside the territory.

Thus, there is a gradual intensification of competition in the market. Ten years ago, regional processors of milk and dairy products competed mainly with each other at the regional consumer's market. As for now, the market offers a wide range of diverse goods manufactured both by the Far Eastern Federal District (Primorye Territory, Amur Region, the Jewish Autonomous Region) and by manufacturers from western agricultural regions of Russia, including the largest holdings such as PepsiCo (Frito Lay Manufacturing), Danone and others. A similar situation is also characteristic of other branches of food manufacturing and processing industries of Khabarovsk Territory. They include meat processing, confectionary production, production of alcohol, and soft drinks. Development of logistics systems and technologies for finished goods packaging in the production of bakery products had led to inter-regional competition alongside with the local one. An example of this is the active penetration of a large producer JSC Vladkhleb into the markets of Khabarovsk Territory, which operates in the neighboring Primorye Territory.

Under these conditions, the share of local food producers in the Khabarovsk Territory market is declining. We can formulate the main problems that badly affect the state of the industry and inhibit its development:

- insufficiently developed raw material base that the enterprises of food manufacturing and processing industry of the region have;
- high level of dependence on the raw materials supplies from abroad and other regions of the Russian Federation;
- low competitiveness of goods processed by regional producers due to high prices of raw materials imported from outside of the region, and other components of the cost price;
- poor investment attractiveness of the industry due to limited possibilities of state support which regional

enterprises of food manufacturing and processing industries can rely on;

- lack of a qualified personnel both in working specialties and special experts with higher professional education and sufficient experience in the field discussed.

The analysis of these problems showed their close relationship with each other. So, the geographical and climatic conditions of Khabarovsk Territory (most of the territory belongs to the Far North and equivalent regions) do not allow holding an efficient economic activity in the agricultural sector and in the production of raw materials for the food manufacturing and processing industries. Deliveries from other regions invariably cause the rise in production price and reduce its price competitiveness. As a result, there arises a question of an economic appropriateness of food production in the territory of our region when there is a possibility of importing finished goods from other territories which are considered more suitable for agriculture and food processing.

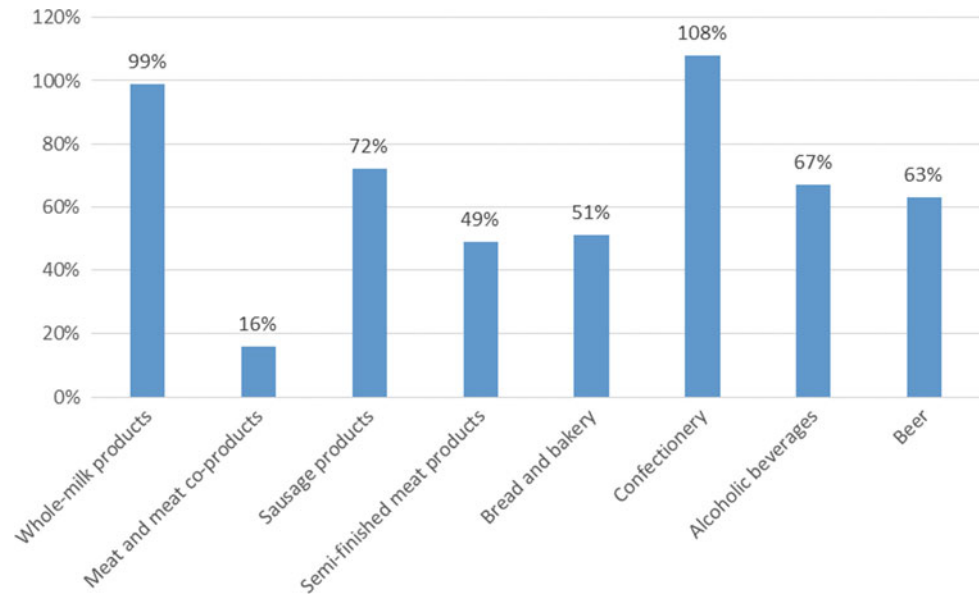
The study has analyzed the dynamics of food production in Khabarovsk Territory within the period 2008–2018 (Fig. 1).

The data in the figure show that over the analyzed period the production of vodka and alcoholic beverages decreased by 33%, beer by 37%, semi-finished meat products by 51%, and sausage products by 28%. At the same time, the production of confectionery grew by 8%, whereas milk and dairy goods production remained almost unchanged (a decrease by 1%). Bread and bakery lost 49% in the production volume (Federal State Statistics Service for the Khabarovsk Territory, Magadan Region, the Jewish Autonomous Region and the Chukotka Autonomous Area, 2020).

Since 2018, as a part of national projects implementation, there has been a range of measures at the federal level, which can be applied to local enterprises (Agroexport, 2020). But since these measures are realized within the framework of the federal project “Export of agricultural products,” only export-oriented enterprises of the industry are allowed to get an access to them. The number of the enterprises satisfying all the requirements has been ten or fewer up to now (Ministry of Agriculture, Trade, Food and Processing Industry of the Khabarovsk Territory, 2019).

The enterprises of the industry can also receive support in the framework of municipal programs of small- and medium-sized business support. However, the main criterion for receiving money is not based on the specific activity in the field of food production, but on attributing to the group of small and medium-sized businesses, which takes place on a common basis.

Fig. 1 The level of production of basic types of food in 2018, compared to 2008. *Source* Compiled by the authors on the basis of the Khabarovsk Territory official statistics data (Federal State Statistics Service for the Khabarovsk Territory, Magadan Region, the Jewish Autonomous Region and the Chukotka Autonomous Area, 2020)



Under such conditions, the lack of qualified personnel is no longer a decisive or significant factor in the economic recession in the industry. More of a way, the lack of institutions and training programs happens due to the low industry development; hence, it should be treated as an aftereffect of the industry decline, and should not as its cause.

The presented information generally confirms the statement about the adverse economic conditions of the food and processing industry of Khabarovsk Territory. The enterprises of the industry face difficult and constantly tightening conditions, which make many of them solve the task of preserving production and ensuring business survival.

2 Materials and Methods

The analysis of possible options for ensuring the market survivability of enterprises, conducted in the course of the present research, showed that one of the ways to stay in business and ensure the profit sufficient for the development of the enterprise in the long term is to improve the pricing policy. In our opinion, effective pricing is the most important factor in ensuring the survivability of enterprises under the current market circumstances.

The effective pricing issues as the basis of competitive edge in the market have been considered in the works of various authors (Balanovska et al., 2019; Cornell & Damodaran, 2020; Daly, 2002; Doholyan & Vartanova, 2017; Dolan & Hermann, 1997; Hartmann & Nair, 2010; Kuznetsova et al., 2019; Richards & Pofahl, 2010) and others, and have been thoroughly investigated at the theoretical level. Most of the works are of a general methodological

nature, and they do not take into account the peculiarities of real functioning of enterprises. In addition, the market situation is constantly changing, as well as the level of competition at it. External factors and climatic conditions of the region negatively influence the current state of the economy of Russia and Khabarovsk Territory. There is also a constant increase in resource prices. With regard to the factors mentioned above, it is highly required to develop specific recommendations for food producers, including a set of measures to implement all elements of the pricing policy mechanism, from goal formulating to developing price formation strategy and tactics.

3 Results

The purpose of pricing consists of ensuring survivability and is set by an enterprise in the following cases: firstly, there are too many manufacturers on the market; secondly, there is an intense competition; and thirdly, there is a dramatic change in the needs of competitors. To ensure their operation and marketing of their goods, enterprises are forced to set low prices in the hope of a favorable response from consumers. In order to survive, enterprises in difficult situations resort to extensive programs of price concession. As long as reduced prices cover costs, these enterprises can continue operating.

JSC DAKGOMZ, being the largest producer of milk and dairy products in Khabarovsk Territory and the Far East, has been chosen for the current investigation to exemplify the issues of price improving and to assess the impact of the setback on its financial performance.

Every day JSC DAKGOMZ produces approximately two thousand tons of finished products, which are delivered to

regional trade enterprises and to the neighboring Primorye Territory and the Jewish Autonomous Region. The whole circuit of elements of the pricing policy implemented at the enterprise has been investigated. One of the commodity items has been taken to describe a correlation and regression analysis of the influence of external and internal factors on the price level and on the results of the economic activity of the enterprise. The analysis revealed that the most significant factor affecting the price level is the demand for the product (Fig. 2).

The significant impact of demand on the price of dairy products of JSC DAKGOMZ can be explained by many reasons: low consumer characteristics of the product, insufficient prestige, consumer’s unawareness of the availability of substitute products on the market, and poor consumer’s ability to compare products. In a competitive market, when prices are mainly formed under the influence of demand and supply, pricing above the market level is not justified. The company runs the risk of losing customers who give preference to goods at lower prices, in case of their complete interchangeability.

There has been a factor analysis of the financial results of JSC DAKGOMZ, which showed that the general decline in profits from sales in the analyzed period was a result of an increase in the price of products. Indices of the influence of pricing factors on profit on sales are presented in Fig. 3.

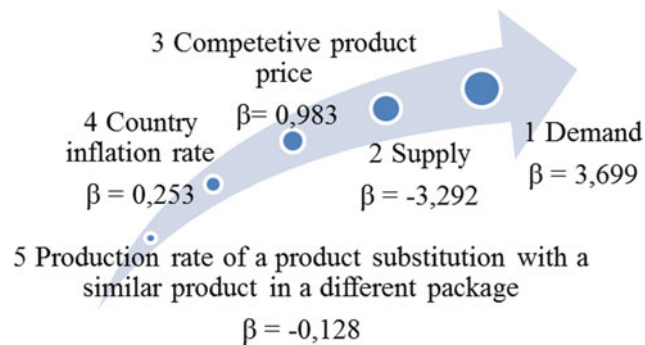
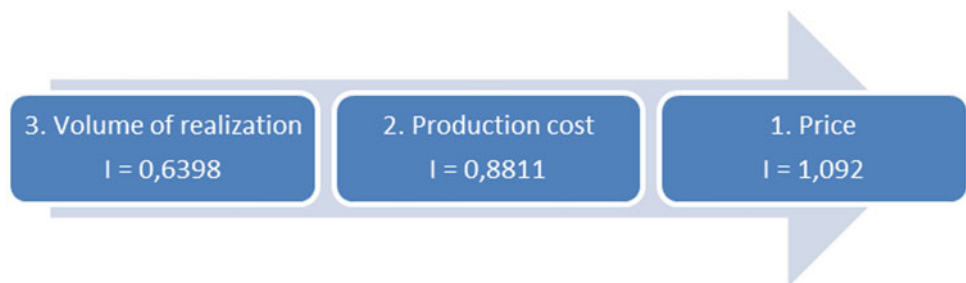


Fig. 2 The degree of factor influences on the resulting enterprise indicator. *Source* Compiled by the authors

Fig. 3 Indices of influence of pricing factors on profit on sales. *Source* Compiled by the authors



The studies have shown that the dairy market is price-sensitive, and in these conditions, adherence to either a constant-price strategy or a price raising one will be irrational. Therefore, in order to ensure the enterprise survivability and maintain their market position, it is necessary to reduce the price of products in the short term.

To estimate the price level, a pair regression equation with a parabolic relationship has been derived. It reflects the dependence of profit upon the established price level. The commodity heading “Fruit Yogurt 1.5% 180 g” was chosen as an example of the calculations. The solution of the paired regression equation gave the following breakeven points (Fig. 4).

It is obvious that setting an excessively high price calculated by the enterprise using the full cost method will lead to negative consequences for both buyers and JSC DAKGOMZ. When the price is set above the level of the function maximum point the demand decreases rapidly (that is, the buyer suffers), as a result, the company’s profit decreases (JSC DAKGOMZ suffers). At the same time, the price level in the zone of up to the maximum point (even in conditions of growth) will not cause significant fluctuations in demand, multiplying the profit of the enterprise.

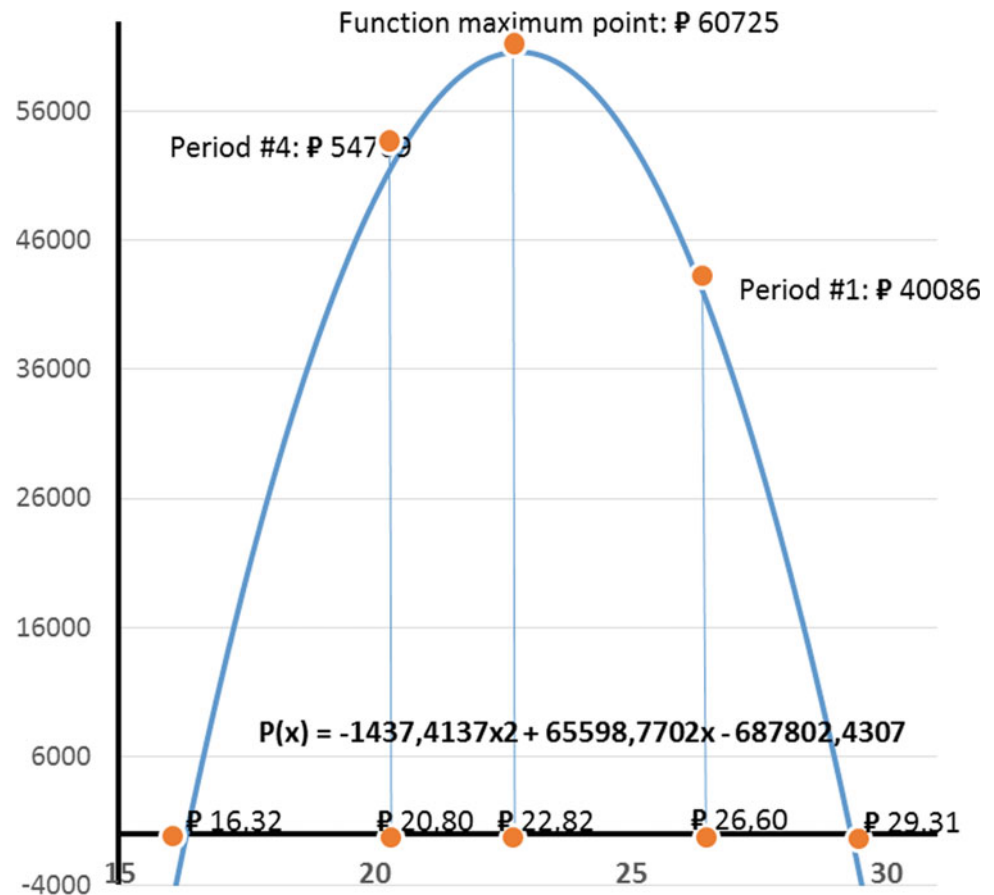
The pricing policy pursued by the enterprise does not take into account effectual demand, and obviously requires adjusting.

The best solution on the part of JSC DAKGOMZ in such a situation would be a small price reduction in the buyers’ interest (from 26.60 to 22.82 rubles per unit). According to the calculations, this decrease should entail an increase in profit to the maximum possible level.

The results obtained here with the help of the methods of economic and mathematical modeling confirmed the need for the following measures to improve the pricing policy of JSC DAKGOMZ:

- it is necessary to adjust the pricing strategy. It has been determined that the “low prices” strategy is the best approach among the strategic pricing ones widely used in the market. It will allow the enterprise to ensure its survivability in the current market conditions in the short

Fig. 4 Breakeven price range.
Source Compiled by the authors



term, and provide with the necessary mass of profit to maintain and increase the market share in the long term;

- the enterprise should use the method of marginal cost when planning and calculating the price level for a long-term perspective. Unlike other pricing methods, this is a more complex one, as it focuses on a multi-factor approach to pricing. Nevertheless, the price calculated by the marginal cost method for the product of the aforementioned commodity position will increase the demand for the product, thus gaining some market share due to the product cost cutting (compared to the competition). In a market that is sensitive to goods prices, products will occupy a larger share of it, which will allow the enterprise to adjust the price in pursuit of the main goal of the enterprise—to obtain a certain level of profit. Since the demand for the company's products is elastic, a decrease in the price at the moment will lead to an increase in demand that will compensate for the decrease in sales revenue. The ex-ante sales volume will grow 1.5 times, and profit will increase 1.37 times.

It should be noted that under the adverse economic condition of the food manufacturing and processing industry in Khabarovsk Territory, such price tactics of industry

enterprises as described above for JSC DAKGOMZ is effortful and in some cases impossible, since price reductions are limited by production costs for many manufacturers. Therefore, when developing an effective pricing policy, it is necessary to pay special attention to the search for the most acceptable methods for calculating prices and use the whole variety of price tactics options (Kuznetsova et al., 2019).

The conducted research has revealed some other significant factors for ensuring the survivability of food manufacturing and processing enterprises of Khabarovsk Territory in modern market conditions. They are the following:

- the most effective positioning of goods which is already produced and the new ones (including those presented as local, natural, associated with the geographical features of the region, unique in terms of these features);
- improving production efficiency, through the use of modern technologies and modernization of production, through the use of new modern types of raw material and packaging. It is necessary to use benefit all the possible options of non-price competition;
- flexibility in the formation of retail policy (focus on working with distributive networks of Khabarovsk Territory and the neighboring regions, the formation of

possibilities of goods export to the countries of Asia Pacific using state support mechanisms as part of a federal project) (Ministry of Agriculture of the Russian Federation, 2020; Ministry of Industry and Trade of the Russian Federation, 2020);

- development of the raw material base by means of formation of cooperative ties with agricultural producers of the region and the neighboring entities, and enjoying this factor in product positioning.

It should be noted that the development of the raw material base is possible only with a balanced development of structural elements of the food market. Thus, without transport and storage infrastructure development, an increase in agricultural production will lead to an increase in losses of products and their consumer properties, and an increase in the production capacities of food and processing enterprises without an increase in the production of raw materials will insurmountably lead to their under capacity load and increase in the cost of food products (Doholyan & Vartanova, 2017).

4 Conclusions

Under these circumstances, food industry enterprises should not work “as before” to ensure their survivability and development. It is necessary to search for approaches and opportunities to overcome the systemic problems in all the aspects of their activities: from the issues of applied technologies and product development to collaboration with retail chains and exploring new distributional channels.

It is vital for local food manufacturing enterprises of Khabarovsk Territory to plan their activity taking into account the factors formulated in the article. It will ensure their sustainability and further functioning in the market.

One of the most important factors of market survivability is effective pricing. The results of the calculations on the example of a local manufacturer have shown the importance of the following: the choice of an optimal method of price calculation, the careful elaboration of a pricing strategy, and the use of a wide variety of pricing tactics. All the factors mentioned above will help the company survive in the market, and provide it with the profit sufficient for further functioning.

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