Integrated economic analysis and evaluation of competitiveness of wheat flour of top variety at Perm market

КОМПЛЕКСНЫЙ ЭКОНОМИЧЕСКИЙ АНАЛИЗ И ОЦЕНКА КОНКУРЕНТОСПОСОБНОСТИ МУКИ ПШЕНИЧНОЙ ВЫСШЕГО СОРТА НА РЫНКЕ ГОРОДА ПЕРМИ

Análisis económico integrado y evaluación de la competitividad de la harina de trigo de la mayor variedad en el mercado de Perman

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Abstract

Flour is one of the most significant essential commodities, and quality of the final product produced by food enterprises in baking, pasta, confectionery, and catering and modern trade depends on its properties. The aim of the study is comprehensive economic analysis and assessment of competitiveness of premium wheat flour sold by New Family LLC in Perm. Achieving this goal the following tasks were carried out: consideration of theoretical foundations of wheat flour competitiveness, conducting primary and secondary marketing research on the wheat flour market (including sociological survey); quality analysis of premium wheat flour; assessment of competitiveness using economic analysis. The object of research in this article are samples of premium wheat flour of various brands sold in New Family LLC Perm, and directly competing with each other for the final consumer. Within the framework of the article, comprehensive economic analysis was as follows: to conduct an examination of flour quality (determination of organoleptic indicators); assessing quality indicators "quality / price" of flour samples;

Аннотация

Мука относится к наиболее значимым товарам первой необходимости, от ее свойств зависит качество конечной продукции вырабатываемой пищевыми предприятиями хлебопекарной, макаронной, кондитерской промышленности и предприятий общественного питания и современной торговли. Целью исследования является компексный экономический анализ и оценка конкурентоспособности муки пшеничной высшего сорта, реализуемой ООО «Новая Семья» г. Перми. Достижение поставленной цели осуществлялось посредством следующих задач: рассмотрение теоретических основ конкурентоспособности муки пшеничной, проведение первичных и вторичных маркетинговых исследований по рынку муки пшеничной (в том числе и социологического опроса); проведение анализа качества муки пшеничной высшего сорта; проведение оценки конкурентоспособности с применением экономического анализа. Объектом исследования в настоящей статье выступают образцы муки пшеничной высшего сорта различных торговых марок, реализуемых в ООО «Новая Семья» г. Пермь и

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application of Yudanov method; using the method of integrated competitiveness assessment and Buhl method competitiveness assessment (with the use of point scales). The study showed that the issue of considering competitiveness of products is very important in domestic market. The results of competitiveness assessment indicate that the most competitive premium grade wheat flour is "Tsar".

Keywords: premium grade wheat flour, organoleptic indicators of flour quality, comprehensive assessment of flour competitiveness, Buhl's method.

непосредственно конкурирующих между собой за конечного потребителя. В рамках статьи комплексный экономический анализ заключался в следующем: в проведении экспертизы качества муки (определение органолептических показателей); в оценке качества расчета показателей образцов муки «качество/цена»; в применении метода Юданова; в использовании метода комплесной интегрированной оценки конкурентоспособности и оценки конкурентоспособности по методу Буля (с привлечением б алльных шкал). Исследование показало, что проблема рассмотрения конкурентоспособности продукции является очень важной на внутреннем рынке. Результаты оценки конкурентоспособности свидетельствуют, что наиболее конкурентоспособным среди рассматриваемых образцов по всем оцениваемым параметрам является мука пшеничная высшего сорта «Царь».

Ключевые слова: мука пшеничная высшего сорта, органолептические показатели качества муки, комплексная оценка конкурентоспособности муки, метод Буля.

Resumen

La harina es uno de los productos esenciales más importantes, y la calidad del producto final producido por las empresas alimentarias en panadería, pasta, confitería y restauración y el comercio moderno depende de sus propiedades. El objetivo del estudio es el análisis económico integral y la evaluación de la competitividad de la harina de trigo premium vendida por New Family LLC en Perm. Para lograr este objetivo, se llevaron a cabo las siguientes tareas: consideración de los fundamentos teóricos de la competitividad de la harina de trigo, realización de investigaciones de mercado primarias y secundarias en el mercado de la harina de trigo (incluida la encuesta sociológica); análisis de calidad de harina de trigo premium; evaluación de la competitividad mediante análisis económicos. El objeto de investigación en este artículo son muestras de harina de trigo premium de varias marcas que se venden en New Family LLC Perm, y que compiten directamente entre sí por el consumidor final. En el marco del artículo, el análisis económico integral fue el siguiente: realizar un examen de la calidad de la harina (determinación de indicadores organolépticos); evaluar indicadores de calidad "calidad / precio" de muestras de harina; aplicación del método Yudanov; utilizando el método de evaluación de competitividad integrada y el método de evaluación de competitividad de Buhl (con el uso de escalas de puntos). El estudio mostró que la cuestión de considerar la competitividad de los productos es muy importante en el mercado interno. Los resultados de la evaluación de competitividad indican que la harina de trigo de grado premium más competitiva es el "zar".

Palabras claves:. harina de trigo de grado premium, indicadores organolépticos de calidad de harina, una evaluación integral de la competitividad de la harina, método de Buhl.

Introduction

Wheat flour is produced by grinding high-quality wheat grains; at the moment it remains the most popular type of flour on the market, the final functional purpose of which is production of various types of bread and baking bakery products. In addition, according to the remark of M. A. Nikolaeva, due to the universal properties of wheat flour, its use in the culinary sphere is

almost unlimited (Nikolaeva, 2015). At present, it is difficult to imagine the life of a modern person without wheat flour and products from it. Usually, when choosing bakery products, the consumer mainly pays attention to the color of the crumb, giving preference to brighter. L. I. Nilova focuses on the fact that the shade of fragrant crumb is directly related to the variety of wheat flour, on which its color directly depends (Nilova, 2005).

An analysis of the assortment and examination of wheat flour quality is very relevant, since bakery products, and in particular bread baked from wheat flour, are the main product that is in high demand among the population and consumed daily. The quality of bread directly depends on the quality of the flour. Therefore, in the opinion of O. A. Blinova, it is necessary to constantly monitor this type of product from the raw materials from which flour is produced, and ending with the finished product in the form of bakery products (Blinova, 2015).

The relevance of this topic is that each producer in the flour-grinding industry is trying to make his product the best among other producers in order to interest buyers, as a result of which competition is born. As a result of competition, flour suppliers are trying to interest the maximum number of buyers, for which they improve its quality, organize promotions, set favorable prices, come up with a bright design, etc.

At the present stage, the milling industry has a high potential for production capacity for grain processing. N. V. Granitkina notes that there are about three thousand flour mills in Russia, but the market is quite consolidated, that is, the 200 largest flour mills account for more than two-thirds of flour production (Granatkina, 2016). Russian flour market is planning to develop under the influence of lower real incomes of the population. This factor indicates a positive impact on the market. However, accelerated price increases cannot be ruled out. The Ministry of Economic Development made a forecast according to which the index of manufacturing food products in 2022 as compared to 2018 will be about 110%. According to forecasts by Yu. I. Mishchenko, the volume of investments in the industry will increase by 0.8% by 2022 (Mishchenko, 2019).

For the purposes of this study, the competitiveness of flour is understood as a multidimensional economic category, denoting the conformity of its characteristics to market rules, the specific requirements of consumers, not only in terms of their food, taste, quality, economic, aesthetic characteristics, but also in the totality of conditions for its implementation, as well as in the level of consumer spending on its acquisition.

Literature review

The largest number of scientific and methodological publications on the topic of our study is devoted to the most important aspect of competitiveness of goods in general and wheat flour, in particular. In our opinion, the qualitative characteristics of goods and their competitiveness are most fully disclosed in the work of M. A. Nikolaeva, which provides a detailed classification of individual indicators of quality and competitiveness by groups of generalized properties: functional, ergonomic, aesthetic, economic, etc. (Nikolaeva, 2015).

The researcher L. I. Nilova in her study about grain products, based on normative document GOST R 52189-2003 "Wheat flour. General technical conditions " (GOST R 52189-2003. " Wheat flour. General specifications ", 2020) specified the organoleptic and physico-chemical quality indicators in relation to wheat flour (Nilova, 2005). The work of E. A. Zamedlina also emphasizes the need to take into account such criteria of quality and competitiveness as safety indicators (radiation, chemical, microbiological) (Zamedlina, 2016). In support of microbiological contamination of flour with a potentially pathogenic microflora during the storage and use of wheat flour, H. T. Michael studied the dynamics of seeds and the stability of Listeria monocytogenes in wheat flour during long-term storage and isothermal processing (rod-shaped pathogenic bacterium that can multiply in food getting into the human body, listeria parasitizes inside the cells, while it can cause irreparable damage to the central nervous system or brain) (Michael, 2018).

The quality of flour products was also studied by S. M. Abdel Rahman, checking it with various methods of physico-chemical analysis in accordance with the legislation of his country and the specifics of flour product, clearly showing that quality affects the competitiveness of flour (Abdel Rahman, 2018). A similar study of wheat flour quality and its indirect effect on competitiveness was carried out by O. A. Blinova on the example of samples of flour brands presented on the consumer market of Samara region (Blinova, 2015).

The above studies served as a monographic basis for the analysis in this article of competitiveness of premium wheat flour using the price-quality method and A. Yudanova's method. The materials, the links to which are presented below, served as theoretical and methodological basis for the analysis of competitiveness of the studied samples of wheat flour of the highest grade by integrated methods (including Bul).

N. S. Yashin focuses on economic enterprise competitiveness and the dynamics of market competition. Thus, in his monograph, he points out that the competitiveness of an enterprise is determined by ability and dynamics of adaptation to market competition (Yashin, 1997). The article by P. V. Startsev, relying on world-class researchers (more detail in the discussion section), traces the idea of direct correlation between competitiveness of enterprise and the competitiveness of its products (Startsev, 2014). The same idea is also traced by Professor R. A. Fathutdinov (Fathutdinov, 2005). In order to maintain and increase the competitiveness of trade enterprises, N. V. Granatkina in his training manual talks about the need to maintain at sufficient level such assortment indicators as breadth and novelty (Granatkina, 2016). Articles of foreign researchers confirm this idea. So, M. S Ahmed proposes to improve the quality, consumer properties and competitiveness of flour through various additives (Ahmed, 2018), J. S. Lee explores the use of flour mixtures (Lee, 2019), and V. T. Nguyen advises to improve the quality of cookie flour by the use of purple sweet potatoes (Nguyen, 2018).

Despite the foregoing, Yu. I. Mishchenko, like S. G. Svetunkova, speak of the need for managerial decisions to create competitive advantages or improve competitiveness only after studying the market (Mishchenko, 2019; Svetunkova, 2006). This opinion is also supported by L. K. Stevans, J. P. Neelankavil, R. Mendoza, S. Shankar. Researchers, describing the most important factors for creating competitiveness in the global world, consider it through the prism of developing national economic stability and availability of productive resources (Stevans, Neelankavil, Mendoza, Shankar, 2012).

Materials and methods

The purpose of scientific research in the framework of this article is to assess the competitiveness of premium wheat flour by various methods, implemented by LLC New Family in Perm. Achieving this goal the following tasks were carried out:

1) To study the theoretical foundations of competitiveness of wheat flour;
2) To analyze wheat flour market;
3) To conduct quality analysis of premium wheat flour;
4) To assess competitiveness by various methods.

The object of the research in this article is premium-grade wheat flour sold by LLC New Family in Perm.

The empirical and informational base for this article was the normative regulations, manuals and articles, as well as materials from Internet sites on the subject of the study.

In preparing the article, monographic, empirical, calculation-constructive, and economic-mathematical methods of scientific research were used, which together ensured the solution of the tasks and the achievement of the goal.

The quality of wheat flour was determined in accordance with the requirements of GOST R 52189-2003 "Wheat flour. General technical conditions"(GOST R 52189-2003 "Wheat flour. General technical conditions ", 2020).
There are several methods for assessing competitiveness used in the practice of enterprises, or designated as scientific developments.

The algorithm for assessing the competitiveness of food products includes the following steps.

1. Determining the purpose of the analysis of the competitiveness of wheat flour.
2. The task of researching the competitiveness of flour.
3. Formulation of principles and methods for assessing the competitiveness of flour.
4. Determination of the most important criteria for consumers in relation to wheat flour.
5. Definition of both single and complex indicators of quality and competitiveness of flour, based on the opinion of mainly consumers (as well as experts).
6. Determination of significance of wheat flour competitiveness criteria.
7. Calculation of flour competitiveness indicators, including complex, calculated by different methods.
8. The development of conclusions on the real competitiveness of flour of the studied samples and the logical directions for its improvement.

The article is based on methods such as determining the relationship between price and quality, as well as integrated methods, including calculating competitiveness indicators for Yudanov and Bul.

The fundamental method of flour competitiveness in this article is the method of calculating a comprehensive integrated indicator, based on the following formula for the qualimetric translation of qualitative, price and other characteristics of flour competitiveness into a quantitative form.

E. A. Zamedlina draws attention to the fact that after determining the integrated indicator, the Buhl coefficient is found by the following formula (Zemedlina, 2016):

Buhl coefficient = Integral indicator / (normalized price) (1).

Results

In the framework of this article, the competitiveness of four samples of premium wheat flour sold at the local market of Perm and being analogous goods (a homogeneous group of goods) belonging to one market segment was studied.

According to organoleptic characteristics, premium wheat flour must meet the requirements of GOST 52189-2003 "Wheat flour. General technical requirements" (GOST R 52189-2003" Wheat flour. General technical conditions ", 2020).

Therefore, to determine the quality of flour, such organoleptic indicators as color, taste, smell had been chosen. Actual values are fully consistent with regulatory requirements. All samples had a white color with a cream tint, the taste was inherent in wheat flour, without extraneous smacks, not sour, not bitter, and the smell was inherent in wheat flour, without extraneous odors, not musty, not moldy.

To conduct research on the ratio of the price of goods to quality, an analysis was made of the quality of flour and the translation of these indicators into a quantitative digital form on 5-point scale. Assessment of experts on organoleptic characteristics of wheat flour and point grade are shown in Table 1 and Table 2.

Table 1.
Assessment of experts on organoleptic characteristics of top grade wheat flour

Indicators	Point	Flour "Permskaya"	Flour "Uvelka"	Flour "Tsar"	Flour "Makfa"
	5	5	4	3	4
	4	-	1	2	1
Color	3	-	-	-	-
	2	-	-	-	-
	1	-	-	-	-
Grade point average		5	4,8	4,6	4,8
	5	4	4	4	5
	4	1	1	1	-
Smell	3	-	-	-	-
	2	-	-	-	-
	1	-	-	-	-
Grade point average		4,8	4,8	4,8	5
	Point	Flour "Permskaya"	Flour "Uvelka"	Flour "Tsar"	Flour "Makfa"
	5	5	5	5	5
Smell	4	-	-	-	-
	3	-	-	-	-
	2	-	-	-	-
	1	-	-	-	-
Grade point average		5	5	5	5

Table 2.
Assessment of organoleptic indicators of top grade wheat flour in points

Estimated indicators	Test samples			
	Flour "Permskaya"	Flour "Uvelka"	Flour "Tsar"	Flour "Makfa"
Color	5	4,8	4,6	4,8
Taste	4,8	4,8	4,8	5
Smell	5	5	5	5
Total	14,8	14,6	14,4	14,8

According to the results, the experts (in total) put the highest score in terms of indicators (color, taste, smell) for Flour "Permskaya" and Flour "Makfa" and the lowest point for Flour "Tsar", the second place was taken by "Uvelka". The evaluation of the organoleptic characteristics of premium wheat flour is shown in Table 2.

To find the quality level of each sample, indicators were calculated using organoleptic weight coefficients. A general quality assessment, taking into account the weight of indicators of premium wheat flour, is recorded in Table 3.

Table 3.
General quality assessment, taking into account the weight of indicators of top grade wheat flour

Sample	Name of quality indicators						Quality level, points
	Color (weight ratio =0,3)		Taste(weight ratio =0,4)		Smell (weight ratio =0,3)		
Flour "Permskaya"	5	1,50	4,8	1,92	5	1,50	4,92
Flour "Uvelka"	4,8	1,44	4,8	1,92	5	1,50	4,86
Flour "Tsar"	4,6	1,38	4,8	1,92	5	1,50	4,80
Flour "Makfa"	4,8	1,44	5	2,00	5	1,50	4,94

Further, the ratio of quality and price for all samples was calculated. The ratio of quality to price of top grade wheat flour samples is shown in Table 4.

According to results of the study, the most competitive product is with greatest

"quality/price" ratio. Therefore, we can conclude that sample 3 Flour "Tsar" has the best ratio of price and quality. On the second place there is sample 4 Flour "Permskaya". On the third place there is sample 1 Flour "Makfa". Sample 2 Flour "Uvelka" is the most non-competitive, so it has the smallest value.

Table 4.
The ratio of quality to price of top grade wheat flour samples

Indicator	Flour "Permskaya"	Flour "Uvelka"	Flour "Tsar"	Flour "Makfa"
Quality indicator	4,92	4,86	4,80	4,94
Price, rub.	71	76	68	75
The ratio "quality/price"	0,069	0,064	0,071	0,066

Assessment of competitiveness by A. Yudanov's method was carried out on the basis of sociological survey of consumers on such product properties as functional, ergonomic, aesthet-ic, etc. The degree of customer satisfaction with these characteristics of the product (including its packaging) was determined and proposed set of consumer

properties corresponded (does not correspond) to the declared price.

According to the results of the survey on ergonomic indicators, it was shown that all samples received the same% of the number of consumers surveyed (Figure 1).
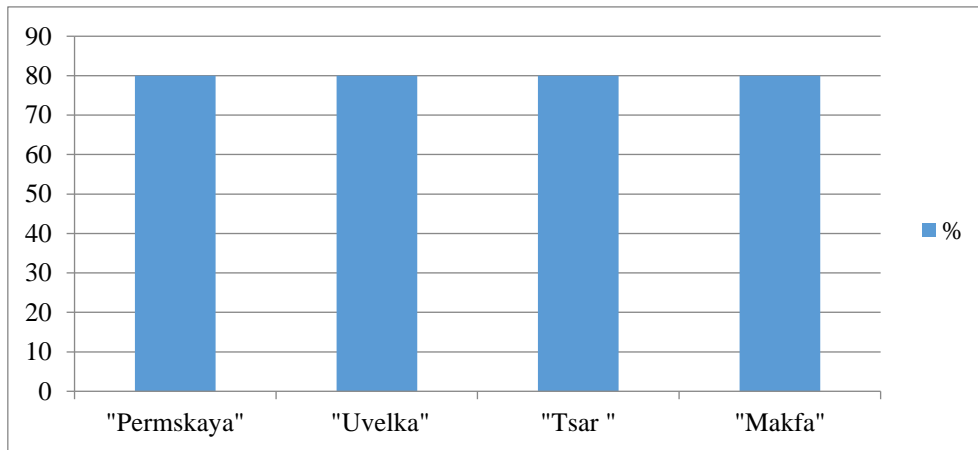
Figure 1. Ergonomic survey results,% of the number of respondents.

According to the survey on environmental indicators, it was shown that all samples received the same% of the number of consumers surveyed (Figure 2).
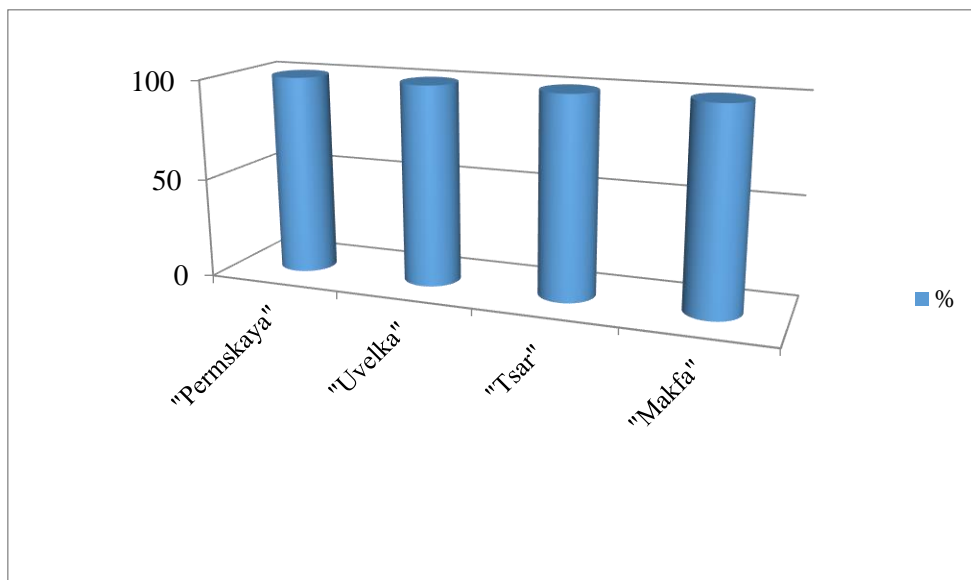

Figure 2. Survey results on environmental indicators, in% of the number of respondents.

According to results of the survey on aesthetic indicators, it was shown that "Tsar" sample took the first place, "Uvelka" and "Makfa" took the

second place, and "Permskaya" flour received the least% of the number of consumers surveyed (Figure 3).
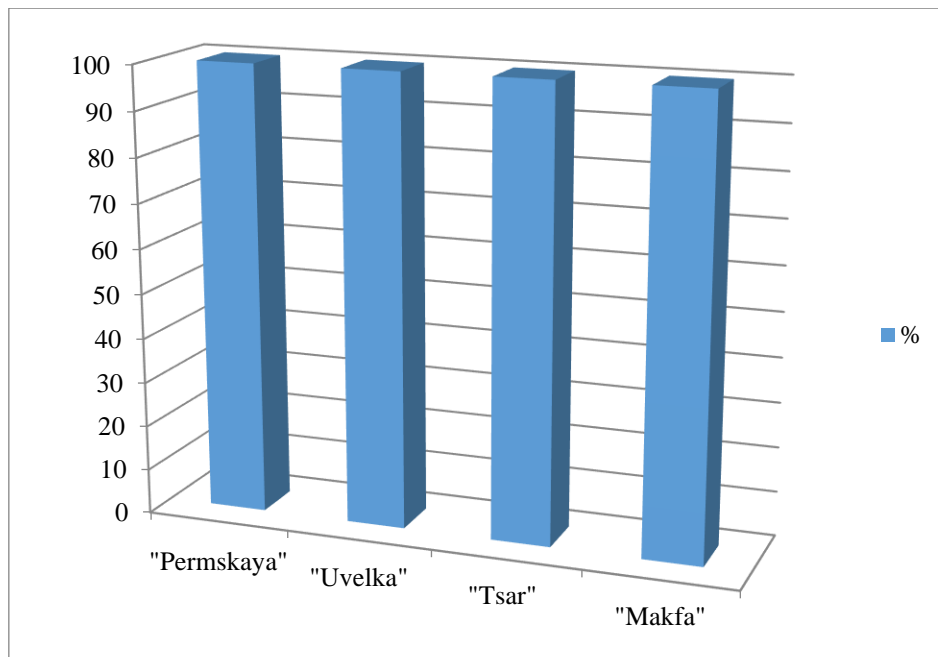
Figure 3. Survey results by aesthetic indicators, in% of the number of respondents.

According to results of the survey on functional indicators, it was shown that "Permskaya" flour has the best functional indicators, "Uvelka" and "Makfa" have the second place and the third is "Tsar" (Figure 4).
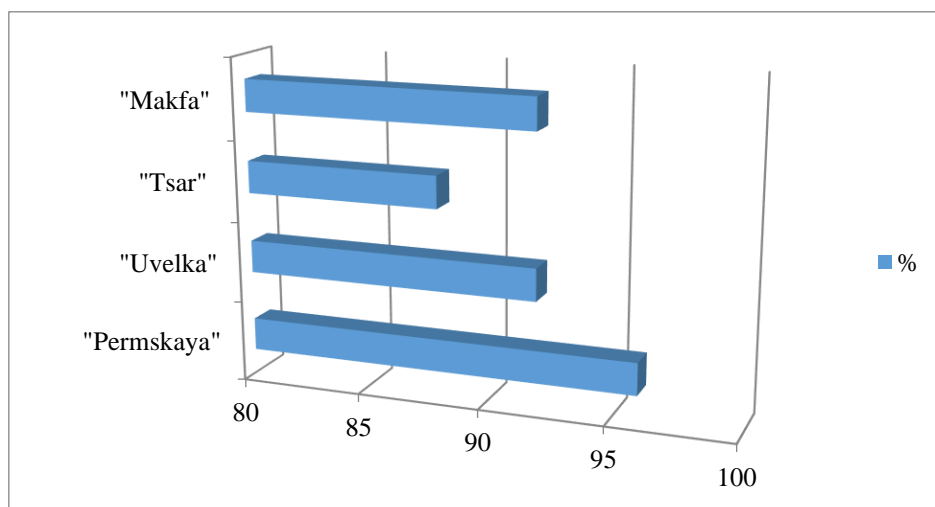

Figure 4. Survey results by functional indicators,% of the number of respondents

Table 5 gives an assessment of wheat flour brands"Permskaya", "Uvelka", "Makfa" and "Tsar" according to the method of A. Yudanov (Figure 5).

According to competitiveness assessment table by A. Yudanov's method of premium wheat flour, it can be concluded that from four presented samples, the most competitive is sample 3 - "Tsar". The second place is occupied by "Uvelka" and "Makfa" trademarks. On the third place there is"Permskaya"flour brand, which has the smallest number of points.

Table 5.

Assessment of competitiveness by A. Yudanov's method.

Indicators	Flour "Permskaya"	Flour "Uvelka"	Flour "Tsar"	Flour "Makfa"
Ergonomic	20	20	20	20
Environmental	25	25	25	25
Aesthetic	20,8	23,8	25	23,8
Functional	24	23	22	23
Total	89,8	91,8	92	91,8

A marketing study was conducted to determine consumer preferences and develop on this basis a strategy for further increasing and developing the market segment for premium wheat flour.

To collect information, the questionnaire method was used. The sample size was 100 respondents. Analysis of the data obtained as a result of the survey showed that the sample included 80% of women and 20% of men. The age group amounted to a total of 20 to 60 years.

The criterion for selection and purchase of flour is: the cost of the product is 47%, 32% of consumers focus on brand name, for 21% the quality of the product matters (Figure 5).
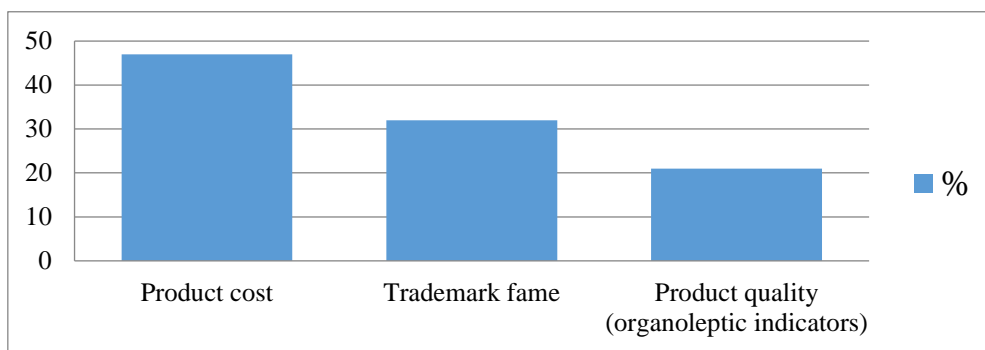

Figure 5. Criteria for selection and purchase of flour, in% of the number of respondents.

As a result of the study, it was found that the most popular brand of premium wheat flour is Flour "Permskaya" - 28%, then Flour "Uvelka" and "Makfa" - both 25% , Flour "Tsar" - 12%, others - 10% (Figure 6).
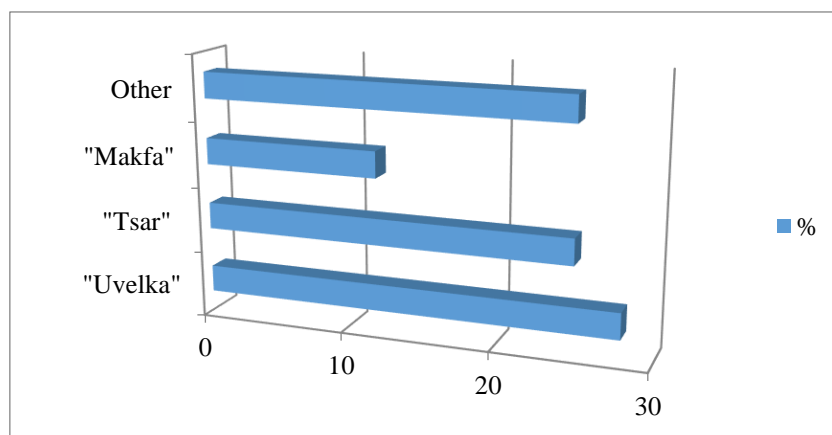

Figure 6. Preferences of consumers of top grade wheat flour, depending on brand / manufacturer, in% of respondents number

Thus, an integrated assessment of competitiveness of premium wheat flour of the above samples, taking into account the weight coefficient of each applied criterion, is presented in Table 6.

Table 6.

Integrated assessment of competitiveness of the studied samples of wheat flour

Criteria	Criterion weight factor	Criterion value			
		Flour "Permskaya"	Flour "Uvelka"	Flour "Tsar"	Flour "Makfa"
1. Product Cost. Number of points. Points based on weight.	0,47	3 1,41	1 0,47	10 4,70	1,5 0,71
2. Trademark fame. Number of points.Points based on weight.	0,32	10 3,20	8 2,56	1 0,32	8 2,56
3. Product quality. Number of points. Points based on weight.	0,21	10 2,10	6 1,26	1 0,21	6 1,26
4. Total	1	6,71	4,29	5,23	4,53

According to results of the table of an integrated assessment of the competitiveness of premium wheat flour, it can be concluded that from four samples used, "Permskaya" flour is the most competitive. On the second place is "Tsar" flour. On the third place is "Makfa" flour, and on the fourth place is "Uvelka" flour, which has the smallest number of points.

To analyze the premium wheat flour using the Buhl method, it was necessary to determine the price level of brands "Permskaya", "Makfa", "Uvelka", "Tsar". The study focuses on the following pricing indicators for wheat flour brands: "Permskaya" - 71 rubles, "Uvelka" - 76 rubles, "Tsar" - 68 rubles, "Makfa" - 75 rubles. Table 7 presents the evaluation of wheat flour brands according to the method of Buhl.

Table 7.

Evaluation of wheat flour brands according to the method of Buhl

Indicator	Flour "Permskaya"	Flour "Uvelka"	Flour "Tsar"	Flour "Makfa"
Integral indicator	6,71	4,29	5,23	4,53
Standard price	142	152	136	150
Buhl coefficient	0,00033	0,00019	0,00028	0,00020

According to results of competitiveness assessment table by Buhl wheat flour of the highest grade, we can conclude that from four used samples, the most competitive is sample 1 - Flour "Permskaya". On the second place is Flour "Tsar". On the third place is Flour "Makfa", and on the fourth place is Flour "Uvelka".

Discussion

With the development of market relations in Russian economy, the approach to studying the problem of competitiveness has changed. Professor R. Fathutdinov believes that competitiveness is "a property of objects that

characterizes the degree of satisfaction of a particular need in comparison with the best similar objects presented on this market, at the level of enterprise, region, industry, any sphere of the macroenvironment, the country as a whole" (Fathutdinov, 2005).

The point of view of professor S. G. Svetunkov is noteworthy: "Competitiveness is combination of cost and quality characteristics of a product that contribute to creating the superiority of a given product over competing products to meet the specific needs of the buyer determines the competitiveness of the product" (Svetunkova, 2006).

P. V. Startsev in his work reveals the views of E. Chamberlin and J. Robin, who argued that competitiveness is not only the ability to compete with competitors, but also the technology of opposing competition through the development of new markets for differentiated products (Startsev, 2014) .

N.S. Yashin believed that competitiveness in an enterprise is associated with the possibility and dynamics of adapting to the conditions of market competition (Yashin, 1997). L. K. Stevans, J. P. Neelankavil, R. Mendoza, S. Shankar in their scientific work indicated competitiveness as the most important prerequisite for development of the national economy in a globalizing world (Stevans, Neelankavil, Mendoza, Shankar, 2012).

A number of foreign researchers confirm the effectiveness of flour research by methods of physico-chemical analysis. Thus, M. S. Ahmed proposes to improve the quality, consumer properties and competitiveness of flour through various additives (Ahmed, 2018). J. J. Lee explores the use of flour mixes (Lee, 2019), and V. T. Nguyen advises improving the quality of flour used to make cookies by adding purple sweet potatoes (Nguyen, 2018). The point of view of H. T. Michael, which takes into account the microbiological characteristics of flour in the process of its storage, is noteworthy (Michael, 2018). The researcher focuses on the dynamics of dissemination and the resistance of Listeria monocytogenes in wheat flour during long-term storage and isothermal treatment (rod-shaped pathogenic bacteria that can multiply in food, getting into the human body). Listeria monocytogenes (Listeria) parasitizes inside cells, and can cause permanent damage to the central nervous system or brain (Michael, 2018). The quality of flour products was also studied by S. M. Abdel Rahman, checking it with various methods of physico-chemical analysis in accordance with the legislation of his country and the specifics of flour product, clearly showing that quality affects the competitiveness of flour (Abdel Rahman, 2018).

Conclusions

As a result of the studies, very diverse, and seemingly at first glance, sometimes conflicting conclusions were obtained. However, according to the authors, all the results fit into a clear system of results on the quality and competitiveness of the studied flour brands in the market of Perm.

The natural result of the analysis of organoleptic characteristics of wheat flour samples was the conclusion that all samples comply with established requirements of regulatory documentation. Nevertheless, as a result of qualimetric ranking, the leader in quality was flour "Makfa". Accordingly, consumers with a high level of income can be recommended to purchase it, in the absence of this flour, it is recommended to purchase the next "Permskaya" flour, and so on. From the point of view of the expert competitiveness of flour, that is, a quantitative assessment of the value received per unit of consumer spending, the average buyer should recommend the best option for the"quality/price" ratio - "Tsar" brand (first place in the rating) and "Permskaya" brand flour.

According to the analysis of competitiveness assessment (according to consumers), which is shown in graphs, tables, it can be concluded that "Permskaya" flour wins by such indicators as quality, brand awareness, but loses by such an indicator as cost of the product, and flour "Uvelka" takes the last place because of low criterion of value, quality, brand recognition, although if you increase the criterion of value, then "Uvelka" won't yield to "Permskaya" flour.

Yudanov method can be considered poorly adapted for the purpose of analyzing the competitiveness of specifically flour, however, its use once again showed the important psychological effect of appearance of the packaging on the consumer. In connection with the results of competitiveness assessment by this method, we can advise the work on improving the design of packaging for all brands except "Tsar".

Summing up the result, we can conclude that the majority of consumers in the integrated

assessment of competitiveness still prefer "Permskaya" flour, due to the historical fame of the local brand (despite the fact that, according to Yudanov, its functional and other properties in a comprehensive quality assessment by consumers themselves are not evaluated as the best), and this is even despite uncompetitive cost of the product. According to surveys, for the financially unsecured buyer, price currently plays the main role, and therefore a greater number of such respondents would prefer flour such as "Tsar", although this brand is not well known and its performance, although not significantly, is lower than that of "Permskaya" flour .

References

Abdel Rahman, S. M. (2018). Chemical composition and functional properties of flour and protein isolate extracted from Bambara groundnut (Vigna subterranean) // *African Journal of Food Science. № 5.* P. 82−90.

Ahmed, M. S. (2018). Effect of Wheat Flour Supplemented with Barely and/or Corn Flour on Balady Bread Quality // *Copyright by Institute of Animal Reproduction and Food Research of the Polish Academy of Sciences. № 1.* P. 11−18.

Blinova, O. A. (2015). Examination of the quality of wheat flour of various brands sold in Samara region // *Innovation science and modern society: Collection of articles of the International scientific-practical conference*. Ufa: AETERNA. P. 36−38.

Fathutdinov, R. A. (2005). *Strategic competitiveness*. M.: Economics.

GOST R 52189-2003. "*Wheat flour. General specifications*" (2020). Available at: http://docs.cntd.ru/document/1200035353

Granatkina, N. V. (2016). *Commodity research and organization of food trade*. M.: Publishing Center "Academy".

Lee, J. S. (2019). Applications of composite flour in development of food products // *International Food Research Journal. № 21.* P. 2061−2974.

Stevans, L. K., Neelankavil, J. P., Mendoza, R., Shankar, S. (2012). The economic competitiveness of countries: a principal factors approach // *International Journal of Economics and Finance. Vol. 4. № 12.* P. 76− 90. Available at: http://www.ccsenet.org/journal/index.php/ijef/article/ download/ /21720/14447

Michael, H. T. Stability of Listeria monocytogenes in wheat flour during extended storage and isothermal treatment / H. T. Michael // Food Control. - 2018. - № 91. - C. 434-439.

Mishchenko, Yu. I. (2019). Practice of regional grain export and import // *Regional Development. No. 6.* P. 1−5.

Nguyen, V. T. (2018). Preparation and Improved Quality Production of Flour and the Made Biscuits from Purple Sweet Potato // *Food and Nutrition. № 4.* P. 1−14.

Nikolaeva, M. A. (2015). *Commodity research of consumer goods. Theoretical basis. Textbook for high schools*. M. : NORMA Publishing House.

Nilova, L. I. (2005). *Commodity research and examination of grain products*. M.: Publishing House "Academy".

Startsev, P. V. (2014). Analysis of approaches to the essence of the concepts of "enterprise competitiveness" and "competitive advantage" // *Russian Entrepreneurship. No. 16 (262).* P. 4−15.

Svetunkova, S. G. (2006). *Information support of competitiveness management*. M .: Finance.

Yashin, N. S. (1997). *Competitiveness of an industrial enterprise: methodology, assessment, regulation*. Saratov: SGEA.

Zemedlina, E. A. (2016). *Commodity research and examination of goods*. Moscow: EC RIOR.