Modern aspects of the livestock industry development, considering the analysis of consumer preferences for meat and meat products

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Abstract. In the modern conditions of the development of economic relations, consumer behavior in relation to the choice, purchase and consumption of food has been significantly transformed. This state of affairs encourages market participants to seriously change their approaches to working with consumers, the basis of which should be a multifactorial study of consumer preferences. At the moment, this transformation is of particular interest in the main markets, which include the meat and meat products market. This article attempts to study the transformation of consumer preferences for meat and meat products in modern conditions. Special attention is focused on such a parameter as the product quality. In the course of the study, a model was proposed for evaluating the decision-making process on the purchase of meat and meat products by the consumer, considering the essential factors of choice, the results of the marketing research were presented, the main conclusions regarding the transformation of consumer preferences were formulated, the importance of such criteria as product safety, animal husbandry, environmental impact was assessed. On the part of consumer organizations, the interrelation of such criteria forming the quality of the product as freshness, compliance with microbiological indicators, compliance with temperature control, which are currently a priority when choosing a supplier, is evaluated. The main conclusions are presented, which allow to consider the main promising areas of development of organizations engaged in meat production. The practical significance of the research lies in the possibility for organizations operating in this market to create successful marketing strategies and will significantly make the manufactured products of the quality necessary for the consumer.

1 Introduction

Over the past decade, the livestock industry, in particular pig and poultry farming, has developed rapidly. In many ways, this state of affairs was due to the high level of state support for the industry. At the moment, most organizations operating in this area are experiencing a
number of difficulties, the main of which is the reduction in the cost of products due to the saturation of the domestic market. This state of affairs encourages manufacturers to seriously study the market, in particular, consumer preferences and the possibility of adapting production to the stated requirements. It is equally important to increase the efficiency of such productions, which should not occur at the expense of reducing the quality of products [3, 8].

At the moment, the term product quality refers to certain standards that are the basis of the production process. On the other hand, quality is an invisible equivalent, which for many consumers is expressed through the prism of certain ideas. Thus, for many organizations that purchase meat for further processing, the priority is confidence in compliance with all standards of production, storage, and transportation of products. It is also important to fulfill additional requirements to produce high-quality products and sell them to the end consumer. No less important requirements are imposed by end consumers, in general, over the past decade, the concept of quality has been transformed in the minds of consumers in a significant way, including due to the latest trends in "healthy eating" and high availability of information that allows to determine the parameters required for each product. All this indicates the need for organizations that carry out their activities in the field of animal husbandry to responsibly assess consumer preferences and develop a mechanism to adapt production to the requirements presented by target groups of buyers.

Thus, we consider it important in this study to concentrate efforts on identifying the main parameters that characterize the quality of the product for end consumers, as well as organizations that purchase meat for further processing and, considering the data obtained, to consider the main directions that allow adapting production, relative to the stated requirements.

2 Materials and Methods

The analysis of consumer preferences of buyers, in particular, was based on a marketing study of the evaluation of the quality of meat and meat products of end consumers, as well as an expert assessment of the concept of "meat quality" by persons representing organizations operating in the field of B2B.

Considering the main theoretical aspects of the presentation of the quality of the product by the manufacturer, approaches should be noted that allow to adapt the quality of the product to market requirements. One of these techniques is sorting. The possibility of sorting implies obtaining products that meet the stated requirements of a specific target audience regarding the totality of products. As a rule, such compliance can be ensured by meeting a number of criteria that are developed in accordance with consumer requests. Thanks to this procedure, it is possible to carefully control the entire production chain and is associated with the prevention of errors that worsen the quality of the manufactured product. The largest part of the product quality compliance criteria is usually established during the slaughter and primary processing of meat products. The main criteria are: temperature control, humidity, indicators of the microbiological environment, etc.

At the moment, regarding the quality of the product, the following main components can be distinguished, allowing us to present the transformation of consumer preferences considering the latest trends, as well as information from previously conducted studies [3]

Thus, the basis of quality can be transformed in accordance with the representations of objective factors that allow to assess the perception of the properties of the product, considering the consumer's decision-making process.

At the heart of the product quality evaluation by end consumers, two important components should be identified, namely the costs necessary for the purchase and preparation of meat. The second criterion is the benefit that the consumer receives when eating meat and
meat products. Which, in turn, should be considered as a hypothesis of transformation of consumer preferences, which allows to distinguish two main priority groups of factors: product quality and production process. The basis of the product quality parameters are: the purpose of the product, taste, nutritional value, relative health benefits. All these factors are formed in the consumer's mind considering the experience of previous purchases. Such parameters as: appearance, smell are evaluated by the consumer every time when making a purchase [7-10].

The second group of factors on the part of the consumer has a so-called confidence value. Consumer confidence is formed in relation to the image of a manufacturer or a seller organization that sells meat products, and includes: product safety (conforming to quality standards), animal husbandry (conditions, use of high-quality feed when growing, rejection of antibiotics, use of modern high-performance technologies, including those that allow controlling the production process), environmental impact. When the consumer perceives objective factors, there is a significant transformation of the perception of the product properties, into so-called subjective factors that allow presenting the unique quality of the product. It is important that the subjective factors of the product are formed in different target groups, depending on the level of education, income, etc. It should be borne in mind that the quality of the product perceived by the consumer is unique and can be significantly transformed even within one segment.

Thus, meat and meat products should have such a unique quality that the manufacturer should pay serious attention to, while the quality of the product perceived by the consumer varies from consumer to consumer and it seems unlikely to correlate the production criteria regarding the fulfillment of the stated requirements.

Based on the presented hypothesis, questions were developed for the purpose of conducting marketing research among the final buyers of meat and meat products. The methods of conducting a survey of representatives of consumer organizations to determine the criteria for the quality of the product and possible directions for adapting production, relative to the requirements stated by the end customers, are formulated. The formulation of the questions for the study focused on the following direction: understanding the behavior of end consumers when choosing and buying meat and meat products, with special emphasis on: product quality and safety; attitude to animals and environmental friendliness of production.

The survey was conducted in the form of a panel (interview) with the selected category of persons in February 2023 in Moscow, Voronezh, and Krasnodar. The survey of representatives of consumer organizations (producers of deep meat processing products) took place in June 2023 in the form of an in-depth interview in Moscow. The in-depth interview was attended by 5 respondents who are purchasing managers or responsible persons involved in the production process.

3 Results

The first stage was to conduct a marketing study of consumers of meat and meat products, conducted in the form of a panel by interviewing by electronic means. The majority of respondents who participated in this study regularly consume meat and meat products (at least 2 times a week), make their own decisions when choosing food, most of which are represented in the sample at the age of 36 to 44 years 31%. Between 45 and 54 years, 25% of all respondents. 19% of the total number of respondents belong to the age group from 55 to 64 years. 16% aged 25 to 35 and 9% of respondents were under 24 years of age. Additional differentiation by gender: 64% of women and 36% of men from among the respondents. On the question of education: 1.4% do not have a full secondary education, 17.9% - have secondary education, 32.1% - secondary vocational education, 36.9% - higher education,
10.4% - have an academic degree. Also among the respondents there were persons who did not answer this question.

Most of the respondents surveyed live in families. The majority of households consisting of 2 people - 36%, households consisting of 3 people occupy 22%, of four people – 16%, 12% - live independently, and the rest in families of 5 or more people.

About 15% of respondents refused to give information about their income. Most households have the following income level per family member. Less than 25 thousand rubles – 32%, from 21-45 thousand rubles - 34%, from 46-65 thousand rubles - 26%, from 66-85 thousand rubles - 9%, the rest of the respondents had an income of 86 thousand rubles or more.

More than 87% of the respondents are working people, including self-employed and working remotely, of which 24% are working in managerial positions, and 16% are housewives.

In the course of the study, a high interest of respondents was noted when answering questions related to the quality of the product, which indicates a high awareness of consumers in this matter. The majority of respondents identified a high correlation regarding the cost of the product, the cooking time, and the benefits brought. Respondents in the course of the study could choose several parameters that, in their opinion, most fully characterize the criteria for the quality of the product, it should be noted that many of the parameters presented in the study were characterized by consumers on the basis of specific examples. The distribution of responses regarding the priority of the selection of criteria characterizing objective factors is presented in Table 1.

Table 1. Distribution of respondents' responses regarding the priority of choosing criteria that allow assessing objective factors of the quality of meat and meat products.

<table>
<thead>
<tr>
<th>Criteria for evaluating objective factors of the quality of meat and meat products</th>
<th>Distribution of respondents' responses regarding the priority of criteria selection (out of 207 respondents).</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Quality</strong></td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>128</td>
</tr>
<tr>
<td>Smell</td>
<td>96</td>
</tr>
<tr>
<td>Taste qualities</td>
<td>171</td>
</tr>
<tr>
<td>Nutritional value</td>
<td>118</td>
</tr>
<tr>
<td>Health benefits</td>
<td>150</td>
</tr>
<tr>
<td><strong>Production process</strong></td>
<td></td>
</tr>
<tr>
<td>Product safety</td>
<td>171</td>
</tr>
<tr>
<td>Keeping animals</td>
<td>43</td>
</tr>
<tr>
<td>Environmental impact</td>
<td>90</td>
</tr>
</tbody>
</table>

Analyzing the results of the study, it should be noted that among the respondents, when buying meat and meat products, the ratio of price factors with a number of criteria characterizing the quality of the product is a priority. The most important, from the point of view of the majority of respondents surveyed, are the taste qualities of the product, which were correlated with the description of certain ready-made dishes. Despite the global trends regarding the reduction of the share of meat and meat products in the diet, most respondents believe that eating meat on a regular basis from 2 to 7 times a week benefits health, while the basis of such consumption should be low-fat types of meat and meat products.

Most consumers make product choices regarding the appearance of the product. In this case the packaging is important, which allows to maintain quality. According to the majority of respondents, vacuum technology is the most convenient, which allows to preserve the freshness of the product and prevent the development of pathogenic microorganisms.

The criterion of nutritional value is important from the point of view of the consumer and is entirely interrelated with the product itself.

Less than half of the respondents believe that the smell is not the main criterion when choosing meat, nevertheless, at the beginning of cooking, it is perceived by all respondents...
as a priority in combination with the color, which should be characteristic of the corresponding type of meat, which is a guarantee of the quality of the product.

Regarding the criteria characterizing the production process, it should be noted that for many respondents, the issue of raising livestock is an important component of good product quality and it is the change in consumer behavior, in particular the refusal to buy meat from unscrupulous producers, that will improve the conditions of keeping livestock. At the same time, only a fifth of all respondents are confident that the conditions of keeping animals fully correspond to the level of technique and technology development. During the discussion of this criterion, such characteristics as the use of high-quality feed, pastures and large premises for raising livestock, efficient transportation of animals, the location of the slaughterhouse (according to the majority, it should be located in the vicinity of the place of production) were noted. 10 respondents suggested that the conditions of keeping animals can be improved only with a change in legislation.

As the main aspect of quality characterizing the production process, 171 respondents identified such a criterion as product safety. When determining this criterion, the main factors characterizing safety are: microbiological indicators, refusal to use antibiotics, as well as growth hormones when raising livestock.

Analyzing the results of the survey regarding the impact of production on the environment, it should be noted that for the majority of respondents, this criterion does not directly affect the product quality. Nevertheless, most of the respondents believe that significant harm is being done to the environment, in particular, in their opinion, there is a serious contamination of nearby territories with industrial waste.

The second stage of the study was a survey of consumer organizations regarding the criteria characterizing the quality of the product.

The in-depth interview was attended by 5 respondents who are purchasing managers or responsible persons involved in the production process. The main parameters during the preliminary assessment were the following criteria characterizing the quality of the product, which are presented in Table 2.

Table 2. Distribution of respondents' responses regarding the priority of choosing criteria that allow assessing objective factors of the quality of meat.

<table>
<thead>
<tr>
<th>Criteria for evaluating objective factors of meat quality</th>
<th>Distribution of respondents' responses regarding the priority of criteria selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographical</td>
<td>5</td>
</tr>
<tr>
<td>Management</td>
<td>3</td>
</tr>
<tr>
<td>Temperature control</td>
<td>5</td>
</tr>
<tr>
<td>Humidity</td>
<td>5</td>
</tr>
<tr>
<td>Indicators of the microbiological environment</td>
<td>5</td>
</tr>
<tr>
<td>Cutting the product in relation to the customer's requirements</td>
<td>2</td>
</tr>
<tr>
<td>Keeping animals</td>
<td>1</td>
</tr>
<tr>
<td>Possibility of control</td>
<td>4</td>
</tr>
</tbody>
</table>

Thus, according to the results of an in-depth interview, geographical location is a priority for all respondents, which is preferable near the place of production. The priority is the availability of a highly efficient logistics service from the manufacturer, which allows delivering fresh products to the place of production in the shortest possible time. This state of affairs is possible only with the effective work of management in the organization. During the interview, two of the respondents expressed conflicting opinions regarding the introduction of this criterion into the product quality indicators, while noting that it is the management system in the organization that should control all processes.

A special element that characterizes the quality of meat is the observance of temperature
control from the moment of cutting the carcass and ending with the delivery of products to
the manufacturing organization. For the majority of respondents, such a process should take
place on the basis of a highly efficient digital system that allows monitoring the temperature
regime during production, storage, and transportation of products. Indicators of the
microbiological environment are a guarantee of high quality of the product, according to all
respondents, high indicators are possible only on modern complexes and with a strict quality
control system. It should be noted that this criterion was highlighted as fundamental when
choosing a meat supplier. Cutting meat according to customer requirements is an effective
direction of narrow segmentation of consumers of the product. Thus, during an in-depth
interview, it was found that the restaurants segment very often requires specific cutting or
packaging of the product.

Almost all respondents agreed with a significant transformation of consumer preferences
in relation to products made from meat, nevertheless, in their opinion, such a factor as animal
husbandry is currently not fundamental when choosing meat products of deep processing.
During the interview, it was also found that despite the fact that price is an important factor
in the purchase of meat, the high quality of the product, namely freshness, compliance with
microbiological indicators, compliance with temperature control are priorities when choosing
a supplier.

The answer to the open question "How would you improve the quality of the meat
produced?" showed an ambiguous view of the majority of respondents regarding the complex
of parameters responsible for the product quality. Which once again underlines from the
manufacturer's point of view the possibility of an extended consideration of a number of
parameters depending on the segment to gain an advantage in the competitive struggle.

4 Discussion

Analyzing the results of the study, it should be noted that there is a high ongoing
transformation of consumer preferences regarding product quality indicators both in the
market of end consumers and manufacturing organizations that purchase meat for further use
in the manufacture of products with high added value. The obtained results of the conducted
research devoted to modern aspects of the development of the livestock sector, formed
considering the analysis of consumer preferences for meat and meat products, allowed to
formulate the following conclusions.

- Producers of meat and meat products should already think about a significant
  transformation of the demand for meat and meat products due to a more expanded number
  of significant criteria for the consumer, which, considering global processes, will increase.
  The transformation of the concept is characterized by the confident addition of such criteria
  as: animal maintenance, information about the feed used, transportation conditions, etc. It
  should also be borne in mind that quality guarantees should be presented in communication
  with the consumer, in particular, such transmission channels as packaging, media advertising,
  etc. are used.

- Analyzing the results of the study, it should be noted that it is necessary for
  organizations engaged in the production of meat to ensure high competitiveness in the market
to form an effective quality control system of products focused on the transformation of the
quality of the studied products of end consumers. In our opinion, the main direction of such
control should be the construction of a highly effective management system, which is the
basis for fulfilling the criteria stated by consumers on the basis of building feedback with the
consumer in the form of marketing relationships. It is important to be able to flexibly adapt
to the consumer preferences of the organization's production process, to understand the
priorities of the organization's work by all members of the team and thereby comply with
high product quality criteria. In addition, the management of the manufacturing organization
should assume the main role in ensuring control of all stages of production, namely: planning, control at critical points, quality assessment and improvement in accordance with the requirements of customers.

References