STRATEGY FOR IMPROVING PRODUCT QUALITY IN THE CONTEXT OF ENHANCING FINANCIAL PERFORMANCE INDICATORS OF AGROINDUSTRIAL ENTERPRISES

ABSTRACT

The main purpose of the article is to justify the most optimal strategy for improving product quality for agroindustrial enterprises in Ukraine. The object of study is the production of the agroindustrial complex of Ukraine. The scientific task involves forming a modern scientific approach to assessing the options for strategies to improve the quality of production of agroindustrial enterprises in Ukraine. The research methodology involves the application of the BOCR method, which consists of modelling with the establishment of expected positive outcomes, additional costs, new opportunities, and potential risks in the context of improving the financial performance of agroindustrial enterprises. Within the framework of the BOCR method, the expert analysis method was used to compare the objects of study through the auxiliary Delphi method. As a result of the conducted research, an information basis was created for the development and implementation of the most optimal strategy for improving product quality for agroindustrial enterprises in Ukraine. The innovation of the obtained results lies in the fact that, through a series of criteria, two potential strategies for improving product quality for agroindustrial enterprises in Ukraine were compared and the most optimal was chosen in the context of improving the financial condition. The prospects for further research should focus on applying the formed approach to comparing and selecting the optimal mechanisms for implementing these strategies.

Keywords: agroindustrial sector of the economy, strategic approach, product quality, financial performance indicators, modelling

JEL Classification: C50, J43, O43

INTRODUCTION

The agricultural sector is one of the priority sectors of the Ukrainian economy. It influences the determination of the place in the international division of labour and the formation of the level of competitiveness. Thanks to the increase in agricultural production, Ukraine has significantly increased its export potential in recent years, becoming one of the leading exporting countries for a number of types of agricultural products. The agroindustrial complex determines one of the main directions of development of the Ukrainian economy and its export component. However, in conditions of increasing competition in the domestic and global food markets and various types of trade restrictions, Ukraine cannot fully use its comparative characteristics and advantages in relation to other countries in the mentioned market segment. Moreover, this is closely related to a large number of factors, including the dynamism of the external environment.

Today, the situation in the Ukrainian agroindustrial market is extremely complex and requires a new strategic approach that would not only address the issue of survival in the market but also allow for maintaining the quality of products at a sufficient level. It is a well-known fact that it is the agroindustrial sector of the economy that plays an extremely important role not only in the context of increasing food security but also in national security in general. It should be understood that the market for agricultural products in Ukraine was extremely difficult at the stage of the COVID-19 pandemic.
However, the most significant problem was the full-scale invasion of Ukraine by the Russian Federation in early 2022. The fact is that the paradigm of ensuring economic security and compliance with relevant product quality standards has its own characteristics in peacetime. Ukrainian agroindustrial enterprises have never faced such challenges as martial law and its consequences since independence. It became clear that the war on Ukrainian territory would last for a long time, which means that a tactical-operational approach would not be a reliable option in this situation. Most agroindustrial enterprises have begun to focus on a strategic approach. But building a strategy in a full-scale war is not a peacetime strategy.

Let us note that a war in a country does not mean that ignoring the quality of one’s products will be the norm that the consumer, client, or even the state will accept. The agroindustrial complex is very important both for Ukraine and beyond its borders. Recent events as a result of the continuation of hostilities in Ukraine have led to problems on the borders of Ukraine with its partners. Consequently, due to the full-scale war in Ukraine, significant problems have arisen at the borders, which seriously affect the country’s agricultural sector (including the agro-industry), in particular the export of agricultural products. The blockade of Black Sea ports has significantly reduced opportunities for maritime exports, forcing Ukraine to seek alternative routes through neighbouring countries, which in turn increases costs and delivery times. The situation has also worsened significantly due to the policies of EU countries. The quality of the product itself remains extremely important. It is impossible to enter new markets while ignoring product quality standards. Competitiveness is one of the most significant phenomena in the international market and, despite the war, those agroindustrial enterprises that continue to operate must understand that it is simply impossible to achieve high financial performance without high-quality products. In our opinion, summarizing the above, it can be argued that the issue of product quality is still the number one priority for Ukrainian agroindustrial enterprises, even in a hyperdynamic military external environment.

LITERATURE REVIEW

It should be noted that the scientific and practical literature is full of a large number of scientific studies that actively explore various aspects of the problems of development of the agroindustrial and agricultural sectors of the economy around the world. In general, issues of product quality and policies for ensuring the development of the agroindustrial sector can be divided into works that are studied at the state level or at the micro level. For example, Dwijanto, et.al. (2013) and Auci (2020) considered issues of the agroindustrial and agricultural sector at the state/regional level, and it is interesting to note that their works note that it is climate and technical capabilities that have the greatest impact on product quality. A very debatable statement, but it also has its own adherents. For example, Talaviya, et.al. (2020) and Kashina, et.al. (2022) in their works, which date back to the period of COVID-19 and the war in Ukraine, note that artificial intelligence technology has a place in the formation of new strategies for improving product quality. We can partially agree with this, and the team of authors of the article believes that a modern strategy for improving the quality of products that do not take into account new technologies has little chance of success today. That is why, when forming options for strategies to improve product quality through the author’s proposal, we took this into account.

Let us note that not only the issue of digital technologies is on the agenda today in scientific and practical literature. As mentioned above, the problems of development and ensuring the financial security of the agroindustrial sector of the economy are also considered at the micro level. For example, Ovchinnikova et.al. (2017) and Pushak (2021) address this issue at the micro level. In our opinion, the micro level affects the macro level, since a high level of financial security per agricultural enterprise contributes to a high level of financial security of the region and the state. At the same time, the question arises whether the quality of products has an impact on the financial indicators and safety of such open socio-economic systems as, for example, agroindustrial ones. A positive answer is given by Kopytko, et. (2023) whose works present and indicate that it is the quality and effective management of resources that have a direct impact on the financial security of an open socio-economic system. At the same time, Kryshtanovich et al. (2022) note that industries such as agriculture, engineering, and light industry, which have been significantly impacted by the effects of the COVID-19 pandemic, have been able to enter the international market and have only succeeded due to the high quality of their products.

It should be understood that none of the studies presented above, took into account the factor of the military situation in the country. The fact is that, unlike the COVID-19 pandemic, the issue of a full-scale war in 2024 is an exceptional phenomenon experienced only by Ukraine. That is why the topic researched by the authors of the article is relevant. In addition, today in the economic literature there is a lack of in-depth research and scientific publications, in particular:

1. Despite the fact that almost all authors formulate innovative and effective management strategies or approaches to solving a particular problem, their proposals are unified and of a general nature. This fact can significantly aggravate the process of adapting the proposed approaches and methods to the realities of an agro-industrial enterprise in Ukraine.

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2. Insufficient use of modern methods of problem-solving, such as the BOCR method (Benefits, Opportunities, Cost and Risks), taking into account the specifics of the agro-industrial sector.

3. There is little experience in comparing various strategies for improving product quality and their impact on the key financial indicators of an agro-industrial enterprise. Despite the fact that various strategies for improving product quality were proposed in the studied literature, there was no detailed comparative analysis of these strategies among themselves. This flaw may lead to a decrease in the effectiveness of the proposed strategies in practice.

AIMS AND OBJECTIVES

The aim purpose of the article is to justify the most optimal strategy for improving product quality for agroindustrial enterprises in Ukraine. Thus, based on the results of the literature review, the team of authors of the article forms a scientific task that corresponds to the stated goal and topic of the article: the formation of a modern scientific approach to assessing options for strategies to improve the quality of products of agricultural enterprises in Ukraine.

METHODS

The methodology of the article is presented in the form of a combined and synergistic approach to the use of a certain list of methods. In addition to well-known and theoretical methods, such as abstract-logical ones in the formation of conclusions and their discussion, methods of analysis and synthesis in the context of the activities of agroindustrial enterprises in Ukraine, more specific ones were used. Note that the basis of the methodology is the BOCR method. An extremely effective and at the same time extremely easy-to-understand method of analysis, which involves choosing the optimal variant of a variable due to a comparison of its four components:

1. Advantages (B). This category assumes that two variables (in our case, strategies for improving product quality proposed by the authors of the article) are compared with each other and compared in such a way that it can be clearly established which of the variables has the most advantages in the opinion of experts or other persons involved in the process.

2. Opportunities (O). Assessing and comparing variables within what possibilities open (in our case, new strategies) for open socio-economic systems (in our case, agroindustrial enterprises).

3. Expenses (C). An assessment of the costs, not only financial but also in the priorities associated with each proposed strategy, is carried out in order to determine the most cost-effective approach.

4. Risks (R). Also, the risks accompanying the variables (strategies for improving product quality) are assessed in order to understand whether there is a willingness to accept them or not.

But at the same time, it is necessary to understand that for comparison and evaluation, we involved of 30 people working at agroindustrial enterprises in Ukraine. Their assessment and opinion are extremely important for presenting the most optimal strategy for improving product quality. The Delphi method is a serial expert assessment in which the focus is sent to a group of experts in agroindustrial production, quality management and financial analysis. The Delphi method is known for its ability to generate consensus among experts through an iterative process, thereby providing valuable information.

RESULTS

Ukraine and its economic sectors today are in unique conditions in which extremely different trends in change can be observed. Therefore, it is possible to analyze the trends and dynamics of changes in indicators before the start of the COVID-19 pandemic, after the start of martial law and after its implementation. We see that by the beginning of the pandemic, taking into account the influence of minor inflationary processes, the volumes of agricultural products showed a gradual increase. Of course, no leaps or significant changes were observed during this period. At the same time, the post-pandemic period brought a significant jump in 2021. Most of the restrictions faded into the background, and the agroindustrial complex of Ukraine began to gain new strength. The full-scale war and significant changes in the external operating environment require the management of Ukrainian agroindustrial enterprises to leave the "comfort zone", in which there is no clear motivation to improve their own product quality. However, when changes in the external environment require the search for new markets, then the issue of improving product quality becomes a priority. The Ukrainian market has narrowed as a result of active hostilities in the East of the country and most agroindustrial enterprises have...
been deployed to the Western part and even further. Competition has increased, and only product quality can ensure that an agroindustrial enterprise survives in these hyper-challenging conditions (Figure 1).

In our opinion, it is necessary to offer possible options for what strategies should be applied today for Ukrainian agroindustrial enterprises in modern conditions. As we see, modern conditions require entering new markets, where privileges are given to an environmentally-oriented strategic approach. It should be noted that the agroindustrial complex of Ukraine is not only mechanical engineering but also agrochemistry, feed industry, etc. At the bottom of the hierarchy are the following strategies:

**M1.** Precision agroindustrial implementation. This strategic approach involves the application of technologies and management methods aimed at the optimization process in various aspects of rural engineering. The authors see the following implementation in this strategy: the introduction of advanced data analytics based on artificial intelligence and the use of sensor technologies to collect real-time information about soil health, weather conditions, crop growth and pest infestation. Therefore, it will make it possible to better understand what equipment needs to be used or how to improve the existing one under the conditions of the land in the countries where the agroindustrial enterprise aims to enter. Thus, the received information, information and data will contribute to a better understanding of what decisions the enterprise should make in the engineering and not only the plan. Agribusiness is based on the external environment, and entry into a new market is also the so-called entry into a new land and its features. That is why this strategy is primarily aimed at analyzing and gathering information. This includes the active use of drones and sounds. By monitoring plant growth, detecting early signs of disease or nutrient deficiency, and assessing overall field conditions, agribusiness managers can take proactive measures to maintain product quality. Thus, offering the most adapted options for farmers. Automated sorting and grading systems can ensure that only the highest quality products reach the market, increasing customer satisfaction and brand reputation.

**M2.** Sustainable agroindustrial practices adoption. In this case, attention will be more focused on how to change one's own policy of attitude towards the preservation of the environment and ecology. It should be understood that the first strategy is analysis, new technologies and more intelligence on how to adapt to the agricultural market. Here we have a strategy aimed at the opposite, to bring something new and improve the already existing agricultural market. That is why, as part of this strategy, a transition to the practice of using equipment for organic farming should be made. In the context of agrochemistry, abandon synthetic pesticides and fertilizers in favour of natural alternatives. Organic farming practices promote soil health, biodiversity and water conservation, resulting in higher crop quality and improved environmental sustainability. Emphasis is also placed on the development and application of IPM, which combines biological, cultural and chemical control methods to effectively manage pest populations while minimizing environmental impact. That is, a strategy in which agrochemistry is only ecologically clean, and technology is aimed at minimal damage to the environment.

In justifying the significant impact of product quality improvement strategies on financial performance indicators, we note that high product quality allows for a high level of market competitiveness. Consequently, this leads to increased sales volumes and, as a result, thereby improving revenues and profit margins. In addition, ensuring high quality helps reduce...
warranty costs and costs associated with returning goods, and reduce the risks associated with loss of reputation. Without a reputation, it is impossible to achieve financial security.

In this case, a comparison of strategies will be carried out according to 4 criteria according to the BOCR methodology (Benefits – Opportunities – Costs – Risks).

Next, we will build hierarchies based on BOCR properties (Figure 2).

For two objects that are compared with each other depending on the degree of their influence on the process, we will evaluate the importance that constitutes the corresponding element of the matrix of even comparisons, and the diagonal elements of the matrix are equal to one, its lower part is filled with inverse values (All comparisons and assessments come from the use of expert analysis and Delphi method). It is necessary to carry out (1):

$$\frac{n(n-1)}{2}$$

where $n$ is the number of cases at the same level. Therefore, the results of calculation (1) will allow to hold the results for Table 1.

The first step is to compare the effectiveness of the above strategies using 3 criteria (which is why further on Table 1, 3 rows and 3 columns). Alternatives are compared according to the criteria of the constructed hierarchy, that is, an even comparison of alternatives is carried out according to each of the three criteria. First, to simplify the perception of calculations, we will combine the results of comparisons of criteria $B$, $O$, $C$, and $R$, which arise in the process of applying the evaluated strategies for improving the quality of products of agroindustrial enterprises, relative to the goal (Table 1).
Table 1. The results of the comparison of the effectiveness criteria of the strategies in comparison with each of the BOCR elements.

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1/3 1/2 1)</td>
<td>(1/6 1/6 1)</td>
</tr>
<tr>
<td></td>
<td>(1/3 1/6 1)</td>
<td>(1/3 1/6 1)</td>
</tr>
<tr>
<td></td>
<td>(1/2 1/6 1)</td>
<td>(1/2 1/6 1)</td>
</tr>
<tr>
<td></td>
<td>(1/7 1/5 1)</td>
<td>(1/7 1/5 1)</td>
</tr>
</tbody>
</table>

Since the hierarchy contains only two alternatives and three criteria, it is necessary to carry out (2):

\[ m = \frac{n(n-1)}{2} \]

where \( m \) is the number of criteria, i.e., it is necessary to compare three pairs of comparison objects (our two strategies). The results of calculation (2) involve 2 rows and 2 columns, since we only have two strategies. These comparisons are summarized in Table 2.

Table 2. Comparison of the proposed strategies with respect to criteria B1-B3; O1-O3; C1-C3; R1-R3.

<table>
<thead>
<tr>
<th>B1 (compliance with priority areas of provision)</th>
<th>B2 (compliance with the strategy enterprise development)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1/3 1/2 1)</td>
<td>(1/6 1/6 1)</td>
</tr>
<tr>
<td>B3 (provision of financial potential)</td>
<td></td>
</tr>
<tr>
<td>(1/5)</td>
<td></td>
</tr>
<tr>
<td>O1 (the degree of novelty)</td>
<td>O2 (the degree of novelty of the results)</td>
</tr>
<tr>
<td>(1/6 1/6 1)</td>
<td>(1/4 1/4 1)</td>
</tr>
<tr>
<td>O3 (financial prospects)</td>
<td></td>
</tr>
<tr>
<td>(1/9 1)</td>
<td></td>
</tr>
<tr>
<td>C1 (Material costs)</td>
<td>C2 (salary expenses)</td>
</tr>
<tr>
<td>(1/2 1/2 1)</td>
<td>(1/5 1)</td>
</tr>
<tr>
<td>C3 (Motivational expenses)</td>
<td></td>
</tr>
<tr>
<td>(1/5 1)</td>
<td></td>
</tr>
<tr>
<td>R1 (information)</td>
<td>R2 (resource)</td>
</tr>
<tr>
<td>(1/3 1/3 1)</td>
<td>(1/6 1/6 1)</td>
</tr>
<tr>
<td>R3 (personnel)</td>
<td></td>
</tr>
<tr>
<td>(1/7 1/7)</td>
<td></td>
</tr>
</tbody>
</table>

So, we note that our proposed options for strategies to improve product quality were comparatively comparable through experts for each of the BOCR criteria. Need to tell that, in pairwise comparison by the BOCR method, factors are placed diagonally in the evaluation matrix to determine the relationship between them. It helps to understand how each factor affects the others since each factor is usually interrelated with the others in the decision-making context.

It should be noted that by matrices we mean presented in tabular form (Table 1-2): «()». That is, for example, Table 2 includes exactly 3 matrices for each BOCR category. Based on the results of the analysis, four matrices of pairwise comparisons \( A=a_{ij}/m^m \) were compiled, one is a comparison of the criteria of advantages relative to the goal, and the other three are motivational mechanisms relative to the criteria of advantages. If the answers agree among themselves, then \( a_{ij}=w_i/w_j \) for all \( i,j=1,m \).
It should be noted that the eigenvector characterizes the ordering of priorities, and the eigenvalue is a measure of the consistency of assessments. Using the geometric mean method, we approximately calculate the vector of relative importance \( \{w_1, \ldots, w_m\} \). To establish the degree of consistency of the numerical values of pairwise comparisons of the elements of the set, the priority vector of the matrix is used, to find which we first calculate the eigenvector \( W \), and then normalize it. The components of the eigenvector are the geometric mean of the elements of each row of the matrix of pairwise comparisons, i.e. (3):

\[
   u_i = \sqrt[\frac{m}{i}]{a_{i1} \times a_{i2} \times \ldots \times a_{im}}; \quad i = 1, m
\]

where \( a_{ij} \) is the \( i \) element of row \( j \) of the column of the matrix of even comparisons of elements of the set, \( m \) is the number of cases at one level.

From an economic point of view, this must be done in order to determine which of the proposed strategies has a higher weight. In economics and business, decisions are not made in a vacuum. The rationale helps decision-makers to be more objective and rational in their choices. It is necessary to understand that to set a weight for each of the criteria when comparing. This will also lay the groundwork so that the utility of each of the variables (in our case strategies) can be calculated.

The relative importance of objects is calculated using the average geometric element of each row of matrix \( A \) (4):

\[
   w_i = \frac{\sum_{j=1}^{m} u_{ij}}{m}
\]

Let’s evaluate the value of the eigenvalue to which the calculated vector of relative importance corresponds. To do this, we find the product \( A \times w \) (that is, we multiply each of the matrices from Table 1 by the value obtained by formula (4)). As a result, we will get the relative importance of strategies for each criterion.

The performed calculations based on the obtained estimates allow us to determine which of the strategies provides more advantages in the implementation of our goal: improving the quality of products of agroindustrial enterprises. Global priorities of strategies (alternatives) are obtained as a result of calculations according to formula (5):

\[
   U_i = w_{i1} \times u_{1j} + w_{i2} \times u_{2j} + w_{i3} \times u_{3j}
\]

\( U \) represents the utility function. For an illustrative example, let’s take the \( B \) criteria from all the BOCR criteria. Thus, we calculated the efficiency criteria \( w \) for him for each \( B_1-B_3 \): \( w_1 = 0.07; w_2 = 0.66; w_3 = 0.27 \). The sum of the normalized components of the vector is 1.0. By substituting the corresponding values, we determine the weight for the selected strategies \( M_1-U_1 \) and \( M_2-U_2 \):

\[
   U_1 = 0.07 \times 0.3 + 0.66 \times 0.3 + 0.27 \times 0.2 = 0.15;
   U_2 = 0.07 \times 0.7 + 0.66 \times 0.7 + 0.27 \times 0.8 = 0.85.
\]

At the same time, we note that, for example, 0.3, 0.3, and 0.2 represent the relative weight \( M_1 \) of the strategy, which it received as a result of the obtained comparison results and experts' opinions. Similarly, it is carried out according to other criteria presented in Figure 2. Therefore, in the same way as the weights were determined for each of the BOCR criteria (the result will be presented further on in Table 4) in general, the weight of the strategic approach was also evaluated (Table 3).

**Table 3. The relative weight of the benefits of implementing a new strategy relative to B1-B3.**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Vector of priorities of alternatives with respect to criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( B_1 )</td>
</tr>
<tr>
<td>M1</td>
<td>0.3</td>
</tr>
<tr>
<td>M2</td>
<td>0.7</td>
</tr>
</tbody>
</table>

Within the framework of the third stage of the BOCR assessment, a synthesis of the generalized priorities of alternatives in each of the four hierarchies was performed (Table 4).
Table 4. Evaluation of the implementation of selected strategies.

<table>
<thead>
<tr>
<th>Efficiency components</th>
<th>Efficiency criteria (wi)</th>
<th>U</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M1</td>
</tr>
<tr>
<td>B</td>
<td>compliance with priority areas of provision (0.07)</td>
<td>0.15</td>
</tr>
<tr>
<td></td>
<td>compliance with the strategy enterprise development (0.66)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>provision of financial potential (0.27)</td>
<td></td>
</tr>
<tr>
<td>O</td>
<td>the degree of novelty (0.15)</td>
<td>0.13</td>
</tr>
<tr>
<td></td>
<td>the degree of novelty of the results (0.07)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>financial prospects (0.78)</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Material costs (0.3)</td>
<td>0.3</td>
</tr>
<tr>
<td></td>
<td>salary expenses (0.6)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Motivational expenses (0.1)</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>Information risks (0.14)</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>resource risks (0.1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Personnel risks (0.76)</td>
<td></td>
</tr>
</tbody>
</table>

So, we note that M2, in our opinion, as a result of the assessment, showed that it has more advantages than the proposed version of strategy M1. Those strategies that provide real benefits for the environment have advantages in international markets. The M2 strategy is aimed specifically at offering opportunities to reduce costs through the introduction of sustainable practices. By minimizing dependence on synthetic pesticides and fertilizers, agrobusiness companies can lower production costs. In addition, the implementation of water-efficient irrigation systems helps conserve water resources and reduces operating costs associated with water use. At the same time, in our opinion, the Integrated Pest Management (IPM) system should occupy a central position in the strategy. It should be noted that, despite the low level of solvency of the population of Ukraine, in our opinion, it is precisely thanks to the transition to organic farming and the introduction of environmentally friendly technologies that these enterprises can enter foreign markets, where consumers are willing to pay higher prices for organic products. This not only increases revenue, but also improves brand reputation and customer loyalty internationally, and as a result, increases financial stability. In addition, the use of natural pest management methods and fertilizers reduces the dependence on expensive synthetic inputs, which reduces operating costs and allows products to be sold domestically at a reduced price.

**DISCUSSION**

As part of our research, we evaluate risks and other components that have a great influence on the choice of the optimal strategy. A similar approach was followed by Singh, et.al. (2019) who, due to the challenges and opportunities to consider various strategic scenarios for the development of agricultural enterprises, however, their approach was extremely dependent on the climate change factor, when ours does not. At the same time, the influence of ecology on the choice of the optimal organizational and economic strategy for the development of an agroindustrial enterprise was considered by Voronkova, et.al. (2018), however, their assessment method was based more on their own analysis, when we propose to combine their own results with the opinion of leading experts. Note that Kryshtanovych et.al. (2022) and Sylkin (2022) proposed an approach that is based on expert analysis and involves modelling through comparison according to a certain list of criteria, while they also set the goal of creating information support for making effective strategic decisions in the COVID pandemic-19 conditions. But we do not offer such a large number of criteria, since the number of the criteria is an obstacle to application in practice. At the same time, we note that it is extremely popular for the agroindustrial complex to model management strategies, be it logistics (Zhovnirchyk, et.al., 2023) or greening (Marinchenko, 2020). However, in the first and second cases, only one model is proposed. In our opinion, this is wrong, since there should be variability and different options for agricultural managers.

Strategies are always a vision of the future because taking technology into account is a reasonable decision. It was true to present a strategy for improving the quality of agricultural products through digital technologies (Saiz-Rubio, 2020; Xu, et.al., 2023; Gagliano, 2015; Moezzi, et.al., 2019), however, in our opinion, this is still a question requires more careful consideration since new technologies are developing and changing so rapidly that the proposed strategies may simply lose their relevance. That is why in our study the criteria by which strategies are assessed are more stable and generally
accepted, such as costs, benefits, opportunities, and risks. Strategies to ensure economic security (Marhasova, et.al., 2022), and food security (Schmink, 2020; Miswar, 2023) also take place, but in this context, their impact on product quality can be more characterized as indirect due to a greater focus on overall development.

In summary, we note that our study proposes an approach that, using the BOCR method, allows us to holistically and multi-dimensionally assess the feasibility and possibility of choosing two strategies to improve product quality. The simulation provided the necessary information and a framework for planning and making informed decisions regarding strategy selection.

CONCLUSIONS

Thanks to the use of combined and synergetic approaches to research methods, an information basis was created for the development and implementation of the most optimal strategy for improving product quality for agroindustrial enterprises in Ukraine. In our opinion, the innovativeness of the results obtained by the team of authors lies in the fact that two potential strategies for improving the quality of products of agro-industrial enterprises of Ukraine were compared according to a number of criteria, and the one that turned out to be better than the other was chosen according to a number of criteria according to the applied methodology.

Based on the results of the study, we see that the limitation is the list itself in the BOCR methodology of only four criteria, and this may not be enough for choosing a strategy. Separately, we note the fact that the restriction concerns the lack of use of a specific enterprise. Overall, the approach is intended for the industry as a whole, but selecting specific businesses could be a focus for further research. To address this limitation in future research, possible extensions to each criterion should be carefully analyzed. We also understand that the hyperdynamic nature of the external environment is not just words, but the reality in which Ukrainian agroindustrial enterprises operate every day due to the invasion of the Russian Federation. In such conditions, a new approach to developing strategies and assessing their effectiveness is needed. However, further research should also pay attention to the tactical level.

ADDITIONAL INFORMATION

AUTHOR CONTRIBUTIONS

Conceptualization: Nazariy Lapychak, Orest Krasivsky
Data curation: Nazariy Lapychak, Orest Krasivsky, Svetlana Frunza
Formal Analysis: Nazariy Lapychak, Orest Krasivsky, Svetlana Frunza, Liuba Peretiatko, Roman Prots
Methodology: Nazariy Lapychak, Orest Krasivsky, Svetlana Frunza, Liuba Peretiatko, Roman Prots
Software: Nazariy Lapychak, Orest Krasivsky, Svetlana Frunza, Liuba Peretiatko, Roman Prots
Resources: Nazariy Lapychak, Orest Krasivsky, Svetlana Frunza, Liuba Peretiatko
Supervision: Nazariy Lapychak, Orest Krasivsky
Validation: Nazariy Lapychak, Orest Krasivsky
Investigation: Nazariy Lapychak, Orest Krasivsky, Svetlana Frunza, Liuba Peretiatko, Roman Prots
Visualization: Nazariy Lapychak, Orest Krasivsky, Svetlana Frunza
Project administration: Nazariy Lapychak
Writing – review & editing: Nazariy Lapychak, Orest Krasivsky
Writing – original draft: Nazariy Lapychak, Orest Krasivsky, Svetlana Frunza, Liuba Peretiatko, Roman Prots

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REFERENCES


Лапичак Н., Красівський О., Фрунза С., Перетятко Л., Проць Р.

СТРАТЕГІЯ ПІДВИЩЕННЯ ЯКОСТІ ПРОДУКЦІЇ В КОНТЕКСТІ ПОКРАЩЕННЯ ФІНАНСОВИХ ПОКАЗНИКІВ ДІЯЛЬНОСТІ АГРОПРОПРОМИСЛОВИХ ПІДПРИЄМСТВ

Основною метою дослідження є обґрунтування найбільш оптимальної стратегії підвищення якості продукції для агropромислових підприємств України. Об’єктом дослідження є продукція агropромислового комплексу України. Наукове завдання полягає у формуванні сучасного наукового підходу до оцінки варіантів стратегій підвищення якості продукції агropромислових підприємств України. Методологія дослідження передбачає застосування методу BOCR, який полягає в моделюванні з установленням очікуваних позитивних результатів, додаткових витрат, нових можливостей і потенційних ризиків у контексті покращення фінансових показників діяльності агropромислових підприємств. У рамках методу BOCR для порівняння об’єктів дослідження за допомогою допоміжного методу Дельфі використано метод експертного аналізу. У результаті проведеного дослідження було створено інформаційну базу для розробки та реалізації найбільш оптимальної стратегії підвищення якості продукції для агropромислових підприємств України. Інноваційність отриманих результатів полягає в тому, що через низку критеріїв було проведено порівняння двох потенційних стратегій підвищення якості продукції для агropромислових підприємств України та обрано найбільш оптимальну в контексті покращення фінансового стану. Перспективи подальших досліджень мають бути зосереджені на застосуванні сформованого підходу до порівняння та вибору оптимальних механізмів реалізації цих стратегій.

Ключові слова: агropромисловий сектор економіки, стратегічний підхід, якість продукції, фінансові показники діяльності, моделювання

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