ANALYSIS OF CONSUMER PERCEPTION OF ORGANIC FRUITS AND VEGETABLES FROM A MANAGERIAL PERSPECTIVE

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Abstract: *In this paper, we analyzed the behavior of consumers from several counties (Mehedinti, Timiș, Caraș Severin, Dolj) regarding the purchase and consumption of organic fruits and vegetables. This study highlights the sociological and economic factors that can influence food choices in the context of the development of interest in healthy eating. The research method was the online survey, and the instrument used was the questionnaire created in Google forms. The questionnaire included questions about the frequency of consumption, but also the motivations for choosing organic fruits and vegetables. Although in recent years, consumer interest in the consumption of organic fruits and vegetables has increased because they are much healthier, the price remains a barrier because they are much more expensive than conventional fruits and vegetables.*

Key words*: organic products, consumer behavior, healthy eating.*

INTRODUCTION

The fruit and vegetable sector makes a significant contribution to the Gross Domestic Product, to the development and utilization of human resources, and to the country's participation in international trade of agri-food products. Experience in the field has shown that the large and diverse number of economic actors involved – from farms, storage and distribution companies, processing enterprises, and product marketing firms, to financial institutions and public or private organizations – requires an efficient mechanism for coordination and cooperation among them. These "actors" need to be connected by a common goal – meeting consumer needs – thus ensuring a smooth flow of agri-food products to different categories of customers [5].

The main objectives of organic production are highlighted below:

- protecting the environment and the climate;
- maintaining and improving soil fertility;
- contributing to the preservation of a healthy environment for humans, plants, and animals;
- supporting and enhancing biodiversity;
- ensuring proper growth conditions and animal welfare, in accordance with their physiological needs;
- increasing the availability of plant genetic material suitable for organic agriculture;
- developing and diversifying organic varieties and heterogeneous plant materials;
- promoting plant breeding adapted to organic systems, with a positive impact on the sustainability and economic viability of the organic sector [6].

Fruits and vegetables are essential components of a healthy diet. In organic farming, chemical plant protection products and nitrogen-based mineral fertilizers are avoided, which brings significant environmental benefits and reduces unwanted residues in the final products. However, this type of farming requires more labor and generally results in lower yields compared to conventional agriculture [3].

Because synthetic pesticides are not used, consumers often expect organic products to be completely free of chemical substances. In reality, though, even organic products are not always entirely uncontaminated. Pesticides are already widely spread in the environment, and modern analytical methods can detect even the smallest traces of these

substances. Therefore, the issue of unwanted residues can be clearly illustrated using the example of fruits and vegetables[3].

The fruit and vegetable sector accounts for approximately 17% of the total agricultural production value in the European Union, which gives it a strategic importance for agriculture as well as for the 500 million European consumers. In Europe, there are around one million farms specialized in horticulture, and the production of fruits and citrus contributes to environmental conservation, supports economic growth, and generates numerous direct and indirect jobs in many regions across the continent. [5].

By consuming organic fruits and vegetables but also by growing them we can protect the environment and the main advantages are listed below in the figure 1:

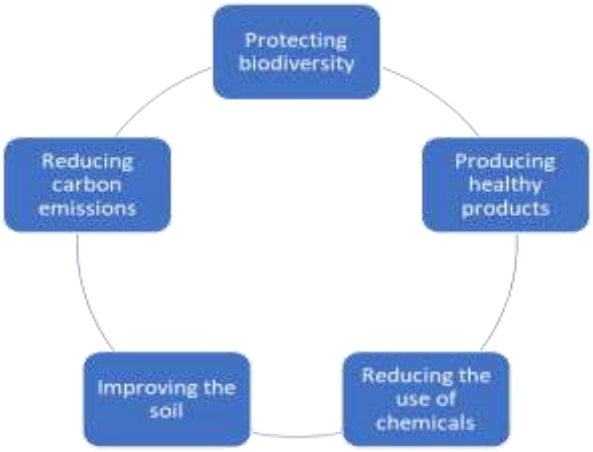

Figure 1. Advantages of growing and consuming organic products

Source: adapted from [6]

In table 1 we presented the dynamics of operators and cultivated areas in organic agriculture during the period 2015-2024. As can be seen in the number of certified operators in 2015, it was 12231 and in 2024 it reached 15330 operators. Between 2016-2020, there was a decrease in the total number of certified operators in organic agriculture compared to 2015 and at the same time, the total area in organic agriculture (ha) was smaller compared to 2015 and 2024, observing a significant increase in 2024 of 781398 ha.

Table 1.

Dynamics of operators and areas in organic agriculture 2015-2024

Indicator	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Total number of certified operators in organic agriculture	12231	10562	8434	9008	9821	10210	12231	13260	14061	15330
Total area in organic farming (ha)	245.923	226.308	258.470	326.259	395.227	468.887	578.727	644.519	693998	781398
Permanent crops: orchards, vines, fruit trees, nuts, etc. (ha)	11117,26	12019, 81	13165,41	18S69,27	22143.43	22219,42	21233,35	21563,44	22001,06	21942

Source: [7]

Regarding cultivated fresh vegetables, including melons and strawberries, it is noted that the smallest cultivated area was in 2019 at 804.29 ha and the largest was in 2022 at 1861.22 ha and in 2024 at 1837.255 ha.

MATERIALS AND METHODS

This study highlights the sociological and economic factors that can influence food choices in the context of the development of interest in healthy eating. The research sample consisted of 120 respondents, who completed the online questionnaire using the Google Forms platform. The sampling method used is non-probabilistic convenience sampling, since the questionnaire was sent online. The questionnaire was structured into 15 closed questions, logically organized starting with general questions (socio-demographic data) and continuing with questions specific to the research topic. The questionnaire included questions about the frequency of consumption, but also the motivations for choosing organic fruits and vegetables.

The collected data were exported from Google Forms and processed using Microsoft Excel.

RESEARCH RESULTS

Consumers who want to eat healthy are informed by specialists [8] which are the most contaminated vegetables and fruits, among which several fruits and vegetables were listed (strawberries, spinach, nectarines, apples, grapes, cherries, tomatoes, peppers, celery, etc. That is why it is preferable to consume organic vegetables and fruits on the market. There are several studies on the consumption of organic products in specialized literature) [1,2,4,6].

In the figures below figure 7, we have presented the most consumed organic fruits and vegetables: such as apples (figure 2), bananas (figure 3) and oranges (figure 4), to which are added watermelon (figure 5), pineapples, cabbage (figure 6) , tomatoes (figure 7), organic spinach (figure 8) sweet potatoes. The selection varies depending on their availability on the market and consumer preferences, but they frequently appear in the charts due to their popularity and the fact that they are grown with fewer pesticides.

Figure 2. Organic apples

Source: [9]

Figure 3. Organic bananas

Source: [10]

Figure 4. Organic oranges

Source: [11]

Figure 5. Organic watermelon

Source: [12]

Figure 6. Organic cabbage
Source: [13]

Figure 7. Organic tomatoes
Source: [14]

Figure 8. Organic spinach
Source:[15]

The questionnaire administered to the respondents included a series of demographic questions, addressing aspects such as age, gender, education level, background, and monthly income."

For the question regarding the respondents' age, we observe that 32% are between 18–24 years old, 20% are between 25–34 years old, 20% are between 35–44 years old, 19% are between 45–54 years old, 8% are over 55 years old, and 1% are under 18 years old (figure 9).

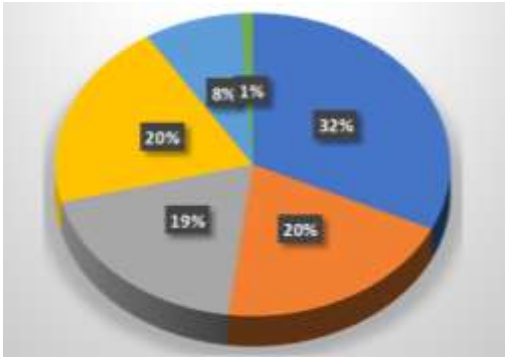

Figure 9. Respondents' age

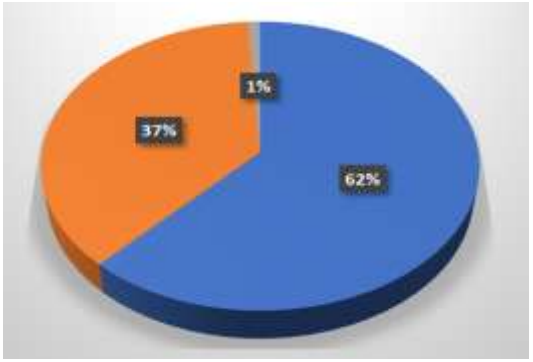

Figure 10. Respondents' gender

Regarding the gender of the respondents, we observe that 62% are female, 37% are male, and 1% selected the 'other' option.

47% of respondents have completed a bachelor's degree, representing nearly half of the total. Additionally, 13% hold a master's degree, and 9% have completed post-secondary vocational studies, showing that a significant segment continued their education after high school or college. In contrast, 27% have only a high school diploma, and 4% hold a doctoral degree.

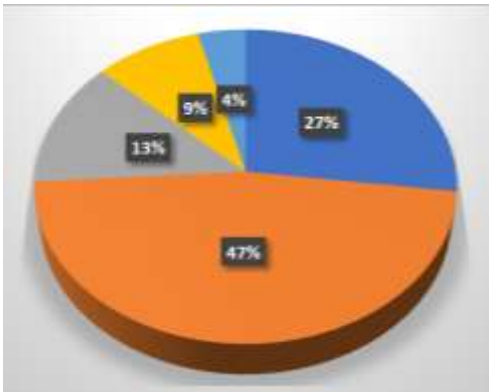

Figure 11. Respondents' Educational Level

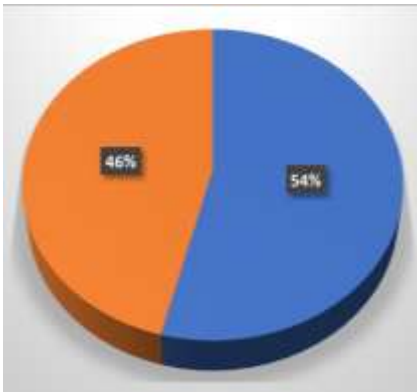

Figure 12. Respondents' Background

Regarding the respondents' background, 54% come from urban areas, while 46% come from rural areas.

Regarding monthly income, 41% of respondents earn between 3,000 and 5,000 lei, 36% earn over 5,000 lei, 17% earn between 1,000 and 3,000 lei, and 6% earn less than 1,000 lei.

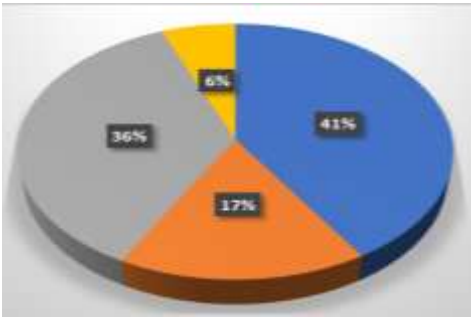

Figure 13. Respondents' Monthly Income

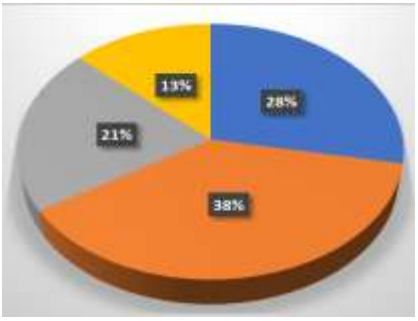

Figure 14. Percentage Distribution of Fruit and Vegetable Consumption

The questionnaire included questions regarding the regular consumption of fruits and vegetables. Respondents reported that 28% consume fruits and vegetables daily, 38% several times a week, 21% a few times a month, and 13% rarely.

The questionnaire also included a question regarding how often respondents purchase organic fruits and vegetables. According to their answers, 14% reported buying them very frequently, 33% frequently, 38% sometimes, 14% rarely, and 1% never. The results indicate that most respondents purchase organic products occasionally or regularly, while a small percentage avoid or never buy them.

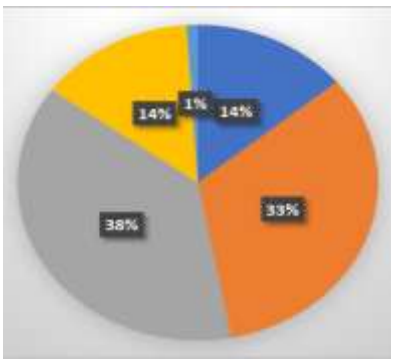

Figure 15. Percentage Distribution of the Frequency of Purchasing Organic Fruits and Vegetables

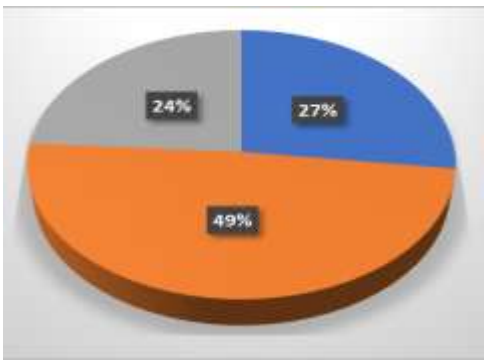

Figure 16. Knowledge of Organic Products

When asked about their familiarity with the concept of organic products, 27% of respondents reported being very familiar, 49% moderately familiar, and 24% slightly familiar. These results indicate that the majority of respondents have a moderate understanding of organic products, while only a quarter have limited knowledge of the concept.

Respondents were also asked about the reasons they choose organic fruits and vegetables. Analysis of their answers shows that 45% select them for personal health, 23% because they feel confident the products are free of chemicals, 17% for their good taste, 8% to support organic farming, and 7% due to environmental benefits.

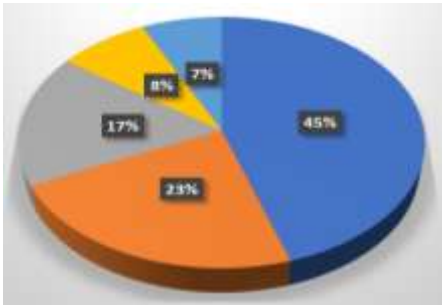

Figure 17. Percentage Distribution of Reasons for Choosing Organic Products

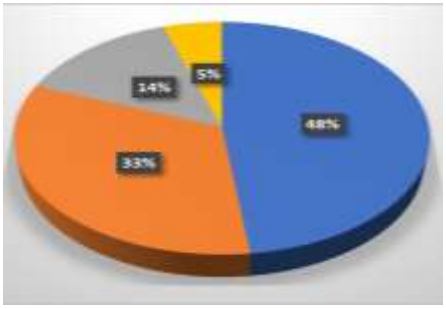

Figure 18. Percentage Distribution of the Price of Organic Products

Regarding respondents' perception of the price of organic fruits and vegetables, 48% believe they are slightly more expensive, 33% think they are much more expensive, 14% consider the prices almost the same, and 5% are unsure.

Regarding the reasons why respondents do not purchase organic fruits and vegetables, 44% cited the high price, 43% mentioned limited availability in stores, 7% are not convinced of their benefits, and 6% prefer conventional products.

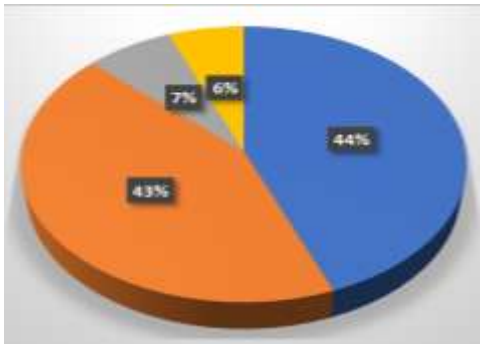

Figure 19. Percentage distribution of reasons for not buying eco-friendly products

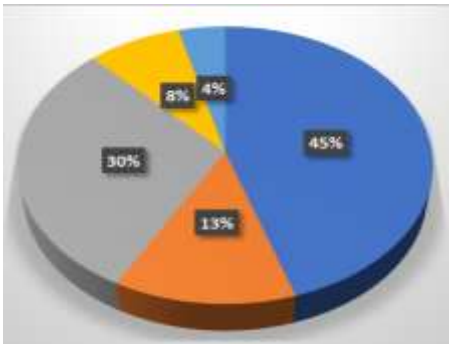

Figure 20. Distribution of answers regarding trust in organic labels

When asked if respondents trust ecological labels, it is observed that 45% have quite a lot of trust, 13% have a lot of trust, 30% a little, 4% have absolutely no trust at all and 8% do not know.

Managers must highlight the health benefits of organic fruits and vegetables through appropriate labeling, certification, and marketing campaigns to convince consumers that although these products are more expensive, they are worth purchasing.

When asked where they get information about organic products, we note that 36% of respondents answered the internet, 18% specialized stores, 20% from family and friends, 15% from social networks they are registered on, 6% TV advertising, and 5% from other sources.

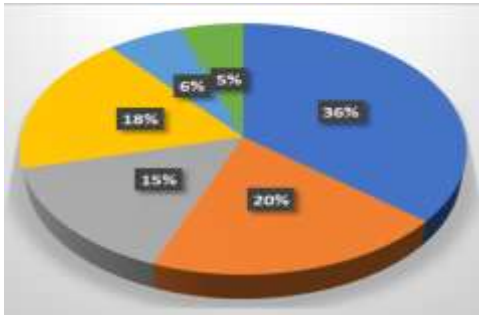

Figure 21. Distribution of responses regarding information about organic products

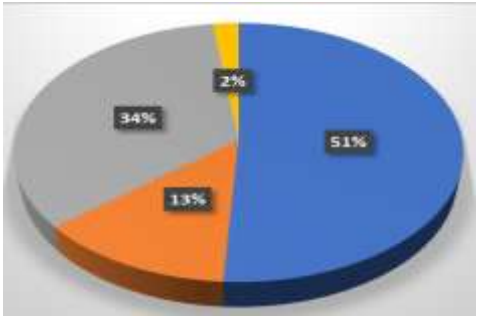

Figure 22. The importance of environmental impact

When asked how important the environmental impact is to you when choosing organic fruits and vegetables, we note that 34% answered very important, 51% important, 13% consider it a little important and 2% answered that it is not important.
When asked if they think they will buy more organic products in the future, we noticed that 40% answered yes definitely, 47% probably yes, 11% probably no and 1% answered no.

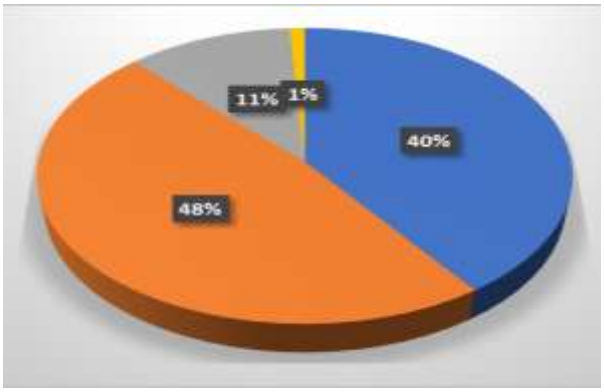

Figure 23. Distribution of responses regarding purchasing organic products in the future

Managers should promote and position organic fruits and vegetables not only as healthy products, but also as lifestyle choices.

CONCLUSIONS

Organic fruits and vegetables are extremely beneficial for human health because they are grown without chemicals and have a high content of vitamins and minerals. In addition to being healthy, they also play an important role in the environment, maintaining soil fertility and reducing pollution.

Following the study conducted, we observed that only 28% of respondents consume organic fruits and vegetables daily, and 45% of consumers perceive organic fruits and vegetables as healthier.

Most respondents believe that organic vegetables and fruits are more expensive than conventional ones.

The main reasons why respondents do not purchase organic fruits and vegetables are the price (44%) and their limited availability, as indicated by 43% of those surveyed. Managers should therefore optimize costs and highlight the value of organic fruits and vegetables so that these factors are no longer perceived as barriers.

Respondents obtain most of their information about organic fruits and vegetables from the internet.

Additionally, promoting the health benefits and the environmental care associated with organic products can lead to increased consumption of organic fruits and vegetables and strengthen competitive advantage.

It is recommended that producers attach particular importance to the visible display of recognised organic certifications, as well as the provision of clear information on origin and production methods. It is also recommended to strengthen communication activities focused on the health and environmental benefits of organic fruit and vegetables, in order to justify the higher price compared to conventional products.

Decision-makers need to develop some support policies for organic production, which can reduce the price difference of organic products compared to conventional ones and facilitate consumers' access to such sustainable products.

Future research could aim to increase the sample at a national or perhaps even international level, as well as conduct comparative studies between different consumer segments.

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