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MARKETING THROUGH ALTERNATIVE METHODS OF AGRI-FOOD PRODUCTS. BIBLIOMETRIC ANALYSIS

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Abstract: In the context of changing consumption trends of the population, diversifying the ways of marketing agro-food products becomes a priority for the needs, preferences and satisfaction of consumers. The present study aims to identify some of the alternative methods, found in the specialized literature, through which agro-food products can be directly utilized by producers. In order to create a database of relevant scientific resources, the information platform was accessed - the WoS database, from where, after querying the keywords "marketing" and "agri-food products", they selected the scientific works that address these two subjects.

Keywords: agro-food product, producer, marketing, commercialization, alternative methods.

JEL classification: Q13

INTRODUCTION

According to Pătărlăgeanu et al. 2019, the importance of agri-food marketing is given by the nature of human physiological needs towards agri-food products, and the fact that both the agricultural and food sectors contribute significantly to economic development/growth. The agricultural sector and that of the food industry are two sectors connected both horizontally and vertically with all other branches of the economy, being directly involved in the national, regional, international and world economic environment.

The market for agri-food products has grown substantially globally. At the same time, social concern in food-related issues, such as: food safety, food quality, traceability and sustainability, is ever greater. These concerns highlighted the need for the development of new models and tools for the management of agri-food supply chains, taking into account the attributes that differentiate them from other industrial supply chains, as well as the uncertainties present in the sector (Esteso et al. 2017).

The markets of agro-food products are among the main relevant pawns for the valorization of these products. The relationship between producers, intermediaries and consumers is relevant for assessing the implementation of a feasible future strategy on sustainable rural development, including the conservation of genetic resources for food and agriculture (Sava & Antofie, 2019).

In the modern market economy, agro-food chains have been imposed and strengthened due to the evolution registered by the demand and supply of food in the last decades, the dynamics determined by the fragmentation of the market, on the one hand, and the specific processes of consumption and emancipation of consumers, on the other part (Boboc et al. 2017).

With the outbreak of the health crisis caused by the Covid-19 pandemic, a series of dysfunctions was generated in the global agri-food system, especially in farms, in the supply chains of inputs and agri-food products, and at the level of demand for agri-food products. In Romania, in the current context, agriculture is characterized by a significant share of family

farms, mostly subsistence and semi-subsistence. A study carried out in order to ensure the conditions for the valorization of agricultural products that used as a research tool a questionnaire that was applied in the agri-food markets in 2 municipalities, respectively Călărași and Oltenita, as well as in 9 localities in Călărași county, with a population that exceeds 5,000 inhabitants, where weekly markets and fairs are organized where local agri-food products are valued, identified the problems faced by producers. Among the main challenges are: the change in consumption patterns, the blockages in the peasant markets and the development of online delivery services, the syncopation in the agro-industrial sector, the closure of HoReCa companies, but also of schools, canteens, etc. All these challenges had the effect, first of all, of reducing the incomes of producers of agri-food products due to the drastic reduction of agricultural production (Cretu et al. 2022).

Studies show that the consumption trends of the population are constantly changing. Consumers are increasingly informed and pay more attention to the origin and quality of the products they purchase. Recent decades have seen a significant increase in interest in agri-food products certified under quality schemes, which are often perceived to be of superior quality and with unique sensory properties. Quality systems are a way to recognize the quality of agri-food products to enable consumers to make informed choices. In addition to product quality, producers must maintain a food safety standard by following clear rules that are verified by the competent institutions of the Romanian Government (Ṣomîcu & Vladu, 2023).

A paper presenting the results of a market research on the behavior of consumers of agro-food products and their desire to adopt a more sustainable diet, carried out in one of the developing regions of the European Union: the North-East Region of Romania, more precisely in Iași county, it indicates that personal benefits (eg taste, perceived health benefits and freshness) are the main motivations that lead to the adoption of sustainable consumption, while environmental aspects have not reached such great significance among consumers. Research findings have shown that consumers are generally not well informed about the environmental implications of their diet. At the same time, consumers' ecological attitudes are not aligned with their actual purchasing practices: although most people report being concerned about environmental protection, the main motivations for agri-food purchases do not necessarily involve environmental concerns such as transport, reusable/recyclable packaging or the desire to protect the environment. The research showed that women are more willing to change their food consumption behavior to contribute to a sustainable environment. At the same time, older people are more determined to purchase agro-food products produced in a sustainable manner (Robu et al. 2021).

MATERIALS AND METHODS

To carry out the study, a systematic review of the existing publications in the Web of Science (WoS) database was carried out regarding the commercialization of agri-food products by alternative methods. The purpose of this review was to provide an overview of the evolution and research directions in this field.

Bibliometric analysis is a quantitative research method, which centralizes scientific studies according to several criteria (subject, title, keywords, authors, years, countries, etc.). The research started from creating the database by setting up the "Subject" field in the WoS

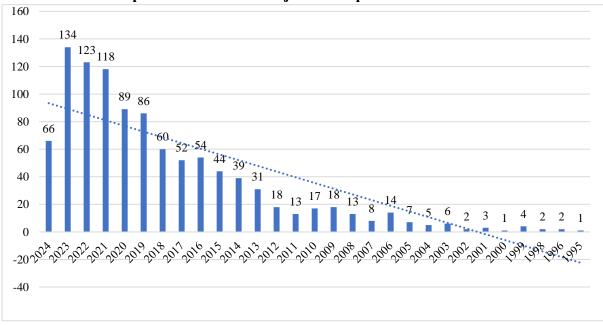
database, which searches scientific articles by keywords, title, abstract and author. For the search, the words "marketing" and "agri food products" were selected in the subject field. The results displayed after querying the two selected words, which had the topic as a search filter, displayed a sample of 1,030 publications in the WoS database, and by means of the VOSviewer software, the publication data was represented graphically, through maps and then interpreted.

RESULTS AND DISSCUSION

Following the query of the keywords "marketing" and "agri-food products", 1,030 publications were identified that were found in the WoS database, most of the publications belonging to categories such as: Agricultural Economy Policy, Economy, Science Technology Food and Environmental Sciences. Most publications are classified as scientific articles, proceeding papers and review articles.

Regarding the main publication titles in which the studied articles are found, Sustainability, Scientific Papers Series Management Economic engineering in Agriculture and Rural Development, British Food Journal, Agriculture Basel and Foods, record the most publications.

Regarding research areas, most publications fall into domains such as: agriculture, business economics, food science technology, and environmental science.



Graph 1 - Dynamics of WoS publications with the words "marketing" & "agri food products" as their subject in the period 1995-2024

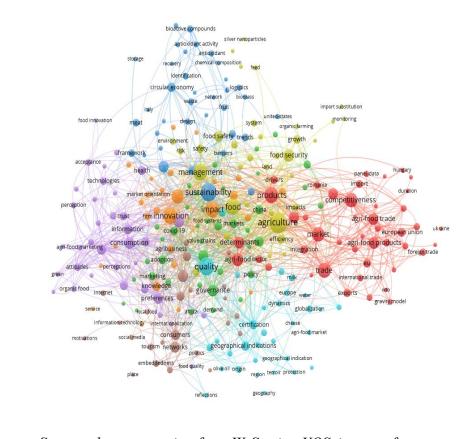
Source: data processing from WoS, accessed on 09.09.2024.

In the graph above, we can see an increasing trend, with small variations, of the publications indexed in WoS during the period 1995-2024 on the analyzed subjects. The maximum number of scientific papers was reached in the year 2023 when 134 articles were produced, and the minimum number in the year 1995 (1 article), respectively the year 2000 (1 article). It was found that starting from 2013 (31 articles) the number of articles published in

WoS began to increase significantly, this increase can be attributed to the impact of agricultural policy measures within the Community Agricultural Policy at the level of agri-food markets in the EU countries (graph 1).

The first paper indexed in WoS that addresses the researched topic appeared in 1995 in the Canadian Journal of Agricultural Economics-Revue Canadienne D Economie Rurale, and presents the perspectives of the food system moving away from mass markets driven by the production of standardized goods to many niche markets smaller, diverse and customized, driven by consumer preferences for specific food characteristics.

Fig. 1 - Correlation of the subjects "marketing" & "agri food products" with other terms



Source: data processing from WoS using VOSviewer software

& VOSviewer

The first cluster (red) named "agri-food" is made up of 44 terms: products, market, competitiveness, agri-food trade, agri-food sector, agrifood products, integration, export, import, international trade, liberalization, etc.

The second cluster (green) named "marketing" is made up of 38 terms: farmers, e-commerce, value chains, standards, policy, governance, smallholders, etc.

The third (blue) closed cluster called "sustainability" is made up of 36 terms: supply chain, industry, circular economy, energy, design, digital agriculture, framework, etc.

The fourth cluster (yellow) called "agricultural management" is made up of 36 terms: food security, food safety, management, food, agriculture, efficiency, impacts, growth, productivity, etc.

The fifth cluster (purple) called "consumption" is made up of 35 terms: preferences, attitudes, organic food, behavior, information, strategy, satisfaction, perception, health, etc.

The sixth cluster (light blue) called "rural development" is made up of 32 terms: certification, quality, globalization, protection, region, agri-food market, price, etc.

The seventh cluster (orange) called "innovation" is made up of 27 terms: performance, impact, food industry, technology, product development, sustainable development, etc.

The eighth cluster (brown) called "systems" is made up of 25 terms: supply chains, consumers, networks, alternative food networks, tourism, social media, internet, etc. (Fig. 1).

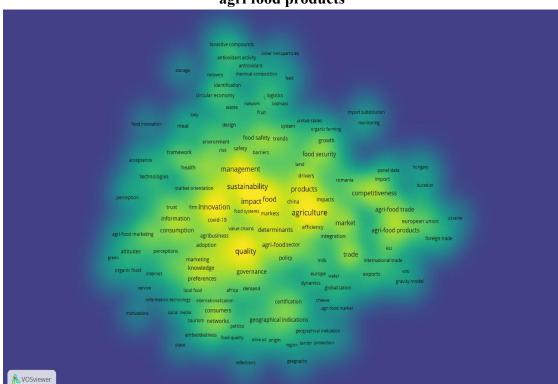


Fig. 2 - Graphic representation of the density of keywords the words "marketing" & "agri food products"

Source: data processing from WoS using VOSviewer software

The figure above represents the density map that is generated by the VOSviewer program and indicates the terms/keywords that are most frequently used in the bibliographic analysis or in the research carried out on a certain topic. Based on the frequency of keywords, the density map indicates the areas of interest/research topics that are more important/relevant in that area. Therefore, for the subject analyzed in the present study, keywords such as: sustainability, agriculture, innovation, quality, impact, food, management, products, governance, agribusiness, food security, food safety are identified (Fig. 2).

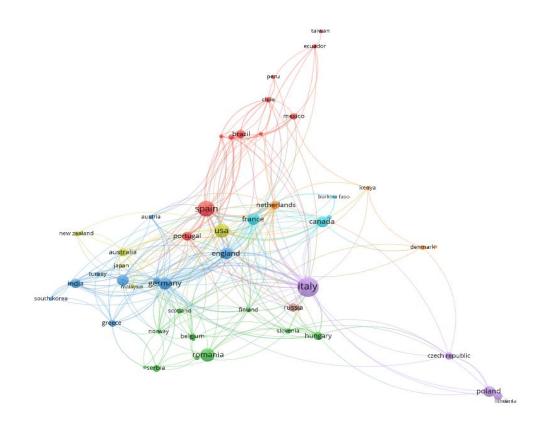
Table 1 – Top 10 countries with the largest number of publications indexed in WoS according to the keywords "marketing" & "agri food products"

Nr. crt.	Country	Number of registered publications	% of 1.030
1.	Italy	158	15,27
2.	Spain	102	9,86
3.	USA	76	7,34
4.	Romania	71	6,86
5.	Germana	56	5,41
6.	Anglia	52	5,02
7.	Franța	52	5,02
8.	Polonia	50	4,83
9.	Canada	49	4,73
10.	China	49	4,73

Source: data processing from WoS, accessed on 09.09.2024

The most publications were registered in Italy (158 publications), representing a share of 15.27% of the total publications indexed in WoS. Romania registered a number of 71 publications, holding a weight of approx. 7%, thus ranking fourth in the list with the largest number of publications in WoS, the interest of Romanian researchers in the subject being addressed being high.

Fig. 3 - Graphic representation of the co-author countries



Source: data processing from WoS using VOSviewer software

In the figure above, a map has been represented that shows the correlation between the topic addressed and the countries that address the topic addressed in this research to the greatest extent. The map was generated with the aim of identifying the frequency of partnerships between countries, and is made up of nodes representing the countries from which the researches taken into account in the analysis originate. At the same time, the colors of the clusters used on the map allow the identification of research directions, and the distance between nodes suggests the level of cooperation between countries. Through this map, the countries that give importance to the research topic were identified, these being: Italy, Spain, USA, Romania, Germany, England, France, Canada, Poland and China. Also, the research directions are diverse (8 research directions). It was observed that Romania presents research directions similar to those of countries such as: Hungary, Serbia, Slovakia, Belgium, Finland, Croatia and Turkey (Fig. 3).

CONCLUSIONS

The topic of commercialization of agri-food products through alternative methods is a very current one among researchers from all over the world, this is also highlighted in the large number of publications developed on this subject.

The present research provides an overview of the research conducted to date, which presents promising directions for future approaches to the topic. The analysis was based on 1,040 publications that were selected in the bibliometric analysis to present the connections between the topic studied and the interest given to it depending on the country. The analysis fulfilled its objective, by identifying a significant number of publications, from which several perspectives can be extracted regarding the commercialization of agri-food products, through alternative methods.

The results of the analysis revealed a substantial increase in the number of publications in the period 2012-2024, most of them being published in the Multidisciplinary Digital Publishing Institute (MDPI) and Elsevier, these two being some of the most important journals that contribute to the literature on agri-food marketing.

Regarding the global impact of the works, it was found that in the top 10 with the largest number of publications in this field, Romania occupying the 4th place in the ranking with a weight of 6.86% of the articles (71 publications).

By grouping the keywords resulting from the database query, 3 main topics from the specialized literature were noted: Agriculture and Sustainability which were interconnected by different terms such as: innovation, quality, policies, marketing, etc.

In conclusion, the subject of the marketing of agri-food products through alternative methods needs special attention, especially in terms of the adoption of policies that support local producers in the marketing process so that they can increase their income from the valorization of agri-food products from their own households.

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