JEL: Q13, Q18, Q21

Anna Burkovska*, Alla Burkovska

Mykolayiv National Agrarian University
Ukraine
**Corresponding author*

SEMANTIC APPROACH TO FOOD MARKETING: THE INFLUENCE OF SUSTAINABLE DEVELOPMENT NARRATIVES ON THE UKRAINIAN MARKET

Purpose. *The purpose of the study is to evaluate the application of the semantic approach in food marketing by establishing the impact of narratives of sustainable development on the promotion of agricultural products on the market of Ukraine.*

Methodology / approach. *The study of how the analysed visual-semantic patterns are combined with consumer expectations regarding product quality, taste, attractiveness (desire to purchase), status, impact on the environment and local communities was conducted on the basis of a survey of consumers of retail chains (Silpo, ATB and MIDA) in Mykolaiv (Ukraine).*

Results. *The obtained results of the survey made it possible to confirm the research hypotheses and obtain answers to several research questions. The results of the study demonstrate that modern social narratives are reflected in the marketing of food products through consumers' perception of various elements of the product's image through visual-semantic patterns. The significance of the influence of narratives of sustainable development on the promotion of agricultural products on the market of Ukraine has been confirmed. The results of the study prove that the presence of the prefix "ECO" in the name of the product is an important factor, as this element can significantly influence the perception of the product as ecological, natural and responsible. It is noted that producers' consideration of sustainable development narratives will not only help increase sales, but will also form a positive brand image focused on sustainability, quality and social responsibility.*

Originality / scientific novelty. *Special attention of this research is paid to the influence of visual-semantic patterns on the formation of a positive image of the product among consumers who are under the influence of narratives of sustainable development. The study for the first time confirms the importance of this element in the perception of environmental friendliness, naturalness and responsibility of the product on the market of Ukraine. In addition, the work proves that producers' consideration of sustainability narratives has the potential not only to increase sales, but also to create a sustainable brand that meets consumer expectations for quality, social responsibility, and environmental safety.*

Practical value / implications. *The practical value of this study lies in its applicability to enhancing marketing strategies in the agricultural sector by aligning them with contemporary narratives of sustainable development. The findings can be effectively utilised by producers, marketing agencies, and regional development organisations to optimise branding and promotion strategies for food products. Specifically, the study highlights the importance of incorporating eco-friendly elements, such as the prefix "ECO" in product names, and leveraging language-specific visual-semantic patterns to align with consumer expectations. These insights can be used in developing targeted marketing campaigns that resonate with diverse consumer demographics, foster greater trust in product quality, and stimulate purchase intent.*

Key words: *sustainable development, sustainability, marketing, semantics, milk, agriculture.*

1. INTRODUCTION

The evolution of marketing approaches to the promotion of food products in recent years has been quite rapid, which allows us to observe a significant transition from narratives focused on stimulating maximum consumption to statements that emphasise care for the environment. These changes in the semantic content of tools for the promotion of food products are largely due to the transition to a green economy and the adoption of a course to build a socially responsible society [1]. An important role in this process is played by global trends of sustainable development, which are gaining momentum in most of the developed countries of the world and are gradually penetrating and establishing themselves in Ukrainian society.

Modern consumers are becoming more and more conscious in their choices and begin to understand more deeply the consequences of their own consumer decisions for the environment, society and their own health. This change in the consciousness of consumers leads to the formation of new consumer habits, which are characterised by the features of conscious consumption. This, in turn, places new demands on manufacturing companies and distributors, who must adapt their marketing approaches to meet changing consumer expectations. For example, the same product may have different market perceptions depending on the approach to its marketing promotion [2]. Therefore, modern trends in the environmentalisation of society make it necessary to adapt domestic approaches to the marketing of food products in accordance with new challenges and market needs.

The implementation of sustainability narratives in marketing messages has two sides of influence, each of which plays an important role in shaping consumer behaviour. First, such messages are positively perceived by consumers who have a formed idea about the need for a green transition and always make an informed consumer choice [3]. This category of consumers is focused on purchasing products that meet their ethical and ecological principles. They actively look for products with eco-labels and are even willing to pay more for products that help protect the environment and support socially responsible practices. Such consumers are important allies for brands because they not only buy products, but also become brand ambassadors, spreading the word about its environmental initiatives through social media and personal contacts.

Secondly, such messages, being in the zone of direct contact with consumers who have not yet made a choice in favour of eco-consumption, act as a stimulus that lays the groundwork for changing their preferences in the distant future. These consumers may be less knowledgeable or sceptical about sustainability issues, but continued exposure to such messages can gradually change their attitudes. Repeated environmental and socially responsible narratives in advertising, on product packaging, in the media and on other platforms contribute to the formation of new standards of consumption that become the norm over time. It is a gradual process, but it has significant potential for long-term changes in consumer behaviour.

The semantics of marketing messages plays a decisive role in interaction with consumers, undergoing a complex process of reflection at the conscious and

subconscious levels. If the ideological core of the message coincides with the consumer's value system, it can lead to a profound influence on their decision to purchase a particular product. Formed patterns of interactions in the mind of the consumer act as a kind of filter that allows you to automatically accept or reject certain semantic constructions of marketing messages [4].

The impact of visual semantics, based on the perception of stylistic forms and the organisation of text messages, is also important. The language of the message, the way it is presented and the form of information presentation play a key role in forming the first impression of the consumer. This first impression determines whether the consumer will be interested in further interaction with the product or brand [5]. Therefore, the study of the peculiarities of the influence of semantic constructions on the behaviour of food consumers in the Ukrainian market is extremely important for the identification of stable patterns and the improvement of marketing approaches to the promotion of agricultural products.

The purpose of the study is to evaluate the application of the semantic approach in food marketing by establishing the impact of narratives of sustainable development on the promotion of agricultural products on the market of Ukraine. Additionally, it was assessed the effectiveness of different communication strategies in enhancing market competitiveness and fostering a stronger connection between producers and consumers in the Ukrainian agricultural sector.

2. LITERATURE REVIEW

Many scientists [1–5] emphasise the importance of integrating sustainable development and ethical practices into marketing, taking into account modern trends and consumer needs. Researchers reveal a wide range of influence of marketing strategies in the food industry through cultural adaptation and the use of locally relevant semantic elements in international marketing. The authors [6; 7] in their articles demonstrate how different approaches to marketing communications can contribute to effective promotion of products, as well as improve interaction with consumers. Thus, the mentioned studies delve into the psychological aspect of consumer behaviour based on verbal and non-verbal stimulation. In studies [8–10], scientists demonstrate the influence of sensory stimulus on consumer decisions. The authors emphasise the importance of integrating semantic data into management systems to ensure better interaction between elements of the marketing complex and increase the effectiveness of marketing strategies in agribusiness.

Scientists [11] use the theory of cultural compatibility to explain the peculiarities of the semantics of dialogue with consumers. Their research demonstrates how the success of marketing communication depends on its compliance with the cultural norms and values of the target audience. The authors [12] extend the traditional understanding of paralinguistics, which usually deals with non-verbal aspects of communication, to marketing, exploring how emoji can serve as a means of paralinguistic product signals. Scientists emphasise that emoji can change the emotional tone and meaning of marketing messages,

influencing consumer perception.

Scientists [13] use conceptual mapping and semantic network analysis to identify key factors that influence consumer perception of a product. Researchers study the impact of not only the content of marketing messages on consumers, but also other factors that appeal to the perception of product information. Thus, the article [14] investigates the influence of visual elements in advertising on the perception of smells and the intention to purchase a product. The authors analyse how mental images caused by visual stimulus can influence the multisensory marketing perception of consumers. In turn, research [15] is based on the concept of multisensory marketing, which considers the interaction of various sensory signals (visual, auditory, olfactory) in the formation of consumer experience. The authors emphasise that fragrances have a significant potential to influence consumer emotions and behaviour.

Many authors consider the narratives of sustainable development in the context of food security of entire regions. Thus, scientists [16–20] comprehensively research various aspects of food security, emphasising the importance of socio-psychological factors, economic planning, monitoring indicators and investments in the agricultural sector. They demonstrate that food security is a multifaceted problem that requires an interdisciplinary approach to ensure it effectively. These works also emphasise the importance of sustainable development of the agricultural sector to ensure national food security.

In addition, social media is becoming not only a platform for customer interaction, but also an important mechanism for increasing product awareness, attracting new customers and strengthening consumer trust. Thus, the article [21] offers a comprehensive study of the factors that contribute to business success through social media. The author examines how the various elements that facilitate social media marketing influence the effectiveness of companies and contribute to the achievement of their strategic goals through relevant narratives. Researchers [22] studied the effectiveness of meme marketing by developing a model that takes into account the influence of various factors on the perception and effectiveness of this type of marketing campaigns. The authors establish how memes, a popular phenomenon in Internet culture, can be used based on their semantic impact to increase engagement and achieve marketing goals.

The authors [23] use the semantic differential to collect data on consumer attitudes and consumer behaviour, which includes emotional, social, and cultural factors. The article describes in detail how this method enables the identification of both positive and negative perceptions and associations connected with a product. The authors [24] use several research approaches, including the analysis of existing practices in food promotion and the review of positive results from their adaptation to healthy eating. Scientists have shown that healthy products can benefit from adapting proven marketing practices used to promote less healthy products. Effective implementation of such practices can help promote healthy eating and change consumer habits in favour of healthier options.

Researchers [25] use an experimental approach to demonstrate how different levels of nonverbal dominance affect the effectiveness of marketing communications and consumer perception. Article [26] demonstrates the use of concept mapping for visualisation and analysis of semantic networks reflecting consumer perceptions of product quality.

The study [27] makes a significant contribution to the understanding of how psychological strategies can influence the eating habits of consumers. Article [28] is devoted to the study of how new technologies can be used to improve the sensory experience in online marketing. The authors [29] investigated the creation of data platforms that provide integration and interaction between marketing systems in the field of food and food safety.

Scientists [30] studied the impact of using green packaging to create the illusion of the product's environmental friendliness on the food market share. The authors proved that using green on food packaging could have a positive effect on market share, even if the product has no real environmental benefits. The study emphasises the importance of understanding the impact of packaging colour on consumer choice for improving marketing strategies in the field of environmental marketing. The article [31] makes an important contribution to the understanding of consumers' emotional reactions to food and demonstrates the need to adapt marketing lexicons to different cultural contexts, new forms of food, and new consumer trends. Similar conclusions are demonstrated by the study [32], which emphasises that cultural and social factors, such as the popularity of certain products in social networks and the influence of modern trends and narratives, significantly influence the choice of food of the younger generation.

The study [33] shows the relationship between the consumption of functional food products and the individual characteristics and values of consumers. Article [34] describes how sensory stimulus influence cognitive responses, such as product quality perception, emotional responses, and purchase decisions in the context of a semantic marketing approach. Scientists [35] investigate the factors that influence the mobilisation of knowledge in agri-food supply chains using an integrated marketing approach.

Article [36] explores sustainable development narratives in digital media. The authors seek to understand how these narratives shape perceptions of sustainable development among wider audiences and how they can be used to advance the ideas of sustainable development. Research [37] examines how conflicting narratives influence perceptions of product durability and recycling and how this can influence consumer decisions and recycling policies. Article [38] examines the importance of environmental education in Ukraine in the context of the transition to sustainable development. The authors emphasise that educational initiatives are critically important for the formation of environmental awareness and the support of environmentally responsible behaviour among the population.

Research [39] shows how consumers are willing to pay more for sustainable food products. Scientists [40], continuing the study of manipulation of public

opinion, analysed social media as tools for shaping behaviour during global crises. Article [41] confirms that in order to maximise the potential of open innovation, it is important to develop strategies that integrate both digital media and "word of mouth" into the processes of developing and implementing new ideas.

The authors [42] emphasise the importance of sustainable marketing for the promotion of agri-food systems in the international arena. Case studies demonstrate how effective marketing strategies can help demonstrate a commitment to sustainable development and create international opportunities. Research [43] shows how green innovation and environmental narratives of companies can contribute to long-term business sustainability. The results of the study emphasise the effectiveness of such strategies in improving the environmental image and competitiveness of companies.

About several tens of thousands of publications by scientists from all over the world, indexed in the scientometric database Scopus, are devoted to the issue of semantics for the period from 2022 to 2024. Narrowing down the search for scientific articles by keywords, one can find only a few dozen publications related to the topic of using semantics in marketing over the past three years. At the same time, only a few articles per year, which are indexed in the scientometric database Scopus, correspond to the topic of using the semantic approach in the marketing of food products, which determines the need to intensify scientific research in this direction of research (Figure 1).

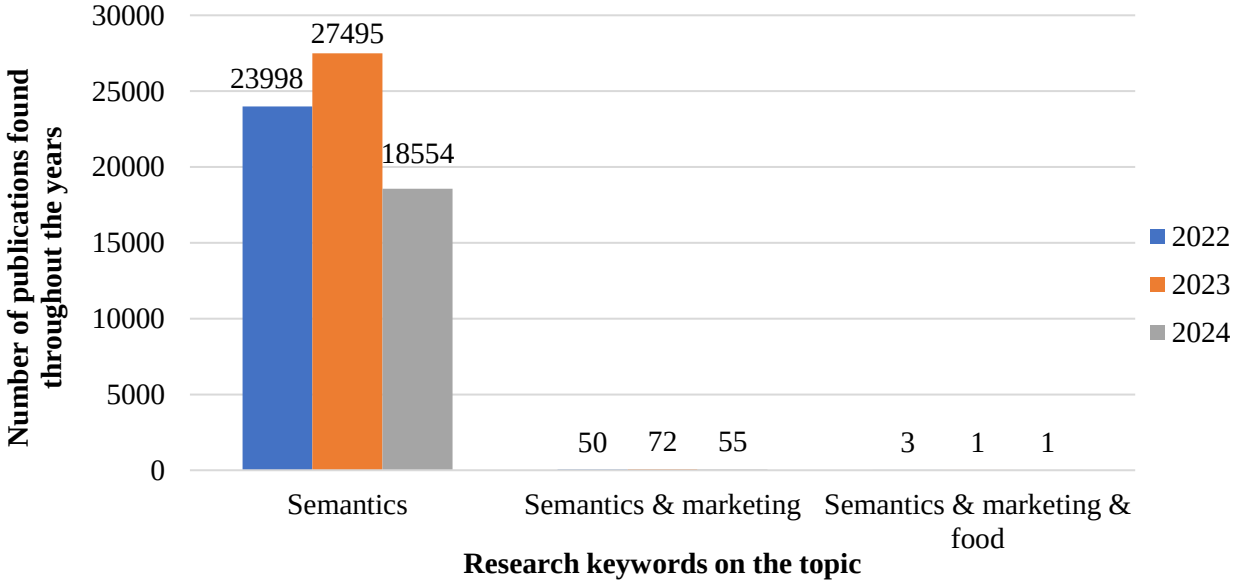

Figure 1. Dynamics of changes in the number of relevant publications on issues of a semantic approach to food marketing

Source: constructed by the authors using the Scopus database.

Over the past 30 years, from 1994 to 2024, 24 scientific articles on the problems of the semantic approach to food marketing were indexed in the Scopus database. At the same time, interest in this problem began to increase in recent years. Thus, the largest number of publications on this topic concerned such fields as Computer Science (11 articles or 45.8% of total number), Agricultural and Biological Sciences (6 articles or 25% of total number), Engineering (6 articles or 25% of total number),

etc.

Among all academic works published in this period, the largest number are scientific articles (11 publications or 45.8% of total number), conference papers (7 publications or 29.2% of total number), reviews (3 publications or 12.5% of total number), book chapters (2 publications or 8.3% of total number), notes (1 publication or 4.2% of total number) (Figure 2).

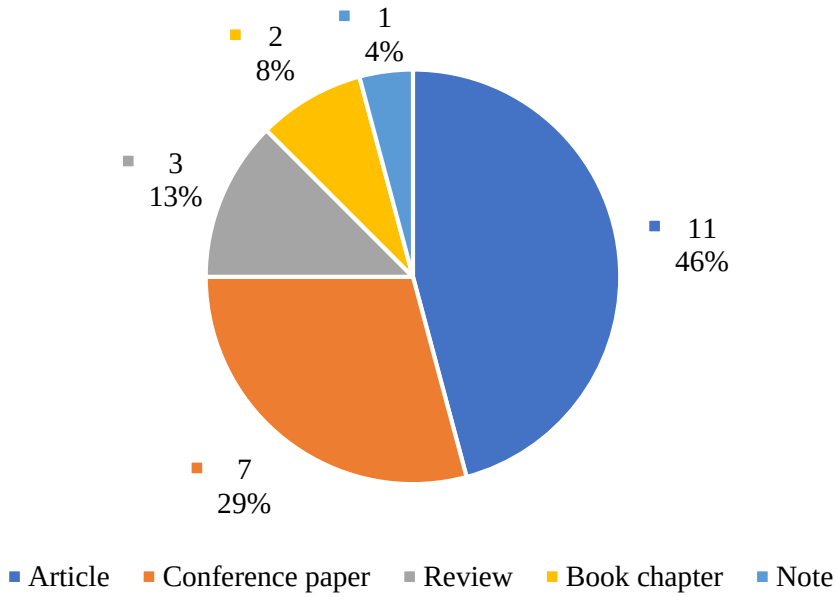

Figure 2. The main categories of scientific publications on the issues of a semantic approach to food marketing in the period from 1994 to 2024

Source: constructed by the authors using the Scopus database.

All publications on the topic of the semantic approach in the marketing of food products for the period from 1994 to 2024 indexed in the scientometric database Scopus were published in English. The leading countries in terms of the number of publications are the United States (5 publications or 20.8% of total number), Italy (4 publications or 16.7% of total number), China (3 publications or 12.5% of total number), Taiwan, Spain, Slovenia, North Macedonia, the Netherlands, Brazil (2 publications for each country or 8.3% of total number) and others.

The first scientific publication on the topic of the semantic approach in the marketing of food products, indexed in the scientometric database Scopus, was published in 1994. Since then, there was a pause in research on a similar topic until 2008, when publication activity increased again. A record number of publications on the topic of the semantic approach in the marketing of food products for the studied period was observed in 2013, 2019, 2021 and 2022. This can be explained by the fact that researchers increasingly paid attention to the importance of understanding consumer expectations and perceptions, using a semantic approach to improve marketing strategies. In recent years, there has been a steady interest in this research topic. The scientific community is actively investigating how semantic aspects influence consumer behaviour and the effectiveness of marketing campaigns, which is reflected in the increase in the number of scientific publications and the expansion of case studies. This indicates the formation of a permanent scientific interest in this

area, which opens up new perspectives for further research and practical implementation in the field of food marketing (Figure 3).

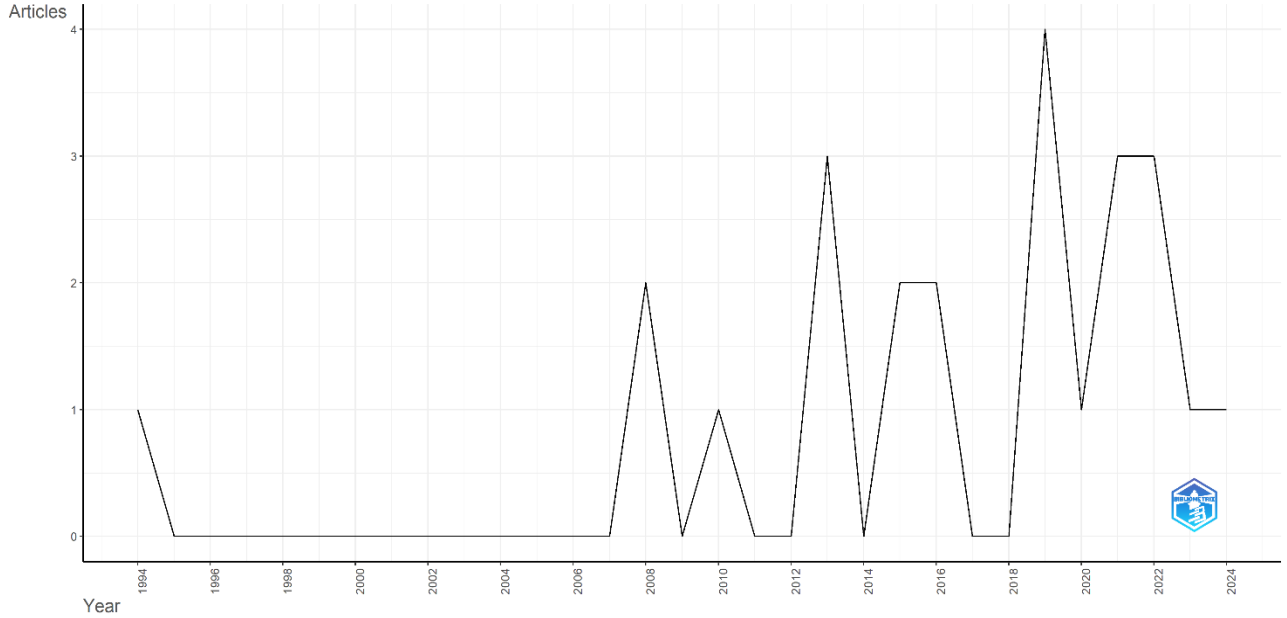

Figure 3. Dynamics of annual scientific production on issues of a semantic approach to food marketing in the period from 1994 to 2024

Source: constructed by the authors using the Scopus database and Biblioshiny.

Publications on the topic of the semantic approach in the marketing of food products for the period from 1994 to 2024 indexed in the Scopus scientometric database demonstrate heterogeneous citation dynamics (Figure 4).

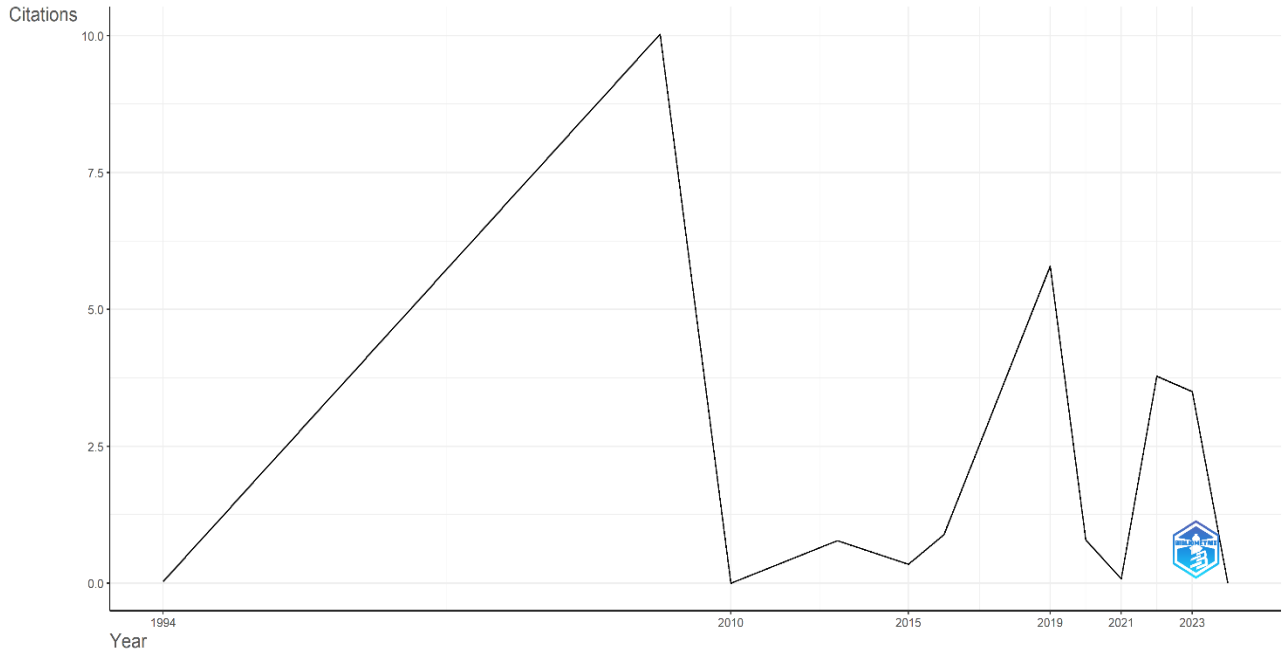

Figure 4. Dynamics of average article citation per year on the relevant topic in the period from 1994 to 2024

Source: constructed by the authors using the Scopus database and Biblioshiny.

Such variability in the frequency of references to research in this direction indicates that interest in the topic is not constant, and a sharp increase in the number

of citations are usually associated with crisis periods in the world economy. This can be explained by the fact that during economic upheavals, companies and researchers focus on new marketing approaches to adapt to changed market conditions.

The semantic approach in marketing, which covers the study of consumer behaviour, meaningful communication and innovative promotion strategies, becomes especially relevant in times of instability, when traditional methods do not always accept the expected results. As shown in Figure 4, these periods of greater activity clearly correlate with key crisis moments, such as the 2008 economic crisis, the 2020 COVID-19 pandemic, and studies of global economic change during this period. In other years, studies of the semantic approach remain less popular, which confirms the tendency for episodic interest in the topic.

The closest cooperation between scientists to work on articles on the topic of the semantic approach in the marketing of food products for the period from 1994 to 2024 indexed in the scientometric database Scopus was observed in the Balkan region of Europe, as well as between representatives of European and Australian research centres (Figure 5).

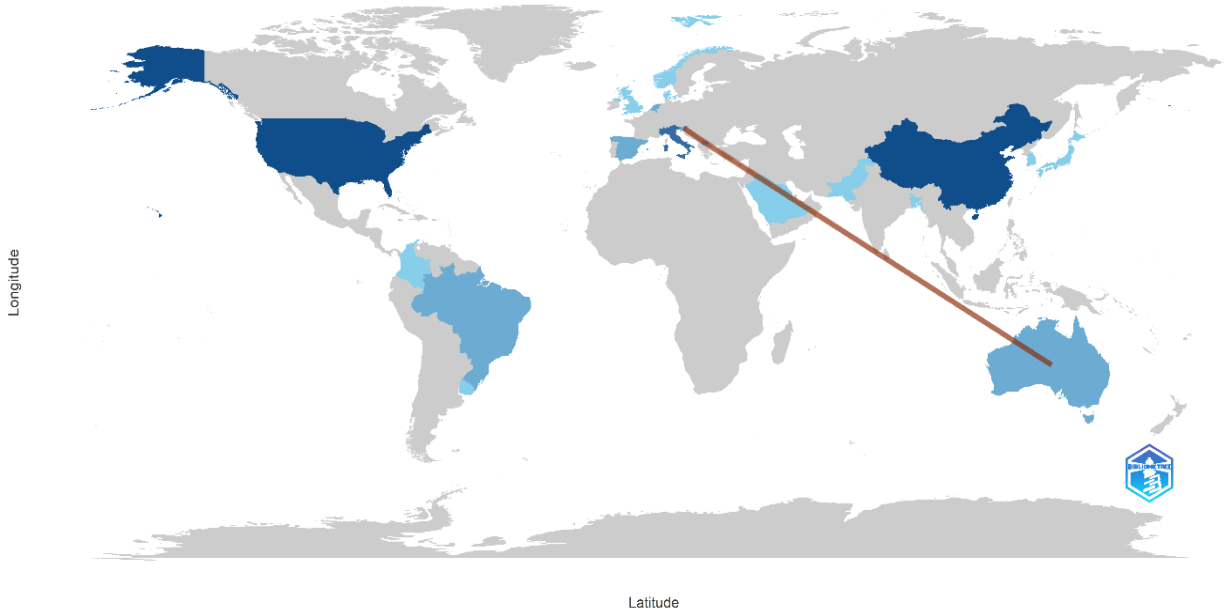

Figure 5. Country collaboration map on the researched topic in the period from 1994 to 2024

Source: constructed by the authors using the Scopus database and Biblioshiny.

As can be seen from Figure 5, these regions demonstrated the highest level of scientific cooperation, which significantly contributed to the dissemination of knowledge and the exchange of experience in this field. Such cooperation also indicates the global nature of semantic marketing issues and the need to internationalise research efforts to solve common challenges in the food industry and consumer behaviour.

Based on the analysis of publications on the research topic, we formulated several research hypotheses related to the peculiarities of the semantic approach in food marketing through establishing the influence of sustainable development

narratives on the promotion of agricultural products on the market of Ukraine:

H1: Environmental narratives promoted in all spheres of public life as a result of the greening of the European Union policy, followed by associated EU members, including Ukraine, have an impact on the formation of consumer behaviour of the population. Thus, as a result, the presence of the prefix "ECO" contributes to a stronger connection between the semantic pattern and the elements of the image of the food product, such as: trust in the quality of the product; safety for the environment; significance for the development of local communities.

H2: Socio-cultural narratives promoting a European way of life based on the values of sustainable development, care for the environment, a healthy lifestyle, etc., make the semantic patterns based on the Latin alphabet more strongly associated with elements of the image of the food product, such as: trust in product quality; safety for the environment; significance for the development of local communities.

H3: Socio-cultural narratives associated with the perception of local produce as having the taste of childhood, ecologically clean, and grown with care make semantic patterns based on the Cyrillic alphabet more strongly associated with food image elements, such as: expectation of better taste and trust in product quality.

It was also planned to receive answers to the following questions during the research:

RQ1: Which elements of a food image are most strongly associated with each of the visual-semantic patterns analysed?

RQ2: Does the presence of the prefix "ECO" change the priority of the association of the image of the food product with the visual-semantic patterns included in the analysis?

3. METHODOLOGY

The study of the semantic approach in food marketing through the establishment of the impact of narratives of sustainable development on the promotion of agricultural products on the market of Ukraine was based on profiling the perception of semantic images in the minds of consumers through the prism of expectations regarding the quality of the product (using the example of milk), its taste, attractiveness (desire to purchase), status, impact on the environment and local communities.

To study the impact of different semantic patterns on the formation of the image of a food product (using the example of milk), the following samples were selected:

- "MOLOKO" and "ECO MOLOKO" – inscription on the package in Latin letters, transcription of the product name in Ukrainian;
- "MILK" and "ECO MILK" – the inscription on the package in Latin letters, the name of the product in English;
- "МОЛОКО" and "ЕКО МОЛОКО" – the inscription on the package in Cyrillic, the name of the product in Ukrainian;
- "МІЛК" and "ЕКО МІЛК" – inscription on the package in Cyrillic, transcription of the product name in English.

In order to obtain information about how the investigated semantic patterns are combined with consumer expectations regarding the quality of the product (for example, milk), its taste, attractiveness (desire to purchase), status, impact on the environment and local communities, a survey of consumers of the Silpo, ATB and MIDA retail chains was conducted in the city of Mykolayiv (Ukraine). Retail chains Silpo and ATB, which are represented throughout Ukraine, according to recent research [44] are national leaders in the field of food retail in terms of capitalisation, which makes their choice appropriate in the course of the study. Retail chain MIDA [45] is represented locally in the Mykolaiv region, but does not differ from national retail chains in terms of assortment, pricing policy and target consumer segment, which also allowed it to be used in the course of the study.

According to the latest estimates of the Main Department of Statistics in Mykolayiv Region [46], as of the beginning of 2022, the population of Mykolayiv region was 1090492 people. The formula (1) was used to calculate the minimum required volume of a representative sample of consumers for the survey [47]:

$$n = \frac{t^2 S^2 N}{\Delta_x^2 N + t^2 S^2} \quad (1)$$

where: n – the sample size; t^2 – normalised deviation, which is determined based on the selected confidence level; N – the volume of the general research object group; S^2 – variance of a random variable; Δ – the permissible margin of error.

According to the table of normal distribution for an acceptable margin of error of 5%, $t = 1.96$ [48]. In the absence of statistical information, we accept $S = 0.5$, as this gives the maximum variance and, accordingly, increases the reliability of the results:

$$\frac{1.96^2 \cdot 0.5^2 \cdot 1090492}{0.1^2 \cdot 1090492 + 1.96^2 \cdot 0.5^2} = 96.$$

To verify the formulated research hypotheses, a survey was conducted from August 1 to August 31, 2024 among visitors to Silpo, ATB and MIDA retail chains in the city of Mykolaiv, regardless of their age, gender or other factors that individualise respondents. 117 respondents took part in the survey by simple random sampling. The purpose of the survey was to find out how the studied semantic samples affect the perception and expectations of consumers regarding various aspects of product quality. Milk was chosen as a typical food product for the study. During the survey, respondents were asked to rate on a scale from 1 to 5 each of the proposed semantic patterns that form the image of a food product (using the example of milk), where 1 – there is no connection between the semantic pattern and the image element of the food product; 2 – there is a weak connection between the semantic pattern and the image element of the food product; 3 – there is an average connection between the semantic pattern and the image element of the food product; 4 – there is an existing connection between the semantic pattern and the image element of the food product at an above average level; 5 – there is a very strong connection between the semantic pattern and the image element of the food product. The elements of the image of a food product (using the example of milk) included:

- trust in the quality of the product (identified as QT in the correlation model):

the influence of the visual-semantic image on the consumer's perception of the product (using the example of milk) as high-quality and safe was analysed;

- expectation of a better taste (identified as TE in the correlation model): the influence of the visual-semantic image on consumers' perception of the taste of the product (using the example of milk) as pleasant and tasty was analysed;

- attractiveness of the product (desire to purchase it) (identified as PA in the correlation model): the power of influence of the visual-semantic image on consumers' perception of the attractiveness of the product (using the example of milk) as the one that encourages the purchase of the product was analysed;

- status of the product (impression of greater value) (identified as PS in the correlation model): the influence of the visual-semantic image on the consumer's perception of the product (using the example of milk) as valuable and emphasising the higher status of the consumer in society was analysed;

- safety for the surrounding environment (identified as ES in the correlation model): the influence of the visual-semantic image on the consumer's perception of the product (using the example of milk) as not harming the environment was analysed;

- significance for the development of local communities (identified as CD in the correlation model): the power of influence of the visual-semantic image on consumer perception of the product (using the example of milk) as contributing to raising the standard of living of local communities was analysed.

The reviewed elements of a food product's image can be grouped based on their primary focus: individual consumer perception versus broader societal and environmental impact.

Thus, individual consumer perception is reflected in Trust in the quality of the product (QT), Expectation of a better taste (TE), Attractiveness of the product (PA), and Status of the product (PS). These factors shape how consumers personally evaluate a product, influencing their purchasing decisions based on perceived quality, sensory expectations, and social connotations. A product that is associated with high quality and superior taste is more likely to appeal to consumers seeking reliability and enjoyment.

On the other hand, broader societal and environmental impact is represented by Safety for the surrounding environment (ES) and Significance for the development of local communities (CD). These factors extend beyond individual preferences and highlight the product's contribution to sustainability and social responsibility. A product perceived as environmentally safe aligns with the growing consumer demand for sustainable choices, reinforcing ethical purchasing behaviour.

4. RESULTS

4.1. A surveyed study of consumer perception of semantic patterns. In the process of the survey, the respondents were asked to familiarise themselves with the semantic samples presented in two variants of writing: based on the Latin alphabet (Table 1) and based on the Cyrillic alphabet (Table 2). Each respondent had to rate

the proposed semantic patterns using a five-point scale, where 1 meant the lowest level of conformity to expectations and 5 the highest.

Table 1

The summary of questionnaires' processing (based on the Latin alphabet)

Rating	Image elements of milk semantic patterns in Latin letters											
	QT		TE		PA		PS		ES		CD	
	Number of answers	%	Number of answers	%	Number of answers	%	Number of answers	%	Number of answers	%	Number of answers	%
MOLOKO												
5	87	74.4	75	64.1	85	72.6	53	45.3	23	19.7	46	39.3
4	22	18.8	25	21.4	12	10.3	24	20.5	50	42.7	31	26.5
3	4	3.4	6	5.1	8	6.8	21	17.9	29	24.8	15	12.8
2	2	1.7	3	2.6	2	1.7	8	6.8	9	7.7	12	10.3
1	2	1.7	8	6.8	10	8.5	11	9.4	6	5.1	13	11.1
Total	117	100.0	117	100.0	117	100.0	117	100.0	117	100.0	117	100.0
ECO MOLOKO												
5	95	81.2	70	59.8	87	74.4	56	47.9	46	39.3	62	53.0
4	15	12.8	24	20.5	13	11.1	23	19.7	44	37.6	35	29.9
3	6	5.1	8	6.8	9	7.7	21	17.9	21	17.9	14	12.0
2	1	0.9	7	6.0	2	1.7	10	8.5	5	4.3	6	5.1
1	0	0.0	8	6.8	6	5.1	7	6.0	1	0.9	0	0.0
Total	117	100.0	117	100.0	117	100.0	117	100.0	117	100.0	117	100.0
MILK												
5	46	39.3	63	53.8	66	56.4	53	45.3	16	13.7	31	26.5
4	47	40.2	33	28.2	28	23.9	29	24.8	41	35.0	37	31.6
3	18	15.4	10	8.5	9	7.7	19	16.2	42	35.9	22	18.8
2	4	3.4	2	1.7	4	3.4	7	6.0	12	10.3	13	11.1
1	2	1.7	9	7.7	10	8.5	9	7.7	6	5.1	14	12.0
Total	117	100.0	117	100.0	117	100.0	117	100.0	117	100.0	117	100.0
ECO MILK												
5	68	58.1	64	54.7	73	62.4	74	63.2	40	34.2	35	29.9
4	35	29.9	33	28.2	30	25.6	29	24.8	41	35.0	42	35.9
3	12	10.3	12	10.3	13	11.1	12	10.3	26	22.2	27	23.1
2	0	0.0	2	1.7	0	0.0	2	1.7	6	5.1	7	6.0
1	2	1.7	6	5.1	1	0.9	0	0.0	4	3.4	6	5.1
Total	117	100.0	117	100.0	117	100.0	117	100.0	117	100.0	117	100.0

Note. The image elements of milk semantic patterns were presented as following abbreviations, where:

QT – trust in the quality of the product;
TE – expectation of a better taste;
PA – attractiveness of the product (desire to purchase it);
PS – status of the product (impression of greater value);
ES – safety for the surrounding environment;
CD – significance for the development of local communities.

Source: data collected by authors.

Table 2

The summary of questionnaires' processing (based on the Cyrillic alphabet)

Rating	Image elements of milk semantic patterns in Cyrillic											
	QT		TE		PA		PS		ES		CD	
	Number of answers	%	Number of answers	%	Number of answers	%	Number of answers	%	Number of answers	%	Number of answers	%
МОЛОКО												
5	90	76.9	94	80.3	88	75.2	47	40.2	33	28.2	47	40.2
4	19	16.2	14	12.0	10	8.5	31	26.5	52	44.4	34	29.1
3	4	3.4	4	3.4	7	6.0	20	17.1	24	20.5	16	13.7
2	2	1.7	1	0.9	3	2.6	8	6.8	6	5.1	11	9.4
1	2	1.7	4	3.4	9	7.7	11	9.4	2	1.7	9	7.7
Total	117	100.0	117	100.0	117	100.0	117	100.0	117	100.0	117	100.0
ЕКО МОЛОКО												
5	92	78.6	93	79.5	86	73.5	49	41.9	39	33.3	48	41.0
4	20	17.1	15	12.8	11	9.4	30	25.6	61	52.1	36	30.8
3	4	3.4	3	2.6	8	6.8	19	16.2	16	13.7	17	14.5
2	1	0.9	2	1.7	4	3.4	9	7.7	1	0.9	11	9.4
1	0	0.0	4	3.4	8	6.8	10	8.5	0	0.0	5	4.3
Total	117	100.0	117	100.0	117	100.0	117	100.0	117	100.0	117	100.0
МІЛК												
5	41	35.0	75	64.1	50	42.7	28	23.9	8	6.8	18	15.4
4	49	41.9	25	21.4	35	29.9	38	32.5	45	38.5	36	30.8
3	21	17.9	6	5.1	15	12.8	31	26.5	43	36.8	29	24.8
2	5	4.3	3	2.6	7	6.0	12	10.3	16	13.7	19	16.2
1	1	0.9	8	6.8	10	8.5	8	6.8	5	4.3	15	12.8
Total	117	100.0	117	100.0	117	100.0	117	100.0	117	100.0	117	100.0
ЕКО МІЛК												
5	68	58.1	80	68.4	52	44.4	32	27.4	32	27.4	19	16.2
4	34	29.1	21	17.9	36	30.8	37	31.6	47	40.2	34	29.1
3	14	12.0	8	6.8	18	15.4	29	24.8	30	25.6	30	25.6
2	1	0.9	2	1.7	4	3.4	12	10.3	5	4.3	20	17.1
1	0	0.0	6	5.1	7	6.0	7	6.0	3	2.6	14	12.0
Total	117	100.0	117	100.0	117	100.0	117	100.0	117	100.0	117	100.0

Source: data collected by authors.

Therefore, the results of the survey, presented in the Tables 1 and 2, allowed to calculate the average weighted score of the semantic patterns taken for the study, in the context of individual elements of their image, perceived by consumers.

Interestingly, the number of respondents who noted the absence of a connection between such an element of the product image as Significance for the development of local communities (CD) and various semantic patterns varies significantly depending on the use of a local product name (even transcribed in Latin) or the use of a foreign (English) product name. Thus, in the group of semantic patterns with Latin spelling, the absence of a connection with such an element of the product image as

Significance for the development of local communities (CD) was reported by 11.1% and 0% of respondents (regarding the patterns "MOLOKO" and "ECO MOLOKO", respectively) compared to 12% and 5.1% (regarding the patterns "MILK" and "ECO MILK", respectively).

The same trend was observed in the group of semantic patterns with Cyrillic spelling. Thus, the lack of connection with such an element of the product image as Significance for the development of local communities (CD) was reported by 7.7% and 4.3% of respondents (regarding the "МОЛОКО" and "ЕКО МОЛОКО" patterns, respectively) compared to 12.8% and 12% (regarding the "МІЛК" and "ЕКО МІЛК" patterns, respectively).

4.2. Evaluating consumer perception of semantic patterns. In order to form a holistic view of how different semantic styles are perceived by consumers, as well as to determine what associations they cause in the context of food products, consider the consolidated table 3, obtained on the basis of systematisation of survey data. Thus, according to the calculated average weighted score of the semantic patterns taken for the study, the most positive image have "ECO MOLOKO", "ЕКО МОЛОКО" and "ECO MILK", which respectively occupy the first three places in the rating of semantic patterns. Next in the rating are the semantic patterns "МОЛОКО", "MOLOKO", "ЕКО МІЛК", "MILK" and "МІЛК", which occupies the last place in the rating.

Table 3

The rating of semantic patterns

Semantic patterns	Image elements of milk semantic patterns						Total	Rating
	QT	TE	PA	PS	ES	CD		
	Scored total rate by each semantic pattern							
MOLOKO	541	507	511	451	426	436	2872	5
ECO MOLOKO	555	492	524	462	480	504	3017	1
MILK	482	490	487	461	400	409	2729	7
ECO MILK	518	498	525	526	458	444	2969	3
МОЛОКО	544	544	516	446	459	450	2959	4
ЕКО МОЛОКО	554	542	514	450	489	462	3011	2
МІЛК	475	507	459	417	386	374	2618	8
ЕКО МІЛК	520	518	473	426	451	375	2763	6

Source: data collected by authors.

In terms of individual elements of the image of the studied semantic patterns, products with the name "ECO MOLOKO" and "ЕКО МОЛОКО" according to the respondents, occupy leading positions regarding the parameter QT – trust in the quality of the product; products with the name "МОЛОКО" and "ЕКО МОЛОКО" were chosen as leaders in the context of the parameter TE – expectation of a better taste; products with the name "ECO MILK" and "ECO MOLOKO" lead the rating of consumers according to the parameter PA – attractiveness of the product (desire to purchase it); the product with the name "ECO MILK" demonstrates an advantage according to the PS parameter – status of the product (impression of greater value); the product with the name "ЕКО МОЛОКО" is the leader according to the parameter

ES – safety for the surrounding environment; the product with the name "ECO MOLOKO" was the highest rated by consumers according to the parameter CD – significance for the development of local communities. So, the following trend can be identified, thus, in the context of the expected quality of the product itself, consumers tend to choose a product with the prefix "ECO" and a semantic pattern that corresponds to the sound of the product name in the respondents' native language, while the type of spelling (Latin or Cyrillic) does not make a significant difference. In the context of expecting a better taste, consumers showed a greater tendency to choose a product with a Ukrainian name written in Cyrillic, while products with/without the prefix "ECO" had equal chances of success. Also, consumers showed the strongest desire to purchase a product due to its general attractiveness provided that the prefix "ECO" was present, while, according to respondents, the most attractive products had an English name or a Ukrainian name transcribed in Latin. In addition, according to consumers, the highest expected status would be a product with the prefix "ECO" and an English name in Latin letters. At the same time, in the context of expected safety for the environment, consumers preferred the product with the above-mentioned prefix and the Ukrainian name written in Cyrillic. According to consumers, a product with the prefix "ECO" and a Ukrainian name written in Latin can have the strongest impact on the development of local communities.

Determining which of the elements of the image of the food product are more strongly associated with each of the visual-semantic patterns taken into analysis, it is worth noting that among all the elements of the image of the food product according to the results of the consumer survey, the product named "MOLOKO" demonstrated the best result according to the QT criterion, moreover, the product called "ECO MOLOKO" showed the best result according to the same criterion. According to the results of the consumer survey, the product called "MILK" received the highest score according to the TE criterion, and the product called "ECO MILK" received the most points according to the PS criterion. According to the respondents, the product with the name "МОЛОКО" has the best correspondence to both the QT and TE criteria, while the product with the name "ЕКО МОЛОКО" received the highest rating from the respondents according to the QT criterion. According to the consumers, the product named "МІЛК" best meets the TE criterion, while the product named "ЕКО МІЛК" showed the best result according to the QT criterion.

Investigating whether the priority of the connection of the image of the food product with the visual-semantic patterns included in the analysis changes in the presence of the prefix "ECO", we note that the semantic pair "MOLOKO"/"ECO MOLOKO" demonstrates the priority of the connection of the image of the food product with visual-semantic pattern according to each of the considered criteria, except for TE. In addition, the semantic pair "МОЛОКО"/"ЕКО МОЛОКО" demonstrates the priority of the connection of the image of the food product with the visual-semantic pattern according to each of the considered criteria, except for TE and PA. At the same time, according to the results of the survey of respondents, the

semantic pairs "MILK"/"ECO MILK" and "МІЛК"/"ЕКО МІЛК" demonstrate the priority of connecting the image of the food product with the visual-semantic pattern according to each of the considered criteria without exception.

Therefore, taking into account the rating of semantic patterns, considered in Table 3, we can conduct a further analysis of the role in the formation of consumer perception of the product of such factors as the alphabet used in the product name (Latin or Cyrillic), the use of the original product name (in Ukrainian or English) or the transcribed name of the product; as well as the presence or absence of the prefix "ECO" in the product name (Table 4). By dividing the 8 positions of the rating in half, it is possible to follow which of the specified factors played a key role in the formation of consumer perception regarding the TOP-4 semantic patterns that fall into the first part of the rating.

Table 4

The role of factors in the formation of consumer perception

Rating	Latin alphabet	Cyrillic alphabet	Original name	Transcrip-tion	There is a prefix "ECO"	There is no prefix "ECO"
1	+	-	-	+	+	-
2	-	+	+	-	+	-
3	+	-	+	-	+	-
4	-	+	+	-	-	+
5	+	-	-	+	-	+
6	-	+	-	+	+	-
7	+	-	+	-	-	+
8	-	+	-	+	-	+

Source: data collected by authors.

Studies show that the choice of alphabet can have a significant impact on the perception of a brand by consumers. For example, product names written in the Latin alphabet can be associated with internationality, modernity, and high quality. This often appeals to a younger audience or consumers who focus on global trends. On the other hand, the use of Cyrillic can create a sense of local identity, authenticity and trust, which is important for consumers who prefer locally produced products. The distribution of consumer preferences regarding the alphabet used in the name of the product is evenly divided between Latin and Cyrillic, however names in Latin letters show slightly higher positions in the rating, compared to Cyrillic spelling.

Regarding the language of the product name, the original name can emphasise national origin and conformity to tradition, while the transcribed variants are often perceived as stylish and aimed at the international market. The results of the study show that the vast majority of positions in the first half of the rating are occupied by visual-semantic patterns based on the original product name, and products whose name is represented by visual-semantic patterns based on transcription occupy the lower half of the rating.

The presence of the prefix "ECO" in the product name is also an important factor. As indicated in Table 4, this element can significantly influence the perception of a product as ecological, natural and responsible. Consumers are increasingly

paying attention to the sustainability of products, so including this prefix can increase trust in the brand and stimulate purchasing activity. At the same time, the absence of the "ECO" prefix may indicate an emphasis on other aspects, such as the traditionality, taste or affordability of the product. The results of the study show that the vast majority of positions in the first half of the rating are occupied by visual-semantic patterns that include the prefix "ECO", and products whose name is represented by visual-semantic patterns without the above-mentioned prefix occupy the lower half of the rating.

4.3. The impact of visual-semantic patterns on consumer perception. Thus, the study reveals that the choice of alphabet in product names significantly influences consumer perception. Latin script is often associated with modernity and global appeal, while Cyrillic fosters local identity and trust. Although consumer preferences are evenly split, Latin-script names tend to rank slightly higher. Additionally, original product names emphasise national authenticity, whereas transcribed versions appear more internationally oriented but rank lower. The prefix "ECO" also plays a crucial role, reinforcing perceptions of sustainability and increasing consumer trust. The analysis of the survey results allows establishing certain relationships between individual elements of the product image that shape its perception by consumers (Tables 5–12).

Table 5

Correlation matrix for "MOLOKO" semantic pattern

Variable	Indicator	QT	TE	PA	PS	ES	CD
1.QT	Pearson's r	-	-	-	-	-	-
	p-value	-	-	-	-	-	-
2.TE	Pearson's r	0.592***	-	-	-	-	-
	p-value	<0.001	-	-	-	-	-
3.PA	Pearson's r	-0.141	0.139	-	-	-	-
	p-value	0.128	0.135	-	-	-	-
4.PS	Pearson's r	-0.095	0.021	0.283**	-	-	-
	p-value	0.310	0.823	0.002	-	-	-
5.ES	Pearson's r	0.181	0.202*	0.003	0.099	-	-
	p-value	0.051	0.029	0.975	0.287	-	-
6.CD	Pearson's r	0.417***	0.317***	0.019	-0.017	0.262**	-
	p-value	<0.001	<0.001	0.837	0.852	0.004	-

Note. * p < 0.05, ** p < 0.01, *** p < 0.001.
Source: calculated by authors using JASP.

Thus, for the visual-semantic pattern "MOLOKO" (Table 5), the strongest correlation can be identified between such elements of the image of the product as its quality and excellent taste (QT/TE -> r = 0.593). This indicator shows that consumers associate the product with a high level of quality, which in turn directly affects their perception of taste characteristics.

For the visual-semantic pattern "ECO MOLOKO" (Table 6), the strongest correlation is also observed between such elements of the image of the product as its quality and excellent taste (QT/TE -> r = 0.529), however, this relationship is

somewhat weaker than in the previous pattern ($r = 0.529 < r = 0.593$) of the semantic pair of the Latin transliteration of the Ukrainian product name.

Table 6

Correlation matrix for "ECO MOLOKO" semantic pattern

Variable	Indicator	QT	TE	PA	PS	ES	CD
1.QT	Pearson's r	-	-	-	-	-	-
	p-value	-	-	-	-	-	-
2.TE	Pearson's r	0.529***	-	-	-	-	-
	p-value	<0.001	-	-	-	-	-
3.PA	Pearson's r	-0.091	0.163	-	-	-	-
	p-value	0.327	0.080	-	-	-	-
4.PS	Pearson's r	-0.100	0.064	0.325***	-	-	-
	p-value	0.282	0.495	<0.001	-	-	-
5.ES	Pearson's r	0.195*	0.238**	0.083	0.058	-	-
	p-value	0.035	0.010	0.374	0.532	-	-
6.CD	Pearson's r	0.271**	0.158	0.053	-0.017	0.199*	-
	p-value	0.003	0.089	0.567	0.855	0.031	-

Note. * p < 0.05, ** p < 0.01, *** p < 0.001.
Source: calculated by authors using JASP.

For the visual-semantic pattern "MILK" (Table 7), the strongest correlation can also be traced between such elements of the image of the product as its quality and excellent taste (QT/TE -> $r = 0.392$), however, this relationship is somewhat weaker than in the semantic pair of the Latin transliteration of Ukrainian product names ($r = 0.392 < r = 0.529 < r = 0.593$ respectively).

Table 7

Correlation matrix for "MILK" semantic pattern

Variable	Indicator	QT	TE	PA	PS	ES	CD
1.QT	Pearson's r	-	-	-	-	-	-
	p-value	-	-	-	-	-	-
2.TE	Pearson's r	0.392***	-	-	-	-	-
	p-value	<0.001	-	-	-	-	-
3.PA	Pearson's r	-0.109	0.140	-	-	-	-
	p-value	0.242	0.133	-	-	-	-
4.PS	Pearson's r	-0.085	0.002	0.185*	-	-	-
	p-value	0.364	0.984	0.046	-	-	-
5.ES	Pearson's r	0.122	0.194*	-0.061	0.047	-	-
	p-value	0.190	0.036	0.512	0.615	-	-
6.CD	Pearson's r	0.338***	0.287**	0.029	0.023	0.159	-
	p-value	<0.001	0.002	0.752	0.802	0.087	-

Note. * p < 0.05, ** p < 0.01, *** p < 0.001.
Source: calculated by authors using JASP.

For the visual-semantic pattern "ECO MILK" (Table 8), the strongest correlation is also observed between such elements of the image of the product as its quality and excellent taste (QT/TE -> $r = 0.522$), in addition, this relationship is much stronger than in the previous pattern ($r = 0.522 > r = 0.392$) of the semantic pair of the original name in English with Latin spelling, however, this relationship is

somewhat weaker, than in the semantic pair of the Latin transliteration of the Ukrainian product name ($r = 0.522 < r = 0.529 < r = 0.593$, respectively).

Table 8

Correlation matrix for "ECO MILK" semantic pattern

Variable	Indicator	QT	TE	PA	PS	ES	CD
1.QT	Pearson's r	-	-	-	-	-	-
	p-value	-	-	-	-	-	-
2.TE	Pearson's r	0.522***	-	-	-	-	-
	p-value	<0.001	-	-	-	-	-
3.PA	Pearson's r	0.023	0.122	-	-	-	-
	p-value	0.807	0.191	-	-	-	-
4.PS	Pearson's r	-0.011	0.045	0.223*	-	-	-
	p-value	0.905	0.632	0.016	-	-	-
5.ES	Pearson's r	0.176	0.278**	0.075	0.121	-	-
	p-value	0.057	0.002	0.422	0.193	-	-
6.CD	Pearson's r	0.332***	0.380***	0.080	0.030	0.128	-
	p-value	<0.001	<0.001	0.394	0.745	0.167	-

Note. * p < 0.05, ** p < 0.01, *** p < 0.001.
Source: calculated by authors using JASP.

For the visual-semantic pattern "МОЛОКО" (Table 9), the strongest correlation can be traced between such elements of the image of the product as its quality and significance for the development of local communities (QT/CD -> $r = 0.321$). This indicator, although of an average level, shows a noticeable connection between consumers' perception of high product quality and its association with support for local initiatives, in particular in the field of social, economic or environmental development. Findings from such a relationship can be used to strengthen product positioning in the market, as today's consumers increasingly pay attention to the social responsibility of brands.

Table 9

Correlation matrix for "МОЛОКО" semantic pattern

Variable	Indicator	QT	TE	PA	PS	ES	CD
1.QT	Pearson's r	-	-	-	-	-	-
	p-value	-	-	-	-	-	-
2.TE	Pearson's r	0.273**	-	-	-	-	-
	p-value	0.003	-	-	-	-	-
3.PA	Pearson's r	-0.112	0.113	-	-	-	-
	p-value	0.231	0.224	-	-	-	-
4.PS	Pearson's r	-0.092	0.033	0.277**	-	-	-
	p-value	0.326	0.726	0.003	-	-	-
5.ES	Pearson's r	0.238**	0.191*	0.005	0.089	-	-
	p-value	0.010	0.039	0.954	0.339	-	-
6.CD	Pearson's r	0.321***	-0.002	0.025	-0.028	0.257**	-
	p-value	<0.001	0.979	0.790	0.761	0.005	-

Note. * p < 0.05, ** p < 0.01, *** p < 0.001.
Source: calculated by authors using JASP.

For the visual-semantic pattern "ЕКО МОЛОКО" (Table 10), the strongest

correlation is also observed between such elements of the image of the product as its quality and significance for the development of local communities (QT/CD -> $r = 0.325$), however, this relationship is somewhat stronger than in the previous pattern ($r = 0.325 > r = 0.321$) of the semantic pair of the original Ukrainian product name in Cyrillic.

Table 10

Correlation matrix for "ЕКО МОЛОКО" semantic pattern

Variable	Indicator	QT	TE	PA	PS	ES	CD
1.QT	Pearson's r	-	-	-	-	-	-
	p-value	-	-	-	-	-	-
2.TE	Pearson's r	0.181	-	-	-	-	-
	p-value	0.051	-	-	-	-	-
3.PA	Pearson's r	-0.075	0.088	-	-	-	-
	p-value	0.423	0.344	-	-	-	-
4.PS	Pearson's r	-0.021	0.033	0.294**	-	-	-
	p-value	0.821	0.725	0.001	-	-	-
5.ES	Pearson's r	0.190*	0.191*	0.102	0.070	-	-
	p-value	0.040	0.039	0.272	0.451	-	-
6.CD	Pearson's r	0.325***	0.023	0.027	-0.029	0.153	-
	p-value	<0.001	0.803	0.769	0.759	0.100	-

Note. * p < 0.05, ** p < 0.01, *** p < 0.001.
Source: calculated by authors using JASP.

For the visual-semantic pattern "МІЛК" (Table 11), the strongest correlation can be identified between such elements of the image of the product as its excellent taste and attractiveness for the buyer (TE/PA -> $r = 0.318$). Although the correlation value is moderate, this indicator shows that consumers perceive the product not only as tasty, but also as aesthetically appealing and well presented. This combination of taste characteristics and visual component is key to creating a positive consumer experience.

Table 11

Correlation matrix for "МІЛК" semantic pattern

Variable	Indicator	QT	TE	PA	PS	ES	CD
1.QT	Pearson's r	-	-	-	-	-	-
	p-value	-	-	-	-	-	-
2.TE	Pearson's r	0.305***	-	-	-	-	-
	p-value	< .001	-	-	-	-	-
3.PA	Pearson's r	0.090	0.318***	-	-	-	-
	p-value	0.336	< .001	-	-	-	-
4.PS	Pearson's r	0.126	0.214*	0.225*	-	-	-
	p-value	0.175	0.021	0.015	-	-	-
5.ES	Pearson's r	0.175	0.203*	-0.090	0.183*	-	-
	p-value	0.059	0.028	0.334	0.048	-	-
6.CD	Pearson's r	0.308***	0.308***	0.147	0.071	0.089	-
	p-value	<0.001	<0.001	0.114	0.446	0.342	-

Note. * p < 0.05, ** p < 0.01, *** p < 0.001
Source: calculated by authors using JASP.

For the visual-semantic pattern "ЕКО МІЛК" (Table 12), the strongest correlation is also observed between such elements of the image of the product as its quality and significance for the development of local communities (QT/CD -> $r = 0.378$), in addition, this relationship is somewhat stronger than in the previous pattern ($r = 0.378 > r = 0.325 > r = 0.321$) of the semantic pair of the original Ukrainian product name in Cyrillic.

Table 12

Correlation matrix for "ЕКО МІЛК" semantic pattern

Variable	Indicator	QT	TE	PA	PS	ES	CD
1.QT	Pearson's r	-	-	-	-	-	-
	p-value	-	-	-	-	-	-
2.TE	Pearson's r	0.376***	-	-	-	-	-
	p-value	<0.001	-	-	-	-	-
3.PA	Pearson's r	0.277**	0.274**	-	-	-	-
	p-value	0.003	0.003	-	-	-	-
4.PS	Pearson's r	0.178	0.232*	0.208*	-	-	-
	p-value	0.055	0.012	0.024	-	-	-
5.ES	Pearson's r	0.337***	0.344***	0.045	0.239**	-	-
	p-value	<0.001	<0.001	0.626	0.009	-	-
6.CD	Pearson's r	0.378***	0.267**	0.134	0.093	0.176	-
	p-value	<0.001	0.004	0.150	0.321	0.057	-

Note. * p < 0.05, ** p < 0.01, *** p < 0.001.
Source: calculated by authors using JASP.

Thus, milk consumers who noted the high quality of the product also mostly had positive expectations about its taste characteristics in the case of all visual-semantic patterns with Latin spelling. This suggests that the perception of milk quality is often related to the influence of certain visual elements, such as the type of font on the packaging. Consumers who associate the Latin spelling with a high quality product, most likely, expect that the taste properties of this milk will also be at a high level.

Regarding visual-semantic patterns with Cyrillic spelling, a different type of perception is observed here. Consumers who positively evaluate the quality of milk indicated the importance of this product for the development of local communities. This may be due to the association of the Cyrillic alphabet with traditional or local producers, giving the products a more significant role in supporting local economies. Consequently, the visual-semantic patterns of the Cyrillic alphabet are perceived not only as an indicator of product quality, but also as a symbol of support for local initiatives, which increases the importance of the product for community-oriented consumers.

5. DISCUSSION

Modern social narratives are reflected in the marketing of food products through consumers' perception of various elements of the product's image through visual-semantic patterns. Thus, the greening of society leads to greater consumer interest in environmentally friendly food products and growing trust in products whose

marketing includes a mention of environmental friendliness. In addition, the perception of consumer products by consumers is influenced by the language of semantic patterns, their originality, etc.

Thus, the study confirms the importance of the influence of narratives of sustainable development on the promotion of agricultural products on the market of Ukraine. The results of the study show that the presence of the prefix "ECO" in the name of the product is an important factor, as this element can significantly influence the perception of the product as ecological, natural and responsible. Consumers are increasingly paying attention to the sustainability of products, so including this prefix can increase trust in the brand and stimulate purchasing activity. The results of the study show that the vast majority of the positions in the first half of the ranking of the names of the studied product are occupied by visual-semantic patterns that include the prefix "ECO". In contrast, products whose names are represented by visual-semantic patterns without the prefix "ECO" mainly occupy the lower half of this ranking.

In addition, the research results show that the vast majority of positions in the first half of the ranking are occupied by visual-semantic patterns based on the original product name. On the other hand, products whose names are represented by visual-semantic patterns based on transcription occupy the lower half of the ranking.

The distribution of consumer preferences regarding the alphabet used in the name of the product is evenly divided between Latin and Cyrillic, however names in Latin letters show slightly higher positions in the rating compared to Cyrillic spelling. In addition, milk consumers who noted the high quality of the product also mostly had potentially good expectations about its taste in the case of all visual-semantic patterns with Latin spelling. As for visual-semantic patterns with Cyrillic spelling, here consumers mostly noted the high significance of the product for the development of local communities, if they had positive expectations about the quality of the product.

The conducted research made it possible to study the significance of individual visual-semantic patterns of food products (for example, milk) on consumers' perception of individual elements of the product's image, such as quality, taste, attractiveness, status, safety for the environment and impact on the development of local communities. This study was based on the study of consumer preferences of respondents in Ukraine and needs to expand and enter the foreign market. Also, the patterns found relate to the consumer perception of a separate product, namely milk, so there is a need to continue the research in the future, taking into account the features of visual-semantic patterns used in the marketing of other food products.

Thus, the results of our study demonstrate that sustainability narratives have a significant impact on the perception and promotion of agricultural products in Ukraine. In particular, the use of the prefix "ECO" in the name strengthens associations with environmental friendliness, which stimulates brand trust and activates purchasing behaviour. These findings are consistent with the results of Béné et al. [1], which emphasise that sustainability narratives shape food systems and

influence consumer priorities. Both studies point to the importance of environmental discourse in building trust in a product, although our study focuses specifically on linguistic and visual-semantic patterns, while Béné et al. [1] analyses the broader aspects of food systems.

Interestingly, our study shows a difference in the perception of product quality and social significance depending on the alphabet. Consumers who perceive milk as high quality are more likely to expect good taste if the name is in Latin, while Cyrillic names are associated with local significance. This is consistent with the findings of Bartikowski et al. [11], who emphasise the role of cultural context in shaping marketing communications. However, in contrast to their findings, which focus on cultural code matching, our study reveals specific differences in perception depending on the alphabet.

Regarding the impact of natural images on product attitudes, our results partially support the findings of Du & Wang [5]. They argue that natural images can form subconscious associations with health and naturalness, which coincides with the effect of the prefix "ECO" in our study. However, our study adds a new dimension by emphasising the influence of not only visual elements but also linguistic markers on the perception of environmental friendliness.

Thus, our study confirms and extends existing scientific approaches, demonstrating that linguistic and visual-semantic patterns play a key role in shaping consumer perceptions. At the same time, it adds new insights into the influence of alphabets and the importance of local and environmental narratives, which have been less extensively explored in previous works.

6. CONCLUSIONS

In the course of the research, the hypotheses formed at the beginning of the research based on the analysis of literary sources on a semantic approach to food marketing were confirmed (fully or partially).

Thus, the first research hypothesis was confirmed, which states that the presence of the prefix "ECO" contributes to a stronger connection between the semantic pattern and the elements of the image of the food product, such as: trust in the quality of the product; safety for the environment; significance for the development of local communities. In the context of the expected quality of the product itself, consumers tend to choose a product with the prefix "ECO" and a semantic pattern that corresponds to the sound of the product name in the respondents' native language, while the type of spelling (Latin or Cyrillic) does not make a significant difference; in the context of expected safety for the environment, consumers preferred the product with the prefix "ECO" and the Ukrainian name written in Cyrillic; according to consumers, a product with the prefix "ECO" and a Ukrainian name written in Latin can have the strongest impact on the development of local communities. Moreover, consumers also showed the strongest desire to purchase a product due to its general appeal, provided that the above-mentioned prefix was present. In addition, according to consumers, the highest expected status would be a product with the prefix "ECO"

and an English name in Latin letters.

The second hypothesis of the study, which states that socio-cultural narratives promoting a European way of life based on the values of sustainable development, care for the environment, a healthy lifestyle, etc., make the semantic patterns based on the Latin alphabet more strongly associated with elements of the image of the food product, such as: trust in product quality; safety for the environment; significance for the development of local communities was partially confirmed. So, according to consumers, a product with a Ukrainian name written in Latin can have the strongest impact on the development of local communities. However, according to the respondents, in the context of the expected quality of the product itself, the type of spelling (Latin or Cyrillic) does not make a significant difference. At the same time, in the context of expected safety for the environment, consumers preferred a product with a Ukrainian name written in Cyrillic.

The third hypothesis of the study, which states that socio-cultural narratives associated with the perception of local produce as having the taste of childhood, ecologically clean, and grown with care make semantic patterns based on the Cyrillic alphabet more strongly associated with food image elements, such as: expectation of better taste and trust in product quality was partially confirmed. Thus, in the context of the expectation of better taste, consumers showed a greater tendency to choose a product with a Ukrainian name written in Cyrillic, however, in the context of the expected quality of the product itself, consumers tend to choose a product with a semantic pattern that corresponds to the sound of the product name in the respondents' native language, while the type of spelling (Latin or Cyrillic) does not make a significant difference.

In addition, the study allowed us to obtain answers to a number of questions: 1) in terms of individual elements of the image of the studied semantic patterns, products with the name "ECO MOLOKO" and "ЕКО МОЛОКО" according to the respondents, occupy leading positions regarding the parameter QT – trust in the quality of the product; products with the name "МОЛОКО" and "ЕКО МОЛОКО" were chosen as leaders in the context of the parameter TE – expectation of a better taste; products with the name "ECO MILK" and "ECO MOLOKO" lead the rating of consumers according to the parameter PA – attractiveness of the product (desire to purchase it); the product with the name "ECO MILK" demonstrates an advantage according to the PS parameter - status of the product (impression of greater value); the product with the name "ЕКО МОЛОКО" is the leader according to the parameter ES – safety for the surrounding environment; the product with the name "ECO MOLOKO" was the highest rated by consumers according to the parameter CD – significance for the development of local communities; 2) investigating whether the priority of the connection of the image of the food product with the visual-semantic patterns included in the analysis changes in the presence of the prefix "ECO", we note that the semantic pair "MOLOKO"/"ECO MOLOKO" demonstrates the priority of the connection of the image of the food product with visual-semantic pattern according to each of the considered criteria, except for TE. In addition, the semantic

pair "МОЛОКО"/"ЕКО МОЛОКО" demonstrates the priority of the connection of the image of the food product with the visual-semantic pattern according to each of the considered criteria, except for TE and PA. At the same time, according to the results of the survey of respondents, the semantic pairs "MILK"/"ECO MILK" and "МІЛК"/"ЕКО МІЛК" demonstrate the priority of connecting the image of the food product with the visual-semantic pattern according to each of the considered criteria without exception.

Therefore, the obtained results of the study indicate that modern narratives of sustainable development are reflected in the marketing of food products through the perception by consumers of various elements of the image of the product through visual-semantic patterns. Taking this fact into account will make it possible to better adapt the marketing strategies of food producers to consumer expectations. Thus, adapting marketing strategies to these trends can provide producers with a competitive advantage in the market. The combination of elements of environmental friendliness, local identity and orientation to modern global trends creates optimal conditions for attracting different segments of consumers. The use of such strategies will not only increase sales, but will also form a positive image of a brand focused on sustainability, quality and social responsibility.

7. LIMITATIONS AND FUTURE RESEARCH

This study has several limitations that should be considered when interpreting the results and when planning further research. The study was based on a survey of the population of only the Mykolaiv region of Ukraine, so increasing the sample so expanding the sample to include respondents from other regions would contribute to a greater representativeness of the results at the national level. However, we believe that due to the homogeneity of the country's population and the absence of factors that could prevent extrapolation of results across the country, the results of our study can be considered with a certain level of probability applicable to the entire Ukrainian market. Although, since the study is focused on the perception of dairy products in Ukraine, the results obtained may not be fully relevant to other countries with different cultural and economic contexts.

To expand the scope of research, it will be useful to compare the perception of products in different countries and cultures, which will allow determining the influence of cultural factors on the perception of brands. In future research, it is also advisable to include a wider range of factors for a more comprehensive analysis of brand image. In particular, in future studies, we plan to expand the analysis to other demographic and social factors.

Further research could explore extending the discussed approaches to other product categories, refining branding strategies based on regional preferences, and developing innovative tools for analysing consumer responses to sustainable marketing narratives. Another aspect for further research could be the influence of different media channels on the effectiveness of semantic marketing strategies, as they shape consumer perception and engagement in distinct ways. In this regard,

social media provides an interactive platform where brands can leverage user-generated content, influencer collaborations, and targeted advertising to reinforce key narratives. Its dynamic nature allows companies to quickly adapt their messaging based on consumer feedback, making it particularly effective for sustainable marketing campaigns that require ongoing engagement and personalisation.

Consumer preferences may change over time, and the results obtained in this study may only be current at the time it was conducted. Therefore, it is important to conduct similar studies at certain intervals to study the dynamics of changes in the perception of products and brands.

Funding: this publication is funded by Mykolayiv National Agrarian University.

Acknowledgments: this study was initiated and supported by Mykolayiv National Agrarian University.

Conflicts of interest: the authors declare no conflict of interest.

Use of artificial intelligence: the authors confirm that they did not use artificial intelligence technologies during the creation of this work.

REFERENCES

1. Béné, C., Oosterveer, P., Lamotte, L., Brouwer, I. D., de Haan, S., Prager, S. D., Talsma, E. F., & Khoury, C. K. (2019). When food systems meet sustainability – current narratives and implications for actions. *World Development*, 113, 116–130. https://doi.org/10.1016/j.worlddev.2018.08.011.

2. Driessen, C., Bennett, R., Cameron, A. J., Kelly, B., Bhatti, A., & Backholer, K. (2024). Parents' perceptions of children's exposure to unhealthy food marketing in digital and retail environments. *Appetite*, 200, 107553. https://doi.org/10.1016/j.appet.2024.107553.

3. Carroll, J. E., Emond, J. A., Griffin, L., Bertone-Johnson, E., VanKim, N., & Sturgeon, S. R. (2024). Children's perception of food marketing across digital media platforms. *AJPM Focus*, 3(3), 100205. https://doi.org/10.1016/j.focus.2024.100205.

4. Abidin, S. Z., Effendi, R., Ibrahim, R., & Idris, M. Z. (2014). A semantic approach in perception for packaging in the SME's food industries in Malaysia: a case study of Malaysia food product branding in United Kingdom. *Procedia – Social and Behavioral Sciences*, 115, 115–130. https://doi.org/10.1016/j.sbspro.2014.02.420.

5. Du, Y., & Wang, X. (2024). Is there also a hidden health cue in the background? The impact of natural imagery on product attitude in food marketing. *Food Quality and Preference*, 120, 105256. https://doi.org/10.1016/j.foodqual.2024.105256.

6. Gao, H., Lu, C., & Hu, C. (2023). A corpus-based study of signalling nouns in marketing and economics research articles. *Journal of English for Academic Purposes*, 67, 101318. https://doi.org/10.1016/j.jeap.2023.101318.

7. Pozharliev, R., De Angelis, M., Rossi, D., Bagozzi, R., & Amatulli, C. (2023). I might try it: marketing actions to reduce consumer disgust toward insect-based food. *Journal of Retailing*, 99(1), 149–167.

https://doi.org/10.1016/j.jretai.2022.12.003.

8. Soares, N. D., Braga, R., David, J. M. N., Siqueira, K. B., & Stroele, V. (2024). An approach to foster agribusiness marketing applying data analysis of social network. *Computers and Electronics in Agriculture*, 222, 109044. https://doi.org/10.1016/j.compag.2024.109044.

9. San Emeterio de la Parte, M., Martínez-Ortega, J.-F., Castillejo, P., & Lucas-Martínez, N. (2024). Spatio-temporal semantic data management systems for IoT in agriculture 5.0: challenges and future directions. *Internet of Things*, 25, 101030. https://doi.org/10.1016/j.iot.2023.101030.

10. Phillips, M., Kapitan, S., & Rush, E. (2024). From the store to the kitchen: herbal scents drive wholesome food choice. *Journal of Retailing and Consumer Services*, 81, 103959. https://doi.org/10.1016/j.jretconser.2024.103959.

11. Bartikowski, B., Richard, M.-O., & Gierl, H. (2023). Fit or misfit of culture in marketing communication? Development of the culture-ladenness fit index. *Journal of Business Research*, 167, 114191. https://doi.org/10.1016/j.jbusres.2023.114191.

12. Almaguer, J., Felix, R., & Harmeling, C. M. (2024). Emoji marketing: Toward a theory of brand paralinguistics. *International Journal of Research in Marketing*, 42(1), 95–112. https://doi.org/10.1016/j.ijresmar.2024.06.002.

13. Rondoni, A., Grebitus, C., Millan, E., & Asioli, D. (2021). Exploring consumers' perceptions of plant-based eggs using concept mapping and semantic network analysis. *Food Quality and Preference*, 94, 104327. https://doi.org/10.1016/j.foodqual.2021.104327.

14. Lyu, M., & Huang, Q. (2024). Visual elements in advertising enhance odor perception and purchase intention: the role of mental imagery in multi-sensory marketing. *Journal of Retailing and Consumer Services*, 78, 103752. https://doi.org/10.1016/j.jretconser.2024.103752.

15. Morrin, M., & Tepper, B. J. (2021). Multisensory marketing: effects of environmental aroma cues on perception, appetite, and consumption of foods and drinks. *Current Opinion in Food Science*, 40, 204–210. https://doi.org/10.1016/j.cofs.2021.04.008.

16. Burkovska, A., Shebanina, O., Lunkina, T., & Burkovska, A. (2022). Socio-psychological determinants of food security in Ukraine: causal aspect. *Economic Studies Journal*, 31(5), 145–162. Available at: https://www.iki.bas.bg/Journals/EconomicStudies/2022/2022-5/09_Anna-Burkovska.pdf.

17. Shebanina, O., Burkovska, A., Petrenko, V., & Burkovska, A. (2023). Economic planning at agricultural enterprises: Ukrainian experience of increasing the availability of data in the context of food security. *Agricultural and Resource Economics*, 9(4), 168–194. https://doi.org/10.51599/are.2023.09.04.08.

18. Poltorak, A. S., Burkovska, A. I., Khrystenko, O. A., Sukhorukova, A. L., & Dovgal, I. V. (2023). Monitoring of relationships between indicators of food security of the states. *IOP Conference Series: Earth and Environmental Science*, 1269(1),

012001. https://doi.org/10.1088/1755-1315/1269/1/012001.

19. Yekimov, S., Prodius, O., Chelombitko, T., Poltorak, A., Sirenko, N., Dudnyk, A. & Chernyak, V. (2022). Reengineering of agricultural production based on digital technologies. *IOP Conference Series: Earth and Environmental Science*, 981, 032005. https://doi.org/10.1088/1755-1315/981/3/032005.

20. Kolaj, R., Borisov, P., Arabska, E., & Radev, T. (2023). Food safety among and beyond: the power of market actors, institutions and researchers in the new era of food safety from farm-to-table. *Agricultural and Resource Economics*, 9(2), 276–294. https://doi.org/10.51599/are.2023.09.02.12.

21. Singh, P. (2024). Beyond the basics: exploring the impact of social media marketing enablers on business success. *Heliyon*, 10(5), e26435. https://doi.org/10.1016/j.heliyon.2024.e26435.

22. Razzaq, A., Shao, W., & Quach, S. (2024). Meme marketing effectiveness: a moderated-mediation model. *Journal of Retailing and Consumer Services*, 78, 103702. https://doi.org/10.1016/j.jretconser.2023.103702.

23. Marinelli, N., Fabbrizzi, S., Alampi Sottini, V., Sacchelli, S., Bernetti, I., & Menghini, S. (2014). Generation Y, wine and alcohol. A semantic differential approach to consumption analysis in Tuscany. *Appetite*, 75, 117–127. https://doi.org/10.1016/j.appet.2013.12.013.

24. Bublitz, M. G., & Peracchio, L. A. (2015). Applying industry practices to promote healthy foods: an exploration of positive marketing outcomes. *Journal of Business Research*, 68(12), 2484–2493. https://doi.org/10.1016/j.jbusres.2015.06.035.

25. Lasarov, W., Orth, U. R., Wirtz, J., & Holm, M. (2023). Exploring the nonlinear influence of nonverbal dominance in marketing communicators: Instrumental outcomes, social outcomes, and persuasion. *Journal of Business Research*, 168, 114201. https://doi.org/10.1016/j.jbusres.2023.114201.

26. Grebitus, C., & Bruhn, M. (2008). Analyzing semantic networks of pork quality by means of concept mapping. *Food Quality and Preference*, 19(1), 86–96. https://doi.org/10.1016/j.foodqual.2007.07.007.

27. Luomala, H. T., Järvinen, S., Peltola, J., Pennanen, K., & Sihvonen, J. (2023). Priming shoppers' well-being goal in grocery stores: moving toward healthier food choices? *Food Quality and Preference*, 108, 104882. https://doi.org/10.1016/j.foodqual.2023.104882.

28. Petit, O., Velasco, C., & Spence, C. (2019). Digital sensory marketing: Integrating new technologies into multisensory online experience. *Journal of Interactive Marketing*, 45(1), 42–61. https://doi.org/10.1016/j.intmar.2018.07.004.

29. Emara, Y., Koroušić Seljak, B., Gibney, E. R., Popovski, G., Pravst, I., & Fantke, P. (2022). Workflow for building interoperable food and nutrition security (FNS) data platforms. *Trends in Food Science & Technology*, 123, 310–321. https://doi.org/10.1016/j.tifs.2022.03.022.

30. Boncinelli, F., Gerini, F., Piracci, G., Bellia, R., & Casini, L. (2023). Effect of executional greenwashing on market share of food products: an empirical study on green-coloured packaging. *Journal of Cleaner Production*, 391, 136258.

https://doi.org/10.1016/j.jclepro.2023.136258.

31. Panagiotou, M., & Gkatzionis, K. (2022). Lexicon development to measure emotions evoked by foods: a review. *Measurement: Food*, 7, 100054. https://doi.org/10.1016/j.meafoo.2022.100054.

32. Zuo, Y., Zhang, K., Xu, S., Law, R., Qiu, Q., & Zhang, M. (2022). What kind of food can win Gen Z's favor? A mixed methods study from China. *Food Quality and Preference*, 98, 104522. https://doi.org/10.1016/j.foodqual.2021.104522.

33. Nystrand, B. T., & Olsen, S. O. (2021). Relationships between functional food consumption and individual traits and values: a segmentation approach. *Journal of Functional Foods*, 86, 104736. https://doi.org/10.1016/j.jff.2021.104736.

34. Krishna, A., & Schwarz, N. (2013). Sensory marketing, embodiment, and grounded cognition: a review and introduction. *Journal of Consumer Psychology*, 24(2), 159–168. https://doi.org/10.1016/j.jcps.2013.12.006.

35. Zhao, G., Chen, H., Liu, S., Dennehy, D., Jones, P., & Lopez, C. (2023). Analysis of factors affecting cross-boundary knowledge mobilization in agri-food supply chains: an integrated approach. *Journal of Business Research*, 164, 114006. https://doi.org/10.1016/j.jbusres.2023.114006.

36. Helgeson, J., Glynn, P., & Chabay, I. (2022). Narratives of sustainability in digital media: an observatory for digital narratives. *Futures*, 142, 103016. https://doi.org/10.1016/j.futures.2022.103016.

37. Løvbak Berg, L., & Hebrok, M. (2024). Holding on or letting go: conflicting narratives of product longevity. *Resources, Conservation and Recycling*, 210, 107834. https://doi.org/10.1016/j.resconrec.2024.107834.

38. Bogoliubov, V., Nagorniuk, O., & Sobczyk, W. (2016). Providing environmental training in the context of Ukraine's transition to sustainable development. *Annals of Agrarian Science*, 14(4), 292–294. https://doi.org/10.1016/j.aasci.2016.09.003.

39. Shanshan, L., & Zein, K. (2021). Meta-analysis of consumers' willingness to pay for sustainable food products. *XIII Congreso de Economía Agroalimentaria*. https://doi.org/10.31428/10317/10570.

40. Chawla, Y., Radziwon, A., Scaringella, L., Carlson, E. L., Greco, M., Silveira, P. D., De Aguiar, E. P., Shen, Q., Will, M., & Kowalska-Pyzalska, A. (2021). Predictors and outcomes of individual knowledge on early-stage pandemic: Social media, information credibility, public opinion, and behaviour in a large-scale global study. *Information Processing & Management*, 58(6), 102720. https://doi.org/10.1016/j.ipm.2021.102720.

41. Wicaksono, T., Nugroho, A. D., Lakner, Z., Dunay, A., & Illés, C. B. (2021). Word of mouth, digital media, and open innovation at the agricultural SMEs. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(1), 91. https://doi.org/10.3390/joitmc7010091.

42. Puma-Flores, M., & Rosa-Díaz, I. M. (2024). Promoting sustainable agri-food systems through sustainability and responsible marketing: the case of Peruvian companies at international trade shows. *Journal of Cleaner Production*, 448, 141568.

https://doi.org/10.1016/j.jclepro.2024.141568.

43. Huang, L., Solangi, Y. A., Magazzino, C., & Solangi, S. A. (2024). Evaluating the efficiency of green innovation and marketing strategies for long-term sustainability in the context of environmental labeling. *Journal of Cleaner Production*, 450, 141870. https://doi.org/10.1016/j.jclepro.2024.141870.

44. Top 15 most expensive brands in Ukrainian retail – NV rating (2023). Ukrainian Retailers Association. Available at: https://rau.ua/novyni/top-15-najdorozhchih-brendiv-2.

45. MIDA Network (2024). All Retail. Available at: https://allretail.ua/networks/merezha-mida.

46. Demographic situation in Mykolaiv region in January 2022 (2022). Main Department of Statistics in Mykolaiv Region. Available at: https://www.mk.ukrstat.gov.ua/expres/2022/03/zip/e41_21_03.pdf.

47. Samborsky, O., Slobodyanyuk, M., & Shuvanova, O. (2017). *Justification of the choice of the sampling method in pharmaceutical market research*. Publishing house of the National University of Physics and Technology. Available at: https://dspace.nuph.edu.ua/handle/123456789/14232.

48. Horoneskul, M. (2009). *Tables of functions and critical points of distributions*. University of Civil Defense of Ukraine. Available at: http://repositsc.nuczu.edu.ua/bitstream/123456789/1530/1/Tablici.pdf.

Citation:

Стиль – ДСТУ:

Burkovska A., Burkovska A. Semantic approach to food marketing: the influence of sustainable development narratives on the Ukrainian market. *Agricultural and Resource Economics*. 2025. Vol. 11. No. 1. Pp. 317–347. https://doi.org/10.51599/are.2025.11.01.12.

Style – APA:

Burkovska, A., & Burkovska, A. (2025). Semantic approach to food marketing: the influence of sustainable development narratives on the Ukrainian market. *Agricultural and Resource Economics*, 11(1), 317–347. https://doi.org/10.51599/are.2025.11.01.12.