

METHODOLOGICAL ASPECTS OF BIOECONOMY DEVELOPMENT STRATEGY FORMATION IN UKRAINE (EXAMPLE OF RENEWABLE ENERGY SOURCES)

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Abstract. The work is devoted to the study of issues of the formation of priorities of the economic development of Ukraine. As a result of theoretical studies, it was established that the main goal of the bioeconomy is the optimal use of renewable biological resources and the creation of sustainable systems for the production of new types of products based on them. Marketing management plays an important role as an important component of the company management system. It is noted that the methodology is the fundamental basis of the management of the marketing activities of the enterprise, and the methodological complex is a toolkit that includes a set of marketing tools and marketing research. The main principles of the methodological complex of marketing have been identified and analyzed in the work. In the structure of the principles of marketing, an important place is given to marketing concepts, which reflect the basic point of view, a constructive approach to various types of activities. Methodological approaches to the study of the marketing management system are the starting point that determines the direction of the research in relation to the goal. The work examines the conceptual apparatus and marketing terms that characterize it. Much attention is paid in the research to the development of new paradigms of marketing, in particular, ecological marketing, renewable energy and bioeconomy. Based on the research data, the authors structured the main categories and their relationship. This made it possible to develop and propose a conceptual model for the formation of a bioeconomy development strategy in Ukraine, aimed at creating a more innovative and resource-efficient economy with sustainable use of renewable energy sources and resources. In the context of the studied material, it follows that an important task of marketing management of the enterprise is the formation of such management mechanisms that would ensure its effective functioning, since it is the construction of enterprise management based on marketing principles that creates favorable conditions for ensuring competitiveness and strengthening the market positions of the enterprise.

Keywords: bioeconomy, methodology, marketing principles, marketing activity, marketing management, methodological complex.

Introduction

The development of a bio-oriented economy is one of the most relevant scientific researches and is of particular importance in the modern conditions of the development of the economy of Ukraine. Bioeconomy is considered to be the key basis of modern innovative areas of economic development. It is based on the widespread use of biotechnologies and the application of biological renewable materials for the production of products and energy resources.

The methodological approach to the study of marketing management systems determines its direction relative to a specific type of activity. The main goal of the methodology is the study of those means, methods and techniques of scientific research that contribute to obtaining the most objective, accurate, systematized information about processes and phenomena to ensure the bio-economic direction of the development of the economy of Ukraine.

The methodology is the fundamental basis of the management activities of the enterprise. This is a defined methodological complex, which is a toolkit that includes a set of marketing research tools. Therefore, mastering marketing methodology is key in marketing management, which will allow making scientifically based decisions.

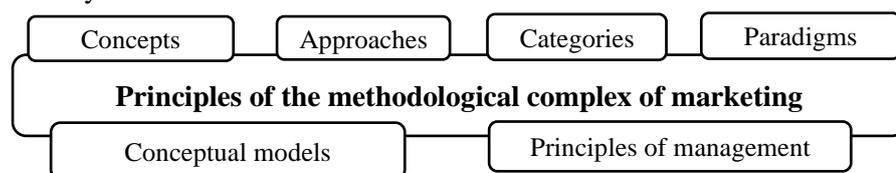


Fig. 1. Principles of the methodological complex of marketing [1]

The principles of the methodological complex of marketing include the following elements: concepts, approaches, paradigms, categories, conceptual models and management principles.

These issues were addressed by scientists from different countries [3-7], however, the available research data are either very generalized or scattered, poorly systematized, and mainly relate to certain spheres of economic activity. In most cases, researchers agree that the marketing research design and analysis methods are changing rapidly. These changes are emerging from transformations in management skills, technological innovation and continuously evolving customer behavior (needs and expectations) [3]. Some scholars emphasize the need for mixed method studies in marketing highlighting the need for scholars to specifically address issues such as the timing and priority given to each data type (i.e. sequential or concurrent), and the integration (or mixing) of the both data types. [6]. In modern works, the importance is noted essential to increase the scope of application of formal research methodologies. This is because empirical models may be subject to benchmarking, but they can be served to make conceptual models more probable [4].

It is important to choose the best way to do this in order to develop principled models of the development of developing economies in line with modern trends. Ukraine has embarked on the path of transition of the energy industry to renewable energy sources, and this causes the need to develop the right strategy for the maximum effective implementation of this goal.

The main goal of the article is to study the methodological aspects of marketing management in the context of the implementation of the bioeconomic direction of the development of the Ukrainian economy. The main task of the research is the analysis of the constituent elements of the principles of the methodological complex of marketing and the justification of their influence on the results of marketing management of development of the bioeconomy.

Materials and methods

The work was carried out as part of the educational and scientific laboratory “DAK GPS” of the Higher Education Institution “Podilskyi State University”, which deals with various aspects of renewable energy [8; 9; 20; 24]. The research was conducted using materials of domestic and foreign authors, which reveal the methodological aspects of marketing activity management. Data for examples and comparative assessments of certain elements of the conceptual model were taken from official sources of government institutions of Ukraine and scientific publications based on available statistical data. The systematization of all this information allowed the authors to highlight a general approach to the development of Ukraine bioeconomy and create a conceptual model of the development strategy. In the process of this research, the following methodological approaches were used.

- The method of system analysis, which made it possible to analyze the components of the principles of the methodological complex of marketing, their essence and development.
- The modeling method was used to develop a model for the formation of a bioeconomy development strategy, as a new paradigm of the principles of the methodological complex of marketing.

Results and discussion

An important place in the system of principles of the methodological complex of marketing is given to concepts that reflect the main point of view, a constructive approach to various types of activities. Concepts were formed according to the stages of marketing development. An analysis of known concepts and their features is collected in Table 1.

These concepts directly affect the general economy. As an example of such influence for the conditions of Ukraine, we consider the application of the concept of production improvement on the example of the biogas market, which refers to renewable energy sources. In order to achieve the goals of its development, the State Energy Efficiency Agency of Ukraine conducted a research of the prospects of installing biogas facilities at solid household waste landfills. It was found that it is economically feasible to build biogas facilities on landfills with a total amount of waste exceeding 1 million tons. The conducted research indicates a stable growth in the number and capacity of biogas plants in Ukraine for the period 2015-2022 (Fig. 2). Therefore, the potential of landfill gas is used as much as possible, which is positive in the development of bioeconomic processes in Ukraine [8].

Table 1

Basic marketing concepts

Concept	Leading idea	Concept description	Main goal
The concept of production improvement	Produce what is possible	The main efforts of the company in the production of products are focused on reducing the cost price and increasing the production scale. This concept should be applied only when the demand is significantly higher than the supply [2].	Sales growth, profit maximization
The concept of product improvement	Production of quality goods	The product is placed in a priority place. The company's activities are focused on its constant improvement and the development of a sufficient number of modifications to the product. It is necessary to focus on the development of new product names, as well as improving the quality of product items that are already produced [1].	Improvement of consumer properties of the product
The concept of intensification of commercial efforts	Development of the sales network	The main orientation of this concept is the realization of the produced product. In recent years, there has been a tendency to actively fill the domestic market with domestic organic products due to the establishment of own processing of organic raw materials [10].	Intensification of sales of goods due to promotion efforts
The concept of classical marketing	produce what the consumer needs	The concept is focused on the needs of buyers. Its main goal is to identify unsatisfied needs, develop and offer a product that maximally meets the expectations of customers. The need to develop the market of renewable energy sources and organic products corresponds to the main tasks of the marketing concept [11; 12]	Satisfying the needs of the target markets
The concept of socio-ethical marketing	Produce what consumers need, taking into account the society requirements	The concept was formed in the process of evolution of marketing, and the main goal of this concept is to satisfy the needs and requests of buyers under the condition of preservation of human, natural, energy and other resources, without harming the environment and humanity in general [13].	Satisfying the needs of target markets while saving resources and protecting the environment

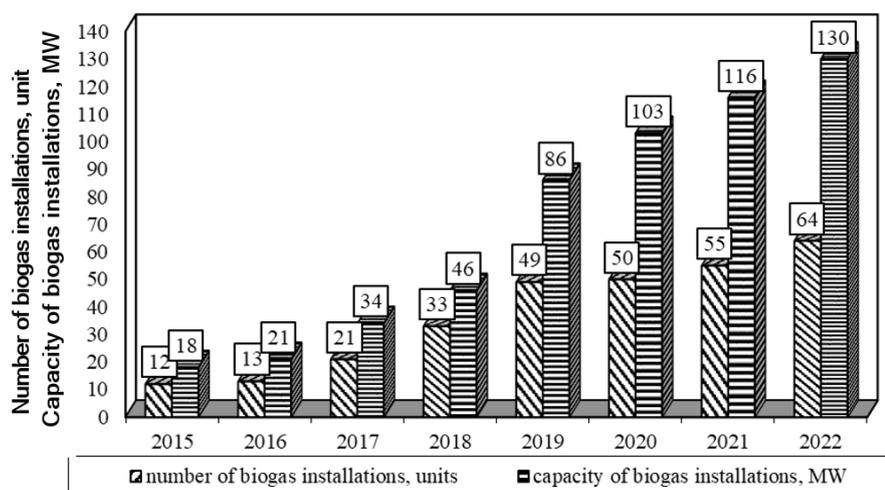


Fig. 2. Growth dynamics of the biogas plant number and capacity in Ukraine, 2015-2022 [16-19]

Another example is the application of the product improvement concept in the conditions of Ukraine. Such a product in biogas production can be biomethane. With the help of enrichment technology, biogas can be cleaned and brought to the quality of natural gas. The essential advantage of biomethane, compared to other renewable energy sources, is the use of existing infrastructure and it does not require creation of new storage systems. The existing natural gas networks, which have huge capacities, offer an effective and economical solution for storing and supplying biomethane with insignificant capital costs [8].

Applying the concept of social and ethical marketing, we note that the social orientation of the energy market of Ukraine is reflected in the development of renewable energy through the production of electricity and thermal energy from biomass [8]. The use of household waste for the production of biogas significantly reduces emissions of pollutants, and the produced biogas is converted into electricity and heat at a thermal power plant (CHP). Due to the production of biogas and biomethane from local resources, new jobs are created in rural areas. The ecological effect of biogas production is that it is climate neutral, since the biomass used during the entire growing season takes carbon dioxide from the atmosphere, which is then released again when biogas or biomethane is burned.

The next element of the principles of the methodological complex are approaches in marketing management. The most common are listed in Table 2.

Table 2

Basic approaches in marketing management

Approaches	Approach description
The process approach	is the activity of the entire company as a network of interacting processes and assumes that marketing management is carried out using information technologies and is focused on optimizing internal information flows related to the collection, processing, storage and use of marketing information [14].
The methodology of the system approach to management	involves management of the organization as a single system, where any managerial influence on one part of the system affects other parts of it. The task of the system approach is to identify problems and find the best way to solve them [1; 14].
The situational approach	is considered the most appropriate in the modern business environment because it is based on the fact that the priority of management methods is determined by the situation. The situational approach considers specific situations with the selection of factors that create a certain situation and are the most influential, as well as determining the disadvantages and advantages, limitations and consequences of the situation, choosing specific methods and management methods for a specific situation [1; 2].

The process approach is the most progressive and is one of the ways for the organization to remain competitive. It forces the company managers to analyze the interaction of process participants, because the biggest losses of information and time occur due to untimely resolution of the problem, which directly leads to financial losses [15]. However, the situational approach is the most characteristic for the bio-economic and energy industry of Ukraine. Considering the current situation in the world, which is characterized by climate change problems, and energy production is the main source of anthropogenic greenhouse gas emissions, Ukraine has developed and presented the concept of “green” energy transition by 2050. This is where the global trend of replacing fossil energy sources (natural gas, oil, coal) with renewable ones, which play a key role, is developing. The effectiveness of management decisions made with a situational approach depends on the professionalism of managers and their correct understanding of the situation [16]. An example of using this approach can also be the issue of food safety and quality, which is an actual problem in many countries of the world. In this regard, the culture of organic agriculture is promoted and developed, which ensures production of safe food products. Ukraine has a significant natural, climatic and soil potential for the production of organic agricultural products, their export and consumption on the domestic market. The modern domestic consumer market of organic products in Ukraine started to develop from the beginning of the 2000s [21]. The analysis of the dynamics of the development indicators of organic production showed a stable growth (Fig. 3). The decrease in organic production indicators in recent years is connected with the large-scale war that

Russia launched on the territory of Ukraine in February 2022, since significant changes in economic indicators took place precisely in 2022.

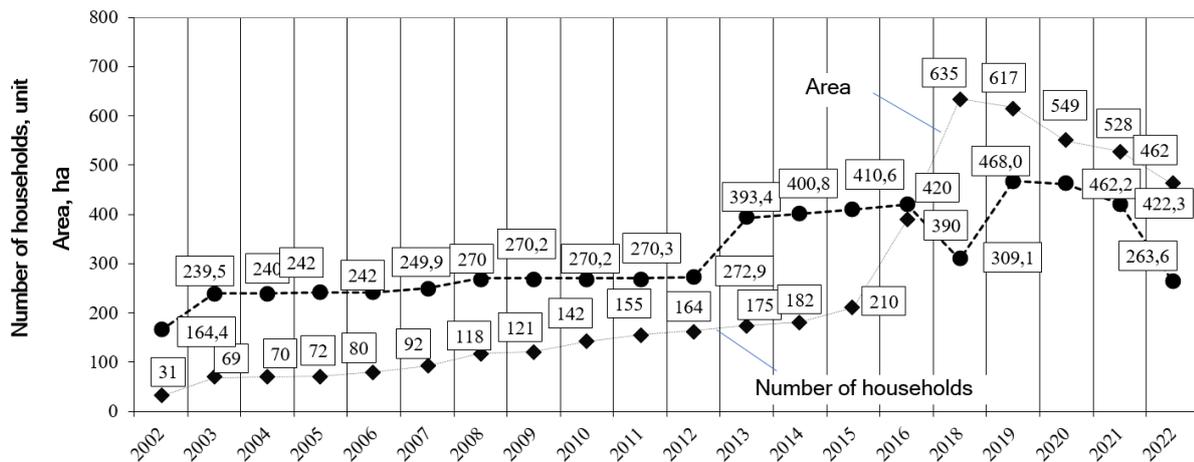


Fig. 3. Dynamics of development of organic production in Ukraine

An important component of the principles of the methodological complex of marketing is a paradigm, which is characterized as an example, sample or set of prerequisites that determine scientific research. These are recognized scientific achievements, an initial conceptual scheme, a model of posing problems and their solution, research methods that are relevant at this stage of development. This is a system of basic scientific achievements - theories, methods, based on which the research practice of scientists in a certain field of knowledge is organized in a certain historical period [25].

Paradigms in marketing F. Kotler called the concepts of entrepreneurial activity [13]. In today's conditions, the development of a new paradigm of trust marketing is relevant, which will allow enterprises to be more competitive by using the advantages provided by trust [26]. A new paradigm has become "ecological marketing", which is a new conceptual approach to the system of development and creation of new, improved and environmentally safe products and systems of their consumption and disposal [27].

Recently, renewable energy sources have become one of the important criteria for energy security in the world and the development of the bioeconomy in Ukraine. Therefore, the development of renewable energy is an important factor in increasing the level of energy security of Ukraine and a new marketing paradigm [8]. The development of the bioeconomy, the main goal of which is the optimal use of renewable biological resources and the creation of sustainable systems for the production of new types of products based on them, has also become an innovative paradigm [27].

A fundamental question regarding the organization of enterprise management is the creation of a conceptual model of formation of such management mechanisms that would ensure its effective functioning [28]. Having analyzed known concepts (Table 1), approaches (Table 2), conceptual and categorical apparatus, paradigms and general principles of management, we proposed a conceptual model for formation of a strategy for the development of bioeconomy (Fig. 4), which includes both the experience gained by Ukraine in the introduction of individual elements of the methodological complex of marketing, and combines generally recognized approaches to certain aspects of its development.

Based on the specifics of the object of this study, it is proposed to consider the methodology of marketing research of bio-economic processes in Ukraine as a system of interconnected and consistent actions in relation to priorities specified in goals and tasks, the solution of which is provided by a corresponding system of marketing tools based on an innovative approach "smart specialization" formation of a modern strategy for the development of the bioeconomy.

The proposed conceptual model for the formation of a strategy for the development of the bioeconomy in Ukraine (Fig. 4) is aimed at creating a more innovative and resource-efficient economy with sustainable use of renewable energy sources and resources. The principles of "smart specialization" (RIS3, S3) used in the development of this model are a relatively new approach, which quickly became one of the main directions of policy in the EU regions. The main tasks of S3 are aimed at increasing the competitiveness of regions (and countries) and, ultimately, bringing them to leading positions in certain

fields of knowledge, strengthening positions on the global market, increasing stability in conditions of global competitive pressure through closer integration into national, international and global value added chains. In addition, for less developed regions, S3 provides a structured transition to more innovative and more competitive regional systems [29].

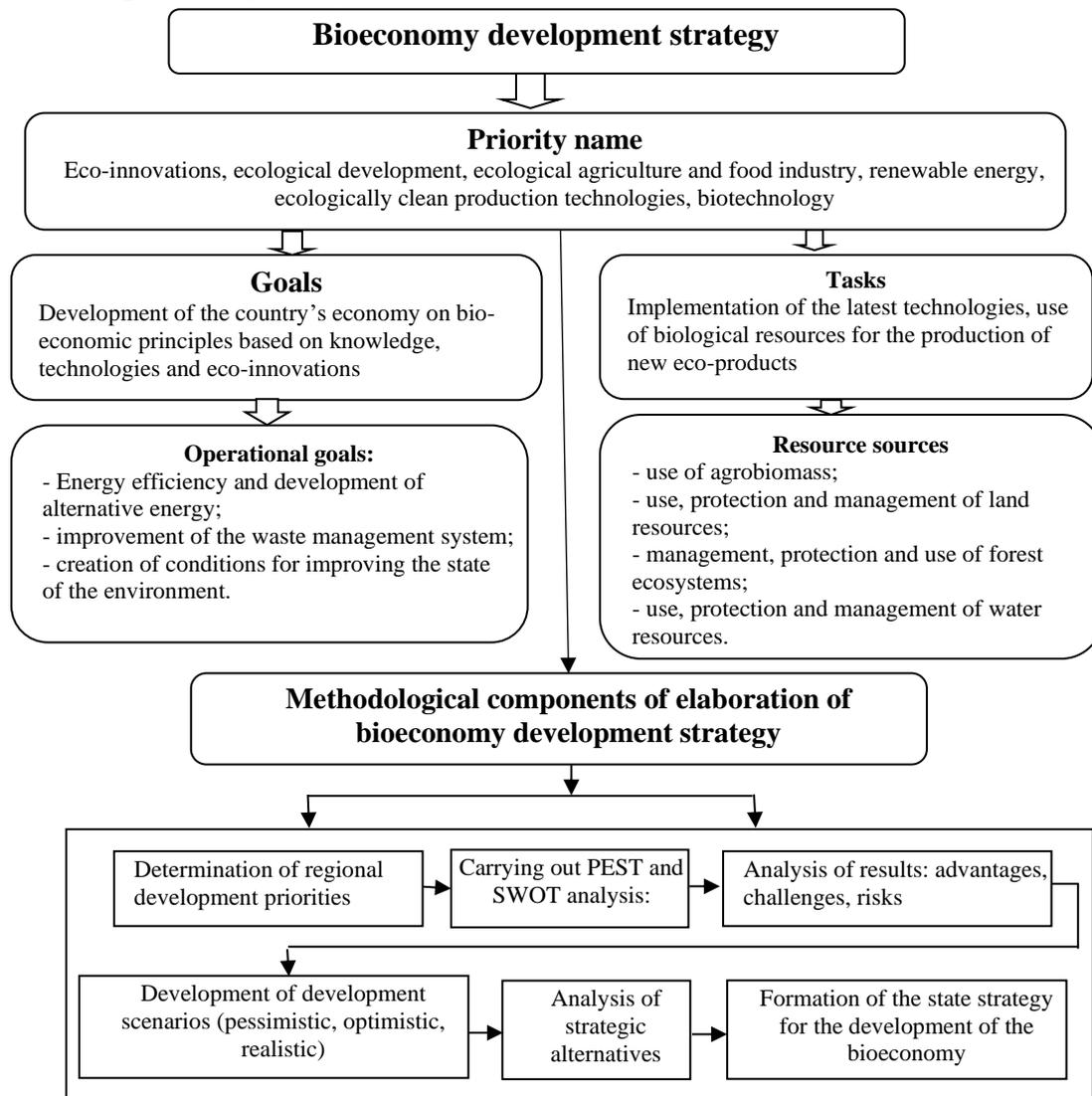


Fig. 4. Conceptual model of formation of the modern bioeconomy development strategy

Conclusions

The most important component of the overall management system of the enterprise is marketing management, and the fundamental basis of management of the enterprise marketing activities is the methodology. Summarizing the results of the research on the principles of the methodological complex of marketing in the development of bioeconomy in Ukraine, the following key positions can be distinguished:

- the conducted studies of the methodological complex of marketing showed that the key to making scientifically based marketing decisions in the implementation of marketing activities is the mastery of the marketing methodology;
- the article examines the constituent elements of the principles of the methodological complex of marketing in the context of the development of bioeconomic processes;
- the relevance of the application of each element of the methodological complex, its purpose, main orientations, key idea and guarantees of success are characterized.

On the basis of the conducted research, it can be stated that an important task of the marketing management of the enterprise is the formation of such management mechanisms that would ensure its effective functioning, since it is the construction of enterprise management based on marketing principles that creates favorable conditions for ensuring competitiveness and strengthening the market positions of the enterprise. Therefore, in further research, it is necessary to analyze other constituent elements of the methodological complex, with the aim of mastering the marketing methodology, which is key in the implementation of marketing activities and will allow making scientifically based marketing decisions.

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