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## **ASPECTS OF SYSTEMATIZATION OF MANAGERIAL KNOWLEDGE IN THE AGRO-INDUSTRIAL COMPLEX**

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### **АСПЕКТИ СИСТЕМАТИЗАЦІЇ УПРАВЛІНСЬКИХ ЗНАНЬ В АГРОПРОДОВОЛЬЧОМУ КОМПЛЕКСІ**

This article addresses the pressing issue of systematizing theoretical knowledge in the field of agricultural management and clarifying the essence of the concept of "management" in the context of the modern agri-food sector. The author notes that the existence of various organizational and legal forms of economic activity leads to ambiguous interpretations of management processes, which requires scientific systematization. The foundation of the study is a cybernetic approach based on the teachings of Norbert Wiener. Management is viewed as an attribute of dynamic systems, based on direct and reverse information exchange between the subject ("steersman") and the object of management. In the system of general scientific categories, management occupies the fourth place — after "matter," "consciousness," and "motion."

The paper draws a clear distinction between two aspects of management: Management as a phenomenon: the practical activities of managers and specialists aimed at the rational use of resources to achieve the enterprise's mission. Management as a science (academic discipline): the body of systematized knowledge about management as a phenomenon.

Particular attention is paid to distinguishing between the concepts of "management" and "administration." The author argues that the scope of management is broader (biological, technical, and social systems), whereas administration is limited to social systems, where influence is exerted on people, and through them — on resources. The central contribution of the article is the development of a logical knowledge structure that corresponds to real processes in the agri-food sector. A nine-link correspondence system is proposed. Management as a phenomenon within an economic entity of the agri-food sector is the practical activity of managers, specialists, and authorized bodies aimed at the rational use of resources in accordance with its mission and goals.

Management in an agricultural enterprise refers to the practical activities of managers and specialists at all levels aimed at the rational use of resources (labor, material, and financial) and their technological transformation into a final product in accordance with the organization's mission and goals.

The application of a cybernetic approach allows us to define management as the optimal influence of a subject on an object under conditions of constant two-way information exchange, which is critical for the functioning of agricultural enterprises as dynamic systems.

The structuring of managerial knowledge should not be arbitrary but should follow an objective chain of phenomena, beginning with the identification of the enterprise's environment form and ending with management effectiveness.

Стаття присвячена актуальній проблемі систематизації теоретичних знань у сфері аграрного менеджменту та уточненню сутності категорії "управління" в контексті сучасного агропродовольчого сектору. Автор зазначає, що існування різноманітних організаційно-правових форм господарювання призводить до неоднозначного трактування управлінських процесів, що потребує наукового впорядкування. Фундаментом дослідження є кібернетичний підхід, заснований на вченні Норберта Вінера. Управління розглядається як атрибут динамічних систем, що базується на прямому та зворотному інформаційному зв'язку між суб'єктом ("керманічем") та об'єктом управління. У системі загальнонаукових категорій управління посідає четверте місце — після "матерії", "свідомості" та "руху".

У роботі проведено чітку межу між двома іпостасями управління: Управління як явище: практична діяльність керівників і фахівців, спрямована на раціональне використання ресурсів для досягнення місії підприємства. Управління як наука (навчальна дисципліна): сукупність систематизованих знань про управління як явище.

Особлива увага приділяється розмежуванню понять "управління" та "менеджмент". Автор доводить, що сфера управління є ширшою (біологічні, технічні, соціальні системи), тоді як менеджмент обмежений соціальними системами, де вплив здійснюється на людей, а вже через них — на ресурси. Центральним внеском статті є розробка логічної структури знань, що відповідає реальним процесам в АПК. Пропонується дев'ятиланкова система відповідності. Управління як явище в господарюючому суб'єкті агропродовольчого сектору — це практична діяльність керівників, спеціалістів і повноважних органів, яка спрямовується на раціональне використання ресурсів відповідно до його місії та цілей.

Управління в сільськогосподарському підприємстві — це практична діяльність керівників і спеціалістів усіх рівнів, спрямована на раціональне використання ресурсів (трудових, матеріальних, фінансових) та їхню технологічну трансформацію в кінцевий продукт відповідно до місії та цілей організації.

Застосування кібернетичного підходу дозволяє визначити управління як оптимальний вплив суб'єкта на об'єкт за умови постійного двостороннього інформаційного зв'язку, що є критичним для функціонування аграрних підприємств як динамічних систем.

Структурування управлінських знань має відбуватися не довільно, а згідно з об'єктивним ланцюгом явищ, який розпочинається з фіксації середовища, форми підприємства і завершується результативністю менеджменту.

*Key words: management, controlled entity, cybernetics, controlling entity, feedback, agricultural enterprise, objective chain of phenomena.*

*Ключові слова: Менеджмент, Об'єкт управління, Кібернетика, Суб'єкт управління, Зворотний зв'язок, Аграрне підприємство, Об'єктивний ланцюг явищ.*

### THE GENERAL STATEMENT OF THE PROBLEM AND ITS CONNECTION WITH IMPORTANT SCIENTIFIC OR PRACTICAL TASKS

Thorough mastery of knowledge in each academic discipline, including agricultural management, can be successful provided that the essence of conceptual theoretical concepts is clearly defined and the content of the academic discipline is structured into specific sections, blocks, and topics in a logically coherent sequence. It is relevant to examine the structure of the "management" discipline from the conceptual standpoint of cybernetics; a model of an objective chain of management phenomena is proposed, which should serve as the basis for forming blocks of management knowledge with subsequent elaboration of the course topics for this discipline. The operation of various organizational and legal forms of economic activity within the agrarian and food sector of the economy is one of the reasons for the ambiguous interpretation of the essence of management within them and, as a consequence, the existence of different variants of the structure of theoretical knowledge about it.

### ANALYSIS OF LATEST RESEARCH AND PUBLICATIONS

Undoubtedly, contemporary scientific publications and textbooks address both the essence of theoretical concepts and the sections of management knowledge regarding them, organized into modules, blocks, and topics, as evidenced by the works of domestic scholars: G. Osovskaya [1], Y. Zavadsky [2], S. Demyanenko [3], L. Romanova [4], G. Chorny [5, 6], and foreign authors M. Meskon, H. Fayol, R. Griffin, P. Drucker, N. Wiener [7—12].

However, in these and other similar works, certain debatable positions and subjective aspects are observed both in the interpretation of the concept of "management" and in the structure of knowledge about it.

### FORMULATION OF ARTICLE GOALS (TASK STATEMENT)

The purpose of this article is to deepen the understanding of the concept of "management" in economic entities of the agri-food sector and to clarify the structure of knowledge regarding it.

**PRESENTATION OF THE MAIN MATERIAL OF THE STUDY WITH FULL JUSTIFICATION OF THE OBTAINED SCIENTIFIC RESULTS**

The inconsistency in the interpretation of the fundamental concept of "management" is explained by the fact that, for some reason, it is considered outside the framework of Norbert Wiener's teachings and does not take into account the author's work on cybernetics [12]. From this scholar's perspective, control is an attribute of all dynamic systems of various kinds. In the language of cybernetics, control is interpreted as a direct and reverse information link between the active part of the system (the system's subject, "helmsman," "steersman") and the second part, which is under the influence (control) of the first, i.e., the object of control.

Therefore, before discussing the essence of management in any situation, one must first define the contours of a specific dynamic system and its universal structural components — the subject of the system (the agent of management) and the object of the system (the object of management).

Among the general scientific philosophical categories, management ranks fourth after "matter," "consciousness," and "motion." In a broad sense, the phenomenon of management may be understood here as the direction of the motion of someone or something.

In the language of philosophy, management is the direction of the movement of elements of the material and spiritual worlds. In the global solar system, the role of the system's subject undoubtedly belongs to the Sun, which influences all movements within this system, including those on planet Earth with its oceans, land, atmosphere, temperature regime, flora and fauna, and social life.

In the language of cybernetics, management is interpreted as the optimal influence of the subject of a dynamic system on the object of that system, provided there is a constant two-way exchange of information between them.

In the agri-food sector of a country's economy, where various organizational and legal forms of land management operate, each of these forms is essentially a complex socio-economic system in which the subject and object of management are clearly and distinctly separated. For example, in a state-owned agricultural enterprise, the management subject will be complex, as it includes managers and specialists of all ranks, the labor collective assembly, and the trade union committee. Regardless of the organizational and legal forms, the top-level manager remains the central figure in their management subjects. The object of

management here consists of resources (labor, material, and financial) and the technologies for their transformation ("refinement") into products.

These initial data make it possible to formulate the essence of management in an agricultural enterprise as a phenomenon in the following way: "management in an agricultural enterprise as a phenomenon is the practical activity of managers and specialists of all ranks, as well as authorized bodies, aimed at the rational use of resources in accordance with its mission and goals."

Alongside management as a phenomenon, management also exists as a scientific category and an academic discipline, and it too has its own interpretation.

In its most accessible form, the interpretation of management as a science or academic discipline boils down to the sum of all systematized knowledge about management as a phenomenon. More precisely and concretely, management as a science is all existing knowledge about management as a phenomenon.

It is worth noting here that the word "management," due to its weight, authority, and euphony, has become so widely used (trendy) that many authors of official and professional periodicals use it in isolation from dynamic systems, for which this concept is an absolute attribute only in the context of the system's subject influencing the system's object, as required by cybernetics. Therefore, from this perspective, the phrases "quality management," "competitiveness management," "efficiency management," "effectiveness management," "change management," "risk management," and so on are scientifically incorrect. The fact is that it is practically impossible to link these phrases to a specific, clearly defined dynamic system and its structural elements—the subject of management and the object. Quality, competitiveness, efficiency, effectiveness, and so on cannot serve as objects of management, because, according to the logic of management activity, they are identified with the goal (objective) of management—that is, the final result of management activity.

At the end of the 20th century, in public life, the media, and scientific publications, the term "management" was used cautiously alongside the term "administration." Today, this has become commonplace. Indeed, in terms of their cybernetic meaning, "administration" and "management" can be used as synonyms, as is observed in practice and in academia.

However, an in-depth analysis of the intrinsic nature of these phenomena provides grounds for distinguishing the concepts of "administration" and

"management" within the system of administrative knowledge, with a significant difference, namely:

the scope of governance is broader and more comprehensive, as it applies to dynamic systems of various natures (biological, social, technical);

The scope of management is narrower because it is limited to social systems in which the manager, as the agent of control, initially influences only people, and through them, material and financial resources;

Management exists outside the sphere of management: in animal and human organisms, where the brain performs the function of the governing entity; in the world of animals that live in herds led by a leader; among machine tools, refrigeration units, unmanned aircraft, and automated spacecraft, where the function of the controlling entity is performed by special technical and electronic devices; a car, tractor, or combine harvester is controlled, and therefore it is entirely inappropriate to either say or hear the phrase "management of a car, tractor, or combine harvester."

The scope of management in public life is a matter of debate among scholars: some authors limit it to economics, while others consider it in all forms of human activity. This fact is confirmed by Peter Drucker in his book and where he claimed: "The notion that management is business management persists in the old way" [10]. However, the author emphasizes that "today, nevertheless, we are beginning to correct this mistake". In this situation, it is important to state, as loudly as possible, that management is not business management just as, for example, management is not midwifery.

In the media and periodical publications, the terms "regulation" and "coordination" are often used as synonyms or analogues of the concept of "management." This misunderstanding is dispelled by a deeper look at the meaning of these words, which in management theory are assigned the role of sub-functions of the general management function of control, and only in those situations where the development of events significantly deviates from the "trajectory" envisaged by the goal and plan of a specific management cycle.

The agrarian-food sector of the economy is, in a sense, a macrosystem, a class of which includes lower-order systems. Among these, at the macro level, the foundational elements have been and remain the organizational and legal forms of land management, the governance of which is, first and foremost, the subject of study in the theory of agrarian management. The challenge lies in arranging the already developed and tested blocks

(sections) of existing management knowledge into an objective, understandable, and logical sequence. It is essential that each individual block (section) of knowledge in textbooks and manuals be directly related to a specific management phenomenon [11, 12]. Therefore, it is necessary to carefully analyze the content of management phenomena, the sequence of their emergence and existence at the level of an agricultural enterprise (farm).

As noted above, from the perspective of cybernetics, an agricultural enterprise (farm) is a complex system comprising biological, technical, and social elements. Therefore, from the very beginning, researchers of agricultural management issues should comprehensively examine the structure of these complex agricultural systems: their past, present, and projected future in legal, organizational, and functional aspects. The theoretical understanding of the agricultural enterprise as a phenomenon must be the first block of knowledge in agricultural management.

The next (second) managerial phenomenon in the agricultural sphere lies in the fact that enterprises (farms) are in a dynamic state; therefore, from a cybernetic perspective, this state must be theoretically elucidated as the essence of management within them.

The next (third) objective, sequential phenomenon is observed in the form of the activities of the enterprise's (farm's) managerial staff, who are the source of the dynamic, active state of these economic entities on the ground. This phenomenon provides grounds for abstracting it into the next (third) block of theoretical knowledge as managerial personnel and managerial bodies.

Extensive specialized observations of management phenomena at the enterprise (business) level make it possible to propose a continuation of their recently initiated chain in the proper objective sequence, namely:

- legal factors limiting the practical activities of managerial staff;
- moral factors limiting the activities of managerial staff;
- the content of managerial staff's activities;
- methods of performing work by managerial staff;
- the advantages and prevalence of certain methods in performing managerial tasks;
- the results of managerial activities of employees and specialists.

In accordance with these objectively sequential phenomena of agricultural management theory, it is proposed to form analogous knowledge blocks

**Table 1. Schematic representation of the correspondence of the separation of the theory (blocks of knowledge) in agricultural management to the objective chain of management phenomena**

Management phenomena at the level of business entities in the agro-industrial complex	Blocks of knowledge in the theory of agricultural management
Agricultural enterprises	Organizational and legal forms and their structure
Dynamic state of agricultural enterprises	The essence of management in business entities of the agricultural sector of the economy
Managers as sources of the dynamic state of enterprises	Personnel and management bodies in agricultural enterprises
Legal factors restricting the activities of managerial employees	Management patterns at the enterprise level
Moral factors limiting the activities of managerial employees	Corporate social responsibility
Content of the activities of management employees	Functions of management entities
Methods of performing practical work by managerial employees	Management methods
Dominance of certain methods of activity when performing work by managerial employees	Management styles
Consequences of management activities	Management effectiveness

Source: author's development.

corresponding to the subject matter of the academic discipline (Table 1).

This objective chain of managerial phenomena, in harmonious combination with their adequate abstract representation in the form of corresponding knowledge blocks, has grounds to serve as the foundation of the theory of agricultural management.

The core of management theory in national management and its global achievements is considered to be the doctrine of the functions of management entities, which, in various interpretations, are traditionally reduced to four types of managerial tasks, namely: planning, organizing, directing, and controlling. This is how they are interpreted in textbooks and teaching manuals. However, in real-world practice, a manager performs not 4 but 7 general functions, namely: first, they gather information, analyze the situation, set a goal, and only then do they plan, organize, direct, and control. This controversial aspect of management theory (4 or 7 general functions) deserves researchers' attention and should be discussed at every opportunity, but it falls outside the scope of this article, which aims to focus on the subject matter.

The systematization of management knowledge is the foundation of modern management in the agro-industrial sector; its development must be based on a combination of formalized and local expertise, coupled with the use of digital technologies, to enhance the effectiveness of sectoral management and promote the sustainable development of agriculture [11].

### CONCLUSIONS FROM THIS STUDY AND PROSPECTS FOR FURTHER EXPLORATION IN THIS DIRECTION

Management as a phenomenon within an economic entity of the agri-food sector is the practical activity of managers, specialists, and authorized bodies aimed at the rational use of resources in accordance with its mission and goals. Management as a science is the body of knowledge about management as a phenomenon.

Management phenomena at the level of agricultural enterprises (farms) exist as self-sufficient sources of empirical knowledge. At the same time, research observations have made it possible to identify a connection between them in the form of an objective, consistent, logical, and justified chain that begins with the formation of a specific economic entity and ends with the results of management within it.

Since the theory of agrarian management is an abstracted practice of managerial phenomena, the latter are primary in relation to the theory. The logic of the objective chain of managerial phenomena requires a corresponding structure of this chain of sequential, objective blocks of managerial knowledge that must reflect it.

Depending on the amount of class time allocated to the "agricultural management" course for specific majors, these blocks of knowledge can easily be broken down into lower-level structural elements, i.e., specific topics within this course.

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