

JEL Classification: F63; Q01

UDC 005.5:001.82]:629.73-043.86(477)(043.3)

DOI: 10.30857/2415-3206.2020.2.7

SYSTEM MANAGEMENT FOR SUSTAINABLE DEVELOPMENT: MODELS AND PROBLEMS

P. KALYTA¹

¹ *Ukrainian Association for Excellence and Quality, Kyiv, Ukraine*

Problem statement and tasks. It is known that the state of the Ukrainian economy is unsatisfactory and needs significant improvement. To change the situation for the better, the President of Ukraine issued a Decree "On Sustainable Development Goals of Ukraine for the period until 2030", which is a guide to the latest development of the country focused on people. Besides, the Cabinet of Ministers of Ukraine approved the Principles of Social Responsibility adopted by the United Nations. However, the real sustainable development of the country can not be achieved without advanced management systems that ensure at different organizational levels of management the adoption and implementation of a set of agreed management decisions adequate to situations and their changes. Therefore, the purpose of this paper is to analyze the state of system management in Ukraine, as well as the state of training of Ukrainian specialists in specialty "management", on which the creation, application, and improvement of management systems in organizations (companies, institutions) depend to the greatest extent.

Research methods. In the course of this research methods of comparative analysis, data analysis by their grouping, and generalization of information have been applied.

Results. Conceptual models of sustainable development of both individual organizations and Ukraine as a whole are proposed. The key role of modern system management in ensuring competitiveness and sustainable development is pointed out. The state of system management in Ukraine and the state of training specialists

in specialty "management" in the Ukrainian higher education institutions are analyzed; shortcomings are identified and suggestions for their elimination are provided. An inadequate translation of the "management" concept's definition in the DSTU ISO 9000:2015 is revealed and the causes and consequences of this fundamental error are investigated.

Conclusions. Since Ukraine got its independence until today, due attention has not been paid to system management development there. There is no central executive body responsible for the development of system management in the country as a whole. The problem of system management improvement has not been reflected either in any government policy or in any development strategy for specific life spheres. Public sector organizations, in particular, executive governmental authorities and business companies mainly use outdated imperfect management systems. In the country, there is a confusion in the understanding of the "management" concept, which has led to the inadequate definition of knowledge areas and specialties. The stage of manager's education in the Ukrainian higher education institutions does not meet the needs of Ukraine's development and its economy in the conditions of a globalized saturated market. To eliminate the mentioned shortcomings and improve the situation, it is urgent to change the attitude to this extremely important component of state-building.

Keywords: sustainability; management; leadership; management; standards; management systems; managers.

NUMBER OF REFERENCES	NUMBER OF FIGURES	NUMBER OF TABLES
24	1	0

JEL Classification: F63; Q01

УДК 005.5:001.82]: 629.73-043.86(477) (043.3)

DOI: 10.30857/2415-3206.2020.2.7

СИСТЕМНИЙ МЕНЕДЖМЕНТ ДЛЯ СТАЛОГО РОЗВИТКУ: МОДЕЛІ ТА ПРОБЛЕМИ

П. КАЛИТА¹

¹ Українська асоціація досконалості та якості, Київ, Україна

Постановка проблеми та завдання. Відомо, що стан української економіки незадовільний і потребує суттєвого покращення. Для зміни ситуації на краще Президент України видав Указ «Про цілі сталого розвитку України на період до 2030 року», який є дороговказом щодо новітнього розвитку країни, зорієнтованого на людину. Крім того, Кабінет Міністрів України схвалив Принципи соціальної відповідальності, прийняті Організацією Об'єднаних Націй. Однак, реального сталого розвитку країни неможливо досягти без застосування досконалих систем менеджменту, що забезпечують на різних організаційних рівнях управління прийняття та реалізацію сукупності узгоджених управлінських рішень адекватних ситуаціям та їх змінам. Тому метою даної роботи і визначено: провести аналіз стану системного менеджменту в Україні, а також стану підготовки українськими ЗВО фахівців за спеціальністю «менеджмент», від яких у найбільшій мірі залежить створення, застосування та удосконалення систем менеджменту в організаціях (компаніях, установах).

Методи дослідження. В процесі дослідження були застосовані методи порівняльного аналізу, аналізу даних шляхом їх групування, узагальнення інформації.

Результати. Запропоновані концептуальні моделі забезпечення сталого розвитку, як окремих організацій, так і України в цілому. Вказано на ключову роль сучасного системного менеджменту у забезпеченні конкурентоспроможності та

сталого розвитку. Проаналізовано стан системного менеджменту в Україні та стан підготовки в українських ЗВО фахівців за спеціальністю «менеджмент»; виділені недоліки та надані пропозиції з їх усунення. Виявлено неадекватний переклад визначення самого поняття «менеджмент» в ДСТУ ISO 9000:2015 та досліджено причини і наслідки цієї принципової помилки.

Висновки. В Україні від часу отримання незалежності і до сьогодні не приділяється належної уваги розвитку системного менеджменту. Не призначено центральний орган виконавчої влади, відповідальний за розвиток системного менеджменту в країні в цілому. Питання удосконалення системного менеджменту не відображені в жодній державній політиці і стратегії розвитку сфер життєдіяльності. Організації публічного сектору, зокрема органи виконавчої влади, і бізнесові компанії використовують переважно застарілі недосконалі системи управління. В країні існує плутанина у розумінні самого поняття «менеджмент», що призвело до неадекватного визначення галузей знань та спеціальностей. Стан підготовки менеджерів в українських ЗВО не відповідає потребам розвитку України та її економіки в умовах глобалізованого насиченого ринку. Для усунення відзначених недоліків та покращення ситуації необхідно терміново змінити відношення до цієї надзвичайно важливої складової державотворення.

Ключові слова: сталий розвиток; менеджмент; керівництво; управління; стандарти; системи менеджменту; менеджери.

Introduction. "There are no underdeveloped countries, there are only undermanaged ones" (Drucker, 2012). These words of Peter Drucker – one of the most famous and influential contemporary theorists and gurus in the field of management are fully true for today's Ukraine and the vast majority of its organizations (companies, institutions). All our successes and failures are the result of management decisions that we make (or do not make) and put into practice at any level of governance. Under the conditions of the global economy and fierce competition, the cost of management decisions can be very high. That is why in developed countries and advanced companies, management decisions are formed and made in modern integrated balanced management systems, which allow responding to situations faster and more adequately, feeling a need for improvement earlier than others, implementing agreed effective management decisions. All this indicates the relevance and necessity of studying the state of system management in Ukraine to form proposals for its significant improvement.

The main purpose of this article is to identify bottlenecks in the field of system management in Ukraine and draw the attention of the government, scientific and technical community, and business to key issues in this area and proposals for their elimination to ensure competitiveness and sustainable development of the country.

The paper considers three main blocks: conceptual models of sustainable development of organizations and Ukraine as a whole (Decree of the President of Ukraine "On Sustainable Development Goals of Ukraine for the period until 2030", 2019; Order of the Cabinet of Ministers of Ukraine "On approval of the Concept of state policy implementing in the field of promoting the development of socially responsible business in Ukraine for the period until 2030", 2020; Kalyta, 2019), where the modern management systems shall be the main components; actually management systems (Nassim Taleb, 2015; Tom Peters, 2020; Frederick Lalu, 2017; Kalyta, 2016; Kalyta, 2018), which in Ukraine are mostly obsolete and inefficient and subject to significant improvement; understanding of peculiarities of modern system management and the quality of managers' education in the Ukrainian higher education institutions (Baeva and others, 2007; Besedin & Nagaev, 2005; Girnyak & Lazanovsky, 2000; Kalyta, 2020; Komarnytskyi, 2006; Khmil, 2003; DSTU ISO 9000:2001, 2001; DSTU ISO 9000:2007, 2008; DSTU ISO 9000:2015, 2015; ISO 9000:2000, 2000; ISO 9000:2005, 2005; ISO 9000:2015, 2015; The Concept of State Policy in the Field of Quality Management of Products, Processes and Services, 2002; The list of knowledge areas and specialties for preparing higher education applicants, 2015).

Materials and methods.

Data description. The paper considers three objects, which are interconnected, but in fact, they are independent and based on different groups of data. The first object is sustainable development, the second – system management, and the third – understanding of management and manager education.

The following data were used to study the first object: UN materials on the Sustainable Development Goals and Principles of Social Responsibility and the Decree of the President of Ukraine on Sustainable Development Goals, 2019 and the Order of the Cabinet of Ministers of Ukraine on approval of the UN Social Responsibility Principles, 2020; Kalyta, 2019.

The data contained in the materials on the state of system management in Ukraine and the results of monitoring the implementation of the Cabinet of Ministers of Ukraine commission by the executive authorities dated 28.08.2017, as well as in domestic (Kalyta, 2016, 2018) and foreign (Nassim Taleb, 2015; Tom Peters, 2020; Frederick Lalou, 2017) publications were used to study the second object.

The third object is studied based on the use of: definition of term "management" and related notions, which can be found in international standards ISO 9000:2000, ISO 9000:2005, ISO 9000:2015 and state standards of Ukraine DSTU ISO 9000:2001, DSTU ISO 9000:2007, DSTU ISO 9000:2015 as well as in Ukrainian regulatory documents, monographs and textbooks (Khmil, 2003; Besedin & Nagaev, 2005; Girnyak & Lazanovsky, 2000; Baeva etc., 2007; Komarnytsky, 2006) and the List of knowledge areas and specialties approved by the Order of the Ministry of Education and Science of Ukraine, 2015; Concept of the state policy of Ukraine in the field of quality management of products, processes and services, 2002; Decisions of the seminar-meeting for managers and specialists in management and quality, standardization and certification of higher education institutions of Ukraine on the subject: "Business excellence – the basis of competitiveness and sustainable development of organizations and economy", 2018; Kalyta, 2020.

Method description. In the course of research of all three objects methods of the comparative analysis, data analysis by their grouping, logical generalization of the information were applied.

Results and discussion.

Sustainable Development. If we want to overcome difficulties, survive, and live as in developed countries, it is necessary to ensure *sustainable development*, both of each organization and Ukraine as a whole. This would be in line with global development trends and contribute to our inclusion in the global movement towards a dignified life. It would help us to better understand and orient ourselves to the values that are supported by the world elite.

And, first of all, these are widely known *17 Sustainable Development Goals of the UN*, which have been adapted to the conditions of Ukraine in 2017, and in 2019 they were put into effect by the Decree of the President of Ukraine. *Ten principles of social responsibility* of the UN approved by the Cabinet of Ministers of Ukraine should be added to this.

The Goals and Principles are, like the "golden couple", where goals guide you where you need to move to achieve success, and the Principles suggest what you need to become to be able to achieve great goals. Focusing on the Goals and adherence to the principles allows the organization to bring its organizational (business, corporate) culture closer to the level that is inherent in the best companies in the world.

Taking into account the mentioned Goals and Principles, it is possible to build a conceptual model of the sustainable development system of Ukrainian organizations. According to this model, the activity of each organization should be aimed at achieving the Sustainable Development Goals, and the organization itself should strive to adhere to the Principles of Social Responsibility in its activity. However, the question arises: what shall be the mechanism (driver) that will help the organization not to present episodic demonstrations but to direct all its daily activity to comply with the Principles and to move step by step towards these goals realizing that the Goals and Principles are only external statements and the organization itself must ensure the approaching to the Goals.

Considering that all our achievements are the result of our management decisions, we can conclude that the role of such a mechanism has to be played by modern *management systems* (where decisions are formed and made). It is only necessary to implement disaggregated Objectives and Principles. But previously, at the level of the relevant industries, it is advisable to centrally disaggregate the Goals and Principles to the level of actions, which could be implemented by organizations into their work programs and plans.

Such a conceptual model can be applied by any Ukrainian organization that seeks to improve its excellence, competitiveness and achieve sustainable development. However, to focus on the Goals and to bring the whole of Ukraine to the Principles, the sustainable development of individual organizations is obviously not enough. We need the vast majority of them. A need to involve in the improvement processes not only individual organizations arises here. The government must create favorable conditions for all economic actors in the country. And for this purpose, the Goals, principles, and issues of improvement based on system management, first of all, should be reflected in state policies for the development of all areas of Ukraine's activity. The general *Conceptual Model of the System for Ensuring Sustainable Development of Ukraine* is shown in Fig. 1.

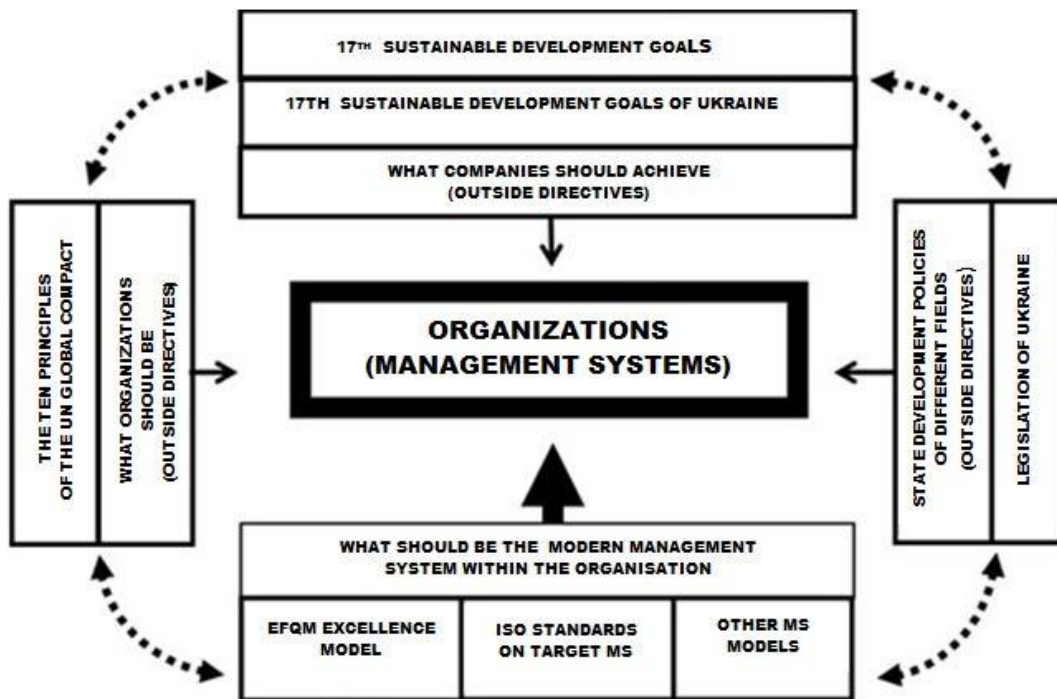


Fig. 1. Conceptual model of sustainable development of Ukraine

Considering the particular urgency for the significant increase efficiency of management systems at various levels of organizational management, it is reasonable to identify problems and their application in Ukrainian organizations.

System Management.

World experience in management systems improvement. Considering the constant escalation of competition in the global market, the world is doing a lot of work aimed at management systems improvement. For the target management systems, international management standards (ISO) consolidating the best world practice are adopted. On each continent, the best practice of system management as a whole is generalized and reflected in excellence models (models of an ideal organization). In Europe, it is the EFQM Model (a trend-setter for organization excellence), which is a practical tool that helps organizations better understand what a holistic management system is, identify its place in business excellence, understand gaps in its operations and make the necessary decisions to succeed. ISO standards and models of excellence are periodically reviewed and improved. Standards and models are, in essence, external guidelines for those who develop or improve their management systems. But there are many organizations that also independently seek and invent their own creative solutions. Thus, Japanese companies have applied new management concepts: "6 Sigma", "Kaizen", "Lean Production", etc., which have demonstrated high efficiency and have been spread to all continents of the

world. Many proven methods and tools are widely used in modern management systems for the preparation and justification of management decisions.

New paradigms of competitiveness. However, recently, in the context of the Industry 4.0, organization leaders' and staff's behavior has been further rethought in terms of maintaining their competitiveness. This was evidenced by the annual EFQM Forum, which took place in Milan in August 2016. The main leitmotif of the speeches delivered by leaders of the most successful European organizations was as follows: operational excellence, quality of processes performance, stable production of high-quality products is not enough for sustainable success now; ISO 9001, kaizen, lean manufacturing, etc. have become well known; their application is no longer a sufficient condition for success at a global saturated market. To keep customers in the new conditions, it is not only necessary to strive to meet their requirements, but also to arouse their admiration; to keep the staff and get the desired contribution, you have to do everything to make them happy and proud that they work for your company, you need to actively build an environment where the organization could continue its sustainable growth. Therefore, it is necessary to ensure further improvement of management systems.

According to the world gurus, the management of the future shall serve the highest goals and be focused on solutions of socially significant, noble tasks, absorb the ideas of a community and citizenship, provide not only efficiency but also adaptability, innovative development, inspiration, and social responsibility, eliminate fear and rely on trust stimulating the exchange of information, expression of opinion, take a risk, to turn a strategy development into an ever-evolving process. The management of the future assumes that a leader is an architect of society, who provides opportunities for cooperation, creativity, innovation. And control should be largely carried out through peer observation and self-discipline.

And at this time in Ukraine... The use of the advantages of modern system management in Ukraine is unsatisfactory. The vast majority of Ukrainian enterprises use outdated inefficient management systems that do not ensure their competitiveness in modern conditions. The situation is not better in the public sector, in particular in public authorities. As a result of the monitoring, it was revealed that the overwhelming majority of leaders and specialists of domestic executive authorities are not at all aware and do not understand what is really happening in the world and Ukraine in the field of system management and excellence, why they need to improve themselves and contribute to the improvement of organizations related to the spheres of their management.

One of the key reasons for this situation, in our opinion, is the unsatisfactory education of management specialists in Ukraine. The fact is that modern management systems are very complex, but at the same time, they can

not be obtained from the outside "turnkey". Each organization should develop its own unique management system. Such systems should be created by specially trained specialists. And for this, by definition, *managers* are more suitable than others. That is why there is a need to pay special attention to managers and the *quality of their training* in educational institutions of Ukraine.

Understanding of Management and Manager Training. It all starts with definitions. The importance of a common understanding of terms was pointed out in the seventeenth century by the eminent scientist Rene Descartes, who noted that "*People would get rid of a half of their troubles if they could agree on the meanings of terms*".

However, as the analysis showed, there are many contradictions in the understanding of terms in the field of management in Ukraine. But the main thing is that the definition of the term "management" in the international standard ISO 9000:2015 is incorrectly translated. This, in turn, contributed to the fact that Ukrainian scholars specializing in research and teaching of management do not mostly understand the concept of "management" quite adequately: they believe that "management" is a component of "administration", that the use of the term "management" is acceptable only for business, etc.

The problem of translating ISO 9000 in Ukraine. In the international standard ISO 9000:2015 "Quality *management* systems – Fundamentals and vocabulary" the term "*management*" is defined in paragraph 3.3.3 as "*coordinated activities to direct and control an organization* (3.2.1)". Where "direct" translates as "to lead", "guide", and control – "to govern" (in the world the term "control" is used more as "management", instead of only "control", and for the concept "control" the term "monitoring" is mainly used. That is, in the standard ISO 9000:2015 the definition of the term "management" in addition to "lead" also means activities on "guiding" or defining directions of the organization development.

Then in translation into Ukrainian "*management*" should be understood as a coordinated "*direction*" and "*control*" activity of the organization where "direction" expresses the guiding nature of the activities of a person or a group of people, who lead activities of a particular team and focuses on determining the organization development directions. Among its main functions: definition of the organization's values, objectives, and culture; creation and implementation of a management model in the organization, etc. By the way, this includes decision-making regarding the implementation of the above-mentioned Sustainable Development Goals and the Principles of Social Responsibility in the organization's activities. While control is an activity of an operational nature and its functions are aimed at achieving the organization's objectives within a model and methodology established by top management. In

standard ISO 9001:2015, this is reflected in the Deming cycle: Plan-Do-Check-Act.

The correctness of this interpretation of the term "management" is confirmed by a letter of explanation, which has just been received at our request on behalf of ISO/TC-176 (the developer of ISO 9000). By the way, in the same letter, it is noted that the ISO official languages are English, French and Russian and an excerpt from the official version of GOST R ISO 9000-2015 is given: p. 3.3.3 Management: "Coordinated activity on direct and control of the organization (3.2.1)".

In the Ukrainian standard DSTU ISO 9000:2015, which is declared as identical to the standard ISO 9000:2015, item 3.3.3, is formulated as follows: "Control; Management is a coordinated action to direct and control the activity of the organization", which can not be called a successful translation. It is not clear on what grounds the term "management", which is given in ISO 9000:2015 and is widely used in Ukraine (for example, the specialty "management"), has been replaced by term "control" and "direction", which, in their turn, are defined as "спрямування" ('spryamuvannya') and "контролювання" ('kontroluvannya'). But, what is here, for example, 'kontroluvannya'? It is known that this is only one of the functions of the control. And where is here, planning, etc.? The logic of this definition is generally difficult to explain. This translation does not meet the ISO 9000:2015 and is confusing. Although in the wording specified in DSTU ISO 9000:2015, there is already equivalence between the term "management" and "direction and control". It should be noted that the erroneous definition of management was first laid down in DSTU not in 2015, but 2001 and has existed for about 20 years.

This fundamental error has led to the following similar consequences. Thus, all international standards, which are called "management systems" with their identical translation into Ukrainian, had to be "renamed" from "management systems" to "control systems". It is very interesting how it is done in DSTU ISO 21001:2019 Educational organizations. Management systems in educational organizations. Requirements and guidelines for use (ISO 21001:2018, IDT). In section "Terms and definitions" it is written: "3.4 Control system; management system is... ».

The problem of understanding the relationship between the terms "management" and "control". The incorrect definition of the term "management" causes a misunderstanding of the relationship between the terms "management" and "control".

According to, for example, the mentioned DSTU ISO 21001:2019 the terms "control" and "management" are *equivalents*. On the other hand, in 2015 the Ministry of Education and Science introduced knowledge area 07 – "Control and Administration", which included the specialty "management". This

determines that "*management*" is a component of "*control and administration*" and this guided all people involved in the training of specialists in the specialty "Management". It is interesting that until 2015 this knowledge area was called "*Management* and Administration". On the contrary, according to ISO 9000:2015, "management" is "direct" and "control". That is, control (as well as direct) is a component of management.

Simultaneously, with the growth of competition in the developed world, they develop and improve the processes for an organization's mission and vision defining, policies development, etc. to obtain additional competitive advantages. As a result, this activity stood out and in 2000 the definition of the term "management" as "coordinated activity on the direction and control of the organization" has appeared in the standard ISO 9000:2000.

The term "direction" is not new in Ukraine. We can often hear: "under the direction of the government/leader we have succeeded". Isn't this the well-known "principle of the first leader"? It is known that without the interest of the "first" the improvement of the organization's management system based on, for example, ISO 9001 is almost hopeless. Another thing is when the first leader is aware and interested, and improvement is realized under his *personal direction*. This is usually a prerequisite for success. On the contrary to the operational nature of "control", the direction is characterized by such concepts as perspective, strategy, purpose, and so on.

On the other hand, the term "control" is inherent in technical and social systems. Therefore, the statement that control in the social system is a component of control in general, may have a right for its existence. But, taking into account that "management" is acceptable only for social systems and it is broader than "control", comparing it with the term "control" is at least incorrect. It is like comparing cars to their engines being their spare parts.

Opponents have repeatedly asked the question: "What's the difference between control and management? What can it change?". It can change very important things. "Narrowing" the term "management" and using "control" instead causes decreased attention to the direction activity, which is fundamental for the implementation of control.

That is why in Ukraine such modern processes as defining of mission, vision, policies, etc., which influence the formation of a corporate culture of an organization, have not received due attention and are mainly formally perceived. Problems that harm Ukraine and its organizations in ensuring excellence and competitiveness are associated with this reason.

Problems related to the area of application of the term "management". In Ukraine, the widely spread opinion is that the term "management" should only be used in business and commercial organizations. But for the public sphere, in particular, for the governmental bodies, this term is unacceptable. And the

Ministry of Education and Science of Ukraine has introduced a separate knowledge area 28 – "public control and administration", which included specialty 287 – "public control and administration", where the term "management" is never mentioned.

However, as we know, item 3.3.3 of the International Standard ISO 9000:2015 states that management is coordinated activities to direct and control an *organization* (3.2.1). That is, it is said here that the term "organization" is defined in item 3.2.1 of the same standard. In turn, in item 3.2.1 of ISO 9000:2015 (and DSTU ISO 9000:2015), it is stated that "organization" is a person or a group of people having own functions with responsibilities, authorities, and relationships to achieve its objectives". And note 1 to item 3.2.1 clarifies that: "The concept of an organization includes, but is not limited to, a sole-trader, a company, a corporation, a firm, an enterprise, an *authority*, a partnership...". That is, the standard clearly states that the term "management" is extended to the public sphere, in particular the authorities.

This is, so to speak, from a formal point of view. But let's consider this question in essence. The public sector includes central, regional and local government bodies, public corporations, as well as self-governing non-governmental non-profit organizations that create public services, including education and health care. How do they differ from private sector organizations in the aspect we are considering? Aren't they, in addition to operational control, also direct their organizations? Perhaps they should not develop the mission and vision of their organization, define values, including attitudes to sustainable development goals and principles of social responsibility, policies, prospects for their development, strategic goals, governance models, etc., aren't they? And, if they have to, then we have "direct" and "control", which together make "management".

Public authorities deserve special attention. After all, in addition to supporting the effective operation of their institution, they also must ensure the development of the spheres of life of the country assigned to them. Let's take, for example, the Ministry of Economic Development, Trade, and Agriculture of Ukraine. This is a huge institution with a complex structure, that employs more than a thousand people. And to put everything in order in the body itself, of course, it should have its own management system. But the Ministry of Economy is the main body in the system of central executive bodies to ensure the formation and implementation of state economic, price, investment, and foreign economic policy. The main tasks of the Ministry of Economy include: ensuring the formation and implementation of state policies and strategies for economic development, implementation of forecasting and state regulation of the national economy, etc. That is, it determines the *directions of economic development* and, accordingly, performs strategic "direction" and not

operational "control". And this should also be reflected in the management system of the ministry. We could get the same conclusions about other authorities, in particular the Ministry of Education and Science of Ukraine, which is the main body in the system of central executive bodies that ensures the formation and implementation of state development policy in the fields of education and science.

By the way, some Ukrainian public sector organizations, including the governmental bodies, implemented the quality management system by ISO 9001 many years ago. And last year a separate international standard ISO 18091:2019 was adopted, which is directly named: "Quality *management* systems – Guidelines for application of ISO 9001 in *local government*".

For a better understanding, it is useful to familiarize yourself with the history of the emergence of the term "management" in ISO 9000 and its implementation in Ukraine. Standards ISO 9000:1987 and ISO 9000:1994 did not yet have a glossary and they are referred to ISO 8402 Quality Management and Quality Assurance – Glossary. Thus, in the ISO 9000:1994, there was a reference to ISO 8402-94, which did not mention the term "management". Here in item 3.4 was only defined the term "control" as "methods and activities of an *operational nature* used to meet the established requirements". And only in the ISO 9000:2000 an own vocabulary appeared, where for the first time the definition of the term "management" had been included. So, the definition of the term "management" is already 20 years old. In Ukraine, this term was officially introduced in 2001 by an "identical" translation of ISO 9000:2000.

In scientific works, terms can be defined in different ways. But if at the international level in ISO (uniting 164 countries) the term was agreed by the vast majority of countries, then we must respect the common sense and accept this term as the main one. This is very important for Ukraine because it seeks to integrate into the European and world community.

And a number of questions arise. How could it happen that in Ukraine, when introducing the international standards ISO 9000 series, such a fundamental concept as "management" was defined incorrectly, but none of the scientists, teachers, and management specialists paid attention to it? Why has not a higher education institution that trains managers for Ukraine complied with international management standards for 19 years? And in general, how could it happen that the International Organization for Standardization (ISO) has built a single *integrated balanced system of terms and their definitions in the field of systems management*, and Ukraine, which is a member of ISO, ignores its standards. This is especially related to the Ministry of Economy, which "*ensures the formation and implementation of state policy in the field of standardization*" and the Ministry of Education and Science of Ukraine. And why do not the heads of these bodies respond properly to the appeal of the

professional community? Their answers are always formal, without trying to get to the heart of the problem. And they are written like by a copy-machine: we work according to a certain law, following a certain strategy and a government decree, and so on. Do the laws of Ukraine, development strategies and government decrees call for officials to perform work that harms Ukraine?

The problem of splitting management training. But Ukraine was particularly harmed by the erroneous Concept of State Policy in the Field of Product Quality Management, which was developed by Gosstandart without understanding the problem. In 2002, the Concept was approved by the Cabinet of Ministers of Ukraine. The Concept combined incompatible, such as "digging from the fence until noon". It confuses the concepts: "product quality" and "organization management system". The Concept narrows the focus on product quality assurance. At the same time, targeted management systems that do not refer to product quality (environmental management, production safety management, energy efficiency, etc.) are pointed referred to "product quality management" without proper arguments. And what is most important, the Concept has created confusion in the training of management specialists in the institutions of higher education of Ukraine.

Following the Concept, inadequate training in systems management is provided in the institutions of higher education. In addition to specialty "quality management", other target management systems that do not refer to quality management have been included for specialty "Quality, Standardization and Certification". This was only done because international standards have been also adopted for them. But the worst thing is that at the same time the question of target management systems and engineering of their design has practically excluded from the specialty "management". As a result, the vast majority of managers who graduate from institutions of higher education are not sufficiently trained to ensure organizations' success in a highly competitive environment. And specialists studying in specialty "Quality, Standardization and Certification" cannot effectively improve management systems of organizations due to the lack of training in the basic management topics. Besides, students are only trained about the standards and do not take into account that in a saturated market, standards set minimum requirements, incl. in the management systems, and the competition occurs mainly above the norms of standards.

As a result, even those organizations that improve themselves based on standards for management systems have typical shortcomings. They mainly create separate local target management systems that are not harmonized with each other, are not integrated into an organization's overall management system, do not cover all its objectives. They hardly ever use modern methods and tools for preparing management decisions. Management systems are often formally implemented, without changing the outdated business culture. They do not take

into account that in a saturated market, the norms of standards are only the minimum level of requirements. And although in 2019, due to the long-term demands of the public the Concept was finally canceled, the confusion in organizing the training of managers still persists today.

Small causes have created huge problems. Due to the lack of specialists who adequately understand modern system management in Ukraine neither the authorities nor the business has yet a proper attitude towards business culture and system management. It has caused a number of negative consequences: the central government body responsible for the development of system management throughout the country has not yet been appointed, scientists have not been involved in the research of problems in this extremely important area and, accordingly, system management has not yet received proper attention. These issues have not been reflected in any state development policy. Authorities and businesses (with a few exceptions) are still continuing to use outdated management systems with corresponding consequences. And the current state of Ukraine, its economy, as well as the standard of living of the vast majority of citizens do not need any comments.

Conclusion. The research results and generalized many years' practical experience allow us to draw the following main conclusions.

1. Conceptual issues. According to the ISO 9000:2015, management is a coordinated activity to direct and control an organization; in the DSTU ISO 9000:2015 the definition of the term "management" does not correspond to that specified in ISO 9000:2015, is erroneous and is subject to correction; replacement of the phrase "management system" to "control system" in the state standards of Ukraine, identical to the international ISO standards, is a mistake and is subject to correction; the concept "control" is a component of the concept "management", not conversely; the concept "management" is not limited to business, but is also extended to the public sector, in particular to public authorities.

2. Training of management specialists in higher education institutions of Ukraine. Introduction of target management systems based on standards that do not relate to product quality into the specialty "Quality, standardization and certification" is a mistake that should be corrected; exclusion of target management systems based on standards (as well as outside and above the norms of standards) from the curriculum of specialty "management" is a mistake that should be corrected; in the vast majority of higher education institutions in Ukraine, the issues of integrated management systems (which combine financial management, project management, target management systems based on standards, etc.) and engineering design of modern management systems are insufficiently covered in training.

3. System management in business. The vast majority of Ukrainian enterprises and business organizations use inefficient outdated management systems that do not ensure their competitiveness in a globalized saturated economy; enterprises that improve themselves based on standards for management systems, create mainly separate target management systems, not integrated into the overall management system of the organization, almost do not use modern methods and tools for preparing management decisions, often implement management systems formally, without changing outdated business culture, do not take into account that under the conditions of saturated market norms of standards are only the minimum level of requirements.

4. System management in the public sector. The introduction of a separate knowledge area "Public Control and Administration" and the specialty of the same name that except the concept of "management" is a mistake that should be eliminated; public sector organizations, in particular governmental institutions (including the Ministry of Education and Science, its subordinate organizations and higher education institutions), should create and implement modern management systems.

5. System management at the state level. There are no regulations on the development of system management in state policies and strategies for the development of the civil service, education, and the economy of Ukraine; the issues of system management development should be reflected in state policies and development strategies of all spheres of Ukraine's activity; there is no central government body in Ukraine responsible for the development of system management in the country and it should be appointed as soon as possible; it is reasonable to adopt the Concept of the state policy in the field of system management.

6. Sustainable development and management systems. It is almost impossible to ensure sustainable development of Ukrainian organizations (companies, institutions) without the use of modern management systems and change of organizational culture; it is impossible to achieve sustainable development of Ukraine as a whole without the state's support in the development of Ukrainian organizations based on management systems improvement.

To eliminate these problems, the authorities should take the following priority actions:

– The Cabinet of Ministers of Ukraine as soon as possible should create a working group of authorized representatives of various branches of government, scientists, and management specialists, who should be appointed to comprehensively study the problems noted and prepare reasoned proposals. The emergence of officials in authorities, who delve into the problems of system management, would promote systemic changes for the better. Otherwise, as

many years of experience show, it is impossible to reach those persons who are empowered to make appropriate decisions. Taking into account the proposals of this group, the Cabinet of Ministers should appoint a central government body responsible for the development of system management in the country and adopt a balanced Concept of State Policy in the Field of System Management.

– The Ministry of Education of Ukraine should create a working group to study problems in the field of system management in education and prepare proposals to improve the situation and consider the development of system management in education for the period 2021–2023 on the next Board of the Ministry.

– The Ministry of Economy of Ukraine should ensure urgent correction of errors in DSTU ISO 9000:2015 and other standards regarding the translation of the term "management".

To prevent such mistakes in the future and to build a modern system management infrastructure, it is also advisable to have in this area its "general designer" having the appropriate authorities. As Academician Sergei Korolev was in the area of space exploration or Academician Viktor Glushkov was in the area of computer science, at one time. The same role in the formation of the Japanese economic miracle was played by Edwards Deming, a world-known guru in management and quality, who, to the point, said the wise words: "It is not necessary to change yourself. Survival is not mandatory".

Conflict of Interest. The author declares no conflict of interest regarding the publication of this article.

Abbreviations:

DSTU	State Standard of Ukraine
IHE	Institution of higher education
MESU	Ministry of Education and Science of Ukraine
IS	International Standard
EB	Executive body
UN	United Nations
Fig.	Figure
MS	Management system
EFQM	European Foundation for Quality Management
IDT	Identical
ISO	International Organization for Standardization

References:

- Baeva, O.V., Novalska, N.I., Zgalat-Lozynska, L.O. (2007). Fundamentals of management: workshop: textbook. Kyiv: Center for Educational Literature. URL: <https://www.twirpx.com/file/689801/>
- Besedin, M.O., Nagaev, V.M. (2005). Fundamentals of management: evaluation-situational approach (modular version): textbook. Kyiv: Center for Educational Literature. URL: <https://scholar.google.com/scholar?cluster=9686516783253779045&hl=en&oi=scholar>.

- Girnyak, O.M., Lazanovsky, P.P. (2000). Management. Theoretical foundations and workshops: textbook for students of higher education. Kyiv: Magnolia Plus, Lviv: New World. URL: <http://repository.ldufk.edu.ua/bitstream/34606048/9333/1/%D0%93%D1%96%D1%80%D0%BD%D1%8F%D0%BA1.pdf>.
- Drucker, P. (2012). Management. Challenges of the XXI century. Translated from English N. Makarova. Moscow: Mann, Ivanov and Ferber. URL: <https://core.ac.uk/download/pdf/32615911.pdf>.
- DSTU ISO 9000-2001. Quality management systems. Basic regulations and vocabulary. (2001). State Committee for Standardization, Metrology, and Certification of Ukraine. URL: https://dnaop.com/html/34108/doc-%D0%94%D0%A1%D0%A2%D0%A3_ISO_9000-2001.
- DSTU ISO 9000:2007. Quality management systems, basic regulations and glossary. (2008). State Committee for Standardization, Metrology and Certification of Ukraine. URL: https://dnaop.com/html/32617/doc-%D0%94%D0%A1%D0%A2%D0%A3_ISO_9000_2007.
- DSTU ISO 9000:2015 Quality management systems. Basic regulations and glossary. (2015). Research Institute of Metrology of Measuring and Control Systems (SE "SRI "Systema"). URL: http://online.budstandart.com/ru/catalog/doc-page?id_doc=64030.
- Kalyta P.Ya. (2018). "White spot" and "black hole" in the Ukrainian economy. ZN.UA, (15). URL: <https://zn.ua/ukr/macrolevel/bila-plyama-i-chorna-dira-v-ukrayinskiy-ekonomici-275775.html>.
- Kalyta, P.Ya. (2019). (Un) sustainable development. What does Ukraine lack? ZN.UA, (45). URL: <https://zn.ua/ukr/macrolevel/vid-staliy-rozvitok-chogo-ne-vistachaye-ukrayini-330606.html>.
- Kalyta, P.Ya. (2018). To live like Europeans ... ZN.UA, (31). URL: <https://zn.ua/ukr/macrolevel/schob-zhiti-yak-yevropeyici-286335.html>.
- Kalyta, P.Ya. (2020). Management "in Ukrainian": about the quality of management training. The opinion of the indifferent. Bulletin of the National Academy of Pedagogical Sciences of Ukraine, 2(2). <https://doi.org/10.37472/2707-305X-2020-2-2-13-10>.
- Kalyta, P.Ya. (2016). Ukraine and the Fourth Industrial Revolution: Threats and Opportunities. ZN.UA, (43–44). URL: <https://zn.ua/ukr/macrolevel/ukrayina-i-chetverta-promislova-revolyuciya-zagrozi-ta-mozhливosti-.html>.
- Komarnytsky, I.F. (2006). Economic theory. Chernivtsi. URL: <https://buklib.net/books/21860/>
- The Concept of state policy in the field of quality management of products, processes, and services. URL: <https://zakon.rada.gov.ua/laws/show/447-2002-%D1%80#Text>.
- Nassim Taleb (2015). Anti-fragility. How to benefit from chaos. Alphabet, CoLibri. URL: <https://www.yakaboo.ua/ua/taleb-n-n-antihrupkost-kak-izvlech-vygodu-iz-haosa-idei-sp-izmir.html#tab-description>.
- The list of fields of knowledge and specialties on which the preparation of higher education applicants is carried out. URL: <https://zakon.rada.gov.ua/laws/show/266-2015-%D0%BF#Text>.
- The Order of the Cabinet of Ministers of Ukraine of January 24, 2020 № 66-r "On approval of the Concept of implementation of state policy in the field of promoting the development of socially responsible business in Ukraine until 2030". URL: <https://zakon.rada.gov.ua/laws/show/66-2020-%D1%80#Text>.
- Peters, T. (2020). Strategies of perfection. How to succeed in an age of change and artificial intelligence. Mann, Ivanov and Ferber. 2020. URL: <https://www.yakaboo.ua/ua/strategija-sovershenstva-kak-dobit-sja-uspeha-v-jepohu-peremen-i-iskusstvennogo-intellekta-2218306.html#tab-description>.

The Decree of the President of Ukraine № 722/2019 "On the Sustainable Development Goals of Ukraine until 2030". URL: <https://www.president.gov.ua/documents/7222019-29825>.
Frederick Lalu (2017). Companies of the future. Book Club "Family Leisure Club". URL: https://www.yakaboo.ua/ua/kompanii-majbutn-ogo-1570557.html#media_popup_photos.
Khmil, F.I. (2003). Fundamentals of management: textbook. Kyiv: Akademvydav. URL: <https://kerivnyk.info/hmil-osnovy-menedzhmentu>.
ISO 9004:2000. Quality management systems – Guidelines for performance improvements. (2000). URL: <https://www.iso.org/standard/28692.html>.
ISO 9000:2005. Quality management systems – Fundamentals and vocabulary. (2005). URL: <https://www.iso.org/standard/42180.html>.
ISO 9000:2015. Quality management systems – Fundamentals and vocabulary. (2015). URL: <https://www.iso.org/standard/45481.html>.

AUTHOR (S) BIOSKETCHES



Kalyta Petro, Candidate of Technical Sciences, Senior Researcher, President of the Ukrainian Association of Excellence and Quality, Kyiv, Ukraine.

E-mail: p.kalyta70@gmail.com

COPYRIGHTS

©2020 The author(s). This is an open access article distributed under the terms of the Creative Commons Attribution (CC BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, as long as the original authors and source are cited. No permission is required from the authors or the publishers.

HOW TO CITE THIS ARTICLE

Kalyta, P. (2020). System management for sustainable development: models and problems. *Management*, 2(32): 93–110. <https://doi.org/10.30857/2415-3206.2020.2.7>.