

S. Zavetnij, A. Ponomariov, A. Nanka
(Ukraine)

**MANAGING POTENTIAL OF SCIENCE
KNOWLEDGE IN THE DEVELOPMENT OF
ECONOMICS**

Introduction

The man is an extremely complex and contradictory creature. In his nature, material and spiritual, objective and subjective, individual and social, culture and uncontrolled savagery, desire for world cognition and complete disregard of its laws are intricately united. In addition, the very existence of the man is at once individual and social in nature. After all, only through the participation in joint activity with other people he can meet own multiple needs and ensure normal functioning, development, and realization of personal potential. The presence of the same individual and social beginnings (origins) shows that in the implementation process, usually, people want to work less and get more from the results of this activity.

The clash of the different individuals, their goals, aspirations and interests, their various physical, mental-intellectual capabilities and abilities objectively makes the organization and management of this activity extremely necessary. So, the plain division of performers by function type, the coordination of their actions, encouraging of maximum productivity allow us to consider the management as a kind of meta-activity, the activity of the organization and provision of joint or collective activity of other people and groups of people.

Thus, the key to understanding the essence of social processes can be found in activity approach to their analysis. The human goals and their achievement manifest in the human activity. The individual and social human needs are satisfied through the activity and by its means. So, the management is not the regulation of people, as it quite often and although not sufficiently considered, but the regulation of their activity. All

socio-political, socio-economic, and spiritual-cultural processes, in their ontological manifestation, are the integral purpose and the result of the historical human activity.

In a wide variety of types and forms of human activity, we are especially interested in the scientific and managerial activities in their interdependence, interrelatedness, and mutual influence. At first glance, they appear extremely different. Indeed, in the early stages of human civilization development, cognition of the external world as the beginning of science was quite far from primitive needs of practices and technique was almost non-existent. In the ancient society, science was developing exclusively in the framework of philosophy. The needs became more meaningful, the focus of science on practice and the development of technology can be seen in the example of the Archimedes. Management issues were considered mainly in the context of the search for the most efficient forms of government (state system).

Thus, it is appropriate to start the analysis of the management potential of science and scientific knowledge with the consideration of the activity phenomenon. Actually, the activity approach reveals the actual influence of science on human existence and society and the real existence of these features in the practice of social production. Outside the activity aspect, these options remain a peculiar thing. In addition, it should be noted that scientific research itself, analysis and interpretation of their results and identification of their application potential represent a variety of human activities.

The human cognition of the external world and of himself is not only the expression of curiosity as purely human quality but also the desire to use knowledge to satisfy own needs.

The phenomenon of the human activity and its management

Human activity refers to the concepts of meaning and content which intuitively seem clear to everyone, while the

accurate articulating of their nature, usually, causes certain difficulties. They are associated with the necessity to clarify the meaning of the needs and goals categories, with individual and, at the same time, social activity character, with the diversity of its types. In the philosophical dictionary under the editorship of A.P. Alekseev, the activity is defined as “a form of existence of human society; the manifestation of subject’s activity, expressed in appropriate changing of the world, but also in the transformation of the man himself” [11, p. 91].

This definition contains a contradiction between the social and individual context of activity. However, it is our deep conviction that we should consider the complex nature of human beings (simultaneously biological and social creatures) and their activities. Moreover, the philosophers consider that the typical feature of the activity is its meaningful character, so the activity includes the purpose, methods, and means of its achievement, result, and process. This immediately cuts out a huge amount of activity types that people do unconsciously, and sometimes even meaningless even to the subjects themselves.

In general, the activity principle in the philosophy was formulated by the ancient theorists. Therefore, by Plato, the embodiment of activity human beginning is God, who created the cosmos and the world of things. In the Renaissance, the philosophers have linked the understanding of human nature with the activity and freedom, achieved in the process of these activities. The Marxist philosophy brought the new understanding of the problem of the activity and the new interpretation of its essence, by introducing the concept of practice as the basis for the existence and development of society, and with it the development of human cognition, and therefore, the development of science.

From the activity philosophy point of view, it is interesting to note that the activity source is contained in the activity. In other words, it means that the activity is, as emphasized in the same dictionary, “a self-evolving process. But it exists under

certain natural and social conditions that have a significant influence on it” [11, p. 91]. Today, the activity principle and activity approach, based on it, are widely used in science and in the management of joint activity of people and their collectives.

At the same time, it must be emphasized that the management of people joint activity always existed. However, scientific management emerged only in the late XIX – early XX centuries. It became clear that approach to the activity management, based on the principles of humanistic psychology, is more effective than so-called “military pressure” on the performers. This understanding is very important for managers as control subjects in the conditions of the broad democratization of public life, improvement of the education level and professional qualification of employees and their self-identity.

From the psychology positions, activity is defined as “a dynamic system of the subject interaction with the world, during which occurs an embodiment in the object of a mental image and the realization of the mediated by him relations of the subject in the subject reality” [10, p. 84]. It underlines the two very important moments. First, such understanding of the activity essence is based on the recognition of the psyche and activity unity, unlike theories according to which the psyche is isolated from the activity and behavior (introspective psychology or Gestalt psychology) or investigates human activity and behavior outside of the human psyche (behaviorism).

Secondly, the understanding of activity enables the consideration of the phenomenon of human activities including the principles of historicism and development, embodied in particular scientific research and practice. The embodiment involves the appeal to activity as the main engine of the development process of the mental display and the understanding of the outside world.

Along with this, A. N. Leontiev noted that “some specific activities can be distinguished by any trait: shape, methods for their implementation, emotional intensity, temporal and spatial

characteristics, physiological characteristics, etc.”. The fact that the main difference between one activity and another is the difference of their subjects, that’s why the scientist comes to the conclusion that it is the difference of activity motives [14, p. 104].

From the positions of psychology, the main characteristics of the activity are its clarity, objectivity, and subjectivity. The specificity of the visual or the substantive determination of activity is that the objects of the external world not directly affect the subject of this activity, but only through their transformation in the implementation process. Due to this, it is possible to achieve a greater degree of adequacy of their display in the consciousness of the person as a subject of activity. It should be emphasized that the clarity and objectivity are typical only for human activity. Their manifestations are socially determined activity and its relationship with the values, fixed in the algorithms and activity technologies, in its tools, in the participants' social roles and the concepts of their language. A very important manifestation of the clarity and objectivity of the activities are accompanied by life values and standards, declared by its members.

The first investigators of the phenomenon of human activity from the system point of view were E. S. Markaryan and M. S. Kagan. The latter stressed that “it is the concept of “activity” most adequately expresses the individual’s activity: unlike animals, the human activity aims to provide not only its biological, but also his social life; therefore it becomes infinitely more complex and diverse. Therefore, the concept of “activity” encompasses the biological and human activity, socio-cultural, specifically, human activity” [4, p. 39]. The philosophical dictionary also defines management as “the ability of biological and social systems through the accumulation, transformation, and transfer of information to direct and correct the various manifestations of their internal and external activity.” It is noted that “the main purpose of the management structures is to ensure

the systematic nature of the functioning and development of biological and social systems” [11, p. 402].

The concept of the regularity of processes of functioning and development of biological systems raises some questions. They resonate with those expressed doubts about the appropriateness of implementation of biological human life into the general system of the activity. The answer to these questions and doubts can only be an approach of modern science to the analysis of the concepts of operation and management. In the first place, it refers to the social science.

The results of the social cognition and actual practice of management activity indicates that there is an objective logic of the control. It can be successfully implemented only when this activity comes not only from the requirements and goals of the leader but also takes into account the specific characteristics of the controlled object. As the famous Russian scholar O. N. Kozlova pointed out “for formulating a comprehensive judgment on the management activities it is necessary to analyze not only the management as the influence of the subject on the object but also control as the quality, method of response of the object for this impact” [7, p. 128].

The ensuring of the effective management demands a deep analysis of the object controllability. But, for a specific object, the study of its quality sometimes can be reduced to the acquaintance of the manager with the object basic features and the nature of its manageability. So, the development of a clear methodological basis and a scientific approach is needed for a thorough study of this important quality. Since usually, almost all social formations as objects of management is a highly complex open dissipative system operating in space of many factors of various natures, their study must be based on the principles of modern post-nonclassical methodology, which is based on the basic principles of synergetic self-organization, self-development, and self-government.

Management is internally immanent to the society as a whole and to each its subsystems. It derives from innate in man contradictions between individual, biological and social entities as the basic element of any social system. This contradiction is due to the fact that own goals, aspirations, and interests human most often consider as the primary priority, however, understands that their achievement is possible only under the condition of his participation in the joint activities with other people. Moreover, human faces the need for the public recognition not only of his contribution to this activity but his rights for the achievement of the stated goals and aspirations.

It is no coincidence that Jean-Paul Sartre was convinced that to implement himself humanly man can by finding objectives outside himself but not by immersion in oneself. According to Sartre, such purpose may be the release or even any specific fulfillment. Although a philosopher does not highlight the ties of self-realization and actualization of a person with the society in which he exists. However, it seems quite obvious that these relations can be complete only when they are acknowledged by other people. And in this sense, even purely individual activity exercised by a human not only to meet his needs (even the needs for creative self-expression) but also for approval of its results by society or at least some kind of significance to the subject of this activity by a group of people. Waiting for that approval is a sort of control of this activity, its content, and character.

After all, every creative person does not isolate himself in the attempt to publish (in the broadest sense of the word) the results of his work, i.e. to show them to people, nation, and society. This “judgment” is a manifestation and a particular implementation of expected control action.

In conclusion, we emphasize again that the management itself is also one very specific kind of human activity. In this respect, it requires people engagement in management activities, an appropriate level of professional competence, general and professional management culture. They are formed in the system

of special preparation and are developed in the practice of management.

Control capabilities of science

The science is an influential form of social management, which, being the main form of human cognitive activity, transforms into the objective force that rises above human society and manages it. Leonardo da Vinci in his time said that science is the Commander, and practice is the soldier, but Gorkij noticed that science becomes the nervous system of our era. Crimskij S.B. wrote: “In times of globalization, science is transformed into a kind of “nervous system” of the planetary civilization, in its managing subsystem” [13, c.148]. Its power lies in the fact that in the face of science nature has gained the ability to understand the laws of the own existence and to evolve rapidly. The so-called second nature is the evidence of this. The history of science showed that it is the most dynamic of all types of social control. We should note that the volume of scientific activity doubles approximately every 10-15 years, but it is important to add that this is not just a quantitative increase, but mainly the growth of new knowledge, so the science stimulates other types of control, filling them with new meanings.

N.I. Pirogov said that where the spirit of science dominates, the great is created there by the small means [5, p. 290]. Herewith, science is characterized by the alternation of evolutionary and revolutionary development periods, causing fluctuations in public life. Because science discovers the laws (that is its main purpose), traits of which are a repeatable phenomenon, it is most prognostic and, therefore, the most effective form of social control. For management most important is to foresee, as was said long ago: “Savoir pour prévoir, prévoir pour pouvoir” (know to anticipate; foresee to rule). In some approximation, science plays the role of a solo instrument in the orchestra of various kinds of social control. However, unlike religion that influences people’s feelings, science is focused more

on the human mind. In addition, compared to politics and religion, science brings people together, as was mentioned by a French scientist F. Joliot-Curie: “Maybe, we owe to science more than to any other kind of human activity for growing sense of the need of collective efforts”. Anton Chekhov, emphasizing the universal character of science, said that there is no national science, just like there is no national multiplication table.

Moreover, science has a very complex character, own governing bodies, branched hierarchical control system, multiple institutions, and semantic signals, what is clearly demonstrated in the book of V.S. Stepin - “The ideals and norms of scientific research”. In the preface to this book he wrote: “... scientific cognition is controlled by certain ideals and norms, in which the aims and objectives of the scientific activity are expressed. Among the ideals and norms of science may be identified:

a) educational setting, which regulates the reproduction process of the object in various forms of scientific knowledge;

b) social norms, that capture the role of science and its value to public life at a certain stage of historical development, control the process of researchers communication, relationships between scientific communities, institutions, and society in general, etc.” [5, p. 5]. And further, he indicates that “these ideals and standards provide a scheme of the research method, in accordance with which a scientific picture of the world is built, the theories and new facts are extracted. The transformation of this scheme means global scientific revolution and largely determines the successive historical periods of development of science” [5, p.6].

However, history repeatedly has confirmed that countries with the most developed science have more organized social life, a person feels there more comfortable, there is the most daring spirit. G. Bruno stated: “Science is the best way to create a heroic human spirit”.

The consideration of science as a body of knowledge united in the system, made us note a large control value of knowledge

that was found by Socrates. The evidence of this fact can be found in his dialogue Protagoras: “Uncover your mind to me, Protagoras, and reveal your opinion about knowledge, that I may know whether you agree with the rest of the world. Now the rest of the world are of opinion that knowledge is a principle not of strength, or of rule, or of command: their notion is that a man may have knowledge, and yet that the knowledge which is in him may be overmastered by anger, or pleasure, or pain, or love, or perhaps by fear,-just as if knowledge were a slave, and might be dragged about anyhow. Now is that your view? or do you think that knowledge is a noble and commanding thing, which cannot be overcome, and will not allow a man, if he only knows the difference between good and evil, to do anything which is contrary to knowledge, but that wisdom will have strength to help him?”.

“I agree with you, Socrates, said Protagoras; and not only so, but I, above all other men, am bound to say that wisdom and knowledge are the highest of human things.”

“Good, I said, and true.” [16, p.240-241].

If we consider Socratic truth as an informed knowledge about the reality, we should note that science, the main aim of which is the search for truth, forms a person’s world and allows him to navigate in the world. So, the importance of science is constantly growing, because there is no greater good for man and society than to possess the truth, which illuminates the path of humanity in space of chaos as a strong searchlight. Therefore, people’s desire for truth is the catalyst for the development of science, its quality, which enhances the control effect of science on people and society.

Nevertheless, the control parameter has a great importance. On its base we can give science, which we consider as a management system, an effective character. As we know, this parameter can consist of the number of discoveries and inventions that was used by Pitirim Sorokin in his sociological research [19, p. 486].

However, there is an urgent need to pay attention to the content of the discoveries. On the threshold are such discoveries, for which society has not matured morally yet, so all these findings can be used for evil purposes. Therefore science should not prevail over morality.

Science is closely associated with the style and nature of thinking and cognition, characterized by the emergence of unexpected results that can bring mankind irreparable tragic loss. The science, mind, thinking aren't deprived of delusions, elitism, but they try to ignore the feelings, though.

There are cases when science completely absorbs the person, thus separating him from family, friends, love, compassion, social life and ultimately separates him from himself.

Along with this, the scientific and technical progress (that enriched mankind with all sorts of benefits) didn't make him more moral. It convinces us that the science became, according to Vernadsky, even geological power but still is not self-sufficient. Science and technology are not yet out of human control. But, as evidenced by computer viruses and epidemics, they may acquire uncontrolled character. Therefore, it is necessary to recognize the common expression that science can play the role of the scalpel in the surgeon's hands or knife in the hands of a criminal.

In this regard, we want to mention that science, being the focus of rationality, is closely related to irrationality. If we consider the most important part of the scientific knowledge – hypothesis, we must admit that it is an intuitive product and there are no rational recommendations of its formation, in other words, the rational grows from the irrational. The meaningful statement of P. Feyerabend underlines the ultimate results of the science, considering that each fundamental theory is a closed worldview of scientists, which is not enough for critics of purely rational methods.

At the same time, the rationality of science creates its weakness. It analyzes, separates, destructs the reality, and thereby

provokes the callous attitude towards it, a habit of subjecting everything to the violence. In this regard, the integrity of this or that phenomena often disappears out of sight, especially spiritual. The science acquires cold calculation, which, in extreme form, can lead to antihumanism. However, it is impossible not to mention the fact that science, as a form of social control, forms the fundamental basis of all management itself and needs some sort of internal management. This is especially true for such issue as compliance with the optimum ratio of fundamental and applied aspects. The importance of this management has also confirmed the research of American sociologist R. Merton, which “allowed him to reveal the ambivalence of the motives and behavior of scientists, in particular, fluctuations between the desire to assert own priority and concerns to be ethically indiscreet. Disclosure of nine pairs of mutually contradictory normative principles that control the actual behavior of scientists led Merton to fixation of such forms of scientists deviant behavior, such as plagiarism, defamation of opponents, the refusal of the struggle for recognition” [18, p.181].

Apparently, for this reason, science, unfortunately, is becoming more subservient to business interests, political ambitions, becoming indifferent to such eternal values as kindness and beauty. “It stops, – as was noted by P. Sorokin, – to meet human need in the correct orientation in the universe, and proper understanding of the universe itself” [19, p. 485]. So science, despite all its power, remains vulnerable to negative impulses from the economics and politics.

We should consider in detail such aspect of science control opportunities, as their sufficient length in time and their mediation through the whole chain of transformations: “fundamental research – applied science – technology”. This mediation is the cause of some skeptical and even negative attitude towards it of a part of the population, especially the average men. Once Bruno Pontecorvo ridiculed this attitude,

pointing out the illegality of the question – is there any benefit from nuclear physics for the Ryazan farmers.

The proof of his correctness is the fact that one of the characteristic features of modern stage of scientific and technological progress is not only noticeable in its acceleration, but also in a specific branching, when discoveries and inventions made in one sphere, are of practical use in a number of other, sometimes quite far from their origin fields. These applications sometimes begin to exert a stronger control influence on these areas and social production in general than the original opening.

Thus, the science thanks to its unique abilities have the direct and indirect impact on all aspects of social and private life and refer to the universal and diffuse management systems. In other words, science as a tool and as a method of control is directed to all and especially to those who are able to perceive the results.

Science, social progress, and governance

Control impact of science on people and society is diverse and dynamic. Its manifestations are not only financial, pure technological results, but also the understanding of the opportunities that reveal these results. It is no accidental that people talk about scientific-technical and social progress. The example of it is the social division of labor that occurs at a certain level of development of productive forces and, in turn, significantly accelerates their development. Thus, technological progress is inseparable from social progress. Their system unity (often contradictory) is a condition and the basic premise of the progressive historical development of human civilization.

At the same time, the social division of labor (caused by science and its transformation in technique and technology) significantly affects production and other social relations, primarily on the management style. So, science managing potential is being implemented both directly and indirectly

through the need for a new paradigm for management due to new nature of social production in the broadest sense.

In this regard, it is our deep conviction that A. G. Gladyshev, V. N. Ivanov, V. I. Patrushev and others not by chance stress that “the need of social control is primarily conditioned by the fact of labor division in groups of people, in large teams, across the state, as well as the need for cooperation. Therefore, the joint work of people makes a basis of any human society, as well as the management, is a necessary element of joint work, the existence and development of society” [15, p. 15-16].

We consider it useful to add that almost every true leader thinks strategically, his thoughts directed to the future, therefore, he himself becomes the bearer of the ideas of social development and his practice implement these ideas to life. Although for this implementation same as for strategic thinking, he requires knowledge of the social development laws. Otherwise, there is a real danger of voluntarism, violations of these laws that can result in disasters for the masses.

At the same time, it must be emphasized that community development is a set of complex, sometimes contradictory, uneven and ambiguous processes that combine regularity and randomness, the existence of objective and subjective factors. It is characteristic that some processes in this set can in a certain timeframe significantly accelerate, while others decelerate noticeably and some would be suspended. There are also many cases when it seems that one or another social process turns back. So, there is a wide range of views on community development and its evaluation. It is interesting that the development of the social Sciences does not eliminate these trends and contradictions of social development.

Obviously, the reason is that the development of the society outstrips the development of Sciences about society and its development. We are not declaring that social science is not benefiting. After all, they identify patterns of social development,

form the control impulses and via the education system form staff management systems at all levels, provided with the knowledge of these laws and technologies of accountancy in management practices.

One of the confirmations of these thoughts is the fact that a significant part of experts in the field of social philosophy, sociology, and political science firmly believe that with all the complexity and contradictions of social processes there is a resultant force. The general direction of its vector uniquely identifies community development as a scientific-technical and social progress. Another, certainly not a smaller part of the specialists consider that in fact, it is only the progressive development of science, engineering, and technology, which does not affect the nature and form of the general trajectory of social development.

A common point of view is that for the last two thousand years has immeasurably increased the technological power of people and their capabilities, but it hasn't made them happier. That the problem of relations that worried people then still are complex and difficult today. Thus, they believe that relationships between people, feelings, and emotions remain almost unchanged against the background general vector of society development in the direction of social progress.

Usually, the notion of progress is associated with such directions of development which are characterized by qualitative changes and transition from a lower state to higher, from less perfect to a perfect state or quality of an object of development. The idea of progress was proposed by the French philosophers of the second half of the XVIII century, especially by Marie Jean Condorcet, Anne Robert Turgot. As was emphasized by S.E. Krapivensky "socio-economic basis for the emergence of the idea of social progress was the emergence of capitalism and the aging of the European bourgeois revolutions. By the way, both the creators of the initial concepts of social progress have been active public figures of pre-revolutionary and revolutionary France".

This circumstance, according to his deep conviction explains their views: “it is quite clear: the idea of social progress, the recognition of the fact that humanity as a whole, is in its forward movement, is the expression of historical optimism inherent in advanced social forces” [9, p. 327]. However, the question remains open – what social forces should be considered as advanced.

From the standpoint of social cognition, the first concepts of social progress had the following features: they all came from the idealistic understanding of the socio-historical process, became the cause of the progressive development of the spiritual beginning. So, the same Condorcet and Turgot saw it in the infinite ability to improve the human intellect, whereas Hegel – in the spontaneous self-development of absolute spirit. Therefore, the criterion of progress for them was the spiritual effect: the level of development of social consciousness, morality, law, science or religion. It is characteristic that the progress, in the opinion of the philosophers of the time took place first in the sphere of scientific cognition (F. Bacon, R. Descartes) and then extended to social relations.

Secondly, in the approaches to understanding the essence of social progress, lacked the dialectical methodology, so it was considered as a gradual evolutionary process without jumps and retreats. Auguste Comte and H. Spencer were convinced that this development is a continuous linear ascent. Thirdly, the upward character of the development was limited to achieving a certain point of the “ideal” social structure. This is especially clearly seen in the ideas of Hegel, who argued that the pinnacle of world progress is the Christian-Germanic world that proclaimed freedom and equality in their traditional interpretation.

In reality, however, social development is much more complicated, but at the same time, it is such that in a complex interweaving of different processes, we can see a general trend that defines the main direction of evolution of world civilization. This trend is a result of the manifestation of the resultant various

processes. The existence of this trend can be demonstrated on the example of a quite natural, gradual change in the socio-economic formations. This change itself, as evidenced by the results of social cognition, is determined by two interrelated factors. First, the growth of individual and social needs as the driving force of development requires strengthening of the motivation of employees, which can be achieved by increasing their share in the consumer public product. Secondly, increased motivation leads to increased productivity, which is enhanced by the achievements of scientific-technical progress. In the result, there is a possibility to spend a share of the product on strengthening the motivation of employees.

Humanity tends to use the results of the scientific and social knowledge for practical influence on the course of social processes, their management, their changes, and rationalizations, ensure conformity with the objective laws of functioning and development of society. In this regard, the control becomes almost the main mechanism of such influence and regulation of social development. There is a belief that the results of social cognition offer humankind the possibility (at least theoretical) of rational constructing of such a social relations system that would best meet the needs and interests of the majority of members of the society. This belief is based on the fact that social cognition helps to determine the leading tendencies of social development, their compliance with the logic of social progress and the need for changes that would ensure such compliance. To make these changes is possible only with the help of management.

So, an extremely important feature of the phenomenon of control is the fact that in most cases the subject of management naturally tends to get the best (in quantitative or qualitative terms) result of a collaborative work of people led by him. So he thinks about the possibilities of improving the organization of these activities, methods, ways and forms of motivation and stimulation of their more productive labor. It is also interesting to recall that the very word “stimulus” once in Ancient Greece meant a long

stick, which was used for urging the slaves, not that hard, in the opinion of the observer.

Search for possibilities of productivity increase could not be reduced to the strengthening of its intensity, limited by human possibilities. So it was conducted and especially noticeable is conducted in modern conditions of the development and use of the new technologies, including the possibility of mechanization and automation of production processes, further deepening of the labor social division and professional development of workers, improving the organization of labor and management. In particular, one of the innovations, which is today more widespread, is the search for development and practical application of new effective management technologies. But all these actions really make the phenomenon of control one of the most important and effective factors of the social development.

We should not forget the influence of the new discoveries and inventions, not always positive, on the individual and society. As noted by S. G. Spasibenko, “mankind is entering immeasurably complex, fundamentally new relationship with the outside world from the microcosm to the macrocosmic processes. Significantly increases the amount of knowledge, new sciences emerge”. In his opinion, all these “social, moral and spiritual changes do not affect the psychobiological nature of the man. So, by changing the world, man is changing himself”. This researcher specifically emphasizes that “the ability of the nervous system is enormous. Often we do not know about it” [20, p. 104]. It is necessary to add that the manifestations of some of these features we already see on the example of the forced human adaptation to the action of such factors that even hadn’t existed in the life of previous generations. It is primarily about environmental and climate changes, about the level of electromagnetic radiation, etc. not to mention the impact of the urban problems, especially in the big cities, on man and his psyche.

The disclosure of these opportunities and their proper use for the benefit of man and mankind is an urgent task of scientific

and social cognition. However, when talking about the importance of the process of this research and its results for the formation and proper use of the logic and methodology provisions of human activity in general and managerial in particular. It should be clearly understood that this logic should be built on major social patterns. Their clarification is one of the main tasks of social cognition. After all, ignorance of these laws or their outright disregard not only significantly impairs the efficiency of management of social systems, but generally can strike it down.

P.V. Kopnin pointed out at that “strengthening of interest to the research is caused by a number of reasons of practical and theoretical nature. Science is becoming a direct productive force that occupies a significant place in society. Not only technical progress but also spiritual development of personality, his moral and aesthetic education depends on the development speed” [8, p. 119]. Entirely supporting the position of the scientist, we believe that education, particularly personal development as its most important task, is the formation of spiritual and moral persuasion to ensure the integrity of scientific-technical and social progress and the realization of the managerial potential of science.

Science as a factor of social-economic development

It seems clear that the very meaning of socio-economic development with all its regularity and inevitability is not just the complexity of the productive forces and their appropriate use for the benefit of man and mankind. We have in mind at least the following system goals. Firstly, the desire to achieve a higher level of productivity and ability to meet increasingly complex and diverse individual and community needs. Secondly, there is the necessity of liberation of human from the heavy, repetitive and hazardous to health activities. Thirdly, the ending of the destructive impact on the surrounding nature as the human environment and the harmonization of relations in the whole system “man – society – nature – technosphere”.

The modern world has entered a fundamentally new stage of its development, which has a clear innovative character. It can be characterized not only by accelerating the development and application of high technology and by the emergence of the knowledge-based economy and the knowledge society. Some widely spread innovative thinking and the leadership of its principles and provisions in the practice of production and economic activities should be considered as the significant feature of this stage.

For a successful socio-economic development, it is important that this thinking will save the moral paradigm of science, and especially the essence of use of its achievements by the human. Thus, according to the modern Italian philosopher Evandro Agazzi, “in the moral judgments on science and technology, the different ethical theories should be considered as complementary” [1, p. 260]. This is extremely important because science and technology are morally neutral. The possibilities of their use for the benefit or to the detriment of man and society depend on the moral position of the user.

Apart from the purely moral aspects, the rational possibility of effective use of science and technology, the management of their use is determined by the ability of the authorities and administrative staff to identify the main trends of scientific-technical and social progress and to predict at least the near future. This is not easy because in principle we cannot know the future and only as a result of the analysis of these trends and forecast of their development we can approximately guess unclear, blurred outlines of the future. And it is unknown when the world will be at the bifurcation point, and the vector of development will change its character.

In this regard, Karl Jaspers writes: “when knowledge contributes to the attitude toward the future as something inevitable and in front of me is the only choice, if I give myself to the flow or swim against it, then such a prediction, the perceived gullible people, gets tremendous value; it enhances and

contributes to the persistence of inactivity, because one gets the conviction that without my participation, everything will happen as it should happen” [22, p. 280-281]. That will not happen, since today, in the era of globalization, everything is so intertwined and interrelated that the actions (or inaction) of one person may significantly depend on the health and lives of hundreds and even thousands of people.

Remembering big accidents and global disasters that happened only in the last thirty or forty years, it is easy to verify that almost all of them are somehow connected with the personal factor. It could be manifested as a lack of professional qualification of the employee and his irresponsibility. Both reasons are caused by either inadequate level of development of science in the relevant field, or rather, the lack of consideration of its provisions in the design, creation and particularly in the practical operation of complex, potentially hazardous facilities and technologies.

However, it should be clearly recognized that the implementation of the control potential of science is complicated by the number of cases and relative nature of truth so that the continuous deepening of the measures of knowledge of the world and of the man himself changes and management abilities of science and the nature of its use. This becomes especially interesting when you open some fundamentally new effects, radically changing our view of the world. After all, as rightly says Bertrand Russell: “If a physical event should serve as a base for physics and if we do have any reason to believe in them, they can't be completely unknowable, like Kant's things in themselves. In fact, the recognized by us principles are known (perhaps, not quite) for their space-time structure, because this structure should be similar to the spatial-temporal structure of those actions, which influence the recipients” [17, p. 248].

The ambiguity, fundamental incompleteness, and relativity of the conceptual-categorical apparatus, used for the description of the society, social objects, and phenomena, complicate the

effective use of management science potential. This applies to the social sciences. The additional complexity, in this case, is made by two factors. Firstly, the models, used and interpretation of the research results, almost always bear the imprint of the subjective attitude of the researcher. Secondly, many factors of diverse nature affect the social processes and create their model description. Even probabilistic methods do not provide adequate results.

Theodor Adorno was convinced that the extraordinary complexity of society, as the object of study of social science, requires the use of sophisticated and varied research methods. According to him “society is not unanimous, not simple, but also not neutral with respect to any of the categorical forms imposed on it; it expects something else from its objects than the categorical system of the discursive logic” [2, p. 76]. The logic of functioning and development of society is insufficiently developed and in general hardly possible.

In this regard, the complex modern society requires the use of most nonclassical methodology for its study, as well as for the organization of an adequate control. Its principles are most fully manifested in the synergistic patterns of self-organization, self-development, and self-management of the complex systems. The society, by the way, and the man himself, is a complex open dissipative system. Therefore, it seems that a synergistic approach will most successfully implement the management capacity of scientific knowledge.

Generally speaking, it is appropriate to consider in these three main aspects the managerial potential of science and scientific knowledge, its role in socio-economic development of the society and its use in the practice of the management activities.

Firstly, science, as the source of applied knowledge and its possible transformation into technology, significantly affects the change in the character of the productive forces of the society, determining the need for an appropriate change of the industrial

relations, including objectives, content and nature of management influence on the staff, changes the meaning of the management activities at all.

Secondly, humanities and social science, primarily management, allow inclusion into the laws of psychology and ethics of the interpersonal relations and purposefully use them to improve the quality and efficiency of the management. At the same time, the study of the management phenomenon allows to understand its deepest essence, its purpose and improve its practice.

Third, the indirect but very significant influence of science on processes of social development and management is realized through the education system. It tries, through the addition of new achievements of science into the education, to provide such education, personal development, and socialization for students, which would provide a high professional competence and responsibility that does not require constant monitoring of their activity and power of influence on them.

In an extremely complex, contradictory mosaic of processes that characterize the current functioning and development of human civilization, we must recognize that they depend on a variety of often unpredictable factors. Today not only science but also economics, politics, religion and media exert a strong and often divergent management impact on people, their thinking, behavior, and activities.

On the way of the progress appear various crises, manifestations of separatism and terrorism, religious and other fanaticism. Along with this, the globalization processes of political and economic integration, intercultural communication, strengthening of inter-racial, inter-ethnic, even religious tolerance are developing. The clash and interaction of these processes bring armed conflicts, the collapse of a number of public entities and the formation of international alliances. The impact of these trends on socio-economic development and the necessity to consider them when organizing the implementation of

management of this development urgently requires the intensity of research in the field of political science.

The formation of a new geopolitical configuration as one of the realities of our time and one of the most important factors of modern civilization development put on the agenda the need for the development and scientific substantiation of the principles of relationship and interaction between people, social systems, states, their unions and international organizations. Along with this arises a difficult problem of differentiation of national sovereignty and delegation of certain powers to supranational bodies. The results of her study will be used to promote the development of systems, principles, and methods of management in these fundamentally new conditions.

Additional difficulties emerge as the result of such specific economic entities like multinational corporations and their branched structure. Because they have to operate within the legal framework of various states, their management systems have to take into account the cultural identity, traditions and mental characteristics of the population of these states as their employees and consumers. For us, it is far from obvious that the practice of the activities of these corporations had accumulated the necessary experience, and that all such problems can be easily solved.

The most important factor of successful socio-economic development, especially for post-socialist states, is in conducting of targeted research in the field of economic science. They should not just learn from the experience of economically and technologically advanced countries in the selection and implementation of strategies for its development but analyze the conditions and possibilities of using this experience in the light of specific historical, economic and mental characteristics of their countries. Only in this case the recommendations of the economics will be justified and will be able to fulfill successfully the function of a reliable control effect.

Today, for example, in Ukraine, the number of defended candidate and doctoral dissertations on the economy is steadily

increasing, while the real economic situation in the country is also steadily worsening. Obviously, neither the authorities nor business do not see practical use and meaning in the “research” of these scientists, if their recommendations are often trivial in nature and do not contain recommendations, implementation of which in practice of management would contribute to socio-economic development of the country.

Science and culture development of the management activities

The development of science is an important culture-forming process. The achievements of science contribute to a complete satisfaction of material and spiritual needs of people by transforming into technology. By facilitating their work and significantly boosting its performance, these technologies will free up the time for creativity and personal fulfillment. Some creative persons, because of this, have the opportunity to engage in scientific research, art, sport or devote themselves to other important and interesting hobbies.

This situation contributes to a significant improvement of the quality of the social space in which society functions. Under quality, we understand not only the level of development of culture and art, not only their common humanistic orientation but the nature of their impact on man and society, moral principles and beliefs of people, their life goals, and values. This creates the prerequisites for the spiritual and cultural development of the members of the society.

This development is already becoming one of the most powerful factors of socio-economic development. It happens not only because of the substantial increase of professional competence of people but also because most of them see the key trends and strategic ways of development of the entire human civilization, due to their high spirituality. It directly affects their feeling of personal responsibility for the situation in the country, the nature of the relationship with other countries and peoples.

It seems obvious that literally every leader, every businessman for their success need a management philosophy and culture. As was rightly emphasized by one of the biggest philosophers of the modern Ukraine S. Krymsky, “it is known that there was no state in any era that avoided the crisis thanks to the economic circumstances. Because the basis of economic activity is a certain psycho-culture, which requires a response to the question: why make money? The understanding of such psycho-culture, as a factor of the activity, outlines the anti-crisis vector of spirituality, points out the landmarks to the shore of salvation” [12, p. 7].

Science, primarily a system of sciences about the management of social systems, not only promotes the formation of highly efficient management technologies but increases the level of cultural leaders. And this culture includes the spiritual, moral, psychological and value aspects of management. It creates the leader's vision of the logic of scientific-technical and social progress, its understanding and desire to use it in the interests of social production and in the interests of the workers themselves. In conditions of development of market economy, managerial culture involves the development and innovation type of thinking of the leaders. This type systematically and purposefully can be formed in the system management-education that includes not only basic skills but also different forms of increase of its level, postgraduate education, etc.

So, the famous German philosopher Pirmin Stekeler-Weithofer emphasizes that “the neglect of education leads to the neglect of human, social, linguistic, cooperative and thereby, eventually ethical foundations of science and technology, economics and policy. For example, the thinking aimed at exaggerating the success and efficiency can damage the free cooperation” [21, p. 76]. We would have further strengthened this idea by the statement that the neglect of education leads to lack of spirituality and lack of culture. In these circumstances, soulless man, armed with modern science and technology, is potentially

dangerous, especially when there is an absence or insufficient level of development of a sense of responsibility. After all, it is often presented in the form of a monkey with a grenade in its hand.

This feeling contributes to the understanding by the manager not only of the logic of scientific-technical progress and the use of its results but also the logic of social development. This logic is in direct correlation with social development achievements of scientific-technical and technological progress. Also, it acts as the most important characteristic of the gradual evolution of society towards the democratization of public life and the approval of the norms and principles of civil society and the rule of law. This logic should suggest a gradual but steady improvement of living standards of wider sections of the population together with a corresponding increase in the level of productivity. In accordance with this logic, should raise the quality of life of the population. All logic components are closely tied together and the relationships between them have the complex non-linear character with social cognition and with social system management and culture management.

Generally speaking, the management culture is not just one of the most important social phenomena, but also one of the key prerequisites for ensuring the proper functioning and development of the society. At the same time, it greatly depends on the level of general and especially professional culture of the people, whom fate and society entrusted the management functions performance, and also it depends on the nature of the social space, in which they are implemented.

The professional competence of the manager forms a system of knowledge, abilities, and skills acquired in the training process and in subsequent management experience, its comprehension, and analysis, as well as the result of his scientific research. The level of this competence determines the manager's ability to use creatively their knowledge, skills, and experience in

relation to specific problem situations and to find adequate and effective managerial decision.

The manager's system of social and professional values largely characterizes not only his personality and professionalism but also his culture and the spiritual world. This system comes from the fact that the man himself, his life and health are supreme and unconditional value. For the manager, as for any person, a significant place in the system of values in life takes family and work. But his status requires him to have the perception of the value of his team and its activities. The systemic unity of all these values is the basis of the life satisfaction of the manager, opportunities for personal and professional fulfillment. However, these possibilities become a reality if in the system of life values of the manager an important place belong to the well-being and psychological well-being of his subordinates. The concern about that is the defining characteristic and manifestation of the level of his managerial culture.

Indeed, the purpose of formation of a team favorable psychological climate is systemic and multifaceted, particularly if it is viewed from the standpoint of the perspective development of the organization, company, enterprise or any other social organization. In conditions of maintaining such a climate reveals the creative potential of employees and their commitment to their personal and professional fulfillment. This significantly increases their efficiency, increases the innovative potential of the organization as a whole.

The nature of the socio-economic development of any state just as adopted by its principles and norms of the culture of administrative activity and its state are experiencing a strong influence of science. We are talking about the results of research in the field of psychology, theories of organizations and management. This is an important research in the field of business relations ethics and interpersonal communication. Their results shouldn't stay only in the publications, but they should be widely used in the practice of professional training for

management systems, in practice of conducting targeted training and became the norms of the culture, behavior, and relations of participants of economic activities. Only, in this case, their managerial capabilities will be implemented for the benefit of man and society.

After all, according to I. Kant human behavior, his socio-cultural activities are determined beyond-historical (transcendental) absolutes. He considered them universal, timeless, necessary, obligatory foundations of human life. These principles of life the philosopher called the norms. Today we can easily ensure that the famous golden rule of the ethics and the system of common life values do remain immutable rules, but as in the understanding of their deep meaning and their practical application life is making certain specifics.

In these concrete things are intertwined Kant's beyond-history concept, and cultural-historical traditions, and mental characteristics of each nation, and the complex realities of modernity caused by the processes of globalization in all spheres of public life, and the ever-expanding practice of intercultural communication. That is why today the science of management gains a significant importance. Not accidentally one of the recognized experts in this field – Peter F. Drucker titled one of his books “Management challenges in the XXI century”. On a deep belief of the author “a new view, on which in the future will be based management – both in theory and in practice – is that the scope of management should not be restricted legally. Management needs to be operational. It should cover the whole process. At all stages of the economic chain, it has to be focused on the results and efficiency” [3, p. 57].

This inclusiveness of the management combined with a high level of professional competence, understanding, and respect for the dignity of each employee, his right to his own opinion defines, in our opinion, the culture of administrative activity of the manager. This culture becomes very necessary today because it is formed upon a new foundation – on a foundation of tolerance

and pluralism of opinions, views, and beliefs, different political, ideological and religious positions.

Krymskiy S. B. considers the situation “originated in the mid-twentieth century, but which has an increasing importance on the spirituality of the twenty-first century. The fact is that in the perspective of formation of postindustrial civilization ceases the principle “or – or”, that is the principle of the excluded third ceases to operate in the socio-cultural dimension. The choice between the extremes of social forces without regard to intermediate mediating links is typical for the circumstances caused by military conflicts. But in the productive contexts of the globalized society of the XXI century, the more effective is the demand for consensus, an agreement of all positions, and therefore, the adoption of solutions that will benefit all”. The scientist emphasizes that “the choice of modern man is not always to adhere exclusively to one of the alternatives. After all, the world of the XXI century is more complex than can be presented through the prism of “black and white” vision. Figuratively speaking, “God does not play chess with people” [12, p. 16-17].

Science as a reliable source and the main resource for the scientific, technical and socio-economic development of human civilization bases on the priority of culture management activities in providing this development. It is only with a high level of this culture appear the conditions for overcoming the “black-and-white vision” and the maximum possible disclosure of creative abilities and realization of the personal potential of each person. Therefore, the very management culture needs to represent a holistic education, which in its system relies on a clear foundation of science.

The integrity of the management culture and its developed internal structure provide a sense of personal responsibility of the manager not only for the results of the activities of his subordinates and the organization as a whole but for the quality of goods or services, which is expressed in these results. The

integrity of this culture also includes his responsibility for the state of affairs in the organization, the nature of the relationship between people and interpersonal communication, for the socio-psychological climate in the organization and for the satisfaction of people with their membership in it. Moreover, the integrity of culture assumes the provision of a high social significance of the organization itself and its activities.

The manifestation of a logical relationship of the managerial culture and science should be considered as well as the level of achievements in the organization, style, information support, technologies, environments and practices of management in the system of life values and the nature of the manager's relationship with subordinates.

Regardless the scope and activity of the firm the management culture encompass organizational, social, informational, legal, economic, psychological, scientific, technical and technological culture. It acts as a concentrated expression of the use of science and technology, also serves as one of the determining factors of successful development of respective social systems.

Conclusion

The research and presented in this work authors' considerations allow us to make such well-founded conclusions.

First, in the process of development of human civilization, the comprehension of the people of the outside world and themselves has contributed to the formation of knowledge, which had gradually transformed into the science and practice of purposeful use of the results of knowledge to facilitate its activities and enhance its performance. Simultaneously, the activity itself became a powerful driver of learning. Since the people usually satisfy their living needs through participation in joint activities with other people, there is a potential conflict of interest that complicates the normal execution of this activity. This leads to the need of management, which applies to the

process of knowledge. There is a complex interaction system of knowledge, science, and management. In this system, science expands its functions, becoming not only the object of management but also one of the most effective tools.

Secondly, management possibilities of the science and their use can be varied and have direct or indirect influence on the processes of functioning and development of society and its various functional, sectoral, territorial and other subsystems. Direct control impact of science is, on the one hand, the transformation of its advances in technology that changes the productive forces of society, which, in turn, cause corresponding changes in production relations, including the nature of the management. On the other hand, the direct controlling impact of science is evident in the results of the study of the controlling phenomenon and of the recommendations for its improvement. At the same time science indirectly controls society, professional development of workers and their culture that makes pressure on them unnecessary.

Third, the powerful managing potential of science is its decisive influence on the technological and social processes and all the vital functions of society. Their holistic totality, which finds its vivid manifestation in the scientific-technical and social progress, creates a fundamentally new, innovative type of the world development. Its characteristics are the development and wide use of high technology, finding and applying effective ways of innovative activities in education, science, culture, and management, as well as special, innovative thinking of people. In the system unity, these processes determine the formation of a new lifestyle when it is hard to disappear, while the high level of labor productivity allows freeing some time for creativity and interesting rest.

Fourth, science and its achievements transformed into a technology, not simply define the main vectors of scientific-technical and social progress, but also allow directing them to rational and efficient economic and social development. This

helps to fully satisfy the growing material and spiritual needs of the society and each of its members, to increase not only the level of welfare of the population but also the quality of its life. And, therefore, allows solving complex environmental issues, using “green” technologies.

Fifth, one of the most important manifestations of the managerial potential of science is in its strong and direct influence on the formation and use of specific cultural management activities. This culture most closely matches the requirements of the innovation stage in the development of human civilization and the democratization of public life. It allows us to reject the use of power management techniques, to increase the level of responsibility of the manager and staff and, to implement creative abilities and personal potential of employees for the benefit of the organization.

Thus, the presence in the system “science–activity–management” of backward and forward links, based on internally immanent to human need for the knowledge of the external world and himself helps to provide successful search of ways, methods and means of effective solution of the complex problems of our time, which present a real threat to the very existence of human civilization.

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