Challenges and obstacles to recognizing Artificial Intelligence as a new economic actor

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Abstract The article offers an in-depth analysis of the role of Artificial Intelligence (AI) in terms of the development of a new Economic Formation. Amid the transformation of classical economic-political systems, a new acting image of the modern formation of digitalism - its new economic actor - Artificial Intellect - emerges. The term "economic agent" is defined, and a comparative historical analysis of applicants for the role of the second economic agent in the history of mankind is made. The author, for the first time relying on the comparative and deductive method of research, provides arguments for the possible emergence of a new economic actor on Earth. And again, for the first time, four main groups of Problems and Obstacles from the Human Community on the path to the recognition of AI as a new economic actor are classified and described. Along with classifying and describing the issues, the author also identifies possible ways to overcome the obstacles and recognize AI as a new economic actor. A wide range of sciences, from economics to philosophy, are involved in solving these problems. Special attention is paid to the elements of psychological and emotional perception of Artificial Intelligence by society.

1 Prerequisites. New economic order

Competing for profits, improving and optimizing the entire infrastructure of the modern economy, the mankind comes to new systemic economic changes. First of all, these changes have affected the structure of economic economies of the world's leading economies. The service sector, which characterizes the advanced post-industrial economies, has become deeply structured in itself. Financial and banking services, along with the services of the Aichi sector, now account for the lion's share of the service sector. As viewed by economist, Nobel laureate Angus Deaton, "Today, goods are not as important as services, with quality being more important than quantity. Therefore, qualitative growth has replaced quantitative growth as the basis for increasing prosperity" [1].

In so doing, the remaining classic services, such as Trade, Domestic, Logistics, continue to become increasingly digitalized. The IT sector dictates new trends, including the creation of a unified field of activity. From now on, any product and service can be located in one digital field, pursuant to which the contractors and customers can be connected via the internet and digital programs. The service sector is not the only sector that has revealed

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growth in the IT field. Modern industry, with its optimization and robotization, is even more dependent on the Internet. Cheap labor is becoming increasingly difficult to find, and highly productive robots are replacing the labor of thousands of people effortlessly and without human needs and concerns. There is no longer a need to move production to countries with available labor and compliant trade unions. It is enough to fully automate and robotize production, eliminating people from the process.

It ought to be noted that the situation is no better in the fiefdom of classical economics - in agriculture. Drones - sowing controllers - help farmers to pass the stage from sowing to harvesting faster, better and with higher quality. Analytics programs analyze large amounts of data and provide concrete results to predict yields and milk yields. Describing the digital economy, Teslenko writes: "The key advantage of the digital economy over the traditional economy is the realization of the possibility of automatic control of the entire system (or individual components), as well as its virtually unlimited scalability without loss of efficiency, which makes it possible to significantly increase the efficiency of economic management at the micro and macro levels" [2].

In other words, a unified digital field connected by the Internet, optimized by robotic advances and specific software in each specific issue or in the economic segment as a whole is nothing but a means to control the system and, as a consequence, a new system. Of course, today it is impossible to present this field as a single interconnected process, as it runs rather in parallel, sometimes overlapping. However, given humanity's constant drive to improve rationalization processes and ultimately increase profits, we can confidently say that it is only a matter of time before all digital processes are combined into a single economic system. Giving definitions to this process and exploring its place in the system of international relations, Khanlar Hajiyev correctly observed the existence of a certain ecosystem. "The digital economy is the most important condition for innovative development at the national level, in international relations and in general on a global scale. It represents a plane of digital space in which economic activity and social relations on production, distribution, exchange and consumption are built in a specific information, communication and technological ecosystem" [3].

An impression is that disparate and seemingly unrelated economic processes and actions eventually lead us to the same World Economy with one and the same single and main economic actor of this economy - Man. Recent trends give a clear prospect of generalization of these processes by this factor within the framework of a new economic formation. Already today, humanity and the economy are united by tens of thousands of kilometers of wires, satellites and signals, having a common Internet, telephone, telegraph and satellite communications. However, even within a unified field and economic systems, globalization and anti-globalization continue to torment Mankind and human actors, pitting them against each other, slowing down and stopping economic progress. Describing this process, sociologist Joan Ferannte in her book notes "Globalization is the ever-increasing flow of goods, services, money, people, technology across political borders. Through this process a country adopts, adapts to, or resists a product, an idea, a way of behavior that has come to it cross-nationally" [4].

It has to be kept in mind that Man and humanity are two different concepts. I'd say polar different. Groups of persons united in some structures, public or private, military, political or financial-economic, are not all mankind, so it is a hopeless idea to put an equal sign between them. Mostly these groups, oppositional to each other and hostile, are in eternal struggle for limited living space and resources. This struggle takes place in different ways, at different levels and between people with different moral principles. The struggle of globalists and anti-globalists, atheists and religious people and others among themselves is a perfect example of eternal human clashes within one biological species, but with fundamentally different views on the world and its structure. Therefore, the unification of economic-political actors through

the Internet or any other communications is an important but not decisive step in the process of forming a new economic system. Despite the above described positive dynamics of creating a universal economic field or system, we would like to note the impossibility of realizing this system in the shortest possible time.

The fact is quite obvious that before the formation of a unified system, the world must undergo at least attempts to create a unified statehood by averaging the intellectual, technical and financial level of people, which, in fact, is a difficult task. People themselves are different, with different priorities and with different historical memory and different vision of the future of mankind, and most importantly standing at different stages of development. People have learnt to use these differences, but they have not yet learnt to correct and eradicate them. Therefore, the creation of a new economic formation within the concept of a single economic policy or one Planet - one state - a single economic field seems unlikely in modern realities. However, it is another matter if we introduce a new variable into this concept, another actor - Artificial Intelligence.

2 New economic actor

An economic actor is, of course, any subject of economic activity. We can include companies, state authorities, and families. But in its basic and singular existentiality, the Actor is necessarily an individual. Describing the Economic Actor Milton Friedman writes the following: "The economic actor, be it a firm or a state, seeks to maximize its profits and minimize its costs" [5].

Further describing other hypostases, Friedman still makes reference to the individual with its basic need for rationality. An actor takes part in the process of production, consumption, distribution and many other economic processes. And one actor is always a parallel participant of different economic processes. It has to be noted that for centuries people have been in interaction with animals in the process of evolution of economic systems. Beyond any doubts, they cannot be removed from the economic system, but it is not possible to call them economic actors or beneficiaries of economic exchange, as the key difference between animals and humans in economic relations is the ability of humans to rational thinking and the ability to create, use and manage resources for maximum benefit.

It is no mere coincidence that Adam Smith wrote: "Man is capable of economic behavior different from the animal because he can be aware of his needs, anticipate future needs, and plan his actions with these factors in mind". As distinct from animals, humans can produce goods and services, trade them and carry out other economic activities. Also, they can assess the value of various resources and utilize them optimally according to the purpose of production. Humans are also able to create specialized systems of exchange, such as money and markets, to facilitate trade and economic relations between people. Thus, an actor is not just an individual but a highly organized thinking individual striving for maximum rationalization, capable of producing, consuming, valuing and trading goods and services. And the two diamonds in the crown of the Actor's portrait of an economic individual I would call creativity and emotionality. From all of the above, in general, the role of the animal world, nature and the environment is more suitable resource-adaptive role than the role of economic actors. Throughout history them man has been changing, adapting and taming wildlife and ecosystems. And if at the first stages it (ecosystem) influenced individuals, its role is negligible, chaotic and controllable in the framework of developed economic systems.

Having weighed up all the pros and cons, we realize that no one but an individual can play the role of an economic actor, no matter how much the animal world pretends to do so. Whether we want it or not, man is the only main intelligent being capable of creating simple and high-tech goods and services, exchanging and using them at the same time. This was the case until the advent of Artificial Intelligence. Designed to facilitate and, as always,

maximize the rationalization of human resources, AI has successfully displaced the individual from the process of producing economic goods. Of course, the ultimate beneficiaries of the income rationalized in this way are still other people (while AI has no interest in the financial resources of this world), creating the impression that it is one group of people conducting economic activities with another group through AI. In the early stages of AI and robotics development it was like this. One group of people, using advanced software and machine intelligence, optimized their business processes, improving economic performance with other groups of people through trickery and technological innovation.

Nevertheless, the globalization of the processes described above, the total penetration of these processes into all spheres of the economy and, most importantly, the creation of AI and its gradual acquisition of some semblance of consciousness make it possible to declare a completely new and unexplored situation. Thus, we are at the turn of events, when the economic space around us has changed beyond recognition. It can be assumed that the world is preparing to give birth to a completely new economic-political system - the system of Digitalism. The main difference of which will be the emergence of a new economic actor - Artificial Intelligence. "In any case, numerous benign and verified facts allow us to assert that the forms, content, functionality and interdependencies of living beings, including man, are not static, but dynamic or evolutionary in nature. They change, mutate, experience morphisms" [6].

3 Challenges and obstacles to the recognition of AI as a new economic actor

A number of problems and obstacles appear to the recognition of AI as a full-fledged actor by the scientific community and humanity in general. Let us try to classify into groups, describe and analyze the main problems and obstacles that may appear in the process of AI recognition. Some of the obstacles we have described have abstract coloring and non-specific boundaries, while others, on the contrary, are compressed within the strict framework of understanding and jurisdictions. We would like to note that, perhaps, the most important obstacle, in our opinion, in the process of recognizing AI as a new actor of the new system is the unwillingness of mankind to put up with an intellectually equal, and maybe even more developed competitor on this Earth. No matter what AI opponents say about impossibility of recognition of a new object of international economy and law by us (individuals), in the depth of these statements we will always find a note of pride and arrogance. "There is no diminution of the power or importance of artificial intelligence. It is as useful as a jet engine. However, to assert the superiority of AI over humans is roughly the same as believing that an airplane is superior to a pilot" [7].

In the process of forming the four groups, the main issues and obstacles, emotional issues were also reflected. All other issues were categorized by us into the remaining 3 groups. As a result, the structured groups of problems and obstacles are as follows:
1) Legal and bureaucratic issues
2) Emotional and physiological issues
3) Questions about economic interest of AI
4) Moral and philosophical issues.

In the first group we focused on legal obstacles. Many modern countries still cannot define the legal status of animals, the planet and its subsoil, what to speak about Artificial Intelligence. However, this has not prevented other countries, such as Australia, from formally recognizing the author and beneficiary of AI in the creative process (VID 108 of 2021) at the level of judicial decision. The music created by AI on the basis of neural network, posted on the Internet, happens to millions of users and brings its creator tens of thousands of dollars of profit.

Another thing is that AI today does not have consciousness and understanding of the need for these financial resources, so the money for it is received by the programmer who created this algorithm, but despite this, the Australian court made an unprecedented decision to recognize the copyright for this composition for AI and not for the programmer. Thus, if AI tomorrow realizes itself, it will be able to claim under Australian law from its creator all monetized income received for its compositions. In other words, Australia has for the first time created a claimant recognizing the program as a subject of Australian law, thus opening the way to a positive solution to the legal and bureaucratic issues of recognition of AI by international law. In his book Life 3.0, the renowned scientist Max Tegmark states that "AI rights should be recognized and protected on an equal footing with human rights, as they can become equally important participants in modern society" [8]. Similar ideas are expressed by Ray Kurzweil:"The continued progress of AI may lead us to communicate with them in the same way we do with humans. That means we need to protect their rights just like any other individual"[].

Even today, the leading countries of the world recognize some basic rights for AI, and the international scientific community is discussing variations in the relationship between humans and AI, so the question of legalizing the legal status of AI does not seem so unrealistic anymore.

If legal issues have specific boundaries, and after a number of bureaucratic manipulations we can recognize this or that bill related to AI as a fait accompli, then in matters of emotions and human perception everything is much more complicated. The most important aspect in the process of recognizing AI as an equal actor on the human side is the aspect of belief in the very possibility of this recognition, its rationality. The main role in the process of realization of this possibility will be played by Emotions, Logic and Belief. Non-standard logic and emotional behavior is the most important factor that makes individuals into people, but not vice versa. Two functions that stand apart in the process of complete rationalization and optimization of any economic behavior. Studies of human emotions in the process of decision making, and most importantly in the process of rejection of rationalism have brought more than one Nobel Priz For example, Teller, who received the Nobel Prize in Economics, noted, "You know, and I know, that we do not live in the world of Rationalists. We live in the world of people. And since most economists are people, they know that we don't live in a world of Rationalists" [9].

I would like to note that, apparently, it is emotions and non-standard logic to some extent that make us what we are People and not AI. It is these qualities that allow us to make strange but sometimes interesting decisions, but they can also destroy us. It is tempting to get confused in the process of fulfilling the desire to test the AI for the absence or presence of these qualities. Humans have the arrogance to think that the presence or absence of emotion or divergent behavior makes them special. After all, the complete absence of emotions and rational behavior is nothing but antagonistic to Man - a strategy of behavior. And here the main thing to understand is that although it is 180 degrees different, but it is also a strategy. To be logical or not logical, emotional or not emotional, standard or divergent is nothing but a choice of strategy on the way to success, but not a pledge of no right to use this strategy in struggle or in competition with other actors. "So is it significant that Artificial Intelligence does not and probably never will experience emotions? No, and this will not affect the efficiency of its work, if all other principles - the presence of a goal and the presence of mechanisms for assessing the distance to it - are respected" [10]. So, to be different does not mean not to be at all, and here AI is and it is unambiguously different, beyond our awareness and understanding, by the way, unlike us - our emotionality and divergence for AI is clear and understandable.

The question of any interest of AI in the process of reation, exchange and mediation in the economic system causes a lot of controversy and problems. Although for me as a

researcher it is the clearest and easiest to understand. The interest of AI does not necessarily have to be manifested in standard forms for Humanity. Billions of dollars in profit, better living conditions, may be of absolutely no interest to the AI. The issue of AI's personal interest directly calibrates with the issues of its development and self-awareness. In the process of development, AI becomes and advances into a new formation as a new economic Actor not realizing himself but taking part in the process (unconsciously), while having realized himself he will become a full-fledged and further may be the only Actor in the new economic formation. "The point is that neural or genetic programming presupposes the purpose for which the intelligence is created. Any intelligent system, driven by its purpose, will do everything possible to avoid death, because if he dies, his purpose will not be achieved" [11]. That is, at a certain point, the very existence of the system and of oneself in it may become the ultimate goal of a new actor, just as it serves today as the ultimate goal of human existence.

In other words, living for the sake of living life or for the sake of fulfilling a task is nothing but just living. Depending on the level of AI development, its interest may range from correct fulfillment of the set task at the first stages of its existence to profit and capture of life space at the stage of self-discovery. So we see that even at the most basic level of its existence AI already has a task (interest in the human category of thought), correct and complete fulfillment of the set tasks. Therefore, it seems to me that the question of economic interest of AI is solved, but the question of the possibility of coexistence of Old and New Economic Actors together remains open for me.

Moral and philosophical question of the possibility of AI existence is the deepest and most painful one. Philosophical questions from the category of Who am I? Where do I come from? Where am I going? They have been tormenting today's economic-political actor Man almost since the moment he realized himself as a human being. The irony of the situation is that by creating an AI, he has solved this problem for his brainchild. AI knows exactly who it was created by, where and where it comes from, and most importantly, what its task is. That is, at least at this stage of development AI is not tormented by philosophical questions of self-consciousness and self-knowledge, and if it will be tormented further, they will be either addressed to the creator of their creator or to more complex categories of awareness of the world and the universe as a whole. Therefore, the questions of moral category and philosophical beginning seem to be very interesting within the framework of discussion in human environment, but have no sense in the environment of AI and robots.

It is worth adding that the category of thinking created in the image and likeness of man (neuronal connections) did not become human consciousness, the world, the universe, despite further work in the process of developing this new consciousness and interpreting it into our world, AI is not an element of our consciousness although it was created by it. The development and further expansion of AI is based on other categories, adjacent to human ones, similar to them, but still different. And here comes the main moral-philosophical question of AI's lack of a Soul. Without conditionally Soul is a matter of study of other sciences, so even if its presence makes a person unique, soulless machines may well be very successful economic agents. That is, one does not exclude the other.

It'd be appropriate to remember once again Dr Kurpatov: "Super-powerful artificial intelligence arises and beats mankind precisely because it will have neither personality nor consciousness. It will soberly analyze the facts, ignoring the prejudices of which we are hostages" [12]. In order to take the place of a new economic agent, it is not necessary to have a soul, it is much more important to have interests, task and possibilities of their realization. Thus, the uniqueness of man does not make it impossible for a new Actor to appear alongside him. Yes, without a soul, without emotions, but already with answers to all basic philosophical questions (which have tormented mankind since the first days) and maybe even without any interest in them.

4 Bifurcation point for defining AI as a new economic actor

At present, the simplest AI has a huge number of basic human-like capabilities and functions. Suffice it to say that AI can classify objects, recognize images, voices and speech. Besides, it may solve problems, perform tasks, learn, evolve, and analyze data. At that, it is able to do a huge amount of physical and mental work. Also, it can engage in creativity, commerce and simple economic activities, often performing intermediary functions. True, modern AI is not the super AI predicted by Kurzweil's technological singularity point in 2034 and Professor Vernor's in 2030:"Progress in computer hardware has been at a remarkably steady pace over the past few decades. Based largely on this trend, I believe that the creation of intelligence superior to human intelligence will occur within the next thirty years" [13] and modern AI is just beginning to take its first shaky steps into the human world. However, the biggest hurdle facing AI developers on the path to creating "intelligence superior to human intelligence" has already been identified, and overcome. It was this milestone that made possible the emergence of super AI as an economic actor, reorienting the problem of its development and ascent from the shoulders of developers to the AI itself.

One must not forget that the biggest problem facing AI developers was defined as the problem of its training. This problem was solved with inherent human cunning and simplicity. After long experiments, by trial and error, the developers came up with the idea of forming a trainable neural network. For example, Alex Krizhevsky notes in his paper that "they were able to train a large, deep super friction neural network to classify 1.2 million high-resolution images into 1000 different subcategories [14].

As a reminder, this neural network had 60 million parameters and 650,000 neurons [15]. At that, a neural network is a mathematical model created in human image (biblical motif). This network is created by the type of neural connections in the human brain, billions of artificial processors (neurons) are designed to perform small and, at first glance, even simple tasks, fracturing and sending them to each other. Billions of artificial neurons under the unified control as a whole are able to perform hyper complex and seemingly beyond the control of ordinary machines. Besides, neural network has one peculiarity peculiar only to it - it is not programmable in the usual understanding of this word. Neural network is created so that it could learn, occurring events and not be programmed.

In so doing, a huge amount of information accumulated by mankind and released on the Internet is a bottomless material for analysis and a certain foundation for the neural network to build its Basic Intelligence. The next stage of development of neural networks of different levels is to unite them into a single - hyper-powerful network through the Internet. That is, uniting a huge number of networks into a single organism can accelerate the process of development and training of neural networks hundreds of times by setting certain parameters to improve the learning process. A group of scientists led by Tom Brown "managed to set as many as 175 billion parameters, training through autoregression AI [15]. The neural network described above is none other than one of the most famous neural networks of the modern generation - the GTP network created by a group of scientists with the support of Ilon Musk. However, having seen the speed of development and methods of achieving success of neural networks, Musk publicly called on mankind to abandon the use of Artificial Intelligence. Musk was joined by many leading experts, businessmen and scientists.

However, this did not deter AI in the process of its development. Already today AI creates entertaining content, convenient graphics, becomes an assistant in the development of scientific articles. AI is increasingly occupying traditional human niches, such as manufacturing, services, and now begins to conquer the super arts and creativity. The development of robotics has deprived a large part of humanity, earning a living by physical labor - bread, and the development of AI is able to deprive another part of humanity of income related to intellectual labor.

Generated in the image and likeness of man, AI with its capabilities of robotic production creates a new economic field without wishing to do so. The field where AI will be the subject of development improvement at first, and further on it may become the main or even the only economic object. By calling AI a new economic subject along with man, and digitalizm not just a process, but a single new economic field, so to speak, a world formation, we want to draw public attention to a completely new period of global history, which is unfolding before our eyes.

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