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## A New Management Paradigm in the Digital Economy

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### ABSTRACT

The aim of this study was to identify the key focal points in the formation of a new management paradigm amid the exponential growth of digital technologies and the digital economy. The primary objectives included determining the conditions, development directions, levels, and contradictions of the emerging paradigm. This research employed general scientific methods such as analysis, synthesis, and grouping. A review of existing theoretical and practical studies on new management principles and managerial thinking was conducted, using a rhizomatic approach to identify trends and connections, as well as alternative structuring through a development matrix based on various focal points. The study revealed that development trends are multidirectional, societal changes occur asynchronously and in a differentiated manner, and their effects can be both positive and negative. In an era of high turbulence and exponential growth, localized patterns and models emerge instead of universally accepted ones, making flexible management and systems thinking crucial. The findings suggest that rather than establishing a rigid management paradigm, decision-makers at all levels should navigate a turbulent environment by employing different focal points. The proposed management development matrix serves as a tool for fostering systemic thinking among leaders, allowing them to consider existing contradictions and prioritize values. The scientific novelty of this study lies in the application of contemporary approaches for systematizing current trends, drawing on post-structuralist philosophy and alternative cognitive tools. These results may be useful for managers at all levels, professionals in corporate development sectors, government administration, and researchers. **Keywords:** management paradigm; algorithmic management; business models; ecosystems; managerial thinking; rhizomatic assemblages; flexible management

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## INTRODUCTION

Surveys related to the necessity of finding and using new management approaches, which are caused, in particular, by the rapid development of the digital economy, are not only relevant but sometimes “painful” for companies, regions, and even individual people. At the same time, deep-rooted problems related to the change of value orientations and the formation of a new mindset reveal diametrically opposed views on global processes occurring in society. All this indicates the need to form a new worldview — a “paradigm” of management, to use T. Kuhn’s terminology.<sup>1</sup>

The management paradigm can also be viewed as part of ideology, under which D. North understands subjective models of perception of the surrounding world within the framework of institutional economics [1]. In this context, ideology and shifts in the structure of relative prices are the main sources of institutional changes. Technological progress and the associated digital transformation of the economy, the formation of new markets, and population growth, leading to relative price changes, make previous forms of interaction (both organizational and institutional) unprofitable. According to North, the change in the perception model is also subject to economic factors, as the more profitable opportunities are blocked by a subjective worldview, the stronger the incentives to change it.

The digital component of the modern economy inevitably has a radical impact on management methods, if only because its subjects and objects, as well as the environment, have changed significantly. Thus, according to Rosstat, the number of fixed and mobile Internet access subscribers per 100 people (aged 15 and older) increased from 12.2 and 47.8 to 25.1 and 115.9 subscribers, respectively, from 2011 to 2023.<sup>2</sup> According to the

International Telecommunication Union (ITU), in 2023, 5.4 billion people (67% of the world’s population) used the Internet, whereas in 2005, this figure was at 1 billion (16% of the world’s population).<sup>3</sup> The share of companies with their own websites in Russia increased to 46.5% in 2023, while the percentage of organizations that used electronic data exchange between their own and external information systems rose to 56%. An even more significant circumstance is that, according to Statista data in 2023, the largest companies in the world with a market capitalization of over 1 trillion dollars — Microsoft, Apple, NVIDIA, Alphabet (the parent company of Google), Amazon, Meta Platforms — are primarily part of the digital sector.<sup>4</sup> The only exception is Saudi Aramco (the National Oil Company of Saudi Arabia). Such corporations not only actively and successfully shape the new digital environment but also permanently participate in experiments to transform management approaches.

## RESEARCH METHODOLOGY

The analysis of recent papers on management theory and practice shows the presence of significant anomalies that contradict the paradigm, which was still “working” well at the beginning of the century, as well as a large number of new ideas and implemented technologies, as well as management principles. Despite the obvious modern trends, it is not possible to determine unified values, principles, and approaches to solving current tasks, to identify and clearly delineate the emerging new management paradigm. This is caused by a whole range of reasons, among which are significant asynchrony in the development of technologies, society, institutions, geographical and sectoral differentiation

<sup>1</sup> T. S. Kuhn is an American historian of science and philosopher, one of the leaders of the historical-evolutionary direction in the philosophy of science.

<sup>2</sup> Rosstat (official website). URL: <https://rosstat.gov.ru/statistics/infocommunity/publications/>

<sup>3</sup> Statistics. ITU. URL: <https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>

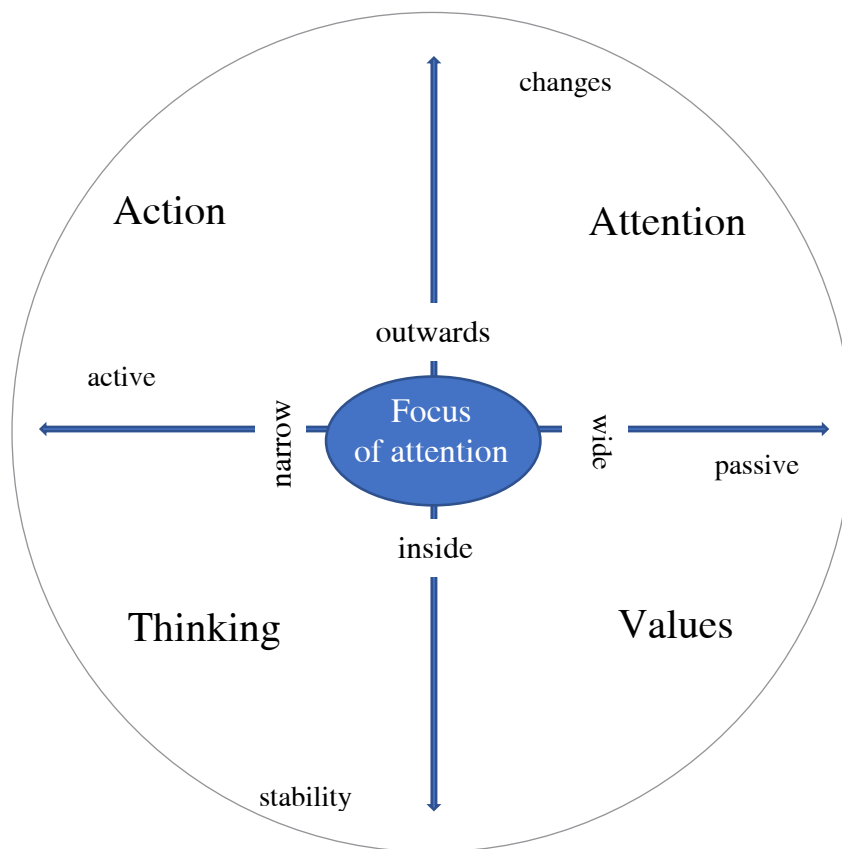
<sup>4</sup> The 100 largest companies in the world by market capitalization in 2023 (in billion U.S. dollars). Statista. URL: <https://www.statista.com/statistics/263264/top-companies-in-the-world-by-market-capitalization/>

of the processes of transforming industries and territories, as well as a low level of connections between the directions of technological improvement (including managerial) and the development of human society, the absence of a commonly accepted and shared ideology, and values.

Undoubtedly, attempts to outline the general contours of the emerging paradigm [2], as well as to identify new challenges for management in the 21st century, have already been made [3–6]. However, the observed trends often have non-obvious nonlinear connections and are sometimes contradictory, yet they coexist in management practice and are quite effective. To obtain a comprehensive picture — the so-called “disciplinary matrix of management”— we consider that a rhizomatic approach, formed within the framework of poststructuralism and postmodernism, can be used. G. Deleuze and F. Guattari oppose the rhi-

zome to a tree-like, hierarchical structure, as it has neither an end, nor a beginning, nor a centering principle [7]. Interpretation in rhizomatic research allows for a non-hierarchical multitude of entry and exit points. The rhizome consists of lines of flight (along which movement occurs), and their connections form a temporary zone of stability.

For visual representation and structuring of the new vision in management, classic pyramidal forms, Ishikawa cause-and-effect diagrams, or flowcharts are not suitable. In a rhizomatic approach, it is more convenient, in our opinion, to use an alternative tool — the coach’s compass or development matrix. The focus of attention in it varies from narrow to broad, outward and inward. Thus, four sectors can be distinguished: a broad outward focus can conditionally be called “Attention”, inward — “Values”; a narrow inward focus — “Thinking”, outward — “Action” (see *Figure*).



*Fig. The matrix of management paradigm development*

Source: Compiled by the author.

## RESEARCH RESULTS

ATTENTION. A broad external focus from a management perspective addresses the conditions and trends that influence changes in theory and practice. The most significant factor has been technological changes attributed to the sixth technological paradigm or “Industry 4.0”, the latter being a popular term (including in academic circles) that gained wide recognition thanks to a German public-private program.<sup>5</sup> At the core of the Fourth Industrial Revolution, according to a number of scholars and practitioners, are data in digital form, which are becoming a new source of value. In turn, key technologies that serve as a source of innovative impulse are formed through the operations of collecting, transmitting, processing, and storing digital information [8]. Such technologies include: the industrial Internet of Things (IoT); fifth-generation internet communication (5G); quantum data transmission; big data; artificial intelligence (AI); quantum computing; and distributed ledger systems (Blockchain).

A significant difference between the aforementioned digital technologies and others, including those that became the core of previous technological structures, is the speed of dissemination and transformational impact on all other spheres, which is often characterized as exponential. The part of the economy associated with digital data, identified as the “digital economy”, is developing at the same pace. Scholars and practitioners define this concept in both narrow and broad senses; however, there is no consistency in the content of these two contextual meanings.

Nevertheless, the foundation of the digital economy lies in the Internet and related tech-

nologies, which are shaping new principles of organizing the economic system, business (increasing the efficiency of business processes), society, and even simultaneously transforming human consciousness. Initially, the digital economy emerged in response to the challenge associated with the growth of economic activity, population, and, consequently, the need for the economical use of all types of resources [9].

The evolution of the digital economy since the late 20<sup>th</sup> century is characterized by a series of stages [4]. At each of these stages, new challenges arise, which, overlapping with one another, give rise to profound transformations in the economic system. These include changes in the role of IT (from a tool for optimization and automation to a source of innovation); shifts in consumer behavior (including the mobile and sharing economy, on-demand economy, and high-tech gift economy); increased liquidity of data; monetization of algorithms; and a focus on business models that, through transformation, lead to the emergence of digital platforms and digital ecosystems.

The latter concept is also interpreted differently. E. Chang and M. West interpret the digital ecosystem most broadly (by analogy with its definition in biology) [10]. They describe it as an open self-organizing environment of agents, weakly connected, clustering by domains, and demand-oriented; each type of which is proactive and acts for its own benefit. The digital ecosystem includes biological, economic, and digital agents, as well as technologies and services. The self-organization of agents to solve problems without centralized control is a trend that also reflects the relevance of the rhizomatic approach.

The most important characteristic and challenge of the digital economy is the turbulence of the digital environment, which is expressed in high complexity, dynamism, and uncertainty. It has arisen due to a whole range of factors, including insufficient understanding of the

<sup>5</sup> The term “Industry 4.0” (fourth industrial revolution) was popularized by Klaus Schwab, based on the 2011 initiative of one of the projects of Germany’s national HI-Tech strategy, which describes the concept of smart manufacturing by 2020 based on the active implementation of cyber-physical systems in industry and subsequently in other areas of societal life.

nature of digital products and platforms, the maturity and infrastructural limitations of digital technologies, rapid changes in consumer behavior, the shortening of the life cycle of any innovations, cybersecurity issues, and more. Undoubtedly, the objectively changed pace and number of ongoing transformations, the increase in the level of uncertainty, as well as events and changes in other areas of social life, are forming a new worldview.

Over the past decade, the speed and multidirectionality of changes have prompted researchers from various fields to formulate a generalized descriptive model of the world, presented in the form of an acronym, and the resulting model has already been revised multiple times. Such a model reflects not so much the nature of what is happening as the peculiarities of human perception of reality. If before 2016 (or even before the COVID-19 pandemic) the world was already perceived as VUCA (Volatility, Uncertainty, Complexity, Ambiguity), later it began to be characterized as BANI (Brittle, Anxious, Nonlinear, Incomprehensible). There were also other options. In recent years, some Russian practitioners have introduced the terms SHIVA (Split, Horrible, Inconceivable, Vicious, and Arising) and TACI (Turbulent, Accidental, Chaotic, Inimical).<sup>6</sup>

As we can see, along with flexibility, speed, high technological advancement, economy, and customer orientation, the economy and the surrounding reality are characterized by a high level of uncertainty, non-linearity, psychological discomfort, instability, and the complexity of awareness and logical definition. At the same time, the sector of broad external focus can be attributed to the lag in the transformation of labor market institutions, upbringing, and education compared to the changes in the organizational structures of the economy.

<sup>6</sup> Life after BANI. The rise of new worlds. BITOBE Blog. URL: <https://blog.bitobe.ru/article/zhizn-posle-bani-voshod-novyh-mirov/>.

Labor relations have gone through stages such as the classic version of the industrial era, a multilateral format, then project-based work, self-employment, and ultimately “on-demand” employment, or gig work (temporary, often provided by digital platforms). However, the increase in labor productivity and business efficiency with new forms of labor relations is accompanied by social costs affecting individuals and society as a whole. This is due to the reduction and even absence of collective responsibility for the social welfare of workers in critical situations. At the same time, labor market institutions are inertial and oriented towards labor legislation norms developed mainly in the pre-digital era. Moreover, the change in technological paradigms and the rotation of generations in the economy are currently occurring asynchronously. All this leads to increased social tension [9].

The systems of education and upbringing require separate consideration, as well as very deep rethinking and restructuring. Currently, in many areas (particularly in the case of domestic systems), they are lagging behind in transformation. Nevertheless, the missing relevant elements of education and upbringing emerge sporadically in the rhizomatic temporal zone of stability, both due to the numerous opportunities provided by alternative sources of knowledge through the Internet and thanks to the actively developing and self-learning organizations, as well as the emergence of the lifelong learning trend, which is supported at the individual level.

Also, the broad external focus in studying the management paradigm touches upon the environmental aspect, or rather the crisis. It is worth noting that many efforts declared in light of sustainable development principles, such as the implementation of the “green growth” strategy, which is supposed to allow GDP growth without an increase in greenhouse gas emissions, have not led to the desired results in



the developed countries following this agenda. This conclusion was reached by scientists who found that the slight reduction in emissions, called “green growth”, is a lie [11]. Another trend, which serves as some compensation for ineffective state and supranational activities, is related to the spread of the trend towards eco-friendly consumer behavior.

**VALUES.** Let’s consider the broad internal focus in the “Values” sector. In our opinion, the main value dilemma at present lies in the priority choice between human and algorithm. For management, the most important thing is the representation of the company within which management functions are carried out. If previously the most comprehensive metaphors for it were “machine”, “organism”, “brain”, now the most relevant one is “algorithm” [12]. There is also a slightly different interpretation of the organization — through the mechanical, biological, and finally, social model of a multi-intelligent system. [2].

If we prioritize a humanistic approach to management, it primarily pertains to the main value — people and the company as a comfortable environment for personal development. The vision of the future organization by F. Laloux most closely aligns with this approach — he called it “teal”. Notably, this concept has developed in management practice, and various elements and principles of “teal organizations” are being implemented in corporate culture and strategy [13]. On the other hand, the emphasis on management effectiveness and the broad opportunities that have emerged in the era of Big Data and algorithmic decision-making allow for the use of the metaphor of an organization as an “algorithm”.

This relevant vision is based on the rhizomatic approach and represents the organization/management/activity as a kind of “assemblage” distributed across a network of socio-technical mechanisms, i.e., the interaction of various sets of data, decisions, procedures, and actors [12].

The complexity of making algorithmic decisions is also related to the fact that free will (i.e., the ability and possibility to influence events) is primarily characteristic of collectives (rather than individuals, algorithms, or data), and it can be realized by switching between several assemblies.

The management approach based on the dichotomy of “tree” and rhizomatic structures in an organization— “assembly”, where the first type is responsible for hierarchical connections and the second implies a non-hierarchical network, is becoming increasingly relevant as AI tools expand. In such a situation, in our opinion, the values embedded by algorithm creators are more important than ever, as algorithms, as parts of “assemblies”, provide stricter control aimed at maximizing utility and increasing employee productivity. In this process, the interests and value of each individual employee either take a back seat or are completely disregarded. According to one possible scenario (in the spirit of dystopias), when algorithms are created by AI and the concept of responsibility becomes blurred, it may turn out that human society will face degradation and collapse, as the variability of algorithms is limited by the lack of irrational flexibility in human value choices.

In the sector of awareness or “Values”, it is worth considering those that are not only declared in society but also truly serve as activators of ongoing processes. For example, during the pandemic, V. Mau wrote: “Solidarity and trust are the key value orientations of the new era, defining a new paradigm of human social life” [14]. However, the current development of events, with the escalation of various levels of conflicts, including on the international stage, shows a sharp confrontation of values in the developing digital age society.

**THINKING.** Let’s move on to the internal narrow focus — the “Thinking” sector, which is also characterized by a diversity of trends. The transition from analytical thinking to holistic

thinking, which can help shape a vision in an unstable and anxious era (whether VUCA, BANI, or even SHIVA), has allowed for the formation of a lean production system, the development of culture, and corporate values. The tool for holistic perception of the company becomes the use of a business model, which helps navigate the real market situation and respond flexibly to changes [2].

Such thinking is also proposed to be developed to the level of understanding and measuring the value created by the organization for all stakeholders. In addition to the existence of a gift economy, including a high-tech one (Hi-Tech Gift Economy), there are several commercial companies (such as Google, Airbnb) that create much greater value for society as a whole than for their owners or shareholders.

The mindset in the field of labor organization is also undergoing radical changes. Even at the end of the 20<sup>th</sup> century, P. Drucker wrote that many employees of an organization are no longer employees in the traditional sense: they do not work full-time, know more than other employees in their field, exhibit significant mobility, and have considerable non-monetary motivation, and therefore need to be managed as “partners” [3]. Such equality makes management more akin to “marketing activity” rather than “administration”. The further transformation of the economy and thinking with the emergence of the platform model is interesting. As noted by D. Stark and I. Pais, the market regime is a contract, hierarchy is command, networks are cooperation, and the platform regime is cooptation [15]. The process of cooptation in relation to platforms has a very peculiar nature – nominally independent contractors ultimately come to a new form of dependence.

There are also other interesting trends in the field of “Thinking”. Market and political criteria for filtering search engines, the ambiguity of the right to anonymity in the

Internet space have given rise to various forms of anti-digital alarmism. The discussion about “digital slavery”, the feasibility of informatization, as well as the difficulties of implementing effective management in the digital age, according to researchers, are related to the lack of a universally accepted ideology of the information society. Existing quite effective models for training managers and convenient software products do not solve the problem of the unpreparedness of modern social sciences to offer a value-conceptual basis for developing algorithms for managing economic and social processes both in a comprehensive manner and at individual levels and directions.

A critical view of the digital component of human existence [16], in particular, shows that digitized elements of human life turn the individual into a form of capital, both financial and speculative in nature [17]. This well-noted trend leads to an exacerbation of feelings of guilt, insecurity, and increased anxiety among people.

In the “Thinking” sector, there is a vast field for discussing development vectors. Take, for example, the issue of evaluating a company’s efficiency or success. Previously, organizational efficiency was assessed in terms of the ratio of results to costs (indicators such as financial, R&D, or product-related were used), but recently it has increasingly been proposed to define it through the relationship between results and goals. After all, success is achieving goals, which are now suggested to be structured into a system dependent on the type of organization, a wide range of stakeholders (not just shareholders), and increased interest in environmental and social factors. At the same time, comparing the performance of different companies without considering the specifics of their goals makes no sense. A deep analysis of success based on goal achievement should encompass micro-, meso-, macro-, and chrono-contextual factors, as well as specific target

indicators set by the organization and individuals [18].

The complexity and diversity of what is happening in the external management environment, partially discussed in the “Attention” section, necessitate the development of strategic systemic thinking in managers. This is important for reliable business environment analysis and long-term strategy development, especially given the relevance of data distortion issues.

**ACTION.** The “Action” sector of the management development matrix represents the concrete implementation of management functions. First of all, it should be noted that the term “digital management” is encountered in modern research, i.e., digitalization should allow for the calculation of management decisions. Such calculations for forming strategies and action plans can be done even today; however, this practice is not widely adopted for a number of reasons. There are quite a few programs that allow for the control and planning of various processes, such as CRM, ERP, PLM, SCM, BPM, etc., however, most of them are essentially informational, allowing for the organization of primary data collection. The mere presence of a large amount of data does not guarantee the making of an adequate decision. Moreover, the abundance of information arrays available thanks to modern technologies does not mean that there is actually the necessary information for making managerial decisions.

Some researchers propose developing a sufficiently complex mathematical model (reflecting the interconnections between resources, the behavior of corporate relationship participants, and the company’s performance outcomes [19]), which should increase the organization’s transparency for the manager and automate their work at the level of synthesizing simple management decisions. Unfortunately, information on how successfully the created model is being tested is not available. Nevertheless, in the

business sector, simulation modeling is already quite widespread [20]. The most in-demand tools in management are system dynamics, discrete, and agent-based modeling.

A particular interest lies in the transformation of management within the platform model of business organization. Engagement (or co-optation) is presented as a Möbius organizational principle, i.e., the use of assets and activities by platforms that are not part of the firm and represent a space that is neither inside nor outside [15]. Platforms utilize the physical and intangible assets of the attracted participants, having virtually none of their own, and also organize the work of nominally independent contractors (drivers, craftsmen, sellers, etc.). In this sense, users also become part of the platform to a certain extent.

In comparison with other forms of business, platforms are fundamentally different due to the specifics of algorithmic management — their managerial task is related to finding matches, and management and control are carried out through multilateral relationships, with the main subjects being platform owners, suppliers, and users. The former involves the latter two in solving managerial tasks, but without delegating authority to them. That is, their behavior is algorithmically translated through ratings via intricate three-sided feedback loops to achieve certain results.

Algorithmic governance is a source of non-bureaucratic control that is decentralized and distributed. At the same time, there is an asymmetry of power, where platform owners and investors in coalition with consumers dominate over the seller (worker). Moreover, the creation of uncertainty by platforms through instability and opacity (which constitutes a source of non-bureaucratic control and monopoly power) generates feelings of anxiety and vulnerability.

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In the “Actions” field, under the conditions of modern environmental and thinking trends, the following become strategically important: the implementation of relevant business models [21]; the construction of new ecosystems, and ultimately — systemic digital transformation, which implies the development and implementation of a growth strategy. Nevertheless, the development of generative artificial intelligence and, in particular, the release of ChatGPT Open AI<sup>7</sup> in the fall of 2022 (a “super-disruptor”, i.e., one that disrupts established rules not only in one industry but across all others) further accelerates speeds, presents new challenges, and, alongside colossal opportunities, brings threats and real problems.

Serious issues related to the need for regulating artificial intelligence require consideration and are actively discussed at the level of developers, business leaders, governments, and various associations [22]. For a specific organization, waiting for the formation of a legislative framework affecting this area is impractical. Therefore, there is an opinion that it is necessary to develop its own evaluation standards for purchasing trustworthy AI products and services.

Ambiguous, controversial, and complex aspects in the “Action” sector concern the requirements, competencies, and training system for managers.

On the one hand, in addition to the need to meet the requirements associated with the

implementation of traditional professional functions of these specialists, it is necessary to develop online communication competencies and related skills for managing remote employees and utilizing gig employment. Entrepreneurial abilities, which help to respond flexibly to environmental turbulence, as well as competencies in the field of digital technologies, from data handling to a systemic vision in the area of digitalization of production processes, are becoming relevant [2]. To all of the above, it should be added that staff, in general, are recommended to maintain a high level of their physical, mental, and emotional well-being, develop systemic and strategic thinking, communication skills, and the ability to act in stressful situations. At the same time, the manager should constantly develop themselves and support the creative and critical thinking of employees [23].

On the other hand, how can we ensure the training of such highly qualified managers? Knowledge of management, engineering, information technology, psychology, and other applied fields is necessary here. Moreover, given the high turbulence and the reduction in the time available for making managerial decisions, traditional training for managers (i.e., acquiring decision-making skills after meticulous analysis of available data) is unproductive [4]. Furthermore, the technological capabilities and the pace of generative AI dissemination will lead to a significant reduction in the economy’s need for a number of professions (and jobs), including managerial positions, in the near future.

If earlier the direction of scientific management was shaped by industrial engineers, and later marketers and partially HR specialists had significant weight, now software engineers and big data specialists play a special role. Researchers note that managers cannot guarantee a certain effectiveness of digital technologies, as there are currently no standards and bodies of knowledge to help managers understand

<sup>7</sup> ChatGPT Open AI — a chatbot with generative artificial intelligence developed by OpenAI. ChatGPT Open AI is a chatbot with generative artificial intelligence developed by OpenAI. It is capable of operating in dialogue mode and handling requests in natural languages.

the potential of these technologies [24]. Thus, the majority of international ISO standards in this area are developed for IT specialists. In this situation, it is proposed to identify the key areas for which management will be responsible in a specific company and to develop a set of knowledge and standards for their development. Such areas have been identified, for example, by the international consulting firm McKinsey. This includes data management, process automation, relevant flexible internal infrastructure, advanced analytics, decision-making automation, intelligent visualization and interfaces, external ecosystem, organizational culture, and HR policies focused on digital competencies and employee flexibility.

Against the backdrop of the reduction of many job positions [25], recommendations are emerging to help ensure career prospects in the era of artificial intelligence [26], such as avoiding predictability, since AI cannot generate entirely new ideas. It's more of a forecasting mechanism based on the highest probability and popularity. It is also necessary to hone the skills that machines strive to emulate, and here genuine emotions and creativity take precedence, along with a focus on the diminishing volume of communication in the real (not virtual) world. Developing a personal brand and striving for the highest professional echelon is necessary because AI tools can destroy both the lower and upper segments of the market in many professions. It is important to become an expert of such a level that you have the authority to verify answers generated by artificial intelligence.

All the above-mentioned current and prospective requirements for personnel (including managers) necessitate the continuous engagement of representatives from various helping professions. This raises numerous questions about the feasibility, sufficiency, and necessity of the non-stop process of improvement and training. As is well known, the capabili-

ties of the human body, intellectual, and emotional components as a whole do not expand at the same pace as the development of the digital economy. As a result, the syndrome of "burnout" emerges and spreads widely, leading to decreased efficiency, layoffs, and possibly downshifting. Even within companies, certain trends of slowdown are emerging. Thus, in the analytical reports of the research and consulting company Gartner, which specializes in IT markets, the expression "IT directors' fatigue from changes" has appeared. This state leads to resistance to constant changes and a growing "pessimism among IT technology buyers".<sup>8</sup>

Despite the rhizomatic nature of existing trends, a scientific approach requires the creation of a certain model, systematization (even if temporary), and formulation of conclusions. The urgent need for the formation of new thinking also arises among practitioners. For example, according to hh.ru (the largest Russian internet recruitment company), with the approaching moderate competition for jobs in the average market, the hh.index (the ratio of the average number of active resumes to the average number of active vacancies) for the category of senior and middle management was 19.9 in October 2024.<sup>9</sup> This indicates an extremely high level of competition for jobs in this market, i.e., the level of requirements for managerial competencies will increase. At the same time, research by Accenture (a global company specializing in IT services and management consulting), which included a survey of 3,450 senior executives across 21 industries in 20

<sup>8</sup> Gartner Identifies Top Trends Impacting Technology Providers in 2024. February 5, 2024 URL: <https://www.gartner.com/en/newsroom/press-releases/2024-02-05-gartner-identifies-top-trends-impacting-technology-providers-in-2024>. Gartner Forecasts Worldwide IT Spending to Grow 6.8% in 2024. January 17, 2024 URL: <https://www.gartner.com/en/newsroom/press-releases/01-17-2024-gartner-forecasts-worldwide-it-spending-to-grow-six-point-eight-percent-in-2024>

<sup>9</sup> Brief overview of the labor market. Hh.ru URL: <https://hhcdn.ru/icms/10322411.pdf>

countries in 2023, showed the following: 95% of executives believe that generative artificial intelligence will force their organizations to modernize their technological infrastructure, and 96% agree that the use of AI agents in ecosystems is a significant opportunity for their companies in the next three years.<sup>10</sup> All this indicates the urgent need for a radical change in management approaches and thinking.

The four areas of management development identified by us in this article “Attention”, “Action”, “Values”, and “Thinking” — have allowed us to focus on different levels of forming its new paradigm. Undoubtedly, the presented content of the matrix parts is not exhaustive — it is merely a foundation that can be used in further work.

The resulting picture can be interpreted differently by each researcher. Let's present our vision:

the coexistence of different, sometimes contradictory, trends in each sector of the development matrix. For example, on one hand, the exponential speed of development of digital technologies and new organizational forms of the economy, and on the other hand, the increase in tension (individual, social, and international); the lag in the transformation of labor, upbringing, and education institutions. Or the increase in production volumes and simultaneously the deterioration of the environment. The conflict of values between the complex, convenient, and fail-safe algorithm of organization and the irrational flexibility of human values. In the formation of thinking through the business model, the increase in the independence of organizational elements, the capitalization of digitized components of reality, the trend of increasing dependence on algorithm-creating platforms, and the urgent need for the development of strategic systemic thinking come into play. A wide range of new requirements for the formation of managerial competencies and relevant management tasks

coexist with trends of decreasing demand for managers and professional “burnout”.

it is time to transition from analysis that helps model reality within individual fields/sciences to the integration of various areas, including economics, psychology, sociology, management, production organization, philosophy, computer science, data science, and others;

for research and practical management tasks, there is no current need to build fundamental systems and models, but there is a task of maneuvering based on available capabilities, technologies, data, specific temporal conditions, and individuals — rhizomatic mobile (flexible) management;

the author's opinion in the study is that a new management paradigm does not exist as such — there is a permanent process of transformation and the search for an optimal and relevant management system that adapts to prevailing values, digital capabilities, and constant turbulence.

## CONCLUSION

The conclusions presented below are more about not the directions of the development of the management paradigm, but they help the organization and the individual making management decisions in the era of the digital economy to orient themselves. In our opinion, when forming organizational culture and business models, it is more important to place the person at the center of the development matrix and the deep focus of attention. Then the potential collapse of technologies driven by algorithms will not be destructive from the perspective of the system of set goals. At the same time, it is worth perceiving the person as an element of an ecosystem much larger in scale than the digital one.

Overcoming crisis and conflict phenomena at both local and international levels, where digital technologies are also applied, is possible only through spiritual and cultural development, through the lens of values. The rhizomatic matrix (at any level of focus) allows one to choose

<sup>10</sup> Technology Vision 2024. URL: <https://www.accenture.com/us-en/insights/technology/technology-trends-2024>

the appropriate option from the multitude of existing ones. The more diverse and frequent the choices, the easier it is for a person or company to find what contributes to the maximum satisfaction of the need for self-realization and allows the organization to achieve its goals — of various levels, not just financial.

Researchers can further supplement and structure the management development matrix. It can serve as a “compass” for managers at any level, allowing them to focus on the necessary directions during strategic choices or operational management decisions, keeping in mind the interconnectedness of all attention

focuses. When a broad focus allows navigating the external environment and basic values (personal and company-wide), a narrow internal focus presents options for building algorithms, models, and their modifications, while a narrow external focus concentrates on specific actions and continuous practice.

Creating decision-making tools based on the proposed matrix requires flexible technology development for each management entity, and comparing the results (both considering the proposed focuses and without taking them into account) will allow for the evaluation of the recommendations’ effectiveness.

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