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THE EVOLUTION OF PROFESSIONAL ROLES IN THE AGE OF GENERATIVE AI

ЕВОЛЮЦІЯ ПРОФЕСІЙНИХ РОЛЕЙ У ДОБУ ГЕНЕРАТИВНОГО AI

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Abstract. *The article on the study of the evolution of professional roles in the era of generative artificial intelligence is devoted to the analysis of artificial intelligence tools and their impact on various aspects of professional activity in the conditions of the modern labor market. The purpose of the article is to scientifically understand the evolutionary processes and professional roles in the era of generative artificial intelligence, taking into account the transformation of the labor market, the disappearance of traditional specialties and the emergence of new hybrid professions. To achieve the set goal, the scientific research uses general scientific methods of cognition, in particular, critical analysis of literature, information synthesis, generalization, a systematic approach and comparison, which allows us to clearly determine how people's professional activities have evolved under the influence of artificial intelligence. The results of the study showed that the use of artificial intelligence is gradually moving from the status of an auxiliary tool to the level of a full-fledged participant in work processes, and this trend is observed in almost all industries. It has been proven that large language models, graphic generators and software support systems not only optimize the performance of routine tasks, but also generate new ideas, which leads to significant changes in the structure of intellectual work and expands the capabilities of specialists in various fields. At the same time, it is concluded that artificial intelligence affects the shift in the emphasis of professional activity: from standardized work to more creative and strategically oriented tasks. At the same time, routine and standardized work is almost completely replaced by automated systems, which changes the requirements for personnel. If at the previous stages such tasks were performed by specialists of lower qualification level, today they are performed automatically, faster and better thanks to the use of artificial intelligence. Thus, professions aimed at collecting, systematizing and integrating information created by artificial intelligence into a new innovative product with less time and financial costs are in demand on the labor market. The practical significance of the study lies in determining the vectors of adaptation of specialists to new working conditions and in forming guidelines for educational programs that prepare specialists to work in conditions of technological transformation.*

Keywords: *generative AI, professions, transformation, labor market, innovation*

Problem statement.

Modern times are characterized by a technological revolution, as a result of which the labor market is undergoing radical transformations, which necessitates its constant reformatting. If earlier labor market transformations were caused by the development of agricultural enterprises, today, under the influence of generative artificial intelligence, the main requests concern not so much the automation of routine

processes as labor activity, which involves creative reinforcement. It is creativity that becomes a key factor in changes that affect both the structure of employment and the nature of professional activity.

There is no doubt that the demand for routine work still exists today, but it is limited to a small number of professions where AI is not fully integrated. At the same time, a significant number of professions based on standardized or mechanical tasks are disappearing, mainly in the office sector.

In such conditions, specialists must constantly learn, and training should be driven not only by individual needs, but also by the need to maintain competitiveness in the labor market. First of all, it should be associated with mastering the skills of digitalization and the use of artificial intelligence, which allows you to perform work faster, better and with lower financial costs.

Analysis of recent scientific publications and research.

The issue of using artificial intelligence in various areas of professional activity has been studied quite widely in scientific literature today. Particularly significant attention is paid to this area in foreign and expert works, although research is gradually beginning to appear among domestic scientists. However, to study the evolution of professional roles in the era of generative artificial intelligence, this study relies largely on foreign scientific and expert sources.

Among the key publications, it is worth highlighting the analysis by K. Georgieva [1], which examines the macroeconomic impact of artificial intelligence and emphasizes the need for global cooperation for a fair distribution of benefits . Also important is the study by International Labor Organization [4], which shows that generative artificial intelligence, rather than completely replacing existing professional functions, enhances them. The socio-economic consequences of transformations, in particular for American workers, are analyzed by M. Kinder , X. de Souza Briggs , M. Muro and S. Liu [5].

Technical aspects of the development of modeling are highlighted by H. Han et al. [2], who investigate the increase in confidence in the responses of large language models, which directly affects professional practices associated with the use of

generative systems. In turn, T. Hatton , E. Magrini and R. Milde [3], based on data from 2025, demonstrate the formation of new professional niches under the influence of artificial intelligence.

From a practical point of view, N. Muscavage [6] draws attention to the emergence of new specialties, in particular such as prompt engineer , which indicates the formation of fundamentally new professional roles. Also important are the studies of S. Palani and G. Ramos [8], which focus on the transformation of creative professions and changes in work processes in the field of art. In addition, A. Ziegler and colleagues [10] empirically prove that tools like GitHub Copilot significantly impacts productivity, creating new standards of efficiency for professional communities.

To expand the research, expert literature from leading online publications, including Financial Times , Brookings , and IMF Blog , which highlight current aspects of the application of generative artificial intelligence in the global economy and professional sphere.

Thus, despite a wide range of scientific and expert works, there is a lack of systematic material that integrates the technical, socio-economic and cultural dimensions of the transformation of professional roles. That is why this study analyzed, grouped and systematized various sources in the context of the research topic.

The purpose of the article is to scientifically understand the evolution of professional roles in the era of generative artificial intelligence, taking into account the transformation of the labor market, the disappearance of traditional specialties and the emergence of new hybrid professions. The task of the study is to identify general trends in the application of AI in various professional areas, outline specific professions that are losing relevance or disappearing due to automation, as well as analyze the emergence of new roles that are formed at the intersection of technical, managerial and creative competencies.

Presentation of the main material.

Today, the world is witnessing a rapid spread of artificial intelligence tools. The most popular include big language models, including ChatGPT , graphical generators

like DALL·E, and coding support systems like GitHub Copilot . These technologies are capable of changing the way work is organized. They develop creativity, perform automated work, provide rapid receipt of material and data analysis. Moreover, they generate new ideas, contribute to the generalization of information and create alternative options for making management decisions.

The problem of using artificial intelligence in the labor market has long been noticed by international organizations. It has been identified as one of the key ones, as it is capable of radically reforming the employment sector. Table 1 shows which professions AI poses risks and even threats to.

Table 1 – Transformational changes in professions under the influence

Already disappeared (replaced by AI)	In line (risk of reduction)	Transformed (preserved but changed)
Technical copywriters for standard texts (product descriptions, simple help)	Assistants for basic administrative tasks (data compilation, report preparation)	Designers (AI generates sketches, and a human manages the style and concept)
Graphic illustrators of simple banners and visuals for social media	Entry-level journalists who create short news stories without analytics	Architects (AI suggests options, but the person forms the concept)
Junior programmers who wrote boilerplate code	Translators of general purpose texts	Journalists-analysts, writers (the person retains the role of the main ideatator)
Interview decoders and compilers without analytics	Basic technical documentation specialists	Mid-level and high-level programmers (AI performs routine tasks, human controls logic and quality)

Source: systematized by the author based on sources [4,5]

According to the Organization for Economic Cooperation and Development [7], in regions with a high concentration of innovative technologies, the impact of AI is most noticeable. It is here that new specializations are emerging, focused on the management, control and implementation of AI. These are artificial intelligence management managers or managers who use AI to make decisions and optimize production processes, including relying on collective consultations. Data from the US Bureau of Labor Statistics [9] confirm that employment forecasts take into account the impact of AI as a separate factor. The greatest demand is for those professions that are able to integrate technologies into business processes. This applies not only to

specialists in the technical field, but also to related fields. In particular, new-level specialists will combine different roles. These may be engineers who create the infrastructure for models, as well as editors who develop and control texts for management systems, combining this activity with curatorial tasks. The International Monetary Fund also emphasizes that artificial intelligence will be important not only for performing technical tasks. The emphasis is placed primarily on its significance in management and regulatory processes. As K. Georgieva notes [1], in the future, professions that are able to combine technological expertise with ethical norms and data security requirements will become particularly important.

It becomes clear that the functions of models and business processes are expanding. AI is no longer just a "digital notepad" or an "encyclopedia." It has replaced search engines and is now perceived as an analyst, a forecaster, capable of suggesting new approaches, sometimes ones that a person would not have come up with on their own.

As observations show, creative professionals who understand the specifics of AI work well are able to correctly formulate requests and delegate tasks. As a result, they receive solutions that have no analogues. This means that designers, journalists, architects and other specialists will not lose their jobs. On the contrary, by improving their qualifications and using the capabilities of AI, they strengthen the innovativeness of industries and contribute to the development of the economy [8] .

A similar dynamic is observed in the programming field. According to the conclusions of A. Ziegler and colleagues [10], GitHub Copilot no longer performs the role of a code prompter, but is integrated as a full-fledged participant in the workflow. AI in this area takes on the task of writing template blocks of code, automating repetitive tasks, accelerating the process of checking possible solutions and eliminating routine obstacles. As a result, programmers are able to focus on higher levels of design - the architecture of software systems, optimizing logic and developing creative aspects. The role of a person is increasingly shifting towards critical evaluation, quality control and improvement of the results proposed by the model [10].

A study by Han et al. [2] showed that not all professions can be replaced by

generative AI. In particular, when more than 200 thousand anonymous user dialogues with Bing Copilot were analyzed, the results showed a heterogeneous impact of language models on different types of professional activities. The generalized indicators are presented in Table 2.

Table 2 - Main SOC occupational groups by suitability for AI applications

Main group of professions	Task coverage	Execution success	Breadth of functions	Integral indicator	Employment (persons, USA)
Sales and related areas	0.56	0.89	0.51	0.32	13,266,370
Computer Science and Mathematics	0.64	0.86	0.48	0.30	5,177,390
Administrative support	0.56	0.89	0.49	0.29	18,163,760
Community and social services	0.51	0.88	0.44	0.25	2,216,930
Art, design, media	0.59	0.80	0.49	0.25	2,039,830
Medical support	0.13	0.90	0.38	0.05	7,063,540

Source: systematized by the author based on sources [2]

The data in Table 2 show that the greatest level of influence of generative AI is observed in the field of sales. It is here that Copilot demonstrated an integral indicator of 0.32. This means that about 32% of tasks in this area are potentially amenable to automation. The sector employs more than 13 million people, and a significant part of them may soon face a change in the nature of their work. In computer science and mathematics, the integral indicator is 0.30, that is, almost 30% of tasks can be performed by generative AI. The total number of employees here exceeds 5 million. This is an industry where algorithmization is particularly noticeable, since most of the tasks are of a formal nature. Administrative support turned out to be another vulnerable area. Its integral assessment is 0.29, that is, almost 29% of functions are amenable to automation. At the same time, the number of employees is the largest — over 18 million people. That is why the risks for this group are the highest. For public and social services, as well as for the arts and media, the figure is 0.25, meaning a quarter of tasks can be performed with the help of AI. This is not critical, but still indicates changes in the structure of work. If in sales AI replaces routine, here it is rather changing the creative and communication components.

The lowest rate is recorded in medical support — only 0.05, or about 5%. Despite more than 7 million employees, automation is practically impossible here. The reason is the dominance of the human factor , physical interaction, and ethical responsibility.

The analysis of the use of artificial intelligence in professional groups revealed another important detail: the actual application of Copilot turns out to be different for individual activities. The relevant data is presented in Table 3 .

Table 3. Using Copilot in performing generalized work activities

Type of activity	Share in AI usage (Copilot)	Share in the structure of the US economy
Obtaining information	~0.38	~0.05
Communication with people outside the organization	~0.15	~0.06
Working with the public	~0.12	~0.05
Documenting and recording information	~0.10	~0.04
Creative thinking	~0.08	~0.03
Physical and mechanical tasks	<0.02	>0.10

Source: developed by the author

According to Table 3, it can be seen that artificial intelligence is most often used for information retrieval, where the share of Copilot use reaches almost 40% of all tasks, compared to only 5% in the structure of the US economy. This means that in cognitively intensive activities, such as scientific research or journalism, language models play the role of a powerful accelerator of work. A similar situation is characteristic of communication outside the organization and direct work with the public, where the use of AI exceeds the actual share of these tasks in the national economy. At the same time, the ratio is opposite for physical and mechanical work: in the structure of the economy they occupy more than ten percent, while the use of Copilot is less than two percent. This indicates that in the areas of physical labor, language models are not able to effectively compete with humans, and such activities remain irreplaceable. Thus, the results confirm: generative artificial intelligence today is more likely to change the nature of professional tasks in cognitive areas than to completely replace human labor [2]

Given that a significant part of traditional professions is gradually losing relevance due to the automation of routine tasks, some roles are disappearing and new

ones are emerging, related to the integration of generative artificial intelligence into work processes. Today, employers are increasingly looking not only for classic programmers or analysts, but for specialists who are able to combine technical skills with knowledge of regulatory requirements, business logic and creative approaches. This is how new hybrid roles are formed.

On the one hand, there is a noticeable demand for AI engineers who focus on designing, implementing, and safely adapting models. On the other hand, there is a growing role for AI editors who are able to improve texts, check them, adapt them to the necessary requests, and make them more efficient and focused [3]. AI curators are not just able to select, but also to structure data. They align the results of AI-based models with business requirements or customer requests. These roles are becoming closely intertwined. On the one hand, engineers can create tools, and on the other, editors can ensure the quality of the output product, leaving the verification role to curators. All this together indicates that artificial intelligence is capable of shaping a new labor market, where managerial and communicative competencies are of the greatest importance. [6].

Table 4 New hybrid professions in the age of generative AI

Profession	Description
AI engineer	Develops and integrates generative models, is responsible for their optimization, scalability, and security in business processes.
AI editor	Edits and improves AI-generated content, ensuring quality, style, and compliance with professional standards.
AI curator	Selects, structures, and adapts the results of model work for further use in the company or team.
Prompt Engineer	Formulates effective queries (prompts) to models to obtain relevant and accurate results.
AI Risk & Governance Specialist	Controls the risks of using AI, compliance with ethical norms and legal requirements, and eliminates algorithmic bias.
Model Validator / QA Specialist	Checks the accuracy, reliability, and lack of bias in the performance of models before using them.
AI Security Specialist	Protects data and AI infrastructure from attacks and malicious use, is responsible for cybersecurity.
AI Trainer / Feedback Engineer	Improves the quality of models through feedback, trains them on new examples, and corrects errors.
Responsible AI Officer / AI Ethicist	Develops standards for transparency and ethics in the use of AI, monitors responsibility and social impact.

Source: systematized by the author based on sources [3,6]

Given that some traditional professions are being displaced by generative artificial intelligence, the labor market is responding with the emergence of new demands related to work directly in the field of AI. This process is not local - it is observed both in the USA and in Europe, and even in developing countries. It covers many industries: from IT and finance to law and creative industries. For example, in Europe, according to the report "A new future of work : The race this deploy AI and raise skills in Europe and beyond " by McKinsey , it is expected that by 2030, up to 30% of working hours in some sectors could be automated using generative AI and related technologies.

Statistics of changes in the demand for specialists with AI skills in the labor market are growing dynamically. The analysis conducted by T. Hatton, E. Magrini and R. Milde [3] shows that over the past two years the number of requests for these professions has increased tenfold. Along with classic Data Science and Machine Learning Engines, the greatest growth is shown by vacancies in the field of generative AI.

At the same time, the range of specializations goes beyond information technology. It is important that modern managers, business analysts, and digital transformation consultants possess artificial intelligence skills, who are able to integrate artificial intelligence solutions into working business. The integration of artificial intelligence into legal competencies is also important.

In particular, the study by N. Muscavage [6] shows that a new profession called AI From Engineers, who are able to use and configure models to create legal documents, is gaining special demand. Today, many companies are already using artificial intelligence and understand how it allows them to speed up and reduce the price of legal services using artificial intelligence. A new market architecture is being formed in almost all sectors of the national economy, where the demand for specialists in various fields is growing.

Conclusions.

Thus, studying the general trend of using generative artificial intelligence, it can be noted that it is deeply integrated into a wide range of professional fields. The most actively used are big language models, graphic generators and programming support

systems. These tools act as assistants in many work processes. With their help, access to information is simplified, routine tasks are accelerated, drafts and alternative solutions are created. They change the structure of intellectual work and open up new opportunities in various fields. Most of all, artificial intelligence is integrated into areas related to office work. This leads to the fact that many specialties based on routine or standardized tasks disappear. Already today, technical copywriters , graphic illustrators, translators of general texts, as well as junior programmers who were engaged in template coding are losing their relevance. These roles are becoming unnecessary, since modern models perform similar tasks faster and cheaper.

The emergence of artificial intelligence creates risks for the labor market. At the same time, it creates space for the development of new professions focused on systematizing and processing the results of system operations. The demand for creative professions and specialists capable of performing management tasks is growing.

There is a demand for new specialists. These are artificial intelligence engineers who design and implement models. These are editors who improve the results of the systems and check them for authenticity, adequacy and relevance . These are curators who structure data and integrate it into business processes. At the same time, new specializations are being formed, in particular prompt engineers, as well as specialists in risk management and ethics of artificial intelligence. Their role is becoming increasingly relevant in the conditions of total integration of this technology into business processes.

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Анотація. *Стаття з дослідження еволюції професійних ролей у добу генеративного штучного інтелекту присвячена аналізу інструментів штучного інтелекту та їхнього впливу на різні аспекти професійної діяльності в умовах сучасного ринку праці. Мета статті полягає у науковому осмисленні еволюційних процесів і професійних ролей у добу генеративного штучного інтелекту з урахуванням трансформації ринку праці, зникнення традиційних спеціальностей та появи нових гібридних професій. Для досягнення поставленої мети у ході наукового дослідження використовуються загальнонаукові методи пізнання, зокрема критичний аналіз літератури, синтез інформації, узагальнення, системний підхід і порівняння, що дозволяє чітко визначити, як еволюціонувала професійна діяльність людей під впливом штучного інтелекту. За результатами дослідження встановлено, що використання штучного інтелекту поступово переходить від статусу допоміжного інструменту до рівня повноправного учасника робочих процесів, і ця тенденція простежується практично в усіх галузях. Доведено, що великі мовні моделі, графічні генератори та програмні системи підтримки не лише оптимізують виконання рутинних завдань, а й генерують нові ідеї, що призводить до суттєвих змін у структурі інтелектуальної праці та розширює можливості спеціалістів у різних сферах. Разом із тим зроблено висновок, що штучний інтелект впливає на зміщення акцентів професійної діяльності: від стандартизованої трудової діяльності до більш творчих і стратегічно орієнтованих завдань. Водночас рутинна та типізована робота практично повністю витісняється автоматизованими системами, що змінює вимоги до кадрів. Якщо на попередніх етапах такі завдання виконували спеціалісти нижчої кваліфікаційної ланки, то сьогодні вони здійснюються автоматизовано, швидше й якісніше завдяки використанню штучного інтелекту. Таким чином, у запиті на ринку праці опиняються професії, що спрямовані на збирання, систематизацію та інтеграцію інформації, створюваної штучним інтелектом, у новий інноваційний продукт з меншими часовими й фінансовими витратами. Практичне значення дослідження полягає у визначенні векторів адаптації фахівців до нових умов праці та у формуванні орієнтирів для освітніх програм, що готують спеціалістів до роботи в умовах технологічної трансформації.*

Ключові слова: *генеративний AI, професії, трансформація, ринок праці, інновації*