

UDC 658.1:005.332.4:331.101.262  
JEL Classification: J01, M54, O30

*Kruglikova V. V., Kulabnieva O. A.*

## WAYS TO INCREASE THE COMPETITIVENESS OF AN ENTERPRISE IN HUMAN CAPITAL MANAGEMENT

National University "Zaporizhia Polytechnic", Zaporizhia, Ukraine

The article explores the category definition approaches of human capital and its internal structure components. It is noted that in Ukrainian enterprises there are active processes of human capital transformation, which are associated with the external and internal environment digitalization. It has been proven that the components of human capital are the most important objects of effective management, which make it possible to form strategic vectors, aimed at increasing competitiveness and achieving profit maximization. As the confirmation, a method for calculating the integral competitiveness index of the enterprise, taking into account human capital, is proposed. The close relationship between the competitiveness of the enterprise and use of digital technologies, artificial intelligence, and unique human capital resources is substantiated. A level determination algorithm is proposed in competitiveness of the enterprise, taking into account human capital. Installed, that the implementation of digitalization measures and the use of artificial intelligence will help optimize internal business processes, change routine tasks to automated ones, make personnel management more flexible and adaptive. All of the above measures will contribute to the attraction of potential, talented employees. In a general sense, they will lead to an increase in the competitiveness of human capital. It is noted that human capital indicators are basic components of effective management at the enterprise. This is the basis for changing the strategic vector of development, which is aimed at obtaining the maximum possible profit at the optimal cost level, with the possibility of using intangible assets. The article demonstrates the important role of investments in the formation of human capital. It is thanks to them that it is possible to effectively implement innovative projects at the enterprise. A method for assessing the competitiveness of an enterprise taking into account human capital is proposed.

**Keywords:** human capital, enterprise, digital technologies, competitiveness, investment in human capital.

**DOI:** 10.32434/2415-3974-2025-21-1-209-215

### *Statement of the problem*

It is known that the effectiveness of human capital depends on reducing the undesirable turnover of highly qualified employees, in whose development funds have already been invested; on supporting staff motivation through fairly determined remuneration, on the exchange of experience and competencies, which are a potential opportunity for the stable development of

the enterprise human capital; strengthening the corporate culture and image of the enterprise through the introduction of new technologies; creating an optimal assortment portfolio of the enterprise, in accordance with modern requirements and expectations of customers; positioning the company as an employer with a positive image, which is a guarantee of obtaining and retaining qualified personnel.

---

© Kruglikova V. V., Kulabnieva O. A., 2025



This article is licensed under Creative Commons Attribution 4.0 International License (CC-BY)

***Analysis of recent research and publications***

In defining human capital, scientists separate its internal structure in the form of a combination of individual elements. Many researchers form the structure of human capital according to the cost principle, which depends on the variety of types of investments in human capital.

Thus, I. V. Illinskyi identified the following components: health, cultural, and educational capital. On the other hand, Korkina T. A. includes in human capital not only the employee abilities, but also the contribution of the enterprise itself to the qualification and development of personnel [1]. In turn, F. Neumann included the following elements as the main components of human capital: cultural and ethnic characteristics, qualifications, general and professional education [1].

After studying the latest research by scientists, one cannot help, but notice that active processes, related to the digitalization of the external and internal environment of enterprises, are currently taking place in science.

A significant contribution to modern approaches of human capital management was made by A. Orekhova and O. Goma [2], who analyzed in detail innovative methods of increasing staff engagement through the introduction of gamification elements and use of virtual reality technologies, in particular.

The works of G. M. Yurchenko, R. V. Zakharchenko, and A. P. Lesyo [3] are devoted to practical aspects of digital transformation of HR processes. Using the example of Ukrainian enterprises, they demonstrate the effectiveness of implementing innovative training platforms.

The international context of the researched issues is thoroughly covered in the work of I. Bashynska, O. Prokopenko and D. Sala [5]. Scientists consider the synergistic effect of combining human potential with the capabilities of artificial intelligence in personnel management.

Chabanenko O. S. emphasizes that recently organizations have been actively implementing digital technologies, expanding process automation and developing individual approaches to personnel management. At the same time, the principles of sustainable development are becoming an integral part of corporate culture, which significantly affects the methods of working with personnel. The viability of an enterprise is contingent upon its adaptability in the face of such dynamic conditions. This includes the capacity to implement innovative educational programs, utilize contemporary technologies to evaluate work efficiency, and maintain a balance between

corporate objectives and employee well-being. Achieving the optimal balance between enterprise growth and staff satisfaction is a challenging endeavor; however, organizations that can effectively adjust to these changes will have substantial advantages in the long term in the competitive market [4].

***Formulation of the article objectives***

However, the examination of scientific literature also identified a number of issues that necessitate additional research. The practical aspects of applying artificial intelligence in HR processes and methods of assessing human capital, as well as its impact on the competitiveness of an enterprise, are not sufficiently disclosed. The study of the efficiency of human capital use and methods for calculating its level, remaining relevant.

***Presentation of the main research material, full justification of the scientific results obtained***

A critical component of evaluating the true return on investment in employees is evaluating the efficiency of human capital utilization within an organization. Indicators of efficiency can be assessed by employing both quantitative and qualitative methods. For the evaluation of human capital, the economic literature offers a multitude of alternatives and methodologies. Simultaneously, the value of human capital is determined through both value (monetary) and in-kind assessments. The potential, efficiency, innovation, and adaptability of personnel are among the quantitative and qualitative indicators that can be used to evaluate the competitive standing of an enterprise human capital. These are the primary ones:

- qualification indicators:
  - a) education level of employees (share of employees with higher education);
  - b) availability of professional certificates, additional qualifications;
  - c) work experience in the specialty;
- performance indicators:
  - a) labor productivity (revenue/profit per employee);
  - b) the volume of work performed per employee;
  - c) number of innovations or suggestions for process improvements from staff;
- innovation potential:
  - a) share of employees involved in research and development;
  - b) number of implemented innovations with the participation of personnel;
  - c) participation of employees in training, education, and advanced training courses;
  - d) the proportion of employees involved in the automation process and the use of artificial intelligence;

- motivational and psychological indicators:
  - a) level of staff satisfaction with their work (based on survey results);
  - b) employee loyalty (eNPS index);
  - c) staff turnover;
- organizational efficiency:
  - a) level of internal mobility (career advancement);
  - b) average length of service at the company;
  - c) level of participation in teamwork and cross-functional interaction;
  - d) participation in creating a strong corporate culture;
- financial indicators:
  - a) costs per employee (salary, training, social package);
  - b) share of the payroll fund in the company's expenses;
  - c) economic efficiency of investments in human capital;
  - d) cost effectiveness of enterprise personnel management.

Factors can influence, both, the increase and decrease of the firm competitiveness, and these changes contribute to the transformation of opportunities into reality. Obtaining competitive advantage based on factors depends on how effectively a firm can combine and use them to ensure the sustainable development of its activities.

We can conclude that the main problems of low competitiveness of an enterprise are:

- lack of competition experience; ignoring foreign law; rudeness of bilateral and multilateral interstate agreements;
- the presence of obstacles in the form of relevant standardization and certification conditions; non-compliance of enterprise management systems with international requirements;
- lack of domestic fundamental scientific research in this area;

– activities of Western enterprises, which have existed for decades in conditions of fierce competition. A comprehensive approach to solving these problems requires ensuring interaction between the state and enterprises at all levels of competitiveness [8, p. 24].

Human capital plays an important role in this approach. The main goal of all enterprises, and even entire economies, is the sustainable growth of productivity in accordance with certain requirements (for example, the ecological orientation of business, respect for the natural environment) and the creation of competitive advantage, which can only be the result of a systematic, well-thought-out and appropriately adjusted approach to the use and development of the human capital of companies at their disposal.

Investments in human capital, which are made by companies to expand it, increase its value or continue its use, require detailed research, which is possible in two directions: as the efficiency of the use of human capital in enterprises and as the efficiency of investments in human capital from the point of view of enterprises. Finally, the forms and possibilities of assessing such, more narrowly defined efficiency, allow creating a process of assessing the efficiency of human capital in enterprises as the core of the approach to its management within the framework of the concept of human capital management [9, p. 160].

The assessment of the level of competitiveness of the enterprise human capital can be determined by calculating the number of points (for example, from 1 to 10) or using actual data. Table demonstrates the use of human capital in the enterprise, taking into account quantitative and qualitative indicators.

To determine the place of an enterprise in the competitive environment, the Integrated Competitiveness Index of an Enterprise, which takes into account human capital, is used - this is a generalized index that combines quantitative and qualitative characteristics of the enterprise's activities, including factors related to human resources. One possible approach to constructing such an indicator is the integration of standard economic and financial indicators with human capital indicators.

Example of a formula for an integral competitiveness indicator taking into account human capital

$$ICI = \alpha_1 \cdot F + \alpha_2 \cdot P + \alpha_3 \cdot L, \quad (1)$$

where: ICI – integral indicator of competitiveness; F – financial and economic indicators (profitability, sales volume, net profit, etc.); P – characteristic product indicators (quality, innovation, competitive price); L – human capital indicators (staff qualifications, investments in training, staff turnover, labor productivity);  $\alpha_1, \alpha_2, \alpha_3$  – weighting factors that determine the importance of each block of indicators (determined expertly or statistically).

The main indicators of human capital (L) include:

- the level of education and qualifications of personnel;
- training costs per employee;
- average work experience;
- employee turnover rate;
- labor productivity (taking into account the use of artificial intelligence);
- employee satisfaction index.

Indicators of the efficiency of human capital use at the enterprise

Indicator group	Indicator	Unit of measurement/Rating	Comment/Source
Personnel qualifications	Share of employees with higher education	%	Human Resources data
	Availability of certificates and additional training	certificate/employee	Company average
	Work experience (average)	years	Human Resources data
Labor productivity	Revenue per employee	UAH/year	Finance department data
	Number of rationalization proposals	pcs/year	Per year
Innovative activities	Share of personnel involved in innovation	%	Per year
	Using artificial intelligence	%	Coherence data
	Number of trainings per employee	units	Per year
Motivational component and job satisfaction	Job satisfaction level (survey)	survey/employee	HR survey results
	Employee turnover at the enterprise	%	Human Resources data
Effectiveness of organizational processes	Average length of service at the company	years	Human Resources data
	Share of career promotions	%	Of all personnel transfers
Human capital efficiency	Training costs per employee	UAH/year	Human Resources data Finance department data
	Payroll fund in enterprise expenses	%	Finance department data

Source: Authors' own development

Let us give an example of calculating the integral competitiveness indicator (ICI) of an enterprise taking into account human capital.

First stage. Initial data (conditional). Financial indicators (F): Profitability of the company products 15%, Growth in company profits per year 10%, Financial stability ratio 0.6. Profitability indicators (P): Share of innovative products 25%, The quality level of the enterprise's products (on a scale from 0 to 1) 0.8, Price competitiveness level (index) 0.9. Human capital indicators (L): Average qualification level of the company's employees (on a scale of 0–1) 0.85, Specific training costs per employee 8 thousand UAH, Employee turnover rate of the enterprise: 0.1, Labor productivity (revenue per employee) 450 thousand UAH.

Second stage. Comparison with reference indicators of the quality level (reduction of indicators to a scale of 0–1). The indicators are normalized using the ratio, dividing by the reference/maximum value or through the minimax method. For simplicity, let's take conditional reference values: maximum labor productivity of the enterprise = 600 thousand UAH/person; maximum investment in digital technologies = UAH 10 thousand; minimum turnover of the enterprise's personnel = 0 (ideal), maximum = 0.3.

Then, labor productivity of the studied enterprise:  $450 / 600 = 0.75$ ; Level of advanced training:  $8/10=0.8$ ; Staff turnover:  $(1-0.1/0.3)=0.67$ .

So, the average efficiency of human capital use is:

$$L = (0.85 + 0.8 + 0.67 + 0.75) / 4 = 0.7675;$$

We evaluate financial indicators F and profitability indicators P (generalized):

$$F = \text{mean of } (0.15, 0.1, 0.6) = 0.283;$$

$$P = \text{mean of } (0.25, 0.8, 0.9) = 0.65;$$

Third stage. Calculate the integral competitiveness indicator of the enterprise ICI.

We choose the weights (according to the Delphi method):  $\alpha_1 = 0.3$  (finance),  $\alpha_2 = 0.3$  (product),  $\alpha_3 = 0.4$  (human capital).

$$\text{Then, } ICI = 0.3 \cdot 0.283 + 0.3 \cdot 0.65 + 0.4 \cdot 0.7675 = 0.0849 + 0.195 + 0.307 = 0.58.$$

As a result of the calculation, we obtained an integral competitiveness indicator equal to 0.58 (out of 1 possible), which indicates an average level of competitiveness of the enterprise, with a strong contribution of human capital.

The methodology for calculating the integrated competitiveness indicator demonstrated above emphasizes the special importance of the role of human capital. However, it should be noted that those enterprises that actively implement digital technologies and try to expand the use of artificial intelligence will be able to much improve this indicator.



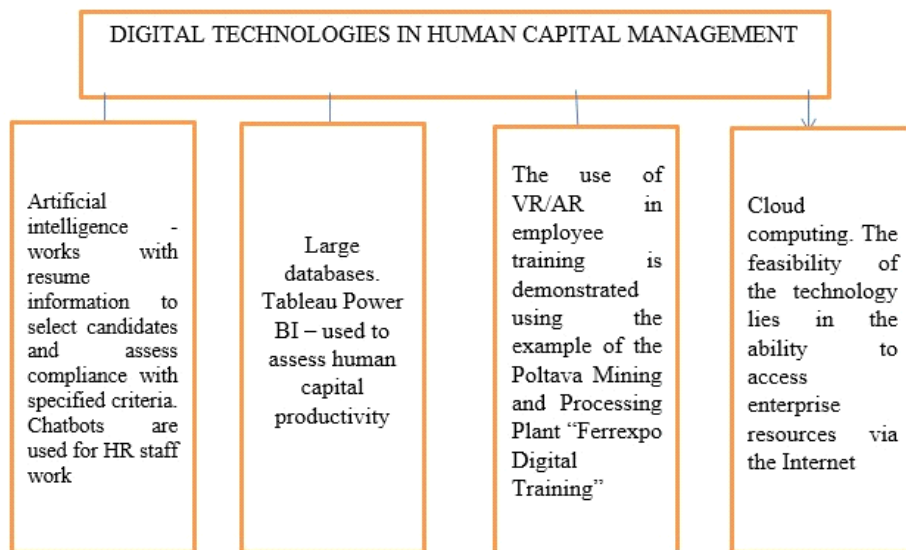
In many large European enterprises Artificial intelligence enables HR professionals to focus on strategic initiatives that align with the organization social mission, thereby increasing the company overall efficiency. Artificial intelligence technologies are not just a tool for automating operational processes, but are becoming a key strategic asset that opens up new prospects for effective human capital management in a dynamic business environment and provides organizations with sustainable competitive advantages [6].

The concept of digital HR combines various technologies such as social networks, mobile applications, cloud solutions and augmented reality, which are becoming a new platform for improving

the performance of both existing employees and candidates and optimizing their experience. tors, assessing the advantages and disadvantages of existing digital technologies, as well as considering industry limitations and potential partners [7].

Digital solution developers are responsible for the technical aspect of digital human capital management.

While company management and human resource departments, we must develop our own integrated digital governance strategies and programs personnel. At the same time, the transition to digital transformation should be based on a deep analysis of internal and external factors (Figure).



Digital technologies in human capital management

Source: author development

In addition, at the same time, the principles of sustainable development have become a significant mechanism of corporate culture, which significantly affects the methods of working with personnel. The dynamic conditions of the enterprise viability and the complexity of the external environment form new approaches to adaptability: the implementation of innovative educational programs, the use of modern technologies for assessing work efficiency and ensuring a balance between corporate goals and personnel well-being.

Finding the optimal balance between business growth and employee satisfaction is a challenging task, but it is those organizations that can effectively adapt to these changes that will have significant advantages in the long term.

### Conclusion

Based on the above, it can be emphasized that human capital indicators are basic components of effective management at the enterprise. This is the basis for changing the strategic vector of development, which is aimed at obtaining the maximum possible profit at the optimal cost level, with the possibility of using intangible assets.

In addition, it can be emphasized that the use of digital tools is necessary for Ukrainian enterprises to increase the competitiveness of human capital. This will allow optimizing internal business processes, changing routine tasks to automated ones, and making personnel management more flexible and adaptive.

All of the above measures will contribute to attracting potential, talented employees. And in a

general sense, will lead to an increase in the competitiveness of human capital. As confirmation, in the article A method for calculating the integral competitiveness index of an enterprise taking into account human capital is proposed.

All of the above measures will contribute to attracting potential, talented employees. And in a general sense, will lead to an increase in the competitiveness of human capital.

## REFERENCES

1. Geets, V. M. (et al.). (2015). Innovatsiina Ukraina 2020: natsionalna dopovid [Innovative Ukraine 2020: national report]. Kyiv: NAS of Ukraine, 2015 [in Ukrainian].
2. Orekhova, A., & Goma, O. (2024). Suchasni vyklyky ta innovatsiini pidkhody v pravlinni liudskym kapitalom: hlobalmyi ta ukraïnskyi konteksty [Modern challenges and innovative approaches in human capital management: global and Ukrainian contexts]. *Ekonomika ta suspilstvo – Economy and Society*, 68, 1–6 [in Ukrainian]. DOI: <https://doi.org/10.32782/2524-0072/2024-68-117>.
3. Yurchenko, G. M., Zakharchenko, R. V., & Lesyo, A. P. (2024). Tsyfrovii transformatsii v upravlinni liudskym kapitalom [Digital transformations in human capital management]. *Investytsii: praktyka ta dosvid – Investments: practice and experience*, 12, 172–177 [in Ukrainian]. DOI: <https://doi.org/10.32702/2306-6814.2024.12.172>.
4. Chabanenko, O. S. (2024). Hlobalni trendy v upravlinni liudskym kapitalom na pidpriemstvakh [Global trends in human capital management in enterprises]. *Ekonomichnyi prostir – Economic Space*, 196, 231-235 [in Ukrainian]. DOI: <https://doi.org/10.30838/EP.196.231-236>.
5. Bashynska, I., Prokopenko, O., & Sala, D. (2023). Managing Human Capital with AI: Synergy of Talent and Technology. *Scientific Journal of Bielsko-Biala School of Finance and Law*, 27(3), 39–45. DOI: <https://doi.org/10.19192/wsfip.sj3.2023.5>.
6. Yusuf Ricky, C. (2024). Analysis For HR Digital Transformation Strategy. *Zenodo*. DOI: <https://doi.org/10.5281/zenodo.12737631>.
7. Bey, G., & Sereda, G. (2019). Transformatsiia HR-tekhnologii pid vplyvom tsyfrovizatsii business-protseviv [Transformation of HR technologies under the influence of digitalization of business processes]. *Ekonomika i orhanizatsiia upravlinnia – Economics and Management Organization*, 2 (34), 93-101. DOI: <https://doi.org/10.31558/2307-2318.2019.2.10> [in Ukrainian].
8. Flak, Olaf, & Glod, Grzegorz (2015). Verification of the Relationships between the Elements of an Integrated Model of Competitiveness of the Company. *Procedia – Social and Behavioral Sciences*, 207, 608-631. DOI: <https://doi.org/10.1016/j.sbspro.2015.10.132>.

9. Plaksyuk, O., Horvatova, V., & Yakushev, O. (2023). Liudskyi kapital yak faktor pidvyshchennia efektyvnosti ta konkurentospromozhnosti kompanii [Human capital as a factor in increasing the efficiency and competitiveness of a company]. *Akademichnyi ohliad – Academic Review*, 1, 160 [in Ukrainian]. DOI: [10.32342/2074-5354-2023-1-58-12](https://doi.org/10.32342/2074-5354-2023-1-58-12).

Received 14.03.2025.

Revised 25.03.2025.

Accepted 26.05.2025.

Published 25.06.2025.

## ШЛЯХИ ПІДВИЩЕННЯ КОНКУРЕНТОСПРОМОЖНОСТІ ПІДПРИЄМСТВА В УПРАВЛІННІ ЛЮДСЬКИМ КАПІТАЛОМ

Круглікова В. В., Кулабнієва О. А.

В статті досліджено підходи щодо визначення категорії людського капіталу, його складові внутрішньої структури. Зауважено про те, що в українських підприємствах відбуваються активні процеси трансформації людського капіталу, які пов'язані з цифровізацією зовнішнього та внутрішнього середовища. Доведено, що компоненти людського капіталу є найважливішими об'єктами ефективного менеджменту, які дають можливість сформувати стратегічні вектори, спрямовані на підвищення конкурентоспроможності, досягнення максимізації прибутку. Як підтвердження, запропоновано метод розрахунку інтегрального індексу конкурентоспроможності підприємства з урахуванням людського капіталу. Обґрунтовано тісний взаємозв'язок конкурентоспроможності підприємства з використанням цифрових технологій, штучного інтелекту, унікальними ресурсами людського капіталу. Запропоновано алгоритм визначення рівня конкурентоспроможності підприємства з урахуванням людського капіталу. Встановлено, що впровадження заходів цифровізації та використання штучного інтелекту допоможе оптимізувати внутрішні бізнес процеси, змінити рутинні завдання на автоматизовані, зробити управління персоналом більш гнучким та адаптивним. Всі перераховані заходи сприятимуть залученню потенційних, талановитих працівників. А в загальному розумінні, призведе до підвищення конкурентоспроможності людського капіталу. Зазначено, що показники людського капіталу є базовими компонентами ефективного управління на підприємстві. Це є підставою для зміни стратегічного вектора розвитку, що спрямований на отримання максимально можливого прибутку за оптимального рівня собівартості, з можливістю використання нематеріальних активів. В статті продемонстровано важливе значення інвестицій у формуванні людського капіталу. Саме завдяки їм можливо ефективно реалізувати інноваційні проєкти на підприємстві. Запропоновано метод оцінки конкурентоспроможності підприємства з урахуванням людського капіталу.

**Ключові слова:** людський капітал, підприємство, цифрові технології, конкурентоспроможність, інвестиції в людський капітал.

## WAYS TO INCREASE THE COMPETITIVENESS OF AN ENTERPRISE IN HUMAN CAPITAL MANAGEMENT

Kruglikova V. V., Kulabnieva O. A.

National University "Zaporizhia Polytechnic", Zaporizhia, Ukraine

\*e-mail: kruglikovalentina@gmail.com

Kruglikova V. V. ORCID: <https://orcid.org/0000-0001-7680-592X>

*The article explores the category definition approaches of human capital and its internal structure components. It is noted that in Ukrainian enterprises there are active processes of human capital transformation, which are associated with the external and internal environment digitalization. It has been proven that the components of human capital are the most important objects of effective management, which make it possible to form strategic vectors, aimed at increasing competitiveness and achieving profit maximization. As the confirmation, a method for calculating the integral competitiveness index of the enterprise, taking into account human capital, is proposed. The close relationship between the competitiveness of the enterprise and use of digital technologies, artificial intelligence, and unique human capital resources is substantiated. A level determination algorithm is proposed in competitiveness of the enterprise, taking into account human capital. Installed, that the implementation of digitalization measures and the use of artificial intelligence will help optimize internal business processes, change routine tasks to automated ones, make personnel management more flexible and adaptive. All of the above measures will contribute to the attraction of potential, talented employees. In a general sense, they will lead to an increase in the competitiveness of human capital. It is noted that human capital indicators are basic components of effective management at the enterprise. This is the basis for changing the strategic vector of development, which is aimed at obtaining the maximum possible profit at the optimal cost level, with the possibility of using intangible assets. The article demonstrates the important role of investments in the formation of human capital. It is thanks to them that it is possible to effectively implement innovative projects at the enterprise. A method for assessing the competitiveness of an enterprise taking into account human capital is proposed.*

**Keywords:** human capital, enterprise, digital technologies, competitiveness, investment in human capital.

## REFERENCES

1. Geets, V. M. (et al.). (2015). Innovatsiina Ukraina 2020: natsionalna dopovid [Innovative Ukraine 2020: national report]. Kyiv: NAS of Ukraine, 2015 [in Ukrainian].
2. Orekhova, A., & Goma, O. (2024). Suchasni vyklyky ta innovatsiini pidkhody v pravlinni liudskym kapitalom: hlobalmyi ta ukraïnskyi konteksty [Modern challenges and innovative approaches in human capital management: global and Ukrainian contexts]. *Ekonomika ta suspilstvo – Economy and Society*, 68, 1–6 [in Ukrainian]. DOI: <https://doi.org/10.32782/2524-0072/2024-68-117>.
3. Yurchenko, G. M., Zakharchenko, R. V., & Lesyo, A. P. (2024). Tsyfrovi transformatsii v upravlinni liudskym kapitalom [Digital transformations in human capital management]. *Investysii: praktyka ta dosvid – Investments: practice and experience*, 12, 172–177 [in Ukrainian]. DOI: <https://doi.org/10.32702/2306-6814.2024.12.172>.
4. Chabanenko, O. S. (2024). Hlobalni trendy v upravlinni liudskym kapitalom na pidpriemstvakh [Global trends in human capital management in enterprises]. *Ekonomichniy prostir – Economic Space*, 196, 231–235 [in Ukrainian]. DOI: <https://doi.org/10.30838/EP.196.231-236>.
5. Bashynska, I., Prokopenko, O., & Sala, D. (2023). Managing Human Capital with AI: Synergy of Talent and Technology. *Scientific Journal of Bielsko-Biala School of Finance and Law*, 27(3), 39–45. DOI: <https://doi.org/10.19192/wsfip.sj3.2023.5>.
6. Yusuf Ricky, C. (2024). Analysis For HR Digital Transformation Strategy. *Zenodo*. DOI: <https://doi.org/10.5281/zenodo.12737631>.
7. Bey, G., & Sereda, G. (2019). Transformatsiia HR-tekhnologii pid vplyvom tsyfrovizatsii business-protsesiv [Transformation of HR technologies under the influence of digitalization of business processes]. *Ekonomika i orhanizatsiia upravlinnia – Economics and Management Organization*, 2 (34), 93–101. DOI: <https://doi.org/10.31558/2307-2318.2019.2.10> [in Ukrainian].
8. Flak, Olaf, & Glod, Grzegorz (2015). Verification of the Relationships between the Elements of an Integrated Model of Competitiveness of the Company. *Procedia – Social and Behavioral Sciences*, 207, 608–631. DOI: <https://doi.org/10.1016/j.sbspro.2015.10.132>.
9. Plaksyuk, O., Horvatova, V., & Yakushev, O. (2023). Liudskyi kapital yak factor pidvyshchennia efektyvnosti ta konkurentospromozhnosti kompanii [Human capital as a factor in increasing the efficiency and competitiveness of a company]. *Akademichnyi ohliad – Academic Review*, 1, 160 [in Ukrainian]. DOI: [10.32342/2074-5354-2023-1-58-12](https://doi.org/10.32342/2074-5354-2023-1-58-12).