

Economic Sciences

**Verbytska Nataliia**

*Master’s Degree in Computer Engineering,*

*Odesa I. I. Mechnikov National University;*

*Head of the Human Resources and Social Development Department,*

*Southern Branch of the State Enterprise*

*“Administration of Seaports of Ukraine”*

*ORCID: 0009-0007-4373-7140*

**PERSONNEL EVALUATION AS A TOOL FOR IMPROVING  
ENTERPRISE EFFICIENCY: METHODS, COMMISSION-BASED  
APPROACHES, AND DIGITAL TOOLS**

**Summary.** *At most large domestic enterprises, the HR department and the payroll department report to different managers, which creates a gap between HR decisions and their reflection in payroll calculations and increases the risks during inspections by regulatory authorities. The article examines the organizational and technological conditions under which a personnel evaluation system becomes an effective tool for enterprise management. Based on the author's management experience at three large enterprises – SE “Pivdennyi Sea Port Administration,” OilGasChem Service (OGC Service), and Lukoil Technologies Services Ukraine – a comparative analysis of personnel evaluation methods is conducted, the role of personnel commissions is characterized, and the author's HR-ERP system, implemented from scratch at two enterprises (OilGasChem Service (OGC Service) and Lukoil Technologies Services Ukraine), is described. It was found that combining a competency model, KPI approach, and performance review provides better management results than using each method separately.*

*It was shown that combining the functions of the HR manager and the head of the payroll department in one position significantly reduces the number of calculation errors and ensures end-to-end consistency of personnel documentation and reporting. The scientific novelty is the concept of “live calculation” – an architectural solution in which any change in personnel status automatically and without delay recalculates accruals, which fundamentally distinguishes the system from standard solutions based on the paradigm of closing the calculation month.*

**Key words:** *personnel assessment, KPI, competency model, performance review, HR-ERP, personnel commission, certification, human capital management, automation of HR processes.*

**Introduction.** Personnel assessment takes on new significance in the context of wartime and post-war reconstruction in Ukraine. Critical infrastructure enterprises – seaports, oil refineries, energy companies – simultaneously solve several tasks: they retain qualified personnel, adapt to changes in legislation, and minimize operational risks. Under such conditions, the personnel assessment system ceases to be purely a human resources function and becomes an element of strategic management of the organization [1].

The foreign scientific base on HR analytics and automation is quite developed [2; 3], while domestic research on the practical implementation of comprehensive assessment systems at large industrial enterprises remains scarce. Most of the available publications either reproduce theoretical models without testing them on real data or describe the experience of small and medium-sized businesses, which is irrelevant for organizations with more than 500 employees [4].

A separate problem is the organizational disconnect between the HR department and the payroll department. At most domestic enterprises, these departments report to different managers - as a rule, payroll is under the authority

of the chief accountant. This leads to delays in reflecting personnel decisions, complicates preparation for inspections by regulatory authorities, and increases the likelihood of calculation errors [5].

The purpose of this article is to theoretically substantiate and verify, based on the material of specific enterprises, a comprehensive model of personnel assessment that combines methodological approaches, collegial decision-making procedures, and digital automation tools. To achieve this goal, the following tasks are solved: systematization and comparative characteristics of personnel assessment methods; determination of the role and regulations of personnel commissions; characteristics of the author's HR-ERP system and analysis of the organizational effects of its implementation; establishing a link between the assessment system and the strategic development of the enterprise.

**Literature Review.** The theoretical basis of the study covers three areas: personnel assessment methodology, strategic human resource management, and HR technologies.

The competency-based approach to personnel assessment is associated with the work of McClelland [6], who showed that traditional intelligence tests and academic performance are poor predictors of actual performance in a specific workplace. The behavioral competency model developed by Spencer and Spencer [7] became the basis for the development of job profiles and is widely used in large organizations. At the same time, researchers point to the risk of excessive formalization: rigid competency profiles can inhibit adaptive behavior and hinder organizational change [8].

The KPI approach, systematized in the works of Parmenter [9] and Kaplan and Norton [10], involves cascading the strategic goals of the enterprise to the level of measurable indicators for each department and employee. Researchers draw attention to the risk of "playing with indicators" – optimizing metrics to the detriment of real results [11]. The balanced scorecard developed by Kaplan and Norton [10] is designed to combine financial and non-financial KPIs, but the

mechanisms for its practical application in Ukrainian enterprises have not been sufficiently studied.

In modern practice, performance review has gone beyond annual certification and turned into a continuous cycle of feedback between manager and subordinate. Pulakos and O'Leary [12] showed that regular performance reviews increase the perceived fairness of the evaluation system compared to traditional annual certification. An analysis by McKinsey (2023) [13] notes a steady trend among leading international companies to move from annual evaluation cycles to continuous feedback models.

The development of HR technologies is described through three generations of systems: transaction automation (HRIS), data analytics (HCM), and predictive modeling (People Analytics) [14]. Research by Bondarouk and Brewster [15] shows that organizational integration of HR subsystems improves the quality of management data and reduces transaction costs. According to Grand View Research [16], the HCM solutions market is showing steady growth, reflecting the general trend toward consolidating HR functions into unified digital platforms.

Strategic human resource management, as discussed by Boxall and Purcell [17], is based on the principle of vertical alignment: the personnel evaluation system should be integrated into the overall strategy of the enterprise, rather than functioning in parallel with it. In domestic enterprises, this connection is usually not documented [18].

Empirical evidence confirms that HR process standardization produces measurable operational gains. Muenstermann et al. (2010) demonstrated that standardizing the recruitment process reduced time-to-hire from 92 to 69 days - a 25% improvement – while cutting per-hire costs by approximately 30%. Broader cross-enterprise analysis by the same authors found that organizations with standardized HR workflows reported 15–20% higher workforce productivity compared to those relying on informal practices, and payroll error rates fell by an

average of 23% following the introduction of automated calculation rules [24]. These figures transform standardization from a theoretical prescription into a quantifiable management result - precisely the kind of evidence-based foundation that large domestic enterprises require when justifying investment in integrated HR platforms.

HR standardization functions as a governance and risk mitigation mechanism. Documented, system-enforced workflows create an auditable trail of decisions. Meanwhile, role-based access, audit logs, and regulated approvals reduce operational and compliance risks. In regulated or strategically sensitive sectors, such as seaport administration, this governance layer is as critical as analytical capabilities. Thus, standardized HR regulations enhance efficiency and organizational accountability.

**Materials and Methods.** The study is based on the author's management experience gained in the positions of head of human resources and deputy director for personnel issues at three large Ukrainian enterprises: SE "Pivdennyi Sea Port Administration," OilGasChem Service (OGC Service), and Lukoil Technologies Services Ukraine. At OilGasChem Service (OGC Service) and Lukoil Technologies Services Ukraine, the author began work from the moment of their foundation, which made it possible to form a personnel system from scratch: to develop the structure of the enterprise, personnel and social policy, job descriptions, regulations on divisions and regulations on remuneration, to negotiate with trade unions and approve a collective agreement. At the Pivdennyi Sea Port Administration, the author joined an already operational organization; a portion of payroll calculation (timesheets and bonuses for certain categories) was delegated to the HR department, while the core salary calculation was handled by the accounting department on the basis of data entered by HR staff. The enterprise operated a proprietary software system developed and maintained by its own IT department; the author contributed to its refinement by submitting technical specifications for program changes.

The empirical base consists of: internal management documentation of enterprises for the relevant years of the author's work; orders on conducting appraisals and minutes of meetings of personnel commissions; materials of state inspections – the State Tax Service in terms of wages, the Pension Fund of Ukraine, the Social Insurance Fund; data on labor disputes and their results; documentation on the development and implementation of the author's HR-ERP system.

Research methods: comparative analysis of personnel assessment methods based on academic sources and the practice of the enterprises under study; case method for describing the organizational effects of implementing HR solutions; functional analysis of the organizational structure of HR services and related departments. A limitation is the absence of a control group of enterprises, which makes it impossible to strictly distinguish the effects of specific management decisions from the influence of external factors.

The author's HR-ERP system was developed and consistently refined to suit the specifics of OilGasChem Service (OGC Service) and Lukoil Technologies Services Ukraine, without involving a third-party developer, which did not require additional costs and eliminated dependence on external specialists for further support and modernization. As of the date of writing, the system continues to be used by a number of Ukrainian companies.

## **Research Results**

*1. Personnel assessment methods: comparative characteristics.* The companies studied used a combination of three approaches to personnel assessment. The competency model was used during performance reviews and served as the basis for personnel committee decisions. It was based on job descriptions and regulations on structural units developed by the author at each enterprise, taking into account its specific characteristics. These documents formed the regulatory framework for personnel decisions, which was resistant to legal challenges [20].

The KPI approach was used to evaluate staff performance and was directly linked to the bonus system enshrined in the remuneration regulations. The transparency of the link between performance indicators and payments reduced the number of disputes over the calculation of incentive payments and increased staff confidence in the evaluation system.

Performance review was used as a tool for regular feedback between managers and subordinates and complemented formal appraisal procedures. Its implementation was linked to the development of relevant internal regulations and training for managers.

A comparison of the three approaches showed that none of them is self-sufficient. The competency model provides a legal basis and strategic context for certification decisions, but is resource-intensive to update. KPI provides clarity of measurement, but is prone to a narrow interpretation of effectiveness. Performance review supports continuous feedback, but requires an appropriate culture and time commitment from managers. Combining the three approaches within a single HR strategy for the enterprise allows the limitations of each to be compensated for.

*Table 1*

### **Comparative Characteristics of Personnel Assessment Methods**

<b>Method</b>	<b>Purpose</b>	<b>Strength</b>	<b>Limitation</b>
Competency Model	Position compliance; basis for commission decisions	Legal robustness; strategic alignment	Time-consuming updates
KPI Approach	Performance measurement; bonus linkage	Transparency; measurable results	Risk of narrow focus on numbers
Performance Review	Regular feedback; development planning	Continuous communication; early issue detection	Requires managerial time and culture

2. *Personnel commission: composition, regulations, and legal consequences of decisions.* Each of the companies studied had an attestation commission, which included representatives of the administration, HR

department, legal department, and trade union committee. Meetings were held according to a set agenda, and decisions were recorded in minutes, which formed the basis for the corresponding order within the enterprise. Orders are stored in the archives of enterprises.

A distinctive feature of the management model at OilGasChem Service (OGC Service) and Lukoil Technologies Services Ukraine was the full combination of the functions of the head of the HR department and the head of the payroll department in one position. At the Pivdennyi Sea Port Administration, a partial model was applied: timesheets and bonuses for certain categories were processed by the HR department, while core salary calculation remained with the accounting department. At most domestic enterprises, payroll accounting is subordinate to the chief accountant, which creates a functional gap between personnel decisions and their reflection in payroll calculations. Combining these functions significantly reduces the number of calculation errors and improves communication between specialists in both areas.

Interaction with regulatory authorities – the State Tax Service in terms of payroll, the Pension Fund of Ukraine, the Social Insurance Fund, as well as participation in labor disputes in terms of labor legislation – was carried out within the framework of a single functional responsibility. During the entire documented period of the author's work at three enterprises, no inspection resulted in the imposition of penalties for violations of the Labor Code, and no enterprise lost a labor dispute.

*Table 2*

### **Personnel Commission Framework**

<b>Element</b>	<b>Content</b>	<b>Documentation</b>	<b>Legal Effect</b>
Composition	Administration, HR, Legal, Trade Union	Order on establishment; list of members	Procedural legitimacy
Procedure	Agenda; evaluation criteria; timeline	Regulation; employee acknowledgment	Reduces appeal risks

Decision	Compliance, promotion, training, transfer	Minutes; enterprise order; archive	Evidence in labor disputes
----------	---	------------------------------------	----------------------------

3. *HR-ERP system: architectural solution and organizational effects.* The proprietary HR-ERP system includes three functional modules: personnel accounting, time and attendance accounting, and payroll. All modules operate in a single information space, eliminating the need for manual data transfer between subsystems. The system was developed and refined independently for the specific needs of OilGasChem Service (OGC Service) and Lukoil Technologies Services Ukraine, without the involvement of third-party developers.

The system architecture was designed with data protection and cybersecurity requirements in mind. Access to personnel and payroll data is strictly role-based. All sensitive operations are subject to audit logging. Data transmission between modules is protected against unauthorized interception. These features are particularly relevant given the strategic profile of the oil and gas sector, where the confidentiality of personnel records has operational and national security implications. This aligns with internationally recognized data privacy standards.

The key difference between the system and standard market solutions is the absence of a procedure for closing the calculation month. In standard HR systems, any adjustment – sick leave, schedule change, vacation – requires restarting the calculation cycle. In the proprietary system, each such change automatically recalculates the accruals for the relevant employee without any additional actions. As a result, the employee's card contains up-to-date data on accrued wages and all payments on any day of the month. This approach is referred to as “live calculation.”

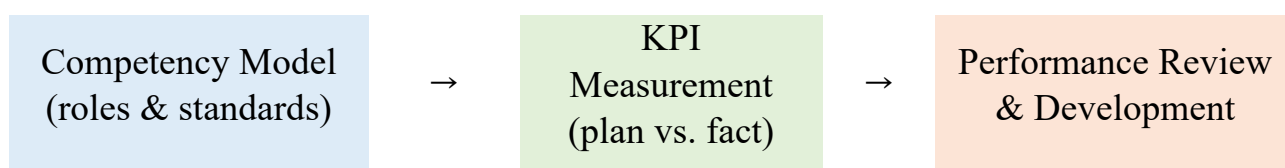
Before the system was implemented at OilGasChem Service (OGC Service), payroll and reporting for regulatory authorities were carried out using Microsoft Excel and paper timesheets. After switching to the HR-ERP platform,

the labor department, consisting of one specialist, provided a full cycle of personnel and payroll accounting for about 200 employees without involving additional personnel.

An important feature of the system is its flexibility: it was adapted to the specifics of the enterprise without involving outside specialists, which did not require additional costs and ensured rapid adaptation to changes in legislation.

*4. Link between the assessment system and the strategic development of the enterprise.* At each of the enterprises studied, the personnel assessment system was developed taking into account the strategic priorities of the organization. The author developed the personnel and social policy, enterprise structure, job descriptions, and regulations for divisions from the very beginning of the activity of OilGasChem Service (OGC Service) and Lukoil Technologies Services Ukraine; at the Pivdennyi Sea Port Administration, existing documentation was substantially revised and updated over the years of work.

The developed personnel documentation allowed for the redistribution of personnel when operational priorities changed without violating the requirements of the Labor Code [20]. Negotiations with the trade union committee on the terms of the collective agreement were conducted on the basis of documented assessment results and analysis of working conditions, which made it possible to achieve an agreed outcome.



**Scheme 1. Integrated Personnel Assessment Model**

A summary of the results of state inspections and labor disputes confirms that a consistently structured system of personnel documentation, assessment, and payroll calculation is a sufficient condition for the legal protection of the

enterprise in relations with regulatory authorities and in court disputes on labor law issues.



**Scheme 2. Personnel Commission Procedure**

In this study, the author takes an approach to HR management that extends beyond analysis to direct structural intervention. At OilGasChem Service (OGC Service) and Lukoil Technologies Services Ukraine, the HR function was developed from the ground up; at the Pivdennyi Sea Port Administration, it was substantially reformed and improved. Organizational structures were designed, job descriptions and divisional regulations were drafted, and remuneration policies were developed. Collective agreements were also negotiated with trade unions. Assessment criteria were formally codified to reduce inconsistent decision-making and ensure a legally defensible basis for personnel actions. Additionally, consolidating HR and payroll under one management position eliminated organizational gaps that often resulted in calculation errors and regulatory complications.

This engineering-style approach treats HR architecture as a system design problem with explicit inputs, rules, and verifiable outputs. This distinguishes the management model described here from conventional HR practice. This approach explains the consistent outcomes across three organizations with different structures.

**Discussion of Results.** The results of the study are consistent with a number of provisions in international literature and, at the same time, specify them in relation to the conditions of large domestic enterprises.

The practice of the enterprises studied confirms the conclusion of Armstrong and Taylor [19] about the greater effectiveness of multimodal

assessment systems compared to single-method ones. None of the three methods considered proved to be self-sufficient, and it was their combination in a single, normatively established procedure that ensured a stable management result.

The effect of combining the HR department and the payroll department under a single management corresponds to the conclusion of Bondarouk and Brewster [15] that the organizational integration of HR subsystems improves the quality of management data. This solution is particularly significant for domestic enterprises, as it does not require technological investments – only changes in the organizational structure and the appropriate qualifications of the HR manager.

The concept of “live calculation” has no direct analogues in the classifications of HR systems described by Marler and Boudreau [14], where the closing of the calculation month is considered a basic architectural paradigm. The proposed solution treats accruals as a continuously relevant state rather than the result of a completed accounting cycle.

The study has limitations that should be considered when interpreting the results. The case methodology does not allow for establishing a strict causal relationship between the described organizational decisions and the results achieved. The small sample size – three enterprises – limits the generalizability of the conclusions. A promising direction is to test the proposed solutions on a representative sample using quantitative methods.

**Conclusions.** The study allows us to formulate four main conclusions. First, the maximum effect of the personnel assessment system is not achieved by choosing a single methodology, but rather by combining them. The competency model provides the legal basis and strategic context for certification decisions, while the KPI approach establishes a measurable operational dimension. Finally, performance reviews support continuous feedback and a focus on development.

Second, in large enterprises, the personnel commission remains a necessary element of the certification process, as it ensures collegial decision-making, legal justification, and accountability of those who implement decisions. Compliance

with regulatory requirements and documentation of decisions are sufficient for stability in the event of a judicial appeal.

Third, combining the HR department and the payroll department under a single management eliminates the functional gap between HR decisions and their reflection in payroll calculations, significantly reduces the number of calculation errors, and increases the enterprise's readiness for inspections by regulatory authorities. This solution does not require technological investments, but it does require the HR manager to have the appropriate qualifications.

Fourth, the concept of “live calculation” – automatic and instant recalculation of accruals for any change in personnel data without the procedure of closing the calculation month – is a practical contribution to the development of HR technologies and can be used as a benchmark when selecting or designing new platforms.

Further research may include the following:

- Quantitative testing of the proposed organizational model on a representative sample of Ukrainian enterprises
- Development of a methodology for assessing the maturity of HR automation in the domestic market
- Analysis of the transformation of personnel assessment systems in the context of martial law and reconstruction.

### **References**

1. Collings, D. G., McMackin, J., Nyberg, A. J., & Wright, P. M. (2021). Strategic human resource management and COVID-19: Emerging challenges and research opportunities. *Journal of Management Studies*, 58(5), 1378–1382. <https://doi.org/10.1111/joms.12695>
2. Angrave, D., Charlwood, A., Kirkpatrick, I., Lawrence, M., & Stuart, M. (2016). HR and analytics: Why HR is set to fail the big data challenge. *Human*

Resource Management Journal, 26(1), 1–11. <https://doi.org/10.1111/1748-8583.12090>

3. Tursunbayeva, A., Di Lauro, S., & Pagliari, C. (2018). People analytics – A scoping review of conceptual boundaries and value propositions. *International Journal of Information Management*, 43, 224–247. <https://doi.org/10.1016/j.ijinfomgt.2018.08.002>

4. Kolot, A. M., & Tsymbaliuk, S. O. (2021). *Motyvatsiinyi menedzhment [Motivational management: Textbook] [in Ukrainian]*. Kyiv: KNEU. <https://ir.kneu.edu.ua/handle/2010/38429>

5. Melnyk, S. V. (2012). *Trudovi vidnosyny i kadrova bezpeka pidpriemstva [Labor relations and personnel security of an enterprise: Monograph] [in Ukrainian]*. Luhansk: DU NDI STV. <https://lib.lntu.edu.ua/uk/cat/8/3985>

6. McClelland, D. C. (1973). Testing for competence rather than for “intelligence”. *American Psychologist*, 28(1), 1–14. <https://doi.org/10.1037/h0034092>

7. Spencer, L. M., & Spencer, S. M. (1993). *Competence at work: Models for superior performance*. New York, NY: John Wiley & Sons. <https://www.wiley.com/en-us/Competence+at+Work%3A+Models+for+Superior+Performance-p-9780471548096>

8. Hollenbeck, G. P., McCall, M. W., & Silzer, R. F. (2006). Leadership competency models. *The Leadership Quarterly*, 17(4), 398–413. <https://doi.org/10.1016/j.leaqua.2006.04.003>

9. Parmenter, D. (2019). *Key performance indicators: Developing, implementing, and using winning KPIs (4th ed.)*. Hoboken, NJ: Wiley. <https://www.wiley.com/en-us/Key+Performance+Indicators%3A+Developing%2C+Implementing%2C+and+Using+Winning+KPIs%2C+4th+Edition-p-9781119620563>

10. Kaplan, R. S., & Norton, D. P. (1996). *The balanced scorecard: Translating strategy into action*. Boston, MA: Harvard Business School Press. <https://www.hbs.edu/faculty/Pages/item.aspx?num=8831>

11. Saulpic, O., & Zarlowski, P. (2022). Rethinking performance management: How to use KPIs to motivate and align employees. *Journal of Business Strategy*, 43(3), 175–181. <https://doi.org/10.1108/JBS-07-2021-0117>

12. Pulakos, E. D., & O’Leary, R. S. (2011). Why is performance management broken? *Industrial and Organizational Psychology*, 4(2), 146–164. <https://doi.org/10.1111/j.1754-9434.2011.01315.x>

13. McKinsey & Company. (2023). *The state of organizations 2023*. <https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/the-state-of-organizations-2023>

14. Marler, J. H., & Boudreau, J. W. (2017). An evidence-based review of HR analytics. *The International Journal of Human Resource Management*, 28(1), 3–26. <https://doi.org/10.1080/09585192.2016.1244699>

15. Bondarouk, T., & Brewster, C. (2016). Conceptualising the future of HRM and technology research. *The International Journal of Human Resource Management*, 27(21), 2652–2671. <https://doi.org/10.1080/09585192.2016.1232296>

16. Grand View Research. (2024). *Human capital management market size & trends analysis report, 2024–2030*. <https://www.grandviewresearch.com/industry-analysis/human-capital-management-market>

17. Boxall, P., & Purcell, J. (2016). *Strategy and human resource management* (4th ed.). London: Palgrave Macmillan. <https://link.springer.com/book/9781137407634>

18. Zahorska, T. M. (2020). *Stratehichne upravlinnia personalom promyslovykh pidpryemstv* [Strategic human resource management of industrial

enterprises: Monograph] [in Ukrainian]. Kharkiv: KhNEU im. S. Kuznetsia.  
<https://lib.hneu.edu.ua/index.php?id=4920>

19. Armstrong, M., & Taylor, S. (2020). *Armstrong's handbook of human resource management practice* (15th ed.). London: Kogan Page.  
<https://www.koganpage.com/hr-learning-development/armstrongs-handbook-of-human-resource-management-practice-9781789665031>

20. Kodeks zakoniv pro pratsiu Ukrainy [Labor Code of Ukraine] (Code No. 322-VIII) [in Ukrainian]. <https://zakon.rada.gov.ua/laws/show/322-08>

21. Ukrainian Sea Ports Authority. (n.d.). Official website [in Ukrainian].  
<https://www.uspa.gov.ua>

22. Ukrainian Chamber of Commerce and Industry. (n.d.). Official website [in Ukrainian]. <https://www.ucci.org.ua>

23. Ukraine. (1995, March 24). Pro oplatu pratsi [On remuneration of labor] (Law No. 108/95-VR) [in Ukrainian].  
<https://zakon.rada.gov.ua/laws/show/108/95-%D0%B2%D1%80>

24. Muenstermann, B., Eckhardt, A., & Weitzel, T. (2010). The performance impact of business process standardization: HR case study and cross-enterprise analysis. *Business Process Management Journal*, 16(1), 29–56.  
<https://doi.org/10.1108/14637151011017930>

25. Fedyk, M. V. (2025). Economic integration and cooperation in the context of globalization. *Public Management and Policy*, 1(5), 21–28.  
<https://doi.org/10.70651/3041-2498/2025.1.03>

26. Fedyk, M. V. (2025). Macroeconomic instability as a determining factor in the growth of unemployment under martial law. *Scientific Notes of Lviv University of Business and Law*, (45), 499-507.  
<https://nzlubbp.org.ua/index.php/journal/article/view/1733>