



Global Scientific and Academic Research Journal of Economics, Business and Management

ISSN: 2583-5645 (Online)

Frequency: Monthly

Published By GSAR Publishers

Journal Homepage Link- <https://gsarpublishers.com/journals-gsarjebm-home/>



ANALYTICALLY ORIENTED HR MANAGEMENT: CONCEPTUAL BASIS AND PRACTICAL SOLUTIONS

By

Iryna Shapka

Ukrainian State University of Science and Technology, Dnipro, Ukraine <https://orcid.org/0000-0003-1171-6445>



Article History

Received: 05/05/2025

Accepted: 15/05/2025

Published: 17/05/2025

Vol –4 Issue – 5

PP: -21-25

Abstract

The article deals with the conceptual principles and practical aspects of the implementation of HR analytics as an effective tool for improving the effectiveness of management and development of personnel in the conditions of digital transformation of business processes. The relevance of the study is due to the need to move from traditional, intuitive approaches to making personnel decisions based on a modern, data-oriented personnel management system. The study analyzes modern approaches to the use of HR analytics in domestic and foreign companies, revealed barriers to the implementation of analytical approaches in the field of personnel management (in particular, lack of competencies, data fragmentation, personnel resistance, etc.), as well as the main areas of use of analytical means of analytical tools, rebounding.

The analytically oriented personnel management model that combines input, analysis tools and performance metrics into a holistic step -by -step decision -making algorithm is proposed. The proposed model covers seven key stages-from collecting and structuring HR-data to monitoring efficiency and adjusting management decisions. The use of this model can increase the accuracy of problems, optimize the use of personnel resources, ensure the validity of management decisions and form a flexible, adaptive personnel policy in accordance with the challenges of the modern business environment in the field of personnel management.

Keywords: HR analytics, personnel management, analytically oriented model, HR analytics tools, staffing potential

Introduction

In today's context of digital transformation that has covered all spheres of socio-economic activity, personnel management is also undergoing significant changes. Particular attention is drawn to the development of HR analytics as a tool that allows you to transform management decisions from intuitive into evidence. Digitalization of personnel processes creates the preconditions for a deeper analysis of personnel data, which makes it possible to make strategically prudent decisions on staff management and development, reduction of staff turnover, productivity and involvement.

Analytics plays a key role in the management decision -making process, providing the opportunity to evaluate the effectiveness of training programs, identify risks and forecast personnel needs. Due to this, HR units gain more weight as strategic business partners, focused on the result and optimization of human capital (Gridin, 2024).

At the same time, in the practice of many organizations, the level of integration of HR analytics remains low. There is often insufficient data systematization, fragmentary use of analytical tools and the lack of a methodological base for the use of information obtained in the process of personnel management.

The purpose of the study

The study provides for modern approaches to the use of analytics in the HR sphere, identify existing problems and offer an analytically oriented personnel management model.

Materials and Methods

The study uses a set of theoretical and applied methods that provided a comprehensive approach to the analysis of problems. The theoretical basis of the study were the scientific works of domestic and foreign authors on issues of HR analytics, strategic personnel management, digital transformation in human resources management.



The research methodology is based on the combination of theoretical and applied approaches, which allows you to comprehensively evaluate the role of HR analytics in managing the development of staff. The study uses the method of analysis and synthesis to study the scientific foundations of HR analytics, its structure and functional content, as well as the possibilities of integration of analytical approaches into the personnel management system. The systematic approach has provided HR analytics as part of a holistic management system that interacts with the goals of the organization, digital tools and personnel processes. The comparison method made it possible to evaluate the practices of the implementation of HR analytics in international and domestic contexts. In addition, an analysis of expert surveys of HR specialists was used to find out the barriers and prospects for the implementation of HR analytics in personnel management in the practice of domestic and foreign companies.

Results

Successful implementation of HR analytics into the practice of personnel management, similar to structural transformations in the world's leading economies, is based on the transition from intuitive decision-making to systematic, data-oriented personnel management model. This transition covers both "vertical" development-from fragmentary use of indicators to the implementation of strategic analytics in the field of personnel development, as well as "horizontal" spread of analytical tools to key HR processes-selection, adaptation, training, motivation and management of personnel. This integration of HR analytics not only increases the validity of management decisions, but also strengthens the adaptive potential of organizations to changes in the dynamic environment of the labor market (McCartney & Fu, 2022).

In domestic companies, the main directions of use of HR analytics are the planning of the number of staff (22% of respondents), management of systems of payments and compensation (20%), as well as recruiting and assessment of personnel (16%). At the same time, the application of analytical approaches in the field of career planning and maintenance of workers is much less developed. In foreign companies, in particular in Europe and the US, HR analytics is much more common: it uses about 80% of medium and large enterprises for strategic decision-making. Analytics is especially active in the formation of rewards and compensation systems (98%) and in recruiting (95%). The defining feature of foreign practice is the high level of complexity of HR analytics and its complete integration into the overall corporate analytics system (Shaulska & Krimova, 2020).

The main areas of application of analytical tools in HR practitioners cover the key stages of the employee's life cycle in the organization and are aimed at improving the efficiency of management decisions based on data (Amupria & Preetha, 2023). In particular, in the field of recruitment, HR analytics allows you to optimize the sources of candidates' search, reduce the time of job closure and improve the quality of hiring by analyzing historical data and building successful

workers' profiles. At the stage of adaptation of employees, analytical tools provide monitoring of the level of integration of newcomers into the corporate environment, allow to identify the risks of fluidity and to adjust adaptation programs in a timely manner. In the field of training, HR analytics are used to evaluate the needs for advanced training, personalization of training routes, analysis of the effectiveness of educational measures and determining the impact of training on the results of employees. The assessment of labor productivity using analytics allows you to identify trends in tasks, compare the results with the CPI set, analyze the factors that affect efficiency, and form sound programs of incentive and development (Kostyshina and et al., 2023).

The introduction of HR analytics in organizations faces a number of barriers that complicate its effective use. According to the study, the main obstacles are (Kushwaha, 2024):

- i. data variety: HR departments manage a large amount of data related to various aspects of personnel management, such as recruiting, training and compensation. Collection, processing and interpretation of this data is a difficult task, especially when data comes from different sources and have different formats. Errors and duplicates in data can lead to inaccurate conclusions, which complicates the decision making;
- ii. insufficient communication between departments: the lack of effective interaction between HR, IT and other business units can lead to problems in the implementation of analytical tools. Successful integration of HR analytics requires close cooperation between all interested parties;
- iii. employee Resistance: Employees can show skepticism or resistance to the use of analytical systems, especially if they believe that these systems can misinterpret their productivity or affect their confidentiality. This may complicate the introduction of new technologies in the field of personnel management;

lack of skills: Effective use of HR analytics requires HR specialists not only with basic analytical skills, but also knowledge in statistics, work with digital data analysis tools (Bi-systems, HRIS, machine learning), as well as the ability to interpret results and clearly communicate. The lack of such competencies in staff creates a barrier to integrate analytics into decision-making processes and reduces the potential efficiency of HR analytics as a strategic management tool.

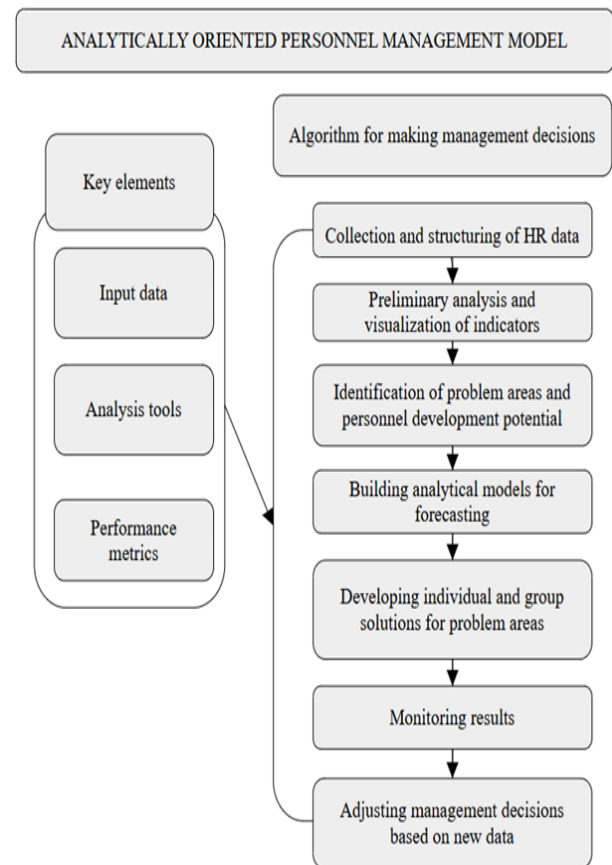
HR analytics tools cover a wide range of functionality-from the analysis of recruiting channels and evaluating the effectiveness of adaptation programs to the forecasting of staff turnover, measuring staff involvement, optimization of training and performance management (Mohammed, 2019; Danilenko, 2021; Edwards et al., 2024; Ostroverh & Kubitsky 2024; Wang, 2024). Taking into account the characteristic features and functional purpose, it is advisable to present HR analytics tools in a systematic form, which is given in Table 1.

Table 1 HR Analytics tools in HR management

A characteristic feature	Name	Functionality
Collecting and adjusting data	HRIS (Human Resource Information System)	Automation of accounting, storage and updating of personnel data
Analysis of staff efficiency	KPI-dashboard	Measuring the performance of employees by key indicators
Predicting employees' behavior	Predictive HR Analytics Tools	Predictions of staff turnover, burnout risk and replacement needs
Assessment of involvement and satisfaction	Employee Engagement Surveys	Monitoring the level of involvement, analysis of causes of dissatisfaction
Optimization of learning and development	LMS (Learning Management System)	Analysis of teaching programs, determining development needs
Supporting decision making	People Analytics Platforms	A comprehensive analysis of HR-data to support strategic planning

The HR analytics tools in the table provide companies with the ability to identify risks in a timely manner, to rationally use available resources, to adapt the policy of personnel development to changes in the environment, and to form a long-term personnel policy based on objective analytical indicators.

Understanding the logic of HR analytics is important for ensuring effective management and development of staff according to the challenges of digital transformation and dynamics of the modern labor market. In this context, it is advisable to present HR analytics in the form of an analytically oriented model, which takes into account the key stages of collection, processing and use of data to make sound management decisions in the field of personnel management (Fig. 1).

**Figure 1. A analytically oriented personnel management model in HR analytics system**

The analytically oriented personnel management model in the HR analytics system is an integrated management system that combines key data elements, analysis tools and performance metrics in a single decision-making algorithm, focused on improving the efficiency of personnel development processes. The model is structurally divided into two interdependent parts: the key elements that determine the conceptual basis of the analytical approach, and the algorithm for making management decisions, which formalizes the stage of implementation of the analytical process in the HR.

The key elements of the model belong:

- input, which covers both quantitative and qualitative HR indicators (staff turnover level, performance assessment results, training data, involvement, etc.);
- analysis tools, including BI platforms, HR-dashboard, regression models, machine learning methods and employee life cycle analytics;
- performance metrics that allow you to evaluate the efficiency of the implemented HRs, including the involvement index, ROI curricula, the level of internal mobility, etc.

The managerial action algorithm that forms the basis of an analytically oriented personnel management model covers seven logically consistent stages, each of which plays an important role in ensuring evidence-based and flexible adoption of HR decisions:

1. HR-data collection and structuring: at this stage, all important data are collected from the internal sources of the company (personnel accounting systems, LMS, CRM, surveys, performance, etc.) and their unification according to certain standards. This provides adequate quality, completeness, relevance and mutual consistency of data for further analytical use;
2. pre -analysis and visualization of indicators: includes primary data processing, construction of Dashboards, graphs, heatmaps that allow you to see key trends, detect deviations, patterns or imbalances in working with personnel;
3. identification of risk and developmental zones: on the basis of analytical review and correlation relationships, zones of risk are determined - for example, departments with high fluidity, reduced level of involvement, insufficient development of competencies. Also identified areas with high potential for development, improvement or optimization of HR processes;
4. Construction of analytical models for predicting staff behavior: machine learning tools, regression and cluster analysis are used, which allows you to model the probability of release, the level of readiness to increase, evaluate the need for training or predict the effectiveness of personnel measures;
5. development of personalized learning, adaptation, motivation decisions: targeted interventions are created on the basis of forecasts — individual development plans, adaptation programs, incentives or compensatory packages aimed at maintaining and developing the potential of specific groups of workers;
6. results monitoring: implemented measures are evaluated through key performance indicators — involvement index, satisfaction, turnover, productivity, completion of training, internal mobility, etc.;
7. Adjustment of management decisions according to updated data: re-viewing and adjusting HR decisions in accordance with new analytical conclusions, which ensures adaptability and continuous improvement of the organization's personnel policy.

Such a step -by -step algorithm allows to provide a systematic, sound and dynamically managed approach to personnel management and its development in the organization.

Conclusion

Summarizing the results of the study, we can conclude that HR analytics plays a key role in the transformation of modern personnel management — from fragmented, intuitively formed solutions to a holistic, scientifically and analytically based and data-oriented model that provides strategic value to HR functions, contributes to increasing the transparency of management actions, optimizing resources and strengthening

the adaptive potential of the organization in a rapidly changing external environment. The analytically oriented personnel management model in the HR analytics system demonstrates the possibility of systematic integration of digital tools, metrics and algorithms of action to improve the efficiency of all stages of the employee's life cycle-from recruiting to retention and development. Comprehensive implementation of HR analytics ensures timely identification of risks, adaptation to changes in the labor market, well-founded construction of training and motivation programs, as well as the formation of a flexible HR policy based on evidence-based data. Successful application of this approach is possible provided that the barriers - lack of digital competencies, data fragmentation and organizational resistance. Thus, HR analytics not only ensures the efficiency of personnel management in the digital era, but also acts as a strategic factor in strengthening the personnel potential and competitiveness of the organization.

References

1. Gridin, O. (2024). HR-ANALYTICS AS A KEY TOOL OF THE PERSONNEL MANAGEMENT SYSTEM OF A MODERN ORGANIZATION. *Economy and society*, (62). <https://doi.org/10.32782/2524-0072/2024-62-29>
2. McCartney, S., & Fu, N. (2022). Bridging the gap: why, how and when HR analytics can impact organizational performance. *Management Decision*, 60(13), 25-47.
3. Shaulska, L., & Krymova, M. (2020). HR-ANALYTICS AS A TOOL OF BUSINESS MANAGEMENT IN THE NEW ECONOMY. *Scientific papers OF DMYTRO MOTORNYYI TAVRIA STATE AGROTECHNOLOGICAL UNIVERSITY (ECONOMIC SCIENCES)*, 41, 20–26. <https://doi.org/10.31388/2519-884x-2020-41-20-26>
4. Ammupriya, A., & Subrahmanyam, P. (2023). Enhancement of work engagement through HRIS adoption mediated by workplace well-being. *Brazilian Journal of Operations & Production Management*, 20(1), 1499-1499.
5. Kostyshina, T., Tuzhyilkina, O., & Kostyshina, A. (2024). Making effective management decisions based on HR-analytics. *Grail of Science*, (39), 147-155. <https://doi.org/10.36074/grail-of-science.10.05.2024.018>
6. Kushwaha, V. (2024). Challenges in Implementing Human Resource Analytics.
7. International Journal of Scientific Research and Engineering Development, 7(5), 191–194.
8. MOHAMMED, A. Q. (2019). HR ANALYTICS: A MODERN TOOL IN HR FOR PREDICTIVE DECISION MAKING. *JOURNAL OF MANAGEMENT*, 10(3). <https://doi.org/10.34218/jom.6.3.2019.007>
9. Danylenko, O. A. (2021). The Use of HR-Analytics in the Diagnosis of Staff Management System.

- Business Inform, 7(522), 252–259.
<https://doi.org/10.32983/2222-4459-2021-7-252-259>
10. Edwards, M. R., Edwards, K., & Jang, D. (2024). Predictive HR analytics: Mastering the HR metric. Kogan Page Publishers.
11. Ostroverkh, P., & Kubitsky, S. (2024). THE USE OF HR-ANALYTICS TO IMPROVE THE EFFICIENCY OF PERSONNEL MANAGEMENT. Collection of Scientific Papers “SCIENTIA”, (September 20, 2024; Bern, Switzerland), 59-63. Retrieved from <https://previous.scientia.report/index.php/archive/article/view/2075>
12. Wang, A. (2024). Enhancing HR management through HRIS and data analytics. Applied and Computational Engineering, 64(1), 223–229. <https://doi.org/10.54254/2755-2721/64/20241394>