

Svitlana NESTERENKO

Doctor of Economics, Professor, Open International University of Human Development "Ukraine"

ORCID: <https://orcid.org/0000-0003-1478-016X>

e-mail: nest82@i.ua

Viacheslav LIUBONKO

postgraduate student, Open International University of Human Development "Ukraine"

ORCID: <https://orcid.org/0000-0003-1362-4931>

e-mail: rub@gmail.com

INNOVATIVE INSTRUMENTS FOR INCREASING THE EFFICIENCY OF HUMAN RESOURCES MANAGEMENT OF IT-COMPANIES

The mechanism of improving the efficiency of human resources management at IT-companies updates the implementation of innovative management tools in the processes of hiring, developing, and evaluating their employees. The goal of the work is to deepen the theoretical and conceptual foundations of the effectiveness of HR management at IT-companies in the social and labor context and to develop scientific and applied recommendations regarding the mechanism of its enhancement in the conditions of formation of a new economy. Measures outlined in the paper to apply the competency approach, to introduce the talent management algorithm on a systematic basis, and to develop the system of key performance indicators should be considered as a component of scientific and practical recommendations for improving the efficiency of human resources management in IT enterprises in the social and labor dimension. In order to improve the efficiency of human resources management at IT enterprises, it is necessary to develop and introduce a perfect mechanism as a systemic integrity of economic, social, and organizational processes of creating preconditions for innovative development of the enterprise as a benefit for the employer and decent work as a benefit for the employees. The scientific platform of the theoretical and applied construct of such a mechanism should be the managerial paradigm of harmonization of social and labor relations, and its internal architectonics should be formed in compliance with the values of corporate social responsibility and contain innovative tools in the format of the goals and results management system in contrast to the functions management system. On the basis of understanding of the essence and regulatory consolidation of competencies as the ability of a person to perform a certain type of activity, the model of functional and behavioral competencies of the IT project manager is developed, the trajectory of development of talents in the field of computer programming is given, the methodological basis of construction and the algorithm of development of the key system are developed and performance indicators are implemented.

Keywords: human resources, project management, IT managers, key performance indicators, qualification level

INTRODUCTION

Multi-vector and large-scale transformations of the world economy and society significantly affect the structure and hierarchy of factors and institutions that provide economic recovery and positive social dynamics. The growth of the segment of high-tech industries and the strengthening of innovation orientation of enterprises have been one of the defining trends in the emergence of a new economy in the global dimension.

Under such conditions, human resources (HR) as a carrier of intellectual capital and innovation potential become a priority, and the perfection of management technologies for their formation, development, and use plays a role as one of the main factors for obtaining competitive advantages [1]. However, the low level of efficiency of HR management causes insufficient efficiency of the activity of enterprises, causes asymmetries in the field of economic and social development, and leads to the loss of competitive positions in the world and domestic markets [2].

Despite the deepening of the scientific study of various aspects of HR management as a component of an integrated multilevel management system, theoretical and conceptual platform to objectively study the effectiveness of HR management at IT enterprises, in particular – to determine the dominants of its measurement and improve mechanisms, which provide sustainable development dynamics, has not been formed in economic science. The lack of holistic integrated approaches to solving the pressing problems of the effective-

ness of HR management at IT enterprises in the coordinates of the latest global transformations updates the choice of the research topic.

The **PURPOSE** of the paper is to deepen the theoretical and conceptual foundations of the effectiveness of HR management at IT-companies in the social and labor context and to develop scientific and applied recommendations regarding the mechanism of its enhancement in the conditions of formation of a new economy.

METHODS

The theoretical and methodological basis is formed on the fundamental provisions of the modern theory of social-labor relations, scientific works in the field of labor economics and HR management. To achieve this goal, historical and logical approaches, methods of theoretical generalization, abstract logic, induction and deduction, analysis and synthesis were used in the process of analyzing the genesis and argumentation of the modern vector of the development of the concept of IT management in IT enterprises in the context of efficiency.

In the course of the work, general scientific and special methods of scientific research are used: expert assessments – to analyze the practice of using the toolkit to ensure the effectiveness of the HR management on the social and labor component; comparative analysis – to develop proposals for innovation of the institutional context of the organization and remuneration as factors for improving the effectiveness of the HR management; economic and mathematical mode-

ling – to identify trends and conduct factor analysis of the HR management in the social-labor context of efficiency; statistical analysis – to evaluate the current status of decent work indicators as a social-labor dominant of the effectiveness of HR management; systematic, structural, and functional analysis – to develop a theoretical and applied construct of the mechanism of increasing the efficiency of the control of HR; synthesis, classification, decomposition, and factor-point evaluation – to substantiate innovative social and labor tools of HR management.

RESULTS

The formation of a mechanism for improving the efficiency of human resources management is carried out according to the priorities of HR strategic management, which are implemented using innovative tools within the management system for goals, results, and corporate social responsibility. The fundamental idea of the mechanism elaboration is the principles that carry a semantic load as the scientific basis for the formation, research of the state, and the development of tools to improve the effectiveness of the HR management.

In the process of the development and implementation of the system, mechanisms, and tools of HR management, it is necessary to take into account the specifics of high-tech activities; to apply a wide range of approaches and methods aimed at attracting creative personalities, enhancing employees' creative initiative, creating an atmosphere, which contributes to the discovery of employees' capabilities and encourages their development [3].

The framework conditions for the development and implementation of a comprehensive mechanism for improving the effectiveness of HR management, as can be seen from the figure, define the management paradigm for harmonization of social-labor relations, which unites the object and the subject of managing the common purpose and serves as a prerequisite for the parties of the social-labor relations to receive expected benefits [4-6].

Building an integrated mechanism and developing an updated scientific and applied toolkit for effective HR management, according to the author, should be based on the implementation of a performance management approach by following a number of principles in contrast to a common function management system, which will focus on achieving goals and the best results with using available resources. At the same time, the circle of priority components of this mechanism is defined by the strategic horizon as a key difference between HR management and personnel management and covers hiring, development, evaluation, and remuneration for labor, and specific features of work in the field of high-tech activity, especially its creative nature, complexity, and high level of novelty, are the framework conditions for determining the scope of methods that ensure effective HR management [7].

The methodological prerequisite for the formation of a modern concept of HR management should be an innovative management toolkit for the development and effective use of HR, which ensures the harmonization of interests and benefits for both the employer and employees [8]. The main guideline for further development of this concept should be the transition to a new paradigm of harmonization of social and labor relations, which unites the object and the subject of

management of the common purpose and serves as a framework condition for the parties of social and labor relations to receive the expected benefits in the context of eliminating asymmetries and achieving the balance of interests of the social partners, assurance of their rights and priority needs.

The organization of wages at the enterprise level should be aimed at fulfilling the following three main tasks: providing each employee with an adequate wage that is appropriate to the market value of labor services and consistent with the results of the work; providing the employer with such a result of activity, which allows reimbursing expenses and making a profit; achieving the necessary compromise in the interests of the employer and the employees on matters of distribution of income of the enterprise.

According to the author, the effective remuneration system can be built on a combination of scientifically applied bases of grading and performance management using key performance indicators (KPIs). The main idea of grades is the introduction of a fixed salary of the employee, that is, the basic part of a salary depending on the value of a position. Given the attribution of the position to the appropriate grade, the employee's social package and, in the vast majority of cases, the amount of rewards is determined. Thus, the grading system in some way regulates the compensation package as a whole.

Innovative management approaches and tools for improving the effectiveness of HR management should be considered: in the hiring processes – competency approach; in the development processes – talent management; in assessing the determination of the business potential and individual contribution to key performance indicators; in remuneration – combination of grading in the design of basic wages and performance management in the practice of bonuses. At the same time, the focus on market wage rates and the use of a new payment structure within the compensation package introduced at the enterprise should be provided.

Therewith, the significance and relevance of managerial functions regarding the normalization of work of various types and the planning of the overall business process with the allocation of relatively autonomous components of it are enhanced. Rhythm should be ensured by the rational organization of labor processes and the quality of order scheduling.

The author proposes to calculate the performance indicator, according to which the size of the official salary established by the grading system can be adjusted, as well as the amount of reward payments, according to the scale given in tab. 1.

We are deeply convinced that such a scale for determining the performance indicator will allow directing the efforts of the IT project manager, on the one hand, to satisfy the customer's needs, and on the other, to meet the needs of the project executors. It will stimulate the avoidance of deviations of the actual terms of the transfer of work to the customer from the planned ones, the avoidance of defects in the development, and the absence of complaints from the customer since an increase in the number of omissions in work as opposed to the goals leads to a decrease in the level of productivity. In addition, providing a favorable working environment for project executors will be a powerful incentive for the effective work of the IT project manager.

Table 1 – Scale for evaluating the performance of the IT project manager [author's development]

KPI	Plan	Fact	Productivity, %
1. Exceeding of the terms of transfer of work to the customer, <i>working weeks</i> 2. Number of defects, <i>pcs</i> 3. Dissatisfaction of the customer with the result (number of complaints), <i>pcs</i> .	0	0	100
		1	80
		2	60
		3	40
		4	20
		More than 4	0
4. Satisfaction of the project executors with the work, %	100	100	100
		90	80
		80	60
		Less than 80	0

In the conditions of distance employment, which has become widespread among specialists, developers of applied software products and other innovative solutions, correctly designed KPIs help minimize the risks of untimely or poor-quality performance of work under order. In particular, such indicators can be the number of orders submitted and accepted by the customer within the time period agreed upon for the billing period. The planned result is the compliance with the deadlines for the execution of orders and their quality.

Summarizing the above, it can be argued that the implementation of innovative tools for the development and use of HR in the work management system does not help to increase the efficiency of personnel processes and, in turn, achieve high standards of decent work as the social and labor dominant of HR management efficiency.

Thus, the harmonization of social and labor relations excludes the dominance of interests, needs, and positions in obtaining the desired results and is aimed at coordinating the actions of their subjects, which is achieved using appropriate institutional and managerial tools. The priority among the institutional tools for creating harmonious social and labor relations should undoubtedly be, first of all, a perfect regulatory and legal framework and compliance with the established legislative norms by both parties of social and labor relations. Effective tools for strategic priorities of human resources management include hiring, evaluation, development, and remuneration for labor.

The institute of social responsibility is of particular relevance, which in its broadest format means that the subjects understand the relationships and interactions of all the requirements made by various stakeholders. According to modern scientific concepts and practical approaches, the dominant social responsibility is the moral component, which is supported by legal responsibility. On a practical plane, social responsibility becomes a manifestation of intentions in fulfilling a wide range of social obligations, which are for-

med according to the special structure and hierarchy of value orientations of subjects of relationships and interaction.

CONCLUSION

Based on the results of an analytical assessment of the current state of the management efficiency of the medicinal product, carried out on the example of the field of computer programming and the provision of information services, strategic vectors have been identified and scientific and applied foundations for increasing the effectiveness of HR management have been developed.

In the process of developing and implementing the mechanism and tools for managing HR, it is necessary to take into account specific features in the field of high-tech activities - creative nature, complexity, high level of novelty, adaptability, and non-standard solutions; to apply a wide range of approaches and methods aimed at attracting creative personalities, increasing the creative initiative of employees, creating an atmosphere that contributes to uncovering the abilities of employees and encouraging their development.

The framework conditions for a comprehensive mechanism for increasing the efficiency of HR management have determined the paradigm of harmonization of social and labor relations, which unites the object and subject of management of a common goal and most faithfully reproduces the modern vector of socio-economic development in the coordinates of the new economy, one of the leading subjects of which is a high-tech enterprise. Strengthening social component means recognition of HR as key ones, is associated with an increasing role of knowledge, an increase in personnel costs, increased competition in the labor market, the expansion of rights for staff participation in management decision making, enhancement of flexibility, team work style against the backdrop of the loss of the priority hierarchy in the management structure.

References

1. Akbari N., Ghaffari A. Verifying relationship of knowledge management initiatives and the empowerment of human resources. *Journal of Knowledge Management*. 2017. № 21(5). pp. 1120–1141. URL: <https://www.emerald.com/insight/content/doi/10.1108/JKM-10-2016-0435/full/html>
2. Al Shobaki M.J., Naser S.S.A., Amuna Y.M.A., El Talla S.A. Impact of Electronic Human Resources Management on the Development of Electronic Educational Services in the Universities. *International Journal of Engineering and Information Systems*. 2017. № 1(1). 19 p. URL: <https://hal.archives-ouvertes.fr/hal-01500357/>
3. Pombo G., Gomes J. How does work engagement mediate the association between human resources management and organizational performance? *Problems and Perspectives in Management*. 2018. № 16(3). pp. 63–79. URL: <https://www.ceeol.com/search/article-detail?id=681405>
4. Tinelli E., Colucci S., Donini F.M., Di Sciascio E., Giannini S. Embedding semantics in human resources management automation via SQL. *Applied Intelligence*. 2017. № 46(4). pp. 952–982. URL: <https://link.springer.com/article/10.1007/s10489-016->

0868-х

5. Cesario F., Magalhaes S. Human resources management, citizenship behavior, and turnover intention in the Portuguese public administration. *International Journal of Public Administration*. 2017. № 40(11). pp. 979–988. URL: <https://www.tandfonline.com/doi/abs/10.1080/01900692.2016.1242609>
6. De Massis A., Audretsch D., Uhlaner L., Kammerlander N. Innovation with Limited Resources: Management Lessons from the German Mittelstand. *Journal of Product Innovation Management*. 2018. № 35(1). pp. 125–146. URL: <https://onlinelibrary.wiley.com/doi/full/10.1111/jpim.12373>
7. Guest D.E. Human resource management and employee well-being: Towards a new analytic framework. *Human Resource Management Journal*. 2017. № 27(1). pp. 22–38. URL: <https://onlinelibrary.wiley.com/doi/full/10.1111/1748-8583.12139>
8. Yu S. Human resources management and evaluation system based on fuzzy analytic hierarchy process. *Journal of Interdisciplinary Mathematics*. 2017. № 20(4). pp. 951–964. URL: <https://www.tandfonline.com/doi/abs/10.1080/09720502.2017.1358874>

Список використаних джерел

1. Akbari N., Ghaffari A. Verifying relationship of knowledge management initiatives and the empowerment of human resources. *Journal of Knowledge Management*. 2017. № 21(5). pp. 1120–1141. URL: <https://www.emerald.com/insight/content/doi/10.1108/JKM-10-2016-0435/full/html>
2. Al Shobaki M.J., Naser S.S.A., Amuna Y.M.A., El Talla S.A. Impact of Electronic Human Resources Management on the Development of Electronic Educational Services in the Universities. *International Journal of Engineering and Information Systems*. 2017. № 1(1). 19 p. URL: <https://hal.archives-ouvertes.fr/hal-01500357/>
3. Pombo G., Gomes J. How does work engagement mediate the association between human resources management and organizational performance? *Problems and Perspectives in Management*. 2018. № 16(3). pp. 63–79. URL: <https://www.ceeol.com/search/article-detail?id=681405>
4. Tinelli E., Colucci S., Donini F.M., Di Sciascio E., Giannini S. Embedding semantics in human resources management automation via SQL. *Applied Intelligence*. 2017. № 46(4). pp. 952–982. URL: <https://link.springer.com/article/10.1007/s10489-016-0868-x>
5. Cesario F., Magalhaes S. Human resources management, citizenship behavior, and turnover intention in the Portuguese public administration. *International Journal of Public Administration*. 2017. № 40(11). pp. 979–988. URL: <https://www.tandfonline.com/doi/abs/10.1080/01900692.2016.1242609>
6. De Massis A., Audretsch D., Uhlaner L., Kammerlander N. Innovation with Limited Resources: Management Lessons from the German Mittelstand. *Journal of Product Innovation Management*. 2018. № 35(1). pp. 125–146. URL: <https://onlinelibrary.wiley.com/doi/full/10.1111/jpim.12373>
7. Guest D.E. Human resource management and employee well-being: Towards a new analytic framework. *Human Resource Management Journal*. 2017. № 27(1). pp. 22–38. URL: <https://onlinelibrary.wiley.com/doi/full/10.1111/1748-8583.12139>
8. Yu S. Human resources management and evaluation system based on fuzzy analytic hierarchy process. *Journal of Interdisciplinary Mathematics*. 2017. № 20(4). pp. 951–964. URL: <https://www.tandfonline.com/doi/abs/10.1080/09720502.2017.1358874>

Світлана Сергіївна НЕСТЕРЕНКО

д.е.н., професор, Відкритий міжнародний університет розвитку людини "Україна"
ORCID: <https://orcid.org/0000-0003-1478-016X>
e-mail: nest82@i.ua

В'ячеслав Павлович ЛЮБОНЬКО

аспірант, Відкритий міжнародний університет розвитку людини "Україна"
ORCID: <https://orcid.org/0000-0003-1362-4931>
e-mail: rub@gmail.com

ІННОВАЦІЙНІ ІНСТРУМЕНТИ ДЛЯ ПІДВИЩЕННЯ ЕФЕКТИВНОСТІ УПРАВЛІННЯ ЛЮДСЬКИМИ РЕСУРСАМИ ІТ-КОМПАНІЙ

Механізм підвищення ефективності управління людськими ресурсами в ІТ-Компанії оновлює впровадження інноваційних інструментів управління в процесах найму, розробки та оцінки своїх працівників. Мета роботи – поглибити теоретичні та концептуальні основи ефективності управління HR в ІТ-компаній у соціальному та трудовому контексті та розробити наукові та прикладні рекомендації стосовно механізму його вдосконалення в умовах формування нової економіки. Заходи, викладені у статті стосовно застосування підходу до компетентності, для впровадження алгоритму управління талантами на систематичній основі, а для розроблення системи ключових показників ефективності слід розглядати як компонент наукових та практичних рекомендацій з підвищення ефективності управління людськими ресурсами в ІТ-підприємствах у соціальному та трудовому вимірі. Для підвищення ефективності управління людськими ресурсами на ІТ-підприємствах необхідно розробити та запровадити ідеальний механізм як системну цілісність економічних, соціальних та організаційних процесів створення передумов для інноваційного розвитку підприємства як вигоди для Роботодавця та гідна робота як вигода для працівників. Наукова платформа теоретичної та прикладної конструкції такого механізму повинна бути управлінською парадигмою гармонізації соціальних та трудових відносин. Її внутрішня архітектоніка має бути сформована відповідно до цінностей корпоративної соціальної відповідальності та містити інноваційні інструменти у форматі системи управління цілями та результатами на відміну від системи управління функціями. На основі розуміння сутності та регуляторної консолідації компетенцій як здатності людини виконувати певний тип діяльності, розроблена модель функціональних та поведінкових компетенцій керівника ІТ-проєкту, траєкторія розвитку талантів. у Наведено поле комп'ютерного програмування, розроблено методологічні основи побудови та алгоритм розробки ключової системи та впроваджуються показники ефективності.

Ключові слова: людські ресурси, управління проєктами, ІТ-менеджери, ключові показники ефективності, рівень кваліфікації