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Economic approaches to assessing employee development in organisations

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Abstract. The relevance of the study is driven by the absence of a unified approach to the economic assessment of employee development, the fragmentation of indicators used, and insufficient alignment between theoretical models and practical management tools. The purpose of the article was to systematise and generalise economic approaches to assessing employee development applied in contemporary re-search, as well as to substantiate the author's proposals for improving the economic evaluation of development outcomes. To achieve this purpose, the study analysed the main approaches, methods, and indicators used in assessing employee development, identified research gaps and problematic aspects that limit comprehensive economic analysis. As a result, the article generalised the principal economic approaches to evaluating employee development within the frameworks of labour economics and organisational economics and established their multilevel nature from the individual to the organisational and macroeconomic levels. It was determined that most approaches rely on indicators of labour productivity, costs, performance, and the economic return on investments in employee development. The feasibility of integrating quantitative, analytical, and behavioural indicators into a unified system of economic evaluation has been substantiated, and a structural-logical algorithm as well as an economic-analytical model for managerial decision-making have been developed. The practical testing of the proposed approach, carried out using aggregated data from retail enterprises in Ukraine for 2019-2024, confirmed its effectiveness. Specifically, an increase in labour productivity by 10-14%, an improvement in employees' professional competencies by 20-25%, a reduction in the adaptation period by more than 30%, and an increase in the return on investment in personnel development by over 60% were observed. At the same time, a decrease in staff turnover by approximately one-quarter and an increase in income per employee by 10-15% were recorded. The results also demonstrated positive trends in industry-level indicators, including growth in labour productivity, the wage fund, and employment levels. The practical significance of the results consists in forming an analytical ba-sis to enhance the soundness of managerial decisions regarding investments in employee development

Keywords: economic evaluation; labour productivity; resource efficiency; investment in development; managerial decisions

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Introduction

The economic performance of organisations largely depends on employee development (ED). Growing competitive pressure and a complex economic environment increase requirements for labour productivity (LP) and efficient human resource (HR) utilisation. ED is thus not only the improvement of professional skills but also a key economic factor for achieving strategic goals and long-term competitiveness. Its effectiveness is reflected in higher LP, cost optimisation, and better organisational outcomes, requiring economic evaluation to support managerial decisions. However, the lack of a unified theoretical and methodological approach, fragmented indicators, and ambiguous results hinder comprehensive evaluation. Diverse academic approaches exist, but the absence of an integrative framework limits practical application, highlighting the need to systematise and generalise economic evaluation methods for ED.

Issues related to personnel management and the economic analysis of the outcomes of this process have been examined in the works of many Ukrainian and international scholars. V. Miklovda & O. Popovych (2021) in their work noted that personnel constitute is one of the key factors of an organisation's competitiveness, while their development is a necessary condition for increasing LP. The authors proposed assessing productivity at three levels: first – the level of social perception, where the employee's image and social success are of primary importance; second – the level of professional development, where performance is determined by employees' competitiveness; and third – the level of work organisation, where efficiency depends on the application of appropriate technologies, taking into account specific conditions and industry characteristics.

According to the position of I. Zastrozhnikova (2022), contemporary ED is characterised by a complex combination of interrelated elements, among which training, professional adaptation, motivation of work behaviour, and career management play a key role. Personnel training is viewed as a fundamental component of the development system, ensuring the formation and continuous updating of professional knowledge, skills, and competencies in accordance with the requirements of organisational activities. At the same time, professional adaptation facilitates employees' integration into the work environment, the assimilation of organisational norms and standards, and enhances their ability to perform job functions effectively. An important element of ED is career management, which encompasses the planning of professional advancement, the formation of a talent reserve, and the creation of conditions for employees' professional growth. Motivation, in turn, ensures the alignment of employees' individual interests with organisational goals and facilitates the realisation of their potential. At the same time, the author emphasises that contemporary ED practices face a number of challenges, including an insufficient level of specialised education and limited proficiency in modern technologies, which necessitates a systematic approach to the design and implementation of ED systems.

Research by O. Chatchenko (2025) indicated that accounting for employees' psychological and corporate well-being is an important prerequisite for increasing LP and achieving an organisation's strategic outcomes. In particular, satisfying employees' psychological needs, developing leaders' emotional intelligence, and fostering a partnership-oriented organisational culture contribute to higher motivation, stronger team cohesion, and greater work effectiveness, whereas neglecting these aspects leads to reduced productivity, increased staff turnover, and the loss of competitive advantages. According to I. Shapka (2025), effective management of ED requires a revision of traditional approaches in light of globalisation processes, digital transformation, and changes in the structure of knowledge. From an economic perspective, ED should be assessed through the systemic nature of managerial decisions, adaptability to institutional changes, a focus on the formation of innovative competencies, and support for professional mobility. The author also noted that increasing requirements for digital literacy, interdisciplinary interaction, and international cooperation necessitate the use of new models for evaluating ED outcomes, based on the principles of lifelong learning and the application of digital knowledge management tools. In this context, the economic evaluation of ED is viewed as a foundation for substantiating HR policy, enhancing organisational performance, and ensuring innovative capacity.

In academic literature, increasing attention is paid to a new generation of employees (in particular, millennials), who are characterised by distinct value orientations, expectations regarding professional development, and forms of interaction within organisations. This necessitates a revision of traditional approaches to ED and the assessment of professional growth outcomes. Drawing on the research of K. Gabrielova & A. Buchko (2021), it is emphasised that the specific features of motivation, work values, and interaction patterns of contemporary employees require more flexible and adaptive development management tools. In this context, the authors note that approaches to assessing ED should take into account not only formal performance indicators, but also behavioural changes and levels of engagement. This further reinforces the relevance of rethinking classical models of ED assessment.

A. Alexeyev *et al.* (2024) considered investment in employees to be an important factor in increasing LP, work efficiency, and organisational competitiveness. Investments in ED and health preservation generate long-term economic effects that depend on the duration of the active working period, as well as on the systematic nature and social relevance of such investments. The authors emphasised that investments in employees may both depreciate due to aging and the obsolescence of knowledge and accumulate over time, creating a "compounding effect" through the development of skills and abilities. According to the approach proposed by the authors, investments in employees are classified into intangible investments (financing of science, development, and upbringing before working age), tangible investments embodied in employees (expenditures on education and healthcare), and tangible investments not directly embodied in employees (costs related to job search, on-the-job training, migration, and information support), all of which contribute to professional and social mobility.

Another important aspect of ED is motivation, which acts as a factor in activating labour activity, increasing engagement in professional growth, and ensuring sustainable growth in LP. In the study by T. Bondar & A. Krasnonos (2023), considerable attention is devoted to examining employee motivation methods based on a synthesis of domestic and international HR management experience. Summarising the findings of contemporary research, the authors identified the most effective methods, namely financial motivation (bonuses, incentives, and other material rewards), motivation through training and professional development, the use of flexible work schedules, recognition and rewards, as well as the application of modern technologies as highly effective tools for influencing employee motivation. The authors also emphasised that effective employee motivation involves not only the implementation of individual incentive factors, but also systematic work with personnel, continuous skills development, improvement of working conditions, the development of corporate culture, and the provision of effective communication at all levels of the organisation. The aim of the article was to systematise and synthesise economic approaches to the evaluation of ED within an organisation and to develop a conceptual and methodological framework for assessing ED across different levels of analysis, serving as an analytical basis for the further substantiation of managerial decisions. Achieving the stated objective involves analysing and classifying the main economic approaches, methods, and indicators used to evaluate ED; identifying methodological limitations and inconsistencies that complicate the formation of a comprehensive system of economic evaluation; generalising theoretical provisions regarding the interpretation of ED outcomes; and substantiating directions for improving economic evaluation based on an integrative approach.

Materials and Methods

The study was based on a combination of methods, including content analysis, systematisation, generalisation, and an integration approach. Content analysis was applied to scientific sources, which were analysed to identify existing approaches to the evaluation of ED. These sources included academic studies published between 2020 and 2025, addressing issues of LP, HR development, HR analytics, and the economic efficiency of personnel utilisation, as well as analytical reports and statistical data. Sources were selected based on criteria of relevance, scientific reliability, and methodological significance, with priority given to recent studies to ensure the timeliness of the findings.

The method of systematisation was used to group approaches and indicators according to levels of analysis – individual, organisational, and economic – thus allowing for consideration of the multi-level nature of the economic effects of ED. The generalisation method enabled the formation of an integrated system of indicators combining performance-based, behavioural, and cost-related characteristics of ED. The integration approach was applied to ensure consistency across indicators at different levels of analysis and to form a unified analytical system for economic evaluation. In addition, the economic-analytical method was used to interpret the obtained results and to establish relationships between ED indicators and the economic performance of organisations. The resulting system of indicators was further structured in accordance with defined levels and functional purposes. The next step involved the formalisation of indicators through the development of analytical relationships suitable for quantitative analysis and further modelling.

To ensure the practical applicability of the proposed system, the methodological toolkit was further developed through the creation of a structural and logical algorithm for the economic evaluation of ED. The final stage involved the formation of an economic-analytical framework for managerial decision-making, ensuring the transformation of evaluation results into practical managerial actions aimed at the development of HR potential. The proposed system is based on principles such as the level-based approach (micro-, meso-, and macro-levels), functional orientation (performance, efficiency, and resource utilisation), economic relevance, and measurability. This ensured the consistency of the indicator system and enabled the integration of evaluation results into a unified analytical model.

To validate the proposed methodological approach, its practical application was demonstrated through its testing using aggregated data from the leading retail chain EVA (LLC "RUSH") for the period 2019-2024. The evaluation involved the calculation of key economic indicators, including LP, return on investment in human resources (ROI-HR), employee turnover rate, and revenue per employee. The obtained results were analysed and interpreted within the proposed economic-analytical framework, which made it possible to substantiate managerial decisions aimed at improving the efficiency of HR utilisation and enhancing the economic performance of the organisation.

Results and Discussion

Summarising the findings of scientific studies, devoted to the evaluation of ED, it can be stated that the corresponding approaches are implemented with consideration of different levels of analysis. Evaluation was carried out at the level of the individual employee, the organisation, and the economy as a whole, which is determined by the multidimensional nature of ED outcomes and the varying depth of their economic effects. Such a division according to levels of analysis makes it possible to identify the interconnection between individual ED outcomes, the effectiveness of managerial decisions within organisations, and macroeconomic consequences. The evaluation of ED by levels of analysis is systematised in Table 1.

Table 1. Systematisation of economic approaches to the evaluation of ED by levels of analysis

Level of analysis	Object of assessment	Main economic approaches	Focus of economic evaluation	Expected economic results
Employee	Professional development, changes in competencies and behavioural characteristics	Competency-based, performance-based, investment-based	Economic effectiveness of individual development	Increase in LP, reduction of adaptation time costs, and improvement in the quality of task performance
Organisation	ED system of the organisation, workforce potential	Cost-performance-based, resource-based, strategic	Economic efficiency of workforce potential utilisation	Increase in profitability, cost optimisation, reduction in employee turnover, and strengthening of innovation activity
Economy	Aggregate development of employees and human capital	Macroeconomic, institutional, socio-economic	Macroeconomic return on human capital development	Growth in overall LP, improvement in workforce quality, and strengthening of economic competitiveness

Source: developed by the author based on Y. Palamarenko (2020), V. Ushkalyov & M. Martiyanova (2021), A. Church *et al.* (2021), O. Panchenko (2024)

The generalisation of economic approaches to evaluating ED by levels of analysis provides a holistic understanding of the multi-level nature of the economic returns from workforce potential development. The differentiation of ED across micro-, meso-, and macro-levels ensures methodological consistency between individual development outcomes, the efficiency of workforce potential utilisation within organisations, and macroeconomic effects. Such systematised structuring forms the basis for integrating performance, behavioural, and cost indicators into a unified analytical system, thereby enhancing the substantiation of economic evaluation and the coherence of managerial decisions regarding ED.

At the employee level, development ensures not only an increase in individual productivity, but also enhances the employee's ability to perform job functions effectively under conditions of change, to master new tasks and technologies more rapidly, and to reduce the time and resource costs associated with professional adaptation. From a methodological perspective, this means that the outcomes of ED are transformed into economically measurable indicators of performance and the efficiency of the utilisation of their potential. At the organisational level, the economic effects of ED are manifested in improved overall performance, greater efficiency in the use of labour and financial resources, and reduced costs related to staff turnover and the training of new employees. Within the framework of economic evaluation, these effects are reflected through a system of coordinated performance and resource efficiency indicators, which makes it possible to link ED with the achievement of an organisation's strategic objectives. At the economic level, ED generates systemic and long-term outcomes manifested in increased overall LP, improved workforce quality, and greater adaptability of the labour market to structural changes. From the perspective of the methodology of economic evaluation, this implies the necessity of considering systemic effects that extend beyond the boundaries of an individual organisation and generate macroeconomic returns from investments in workforce potential development. To ensure the effective implementation of the proposed approach to the economic evaluation of ED, its application should be carried out within a sequential system of interrelated stages. This sequence involves defining the objectives of the evaluation, selecting a system of indicators according to the levels of analysis, forming the information base, calculating integral indicators, and interpreting the obtained results for the substantiation of managerial decisions (Fig. 1).

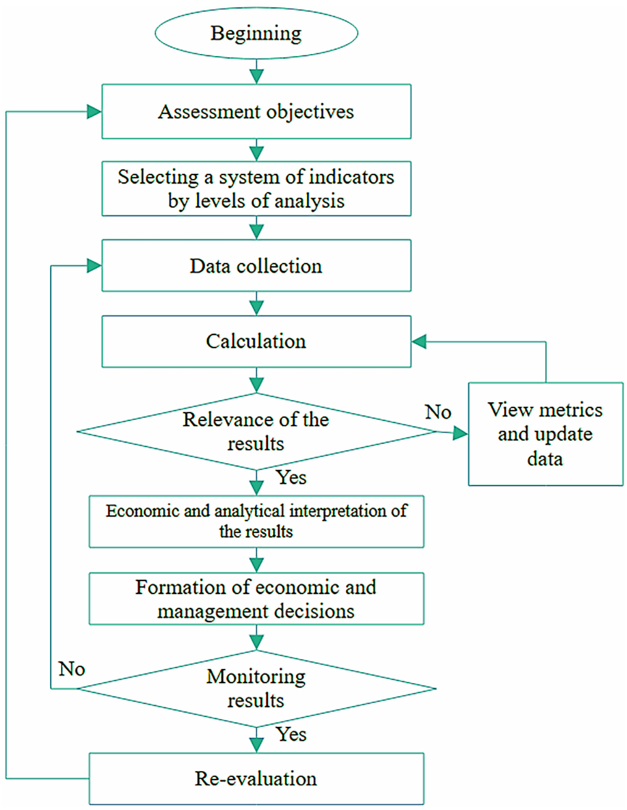

Figure 1. Algorithm for implementing the approach to the economic evaluation of ED
Source: developed by the author

The cyclical nature of the proposed algorithm for the economic evaluation of ED enables the timely adjustment of the system of indicators and managerial decisions, thereby enhancing the substantiation of the evaluation and the efficiency of workforce potential utilisation. As noted by F. Rossi (2020), the economic evaluation of ED requires the use of indicators with different functional orientations, which necessitates the formation of a comprehensive system of indicators. Taking this position into account, the study analysed the scholarly approaches, which present various indicators for evaluating ED. The generalisation of these approaches made it possible to systematise the indicators of the economic evaluation of ED and group them according to levels of analysis. The characteristics of the economic evaluation indicators, the tools for their analysis, and the information base are presented in Table 2. The formalisation of the specified indicators for further modelling is presented in Table 3.

Table 2. System of indicators and instruments for the economic evaluation of ED by levels of analysis

Level of analysis	Key indicators of economic evaluation	Evaluation tools and methods	Information base
Employee	LP, ICI, speed of professional adaptation, task performance quality indicators, professional growth coefficient	Competency assessment, individual KPI system, evaluation of training outcomes, surveys, observation, HR analytics	HR system data, performance appraisal results, internal productivity indicators, training reports
Organisation	HR ROI, productivity per employee, employee turnover rate, return on investment in development, indicators of payroll fund efficiency	Cost-benefit analysis, managerial analytics, HR process audit, strategic KPI system, economic and analytical methods	Financial statements, managerial reports, HR analytics data, internal development budgets
Economy	Macroeconomic LP, employment rate, workforce quality indicators, human capital indices, gross value added per employee	Statistical analysis, comparative analysis, macroeconomic modelling, index methods	Data from the State Statistics Service of Ukraine, international statistical databases, human capital development indices

Note: ICI – Integrated Competency Index, KPI – Key Performance Indicators
Source: developed by the author based on S. Makarenko *et al.* (2021), T. Halaida & K. Oleshko (2022), M. Nochka (2022), V. Khudolei *et al.* (2025)

Table 3. Formalisation of indicators for economic evaluation of ED

Level of analysis	Indicator	Formula	Description of variables
Employee	LP	$P_i = \frac{Q_i}{T_i}$	Q_i – output produced by the i-th employee T_i – working time spent by the i-th employee
	ICI	$C_i = \sum_{j=1}^{n} w_j \cdot c_{ij}$	w_j – weight of the j-th competency c_{ij} – level of the j-th competency of the i-th employee
	Adaptation speed	$t_{adapt} = \frac{C_{max} - C(t_0)}{t}$	C_{max} – target competency level $C(t_0)$ – initial level t – adaptation period
Organisation	ROI-HR	$ROI_{HR} = \frac{E_{HR} - C_{HR}}{C_{HR}} * 100\%$	E_{HR} – economic effect of HR initiatives C_{HR} – HR-related costs
	Revenue per employee	$P = \frac{R}{N}$	R – total revenue N – average number of employees
	Employee turnover rate	$K_{turnover} = \frac{L}{N_{avg}} * 100\%$	L – number of employees who left N_{avg} – average headcount
	Return on development investment	$R_{ev} = \frac{\Delta P}{C_{HR}}$	ΔP – productivity growth $Cdev$ – development costs
Economy	LP (macro level)	$P_{macro} = \frac{GDP}{L}$	GDP – gross domestic product L – employed population
	Employment rate	$E = \frac{L}{Pop} * 100\%$	L – employed population P_{op} – total population
	Gross value added per employee	$F = \frac{VAD}{L}$	VAD – gross value added L – employed population
	HCI	HCI = f(education, health, skills)	Composite indicator reflecting education, health, and skills

Note: ROI – return on investment, HCI – Human capital index
Source: developed by the author

The system of indicators and instruments for the economic evaluation of ED elaborates the multi-level approach and creates opportunities for its practical application. The alignment of ED indicators across the micro-, meso-, and macro-levels facilitates the integration of evaluation results into a unified analytical system and enhances the substantiation of economic and managerial decisions regarding ED.

I. Dashko *et al.* (2022) noted that the evaluation of ED acquires managerial significance only when it is integrated into the organisation's strategic management system, which highlights its functional and strategic importance. Understanding the value of evaluation allows this process to be directed toward aligning ED with organisational strategy and ensuring long-term socio-economic outcomes. In the absence of such an understanding, evaluation tends to become formalised and loses its managerial relevance. Thus, the effectiveness of the economic evaluation of ED is determined not only by the accuracy of measurement but also by the recognition of its value as a managerial mechanism for shaping and implementing ED. For this reason, in order to generalise the characteristics of such value, they were differentiated according to levels of analysis, as presented in Table 4.

Table 4. The value of the economic evaluation of ED by levels of analysis

Level of Analysis	Characteristics of the value of assessment
Employee	Awareness of the level of professional development, formation of feedback, increased motivation for self-development, and responsibility for learning outcomes
Organisation	Alignment of ED with the organisation's strategy, enhancement of the substantiation of HR decisions, and ensuring the efficient utilisation of workforce potential
Economy	Formation of a competitive workforce, support for innovative development, and ensuring long-term socio-economic outcomes

Source: developed by the author

The value of the economic evaluation of ED across different levels of analysis demonstrates that evaluation results can serve as an analytical basis for substantiating managerial decisions and shaping the economic outcomes of workforce potential development. An analysis of contemporary scientific studies in the field of ED evaluation indicates a gradual complication of methodological tools and a transition from the isolated measurement of individual indicators to their comprehensive analysis (Nicolaescu *et al.*, 2020; Balakhonova & Pirniak, 2023). Most studies focus on assessing the economic return on investments in ED, changes in LP, professional competencies and behavioural characteristics of employees, as well as their impact on organisational performance. At the same time, modern scientific approaches demonstrate a tendency toward further generalisation of the results of such analyses through the formation of integral indicators of the economic effects of ED. Unlike comprehensive evaluation, which involves analysing a set of indicators, integral evaluation makes it possible to aggregate them into a composite indicator that summarises the economic outcome of ED.

Alongside this, the use of analytical research methods has intensified, which confirmed the growing tendency toward enhancing the evidence-based nature of managerial decisions in the field of ED. Contemporary studies in the field of the economic evaluation of ED are characterised by the use of diverse analytical approaches aimed at generalising evaluation results and forming integral development indicators based on the aggregation of quantitative parameters that reflect the level and dynamics of professional growth. In particular, A. Kotsur *et al.* (2021) emphasised that index-based approaches enable the generalisation of evaluation outcomes and the formation of composite indicators of ED.

At the same time, correlation and regression analyses are applied to identify relationships between ED and the economic performance of organisations, allowing the quantitative determination of the strength and direction of the influence of relevant factors, as demonstrated by M. Rameshkumar (2020) and V.A. Tkalac (2021). The further development of these approaches within the framework of econometric modelling, according to Y. Xu & A. Li (2020), makes it possible to study the dynamics of ED and forecast its economic effects. In addition, P. Colnago & S. Dogliotti (2020) highlighted the importance of cost-benefit analysis for justifying the feasibility of investments in ED. Furthermore, T. Sagawe *et al.* (2022) argued that multicriteria methods allow the integration of economic, professional, and behavioural characteristics of development within a comprehensive evaluation framework, while O. Parkhomenko-Kutsevil (2025) pointed to the role of analytical dashboards and monitoring systems in ensuring the operational tracking of changes and supporting managerial decision-making based on aggregated data.

The analysis of the aforementioned approaches shows that, despite the diversity of analytical tools, most studies focus either on the application of individual quantitative measurement methods or on the evaluation of specific economic effects of ED. As a result, a certain methodological fragmentation can be observed, whereby index models, econometric estimates, and cost analysis are used as independent tools and are only partially integrated into a comprehensive system for substantiating managerial decisions regarding ED. A step-by-step approach to forming a comprehensive economic evaluation involves identifying the structural components of an organisation's economic potential, defining a system of indicators for each component, conducting their quantitative measurement, and subsequently aggregating them into a generalised indicator. This approach facilitates the systematisation of the parameters of employee development and enables consideration of interrelations between individual components of workforce potential. Its advantage lies in its structured nature and in the possibility of forming an integral indicator that reflects the overall state of development.

At the same time, a certain methodological limitation of the aforementioned approach can be observed. The aggregation of indicators into a composite index, while enabling the generalisation of results, is not accompanied by a clear mechanism for transforming the obtained values into appropriate managerial decisions. The focus on structural components of HR potential does not fully account for the multi-level nature of the economic effects of ED, which manifest simultaneously at the micro-, meso-, and macro-levels. In addition, the lack of systematic consideration of evaluation dynamics restricts the ability to forecast the long-term consequences of investments in ED. To overcome these limitations, it is advisable to apply an integrative approach that combines a system of quantitative indicators with mechanisms for their analytical interpretation and subsequent transformation into managerial decisions.

One of the key methodological problems in evaluating ED remains the insufficient consideration of the time perspective. In HR management practice, the effectiveness of ED is often assessed only after the completion of training programmes and is typically limited to verifying the level of knowledge acquisition or the participants' satisfaction. Such an approach narrows the possibilities for a comprehensive analysis of development outcomes and does not allow for tracing sustainable behavioural and performance-related changes in employees' activities. To overcome this limitation, it is advisable to apply a staged evaluation approach that involves conducting assessments before the start of development programmes, during their implementation, and after their completion. Such a sequence enables tracking the dynamics of changes in LP indicators, competency levels, and the economic efficiency of HR utilisation.

At the same time, a significant challenge remains the insufficient objectivity of evaluation, which is caused by the heterogeneity of stakeholders' interests. Different evaluation actors apply diverse criteria for assessing the effectiveness of ED, and in the absence of their alignment this may reduce the evidential value of the obtained results and their managerial relevance. One possible way to address this problem is the formation of a coordinated system of evaluation indicators that combines individual employee performance indicators, economic indicators of organisational performance, and macroeconomic characteristics of human capital development. The use of such a system enables the integration of various information sources and ensures a more objective interpretation of ED outcomes.

Moreover, the practical complexity of applying multi-level evaluation models often leads to the simplification of analytical procedures. As a result, evaluation is frequently reduced to the use of individual indicators or the identification of short-term effects, while the long-term economic consequences of ED remain insufficiently considered. Determining the economic effect of ED is particularly challenging, as isolating its impact from other factors that simultaneously influence organisational performance is methodologically difficult. In this context, the use of integral indicators and economic-analytical methods is advisable, as they enable the generalisation of various aspects of ED and the identification of relationships between investments in development and the economic performance of organisations.

To overcome the identified limitations and ensure a systematic interpretation of evaluation results, the provisions of the proposed structural and logical model are further elaborated through the development of an economic-analytical framework for managerial decision-making. This framework reflects the interrelationships between the indicators of ED assessment, the results of their economic-analytical interpretation, and the corresponding managerial actions (Table 5). Such a framework ensures the systematic transformation of economic evaluation results into consistent managerial decisions aimed at the development of the organisation's HR potential.

Table 5. Economic and analytical framework for managerial decisions regarding ED

Functional evaluation block	Indicators for evaluating ED	Methods of data collection and processing	Economic and analytical interpretation	Managerial decisions
Analytical (diagnostic)	Competence index, LP per employee, KPI	HR data analysis, statistical analysis of productivity, KPI evaluation	Identification of the gap between the actual and target levels of competencies, assessment of productivity changes	Determination of priorities for training and adaptation
Investment	ROI-HR, training costs per employee, turnover rate	Financial analysis of HR expenditures, ROI calculation, employee turnover analysis	Cost-benefit relationship of investments in ED	Decisions on the feasibility of investing in ED
Program-target	Implementation of individual development plans, share of employees participating in training, training effectiveness index	HR system data analysis, evaluation of training programme outcomes, comparative analysis	Segmentation of employees by development level, assessment of training programme effectiveness	Adjustment of development programmes and training modules
Motivational	eNPS, level of employee engagement, share of internal promotions	Employee surveys, HR analytics, correlation analysis	Assessment of the relationship between motivation and LP	Improvement of material and non-material motivation systems
Workforce planning	Staffing forecast, Sales/ FTE	Econometric modelling, analysis of sales and LP	Assessment of workforce needs considering sales dynamics	Workforce planning and optimisation of staff numbers

Functional evaluation block	Indicators for evaluating ED	Methods of data collection and processing	Economic and analytical interpretation	Managerial decisions
Integrative (managerial)	Integral index of ED, HR potential development index	Integral evaluation of development indicators, aggregation of HR metrics	Comprehensive assessment of ED and its economic impact	Formation of a portfolio of managerial decisions regarding ED

Note: eNPS – Employee Net Promoter Score
Source: developed by the author

Thus, the proposed economic-analytical framework for managerial decision-making enables the identification of relationships between ED indicators, the methods of their analytical processing, and managerial decisions aimed at improving the efficiency of HR utilisation. The application of this approach makes it possible to consider the evaluation of ED not only as a tool for measuring results but also as an analytical basis for forming economically grounded managerial decisions that contribute to increasing LP, improving the efficiency of resource utilisation, and enhancing the economic performance of organisations. The practical implementation of the proposed approach is carried out in accordance with the developed algorithm for the economic evaluation of ED. The application of this algorithm involves the step-by-step execution of procedures for data collection and systematisation, calculation of key economic indicators (in particular LP, ROI-HR, and employee turnover), their economic and analytical interpretation taking into account the interrelationships between indicators, and the formation of managerial decisions on this basis regarding the development of HR potential.

In order to verify the practical implementation of the proposed methodological approach to the economic evaluation of ED, its testing was conducted using aggregated data from retail organisations in Ukraine, in particular the leading retail chain EVA (LLC "RUSH"), for the period 2019-2024. The evaluation was carried out using a multi-level system of indicators covering the individual, organisational, and industry levels of analysis, which made it possible to trace the economic outcomes of ED and their impact on organisational performance indicators. The results of testing the proposed approach are presented in Table 6.

Table 6. Results of testing the author's approach to the economic evaluation of ED based on aggregated data from retail organisations in Ukraine (2019-2024)

Level of analysis	Indicator	Before implementation	After implementation	Change, %	Economic interpretation
Employee	LP per employee (Pi), thousand UAH	72	82	+13.9	Increase in individual productivity after training
	Competence index (Ci)	0.63	0.78	+23.8	Improvement of employees' professional skills
	Adaptation period, months (tadapt)	3.8	2.6	-31.6	Faster integration of new employees
Organisation	LP, thousand (Pyear), UAH/year	720	820	+13.9	Improved efficiency of personnel utilisation
	Return on investment in personnel (ROI-HR)	0.42	0.68	+61.9	Increase in the economic return on investments in ED
	Employee turnover rate (Kturnover), %	28.5	21.0	-26.3	Reduction in recruitment costs
	Revenue per employee (Rev), thousand UAH	310	355	+14.5	Improved performance of the retail network
Economy (industry level)	LP in retail (Pretail), thousand UAH/employee	640	710	+10.9	Impact of ED on the industry
	Payroll fund in retail (F), billion UAH	182	205	+12.6	Growth in employees' income levels
	Employment rate in the sector (E), %	58.4	60.1	+2.9	Expansion of employment in the retail sector

Source: developed by the author

To provide a clearer presentation of the testing results and to compare the dynamics of key indicators before and after the implementation of the proposed approach, the corresponding data are visualised in the form of a bar chart (Fig. 2). The results of the testing indicate an overall positive dynamic in ED indicators and their economic performance. In particular, during the analysed period, LP increased on average by 10-14%, the level of professional competencies rose by approximately 20-25%, and the adaptation period of employees decreased by more than 30%. At the same time, a significant increase in the economic return on investments in ED was observed, exceeding 60%, accompanied by a reduction in employee turnover by about one quarter and an increase in revenue per employee by approximately 10-15%. The aggregated results also demonstrate positive changes in industry-level indicators, including growth in LP, the payroll fund, and the employment rate. Overall, the obtained results confirm the presence of a positive economic effect of ED and its contribution to improving the efficiency of HR utilisation.

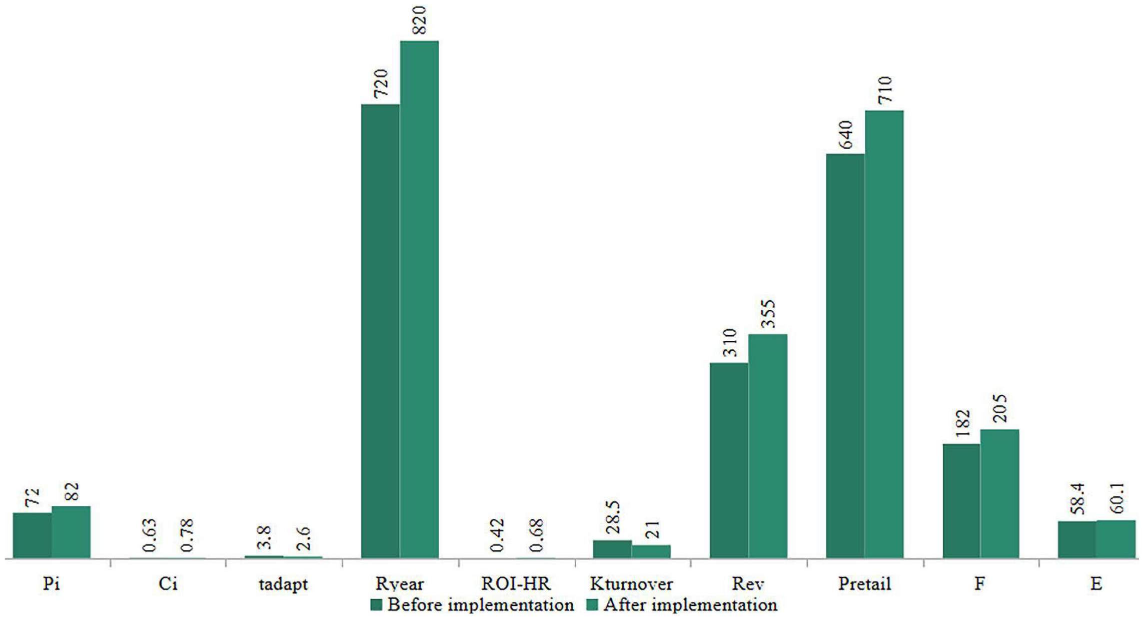

Figure 2. Dynamics of key indicators of ED before and after the implementation of the proposed approach
Source: developed by the author

The results of the study confirm the feasibility of applying an economic approach to the evaluation of ED, which involves analysing indicators at different levels of the economic system. The use of an economic-analytical framework for managerial decision-making regarding ED made it possible to align the results of economic evaluation with the process of managerial decision-making in the field of HR development. The application of a system of interrelated indicators enabled the identification of the economic outcomes of ED not only at the individual level but also within the organisation and the industry, which confirms the existence of a multi-level economic effect of employee competence development.

Discussion

Similar findings were reflected in the study by C. Gebara *et al.* (2023), which emphasised the importance of using economic indicators to evaluate the outcomes of ED and to substantiate managerial decisions in the field of HR management. The authors stressed that the evaluation of ED should take into account not only changes in professional competencies but also the economic performance of organisations. In the present study, this idea is further developed through the formation of an economic-analytical framework that integrates the results of ED evaluation into the managerial decision-making system.

A similar position is expressed in the study by B. Mustafa & S. Lleshi (2024), who examined the impact of ED on organisational performance. The authors noted that investments in personnel development contribute to increased LP and more efficient utilisation of organisational resources. Their study demonstrates that the development of employee competencies can serve as one of the key factors in improving the economic performance of enterprises. The results obtained in the present study support these findings, as increases in LP and improvements in the efficiency of HR utilisation are considered economic outcomes of ED.

A number of studies emphasise the need to use a system of quantitative indicators to evaluate the outcomes of ED. In particular, D. Dadd & M. Hinton (2023) highlighted the importance of developing a system of indicators that makes it possible to assess the economic return on investments in personnel development. The authors propose the use of LP indicators, measures of the efficiency of labour resource utilisation, and financial performance indicators of enterprises. Compared with these approaches, the present study expands the system of indicators by grouping them according to levels of analysis, which makes it possible to comprehensively assess the outcomes of ED within the economic system.

The study by O. Morozova (2025) demonstrates that the evaluation of ED should be carried out using integral indicators that allow the results of evaluation to be generalised and a composite assessment of personnel development to be formed. The author emphasised the need to aggregate various indicators of ED into a single indicator, which simplifies the interpretation of evaluation results. In the present study, a similar approach to the generalisation of evaluation outcomes is applied; however, its distinctive feature lies in the combination of integral indicators with a multi-level analysis of the economic outcomes of ED.

At the same time, the study by I. Churkina & M. Ternovskyi (2026) examined the relationship between ED and the innovative activity of organisations. The authors noted that the development of employee competencies enhances the ability of organisations to implement innovations and adapt to changes in the external environment. In comparison with these studies, the present research focuses on the economic dimension of ED, particularly on evaluating the impact of competency development on the economic performance of organisations.

The study by O. Panchenko (2024) emphasised the importance of integrating HR analytics into the system of strategic management of organisations. The author demonstrates that the use of analytical data on ED contributes to improving the validity of managerial decisions and the effectiveness of human capital management. The results obtained in the present study are consistent with this position, as the proposed economic-analytical framework is specifically aimed at integrating the results of the economic evaluation of ED into the managerial decision-making system.

In turn, H. Koptieva & D. Sanzharov (2025) drew attention to the multidirectional nature of ED, emphasising its importance primarily for the professional growth of employees and for improving organisational performance. The authors noted that ED contributes to increased LP, the improvement of professional competencies, and better organisational performance outcomes. Building upon this approach, the present study substantiates the relevance of considering ED within a broader economic context. In particular, it demonstrates that the outcomes of ED should be evaluated in a multi-level dimension encompassing the employee, organisational, and economy-wide levels. Such an approach makes it possible to trace the relationship between individual professional development, the efficiency of HR utilisation within organisations, and the formation of the overall level of LP in the national economy.

At the same time, the study by N. Sablina (2025) emphasised the complexity of measuring the economic outcomes of ED, as organisational performance is influenced simultaneously by a wide range of factors. The author noted that isolating the impact of ED on the economic results of enterprises is methodologically challenging. In the present study, this problem is partially addressed through the use of a system of interrelated indicators that make it possible to evaluate the economic outcomes of ED in connection with other organisational performance indicators. Thus, the results of the study confirm that the economic evaluation of ED should be carried out within a multi-level framework, which makes it possible to comprehensively reflect the relationship between ED and the economic performance of organisations. The proposed approach ensures the integration of evaluation results into the managerial decision-making system regarding the development of HR potential and expands the possibilities of using economic indicators within organisational management systems.

Conclusions

The conducted study made it possible to generalise contemporary economic approaches to the evaluation of ED and to substantiate the relevance of considering them in relation to the economic performance of organisations. It was established that the effectiveness of ED should be assessed using a system of interrelated economic indicators that make it possible to identify the impact of investments in ED on LP and the efficiency of HR utilisation. The necessity of integrating the results of the economic evaluation of ED into the managerial decision-making system has been substantiated, which contributes to improving the validity of personnel development management and supports the achievement of organisational strategic objectives. The results of the study confirm the feasibility of applying an economic-analytical approach to the evaluation of ED, which enables the integration of HR analytics with economic performance indicators of organisations and enhances the effectiveness of HR management.

The scientific novelty of the study lies in the development of methodological foundations for the economic evaluation of ED through the integration of performance indicators, behavioural and cost characteristics within a unified analytical framework. This approach ensures the consistency of theoretical provisions and practical evaluation tools and expands the possibilities for substantiating managerial decisions regarding the development of an organisation's employees. The practical significance of the obtained results lies in the possibility of applying the proposed approaches to substantiate managerial decisions regarding ED and to improve the economic efficiency of organisational performance.

At the same time, the results of the study have certain limitations. In particular, the testing of the proposed approach was conducted using aggregated data from retail organisations in Ukraine, which may limit the direct generalisation of the obtained results to other sectors of the economy. In addition, the economic outcomes of ED may depend on external factors, including macroeconomic conditions, labour market dynamics, and the organisational environment of enterprises. Prospects for further research are associated with improving the methods of economic evaluation of ED in the context of HR process digitalisation and expanding the use of analytical tools in HR management systems.

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Conflict of Interest

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Економічні підходи до оцінювання розвитку працівників організації

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Анотація. Актуальність дослідження зумовлена відсутністю єдиного підходу до економічного оцінювання розвитку працівників, фрагментарністю показників і недостатньою узгодженістю між теоретичними моделями та практичними інструментами управління. Метою статті були систематизація та узагальнення економічних підходів до оцінювання розвитку працівників організації, що застосовуються в сучасних наукових дослідженнях, а також обґрунтування авторських пропозицій щодо вдосконалення економічного оцінювання результатів розвитку працівників. Для досягнення мети було проаналізовано основні підходи, методи та показники оцінювання, виявлено наукові прогалини й проблемні аспекти, які обмежують можливості комплексного економічного аналізу. У результаті дослідження було узагальнено основні економічні підходи до оцінювання розвитку працівників у межах економіки праці та організації, встановлено їх багаторівневий характер від індивідуального до організаційного та макроекономічного. Визначено, що переважна більшість підходів ґрунтується на використанні показників продуктивності праці, витрат, результативності та економічної віддачі від інвестицій у розвиток працівників. Обґрунтовано доцільність інтеграції кількісних, аналітичних і поведінкових показників у єдину систему економічного оцінювання, а також розроблено структурно-логічний алгоритм і економіко-аналітичну модель прийняття управлінських рішень. Практична апробація запропонованого підходу, здійснена на основі агрегованих даних підприємств роздрібної торгівлі України за 2019-2024 рр., підтвердила його ефективність. Зокрема, встановлено зростання продуктивності праці на 10-14 %, підвищення рівня професійних компетентностей працівників на 20-25 %, скорочення періоду адаптації більш ніж на 30 %, а також збільшення рентабельності інвестицій у розвиток персоналу більш ніж на 60 %. Водночас зафіксовано зниження плинності кадрів приблизно на чверть і зростання доходу на одного працівника на 10-15 %. Отримані результати також засвідчили позитивну динаміку галузевих показників, зокрема зростання продуктивності праці, фонду оплати праці та рівня зайнятості. Практична значущість результатів полягає у формуванні аналітичного підґрунтя для підвищення обґрунтованості управлінських рішень щодо інвестування в розвиток працівників

Ключові слова: економічна оцінка; продуктивність праці; ресурсоефективність; інвестиції в розвиток; управлінські рішення