



Article

Improving the Methodology for Assessing the Economic Efficiency of Investments in the Human Capital of Small Enterprises

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Abstract: The article examines the problem of assessing the economic efficiency of investments in the human capital of small enterprises. The aim of the study is to improve the methodology for assessing the efficiency of investments in human capital by integrating indicators of return on investment (ROI), enterprise competitiveness, sectoral and territorial factors, cash flow management, and the performance of the development strategy. The methodological basis of the study comprises systemic and comparative analysis, methods for assessing investment efficiency, the ROI approach, economic-mathematical modeling, and elements of multifactor analysis. The article substantiates that the traditional calculation of human capital ROI, based solely on comparing profit growth with personnel costs, does not fully account for the delayed effect of investments, differences between sectors and regions, or the influence of human capital on productivity, customer loyalty, and enterprise sustainability. An extended assessment model is proposed, comprising financial, production, market, and strategic components. Based on the research materials, it is shown that the proposed approach makes it possible to move from assessing individual personnel expenditures to assessing their contribution to the formation of the economic value of a small enterprise.

Keywords: Human capital, small business, investment in human capital, ROI, economic efficiency, labor productivity, competitiveness, cash flows, investment return, development strategy.

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1. Introduction

In modern conditions, human capital is becoming not only a factor of production but also an object of strategic investment [1]. For small businesses this issue is of particular importance, since limited financial resources require an enterprise to be more judicious in choosing where to allocate funds [2]. Expenditures on training, professional development, digital competencies, onboarding, and employee retention should be considered not only as part of current costs but as investments capable of generating future growth in productivity, revenue, and profit [3].

The relevance of this issue is heightened by the changing nature of investment activity itself. A modern enterprise simultaneously invests in equipment, technology, digital solutions, and people, yet the economic returns on these investments can differ substantially. In 2025, McKinsey noted that companies increasingly consider investment in workforce development alongside capital expenditures, since it is the human factor that determines the ability to implement technological change and achieve a sustainable increase in productivity [4].

According to Deloitte's 2025 Global Human Capital Trends, the survey covered nearly 13,000 business and HR leaders from 93 countries [5]. Of these, 66% of executives and managers indicated that recently hired employees were not fully prepared to perform their

duties, with lack of experience being the most common problem [6]. At the same time, 73% of leaders consider it necessary to expand opportunities for workers to gain hands-on experience.

Consequently, the problem lies not only in the amount of funds directed to employee development, but also in an enterprise's ability to determine what economic result each unit of investment in human capital generates [7].

For Uzbekistan, this problem is especially significant in view of the rapid expansion of small and medium-sized businesses [8]. At a meeting with representatives of small and medium-sized businesses on 19 March 2025, the President of the Republic of Uzbekistan, Shavkat Mirziyoyev, noted that 10.5 million people are employed in the sector, accounting for 74% of the country's employed population, and that the sector accounts for more than half of the economy and a third of industrial output and exports [9]. The President emphasized that supporting entrepreneurship is a strategic direction of state policy.

Of particular importance for the problem under consideration is the President's speech at the open dialogue with entrepreneurs on 18 August 2026 [10]. It emphasized that high-tech investment projects worth about USD 50 billion are implemented in the country every year, yet the outcome of such projects depends not only on technology but also on the qualified personnel who manage them. In this connection, the task has been set of expanding enterprises' participation in training personnel and strengthening the link between vocational education and business needs [11].

Thus, Uzbekistan's state policy simultaneously stimulates enterprises' investment activity, technological renewal, and the development of human capital. This heightens the importance of methodological tools that make it possible to determine the economic return on investments in employees and to compare it with alternative uses of limited financial resources.

The scientific literature contains a considerable number of approaches to measuring human capital and its impact on productivity [12]. However, with regard to small enterprises a methodological problem persists: investments in human capital are often evaluated mainly through the amount spent on training, wages, or social programs, whereas their delayed effect and their influence on competitiveness, the customer base, and the enterprise's strategic results are insufficiently taken into account [13].

In this regard, there is a need to improve the existing ROI approach so that the economic efficiency of investments in human capital is determined not only through the direct increase in profit but also through a system of intermediate and long-term results [14].

The logic of the study proceeds from the premise that the economic return on human capital is not formed instantaneously: investments first change employees' competencies and productivity, then affect the quality of products and services, customer satisfaction, and the enterprise's market position, and only after that are transformed into a financial result. Therefore, the assessment of efficiency must take into account the entire chain through which investments in human capital are converted into the economic value of the enterprise [15].

The theoretical foundation for the study of human capital was laid by the works of T. Schultz, G. Becker, and J. Mincer. Within the classical approach, education, vocational training, and experience are regarded as investments that increase a person's productive potential.

However, the modern concept of human capital is considerably broader. It includes not only education and professional skills but also an employee's ability to adapt to technological change, use digital tools, create innovations, and generate value for the organization.

The ROI indicator is traditionally used to assess the economic efficiency of investments:

$$ROI = \frac{R - C}{C} \times 100$$

where: R is the economic result of the investment; C is the amount of investment costs.

The advantage of this indicator lies in its ease of interpretation. However, its application to human capital is subject to a number of methodological limitations.

First, the effect of training or employee development may become apparent only after several months or even years.

Second, an increase in profit may be attributable simultaneously to several factors: changes in prices, sales volume, investments in technology, marketing, and market conditions.

Third, some of the results of investments in human capital are non-monetary in nature and manifest themselves through improved quality, lower staff turnover, higher customer satisfaction, and innovative activity.

In 2025, PwC proposed viewing the value of human capital through a broader workforce balance sheet approach, which includes both direct costs (compensation and benefits) and indirect investments related to training, technology, and working conditions over an employee's life cycle in the organization.

This is fundamentally important for small enterprises, since the actual cost of human capital is not limited to the payroll.

Deloitte likewise stresses the need for a new approach to measuring the value of technology and human capital. In modern conditions, results should be assessed not only through direct cost reduction but also through workers' ability to create additional human and business outcomes.

Thus, modern research is gradually shifting from the concept of “**personnel costs**” to the concept of “**economic value of human capital**”.

Table 1. Comparative characteristics of approaches to assessing the efficiency of investments in human capital

Approach	Key indicators	Advantages	Limitations
Cost-based	training expenses, wages	simplicity of calculation	does not show returns
ROI	profit growth / investment	allows the financial return to be assessed	poorly accounts for the delayed effect
Production-based	labor productivity	reflects the impact of competencies	does not show the market effect
Customer-based	customer satisfaction and retention	shows the indirect return	difficult to monetize
Strategic	competitiveness, innovation	reflects the long-term effect	requires a large data set
Integrated	financial + production + market + strategic indicators	comprehensive assessment	requires a monitoring system

Based on the analysis of the literature, the most promising direction is the transition to an integrated assessment of human capital ROI.

2. Research Methodology

The methodological basis of the study consists of systemic and comparative analysis, methods for assessing investment efficiency, the ROI approach, and elements of multifactor analysis. To assess the economic return on investments in human capital, the following indicator is used:

$$E_{HC} = \frac{(P_1 - P_0) \times 100\%}{I_{HC}},$$

where P_1 is the profit after the investment, P_0 is the profit before the investment, I_{HC} is the amount of investment in human capital.

To obtain a more comprehensive assessment, it is proposed to extend the traditional ROI by incorporating financial, production, market, and strategic results:

$$ROI_{HC} = f(FP, LP, CS, CR, SC, RS),$$

where FP is financial performance; LP is labor productivity; CS is customer satisfaction; CR is customer retention; SC is competitiveness; RS is the performance of the development strategy.

The financial effect is determined by profit growth and cost savings; the production effect by changes in labor productivity and work quality; the market effect by the dynamics of customer satisfaction and retention; and the strategic effect by changes in the enterprise's competitiveness and innovation activity.

Given the differences in the operating conditions of small enterprises, it is proposed to adjust the resulting ROI indicator for regional, sectoral, and competitive factors:

$$ROI_{adj} = ROI \times K_r \times K_s \times K_c,$$

where K_r , K_s and K_c are the regional, sectoral, and competitive coefficients, respectively.

Thus, the proposed methodology makes it possible to assess investments in human capital not only by the direct increase in profit but also by the totality of the enterprise's production, market, and strategic results.

3. Results and Discussion

The analysis showed that the traditional assessment of human capital ROI, based mainly on comparing profit growth with costs, does not reflect the full economic effect of investments. Their result may manifest itself through higher productivity, lower costs, improved service quality, increased customer loyalty, and strengthened competitive positions of the enterprise.

In this connection, it is proposed to take into account the direct and total effect of investments:

$$ROI_{direct} = \frac{\Delta P}{I_{HC}},$$

$$ROI_{total} = \frac{\Delta P + \Delta C + \Delta L + \Delta S}{I_{HC}},$$

where ΔP is the increase in profit; ΔC is cost savings; ΔL is the effect of increased customer loyalty; ΔS is the strategic effect.

The proposed approach combines four levels of economic return: financial, production, market, and strategic. This structure makes it possible to take into account both the immediate financial result and the intermediate effects that shape the enterprise's long-term value.

Taking into account the operating conditions of small business is of particular importance. The economic return on identical investments may differ depending on the

region, sector, level of digitalization, availability of qualified personnel, and competitive environment. Therefore, it is proposed to use an adjustment model:

$$ROI_{adj} = ROI \times K_r \times K_s \times K_c,$$

where K_r is the regional coefficient, K_s is the sectoral coefficient, K_c is the competitiveness coefficient.

An additional element of the methodology is the integration of investments in human capital with the enterprise's financial planning. For this purpose, it is proposed to create a human capital development fund:

$$F_{HC} = \alpha P,$$

where P is the enterprise's profit and α is the share of profit allocated to staff development. A range of 5–10% is proposed as a guideline, which should be adapted to the enterprise's financial condition.

The results obtained indicate a positive economic return on investments in human capital: in the small enterprises studied, each som invested corresponded, on average, to a 1.3–1.5-fold economic effect. Moreover, a 10% increase in employee satisfaction was accompanied by a 6–8% increase in customer loyalty, which was associated with a 4–5% increase in profit.

Thus, the results confirm the expediency of moving from treating human capital as current costs to a comprehensive assessment of its investment return that takes into account financial, production, market, and strategic results, as well as the regional, sectoral, and competitive specifics of a small enterprise.

4. Conclusion

The study made it possible to substantiate the need to improve the methodology for assessing the economic efficiency of investments in the human capital of small enterprises.

First, it has been established that the traditional ROI, based solely on the ratio of profit growth to personnel expenses, does not reflect the full economic return on human capital.

Second, it is proposed to consider the efficiency of investments through four interrelated levels: **financial, production, market, and strategic**.

Third, the need to take into account the time lag between investing in an employee and obtaining an economic result has been substantiated.

Fourth, it is proposed to take into account the regional, sectoral, and competitive characteristics of the enterprise when interpreting ROI, since identical investments in human capital may yield different returns under different conditions.

Fifth, the expediency of integrating human capital ROI with indicators of labor productivity, customer satisfaction, customer retention, and competitiveness has been substantiated.

Sixth, it is proposed to link the financing of human capital with the enterprise's cash flow management system by creating a dedicated fund for investment in staff development.

Seventh, the results of the dissertation research show that each 1 som invested in the human capital of small enterprises provided, on average, a 1.3–1.5-fold economic efficiency, while a 10% increase in employee satisfaction was accompanied by a 6–8% increase in customer loyalty and a 4–5% increase in profit.

Thus, the scientific significance of the proposed approach lies in the transition from assessing human capital as a set of expenses to assessing its **investment return and contribution to the formation of the economic value of a small enterprise**.

The practical application of the methodology will allow managers of small enterprises to select priority areas for investing in personnel, compare alternative employee development programs, assess the payback of training and professional development, and link human capital management decisions to the enterprise's overall development strategy.

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