DEVELOPMENT OF ACCOUNTING AND ANALYSIS METHODOLOGY OF INVESTMENTS IN HUMAN CAPITAL

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Abstract. The article reveals issues of improving the accounting and analysis of human capital and investments in business entities. The interpretation of investments in human capital as an element of financial statements is explained and a methodology for their reflection in accounts and reports is proposed. When analyzing investments in human capital, an analysis of factors influencing the return on investment in employee training was carried out.

Keywords: accounting, accounting object, human capital, investments in human capital, accounting standards, return on employees, return on investments in education, PESTLE analysis.

Human capital is one of the most important objects of investing in business entities. On the other hand, it plays a key role in business development. According to the World Bank human capital is driver of development [1]. That is why governments also pay a great attention to enhance volume of investments in human capital. For example, the President of the Republic of Uzbekistan Shavkat Mirziyoyev emphasizes that ‘In developed countries, a lot of attention is paid to investing in the full cycle of education, that is, investing in a child's upbringing from 3 to 22 years old. Because this investment brings 15-17 times profit to the society. In our case, this indicator is only 4 times. Therefore, we must pay more attention to human capital and mobilize all opportunities for this.’ [2].

Accounting point of view, human capital is intangible assets which are not listed in the balance sheet of the company according to current accounting standards. It can easily be seen as the economic value of a worker's experience and skills. Any business unit can easily gain targeted profit with a good team of employees. This is why they have to invest carefully in assets like education, training, intelligence, skills, and other things employers look for. Employers expect their employees to work hard and ensure good products in their company. A lot of experts, businessmen and scientists believe that the more a company invests in employees, the more productive and profitable they can be.

Human capital assessment and accounting problems appeared in the early 60s of the 20th century with the formation of the theory of "human capital" by T. Schultz and G. Becker, laureates of the Nobel Prize. [3]. The formation of this theory served as the basis for recognizing human capital as an accounting object. In particular, E. Flamholtz was one of the first to consider human capital as a resource of the enterprise and consider it an asset of the company from the point of view of accounting. He singled out three criteria for recognizing human capital as an asset: future economic benefit, ownership or control by an economic entity, expression in monetary terms [4].

Jac Fitz-enz recognizes human capital as an asset of the company and considers it a strong financial lever, a valuable and productive resource [5]. L.A. Chaikovskaya and Yu.O. Bystrova, having researched issues of accounting and evaluation of investments in human capital, defined human capital as follows: "Human capital is the sum of assets and liabilities associated with highly qualified personnel" [6].

Theoretical issues of human capital are being studied by Uzbek scientists for a long time. In particular, the scientists S.S. Gulyamov, K.Kh. Abdurakhmanov, A.V. Vahabov, B.Kh. Umurzakov, A.A. Artikov, N.K. Zokirova, Sh.G. Akramova et al. have researched various aspects of human capital recently.

Although human capital is being studied in depth by representatives of various sectors of the economy, human capital and investments in it remain insufficiently studied as an object of accounting. In this regard, only M.E. Polatov conducted partial research. In his papers on accounting and auditing of intellectual capital, he studied human capital as a component of intellectual capital and recognized the need to take it into account. [7]

It should be noted that the recognition, assessment, analytical and synthetic accounting of human capital or intellectual capital as an object of accounting and disclosure of information about them in financial statements is a separate research topic. Having thoroughly studied the scientific and research work on the account of investments in human capital, we would like to dwell on the aspects that reveal its content as an object of account. When it comes to investments in human capital, first of all, it is closely related to the concept of human capital. After all, the question arises as to which object the investments are directed to. Before considering whether or not investments in human capital are accounting objects of entities, we need to clarify the question of whether human capital itself is an investment of entity or not. According to Article 5 of the Law of the Republic of Uzbekistan "On Investments and Investment Activities", investments are divided into capital, financial and social types by the intended object. Investments in the development of human potential, skills and production experience, as well as in the elaboration of other forms of intangible assets, are included in the social investments. Therefore, it is possible to invest in human capital and it can be an investment object. Based on the analysis of the literature and scientists who have conducted research on human capital and investments in it, the following conclusions can be made.

First, investments in human capital can be divided into four groups according to the source of implementation. These are: by individuals, by family, by the enterprise you work for, and by the state. Investments in human capital are made in these four directions.

Second, the purpose of economic entities investing in human capital is to gain economic benefits in the future.

Third, investments in human capital can take the form of any asset or expense. This is the basis for considering investments in human capital in the form of accounting objects such as assets, costs and liabilities.

Based on the above-mentioned opinions and scientific conclusions made as a result of research, investments in human capital are considered an object of accounting and the author’s definition to the investments of human capital as an accounting object is as follows: *investments in human capital are investments directed to human capital by economic entities in order to obtain economic and social benefits in the future*.

There are two important points to note in the definition. The first is the purpose of investing in human capital. We touched on this above and tried to explain its content. The second aspect goes back to the concept of human capital. It is possible to invest in human capital with a deep understanding of the concept.

It should be recognized that the theory of human capital is currently a subject of interdisciplinary research, which gives rise to many interpretations based on the characteristics of each discipline. From the formation of the theory of human capital to the current stage of development, we found it appropriate to give a definition of human capital as follows, having thoroughly studied the definitions and approaches given to the essence of this concept. *Human capital is a set of physical, mental and entrepreneurial skills (competence) that bring economic and social benefit to a person himself, his family, workplace and society*.

It can be concluded that investments in human capital carried out by economic entities should be aimed at developing human physical, mental (intellectual) and entrepreneurial abilities.

Factors affecting the effectiveness of investments in human capital and their determination are one of the important issues of modern management. Today, the evaluation of the efficiency of the economic entities operating in our republic is carried out on the basis of the "REGULATION on the criteria for evaluating the efficiency of the activities of joint-stock companies and other economic entities with a share of the state". The following indicators mentioned in this Regulation serve to evaluate the efficiency of human capital investments of business entities.

1. Labor productivity. 2. Training costs per employee. 3. Labour turnover ratio.

In fact, ensuring the stable pace of the indicators shown above directly depends on the volume of investments in human capital and their rational use. However, since there is no functional relationship between the increase in the volume of investment in human capital and the change in the above indicators that ensure its effectiveness, we are not able to calculate the effect of each factor separately. However, we can calculate the impact of sales profitability, return on investment in education and investment in education per employee on employee profitability (sum of profit per employee), which is considered as the most basic indicator for assessing the profitability of investments in human capital, based on the following functional relationship.

$$Р_х = Р_с * ТИ_қ * ТИ_б \quad \textbf{(1)}$$

Hereafter: $Р_х$ – employee profitability; $Р_с$ – sales profit; $ТИ_қ$ - return on investment in education; $ТИ_б$ – investment in education per employee.

In order to reveal the method of calculating the profitability of employees and the factors affecting it based on practical data, we will compile the following table using the data of JSC "Gijduvon cotton ginning" (Table 1).

Table No.1

Analysis of indicators related to employee profitability

No	Indicators	Abbr.	Last year	Reporting year	Deviation
1.	Net profit for the reporting period, th.s.	NP	8608577	16900658	8292081
2.	Sale, thousand sum	S	135280942	299301580	164021138
3.	Investments in employee training, th.s.	IET	28278	7520	-20758
4.	Annual average number of employees, man	NE	568	592	24
5.	Sales profitability	P_c	0,064	0,056	-0,008
6.	Return on investments in education, th.s.	RIE	4783,96	39800,74	35016,78
7.	Investments in education per employee, th.s.	IEE	49,79	12,70	-37,09
8.	Return on employees, thousand sum	P_x	15155,95	28548,41	13392,46

The table shows that the amount of net profit and net sales of the enterprise has increased significantly compared to the previous year. However, this growth does not have qualitatively positive dynamics, because the sales margin decreased by 0.008 or 0.8 percent. It can also be observed that the average number of employees of the enterprise has increased by 24 people, and the investment in education has decreased by 20,758 thousand sum. Return on investment in training and employee profitability, respectively 35,016, 78 thousand sum and 13,392,46 thousand sum increased, the increase of net income and profit amounts was positive, and the decrease in the amount of investments in education had a negative effect.

We found it appropriate to use the logarithm method to calculate the factors affecting the employee profitability indicator. This is due to the fact that the calculation result in the logarithm method does not depend on the location of the factor in the model, and the level of accuracy is much higher than other methods. Calculation of the effect of factors on the result using this method is carried out by the following formulas cited in the literature on the theory of economic analysis.

1. $\Delta P_{x_{P_c}} = \Delta P_x * \frac{\ln(P_c^1 : P_c^0)}{\ln(P_x^1 : P_x^0)}$=13392,46* $\frac{\ln(0{,}056:0{,}064)}{\ln(28548{,}41:15155{,}95)}$ = - 2824,21

2. $\Delta P_{x_{ТИ_қ}} = \Delta P_x * \frac{\ln(ТИ_қ^1 : ТИ_қ^0)}{\ln(P_x^1 : P_x^0)} = 13392{,}46 * \frac{\ln(39800{,}74:4783{,}96)}{\ln(28548{,}41:15155{,}95)} = 45112{,}29$

3. $\Delta P_{x_{ТИ_б}} = \Delta P_x * \frac{\ln(ТИ_б^1 : ТИ_б^0)}{\ln(P_x^1 : P_x^0)} = 13392{,}46 * \frac{\ln(12{,}70:49{,}79)}{\ln(28548{,}41:15155{,}95)} = -28895{,}62$

The sum of the effects of each factor should be equal to the change in employee productivity calculated as the result indicator.

$$\Delta P_{x} = \Delta P_{x_{P_c}} + \Delta P_{x_{ТИ_к}} + \Delta P_{x_{ТИ_б}} = (-2824,21) + 45112,29 + (-28895,62) = 13392,46$$

As a result of factor analysis, the following conclusions can be reached. During the reporting period, the decrease in sales profitability by 0.008 or 0.8% reduced the profitability of employees by 2824.41 thousand soums, and the decrease in investment in education per employee by 37.09 thousand soums reduced the result to 28895.62 thousand soums. An increase in the return on investment in employee training by 35,016.78 thousand soums caused an increase in the profitability of employees by 45,112.29 thousand soums.

The above-mentioned factor analysis models are used in cases where the influence of factors on the result is functional. However, there are also a number of stochastically related factors that have a significant impact on the state of investments in human capital and their effectiveness. These factors are commonly called external factors. Since it is not possible or difficult to accurately calculate the impact of these factors’ value. In practice, several business assessment tools, such as a SWOT analysis, competitor analysis, and other scenario planning tools are used to evaluate external factors of business performance. As a result of the research, it was concluded that it is appropriate to use PESTLE analysis in evaluating the external factors affecting the efficiency of investments in human capital. A brief description of the classification of external factors affecting the effectiveness of human capital investment using this method is given below.

Table No.2 PESTLE analysis for human capital investments of entity[1]

Political factors	Economic factors	Social factors	Technological factors	Legal factors	Environmental factors
lack of effective state policy on personnel	minimum wage	religious factors, ethnic views and national values	technological infrastructure and its condition	labor law and its enforcement	environment in the area where the enterprise is located
political crises in public administration	personal income tax rate	composition, quality and development of human capital	level of development of innovative developments and intellectual property objects	development of internal regulatory documents for personnel management	problems related to weather, water and ecology in the area where the enterprise is located

[1] Made by author

Factors belonging to each group mentioned in the table have an impact on the life cycle of investments. In the factor analysis of investments, we believe that it is necessary to draw conclusions based on the study of indirect and external factors, in addition to direct and internal factors affecting them.

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