

MODEL OF HUMAN CAPITAL ASSESSMENT OF THE ENTERPRISE

Dauletmuratov Adilbay Mirzabaevich

*Associate Professor of the Department of Management and fundamentals economics,
KSU named after Berdakh, Uzbekistan, dadil1509@mail.ru*

Annotation: The article presents the essence and importance of the human capital evaluation model in the enterprise. Also, during the conducted research, it was proved that one of the factors determining the contribution of human capital to the company's income is innovation costs..

Key words: human capital, investment, innovation, education level, wages, encouragement, innovative activity, innovative and active enterprise, human capital assessment.

Introduction

In the service sector, as in all sectors, enterprises, regardless of the scope of their activities, regularly make mandatory investments in human capital. These include labor costs or wages, mandatory allocations to off-budget funds and costs for mandatory training of employees. Some of the enterprises, especially those with a small scale of activity, are limited only to this type of activity. In this case, the salary is a motivating factor for the employee, as well as one of the important elements of the formation and development of human capital. Large enterprises, in addition to mandatory investments in their employees, spend the following additional costs: employee training costs (optional for the employer), which usually include learning relevant professions, personal and professional development. Increasing the level of education of employees is one of the elements of human capital formation and development. As an incentive element, a social policy, which includes certain privileges and conditions for workers, applies in enterprises. This includes providing vacation or sanatorium tickets that have a positive effect on the employee's health, which is considered one of the main elements of human capital, providing additional insurance to the employee to solve the health problem, and making social payments to support employees in a certain life situation..

Materials

Another important reason for investing in the formation and development of human capital is the development of innovative activities in the enterprise. A person's ability to design, start and implement new technologies, new products, that is, to participate in the innovation process, is an important element of human capital today. In the course of the research, it was proved that one of the factors determining the contribution of human capital to the company's income is innovation costs. As a rule, these costs include the costs of encouraging innovators working in the enterprise and the costs of creating a favorable environment for the activation of innovative activities in the enterprise¹.

Even when choosing workers with experience in their field, it is necessary to conduct the right incentive policy and retain them in the enterprise, because the experience gained by the employee in his enterprise is more important than the experience gained in another enterprise, because each enterprise has its own characteristics, and experience has a significant impact on labor productivity and their work involvement in the process is important for the implementation of innovation policy. A large turnover (exchange) of employees forces the enterprise to incur additional costs for the

¹ Dauletmuratov A. M. Factors of formation and development of human capital in the enterprise. // Scientists of the XXI century. International scientific journal. Russia. No. 4 (85) April 2022, pp. 24-27. ISSN 2410-3586

selection of qualified personnel. This can have a negative impact on the productivity and innovation activity of the enterprise.

Taking into account the above, we can express the system of investing in the formation and development of human capital in an innovative-active enterprise as follows (Fig. 1).

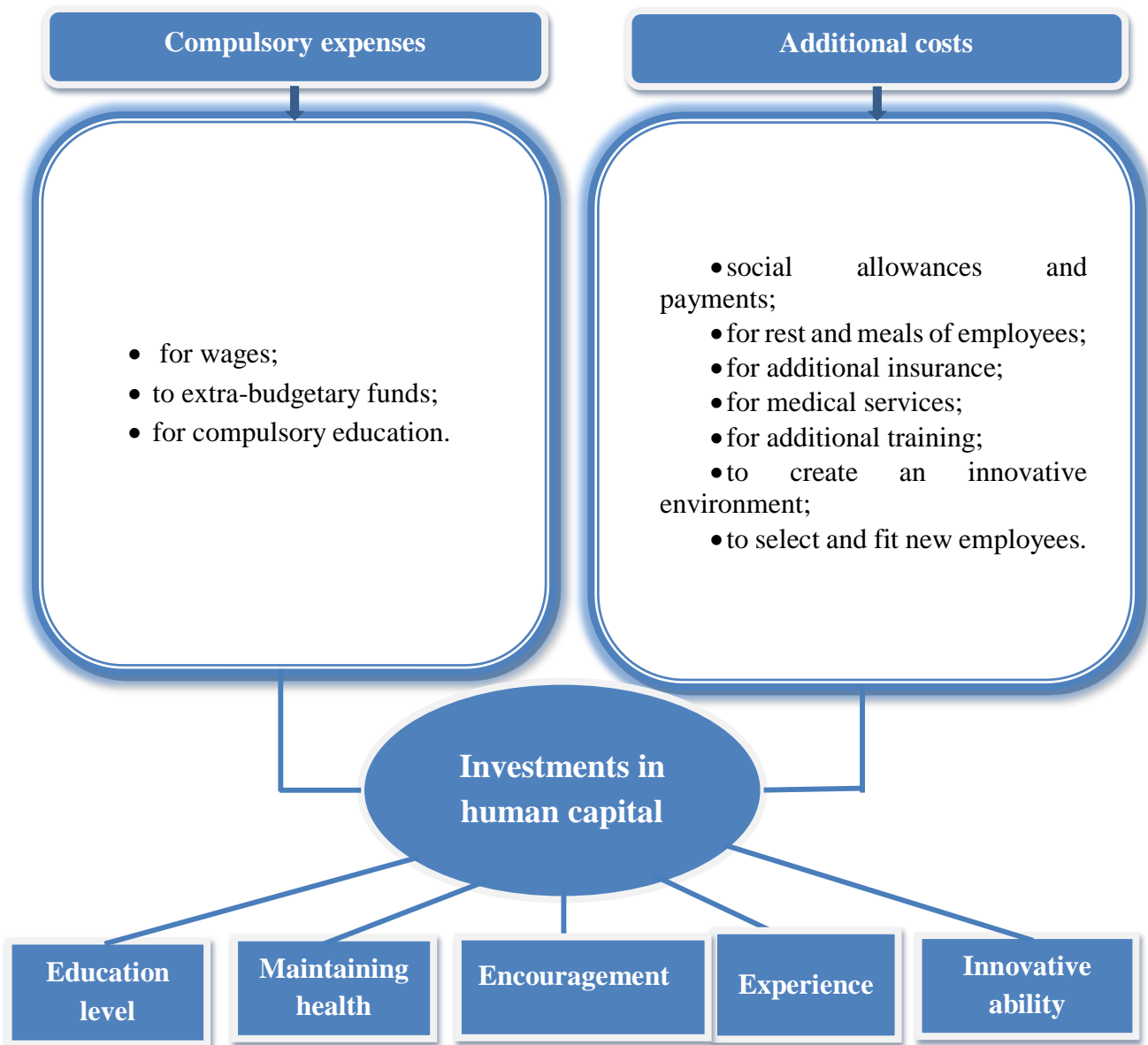


Figure 1. The system of investing in the formation and development of human capital in the enterprise²

It is impossible to create a system of formation and development of human capital in an enterprise without a system of principles. The system of principles of formation and development of human capital consists of a set of interrelated elements, the use of which allows creating a system of formation and development of human capital that is more effective for the enterprise³. The principles of this system include:

² Developed by the author

³ Khudyakova E. G. Human capital as a factor in the competitiveness of an enterprise / E. G. Khudyakova // International Research Journal. - 2015. - No. 6 (37) (part 3). - S. 124-126.

• **to achieve the main goal of the enterprise.** The essence of this principle is that the process of formation and development of human capital must be closely related to the production activity of the enterprise;

• **scholarship and relevance.** The formation and development of human capital should be based on the achievements of modern science and meet current requirements;

• **ease of implementation.** This principle is based on using the successes of hierarchical management systems at all levels and implementing them;

• **thrif.** All processes of building the system should be carried out with minimum costs;

• **continuity.** The system and all its processes must work continuously;

• **perspective.** When implementing the system, it is necessary to take into account its role in the future development of the enterprise;

• **complexity.** All elements of the system must interact and push towards a common goal;

• **individuality.** The system is aimed at the formation and development of all elements of the human capital of the enterprise, but it should take into account the specific characteristics and development of the needs of each capital carrier.

Thus, the performed analysis allows us to conclude that the introduction and implementation of the human capital formation and development system in the enterprise is a complex process that requires compliance with a number of principles and conditions. At the same time, this system will have certain characteristics in an innovative-active enterprise. They include additional investments in the formation and development of human capital in the enterprise, in particular, to bring out the innovative abilities of employees. That is, an innovative-active enterprise strives to fully form and develop human capital using all possible means, but it is appropriate to develop a human capital evaluation model to see how reasonable these measures are and how to evaluate their effectiveness. In the course of the research, it is shown that the innovative development of service sector enterprises depends on human capital and the financial indicators of the enterprise depend on investments in human capital, it is necessary to take these factors into account when developing the human capital assessment model of the enterprise.

Experience shows that domestic and foreign approaches to human capital assessment all have their own characteristics and shortcomings. As a rule, the complexity of the existing technique consists of difficulties in obtaining the necessary data for calculation. Therefore, it is necessary to take the most common cost approach as the basis of the developed model, the methodology that is most convenient and realistically reflects the value of human capital (the general methodology for calculating the international index of human potential) to be used as a methodological basis for the formation of the model.

In the model developed based on a combination of macro- and micro-level approaches, the human capital of the enterprise is considered not only as an independent economic unit, but also as a high-level element of the economic system. Taking into account the factors influencing human capital on innovative development allows taking into account modern economic trends.

Within the framework of the conducted research, the main conditions of the model for evaluating the value of human capital in the enterprise are supplemented by the following:

• the need to assess human capital;

• taking into account the company's investments in human capital;

• use of indicators reflecting the results of innovative development of the enterprise;

• consideration of employee motivation;

• ensuring the return on investment in human capital.

The conducted correlation-regression analysis shows that innovative activity and investments made in it have a positive effect on the income of the enterprise, the innovative, rationalizing and inventive activity of the enterprise is a product of the use of human capital of the employees of this enterprise. It follows that the result of innovative activity is determined by the use of highly developed human capital. The existing (applicable) human capital evaluation methods do not take into account the motivation of its carriers, but this factor plays a major role in maintaining the formed and invested human capital carrier. For example, the main subjects in the involvement of an innovative project in the enterprise are the management team of the enterprise, and the subjects implementing the project are the specialized and working employees of this enterprise. As a result, if the enterprise does not have enough human capital, even the most successful innovation project may fail. Inadequate employee motivation is reflected in their frequent turnover, as a result of which a newly hired employee, even with high human capital, undergoes an adjustment period that requires a certain time, which means a loss of time and opportunities for the employer. In this regard, it can be noted that employing an employee with a high level of innovative ability is not the most profitable position for the employer in relation to the training, improvement and development of the existing employee at the enterprise.

Wage coefficient defined by many economists is a separate indicator, which is taken into account in the model developed from the quality of investments in human capital, because labor costs are a remuneration for the use of human capital, as well as a motivating factor.

Methods

Methods such as logic, induction and deduction, analysis and synthesis, comparative analysis, statistical and comparative analysis, correlational and regression analysis, scientific abstraction, complex evaluation were used in the research.

Results

Thus, using the main principles of the applicable methods, as well as taking into account the generally accepted and specific factors of the formation of the human capital of the enterprise, it is proposed to carry out the evaluation of the human capital of the enterprise as follows:

$$VHC = I * I_{CHCIDE}$$

here, **VHC** is the value of human capital, swm;

I – employer's investment in human capital, swm;

I_{CHCIDE} – index of the contribution of human capital to the investment development of the enterprise, in unit shares.

Based on the above indicators, it should be said that human capital expenditures may not always have a full return, and considering the index of "investment in human capital" as the index of the contribution of human capital to the innovative development of the enterprise reflects the value of human capital, taking into account the impact on the innovative development of the enterprise.

Correlation-regression analysis shows that the contribution of human capital to the company's income depends on the following factors:

- expenses for innovative activities;
- the number of employees who passed training and retraining courses during the year;
- the number of employees with more than three years of work experience.

Thus, the financial status of the enterprise in the service sector depends on what kind of human capital it has and how this human capital participates in the innovative activities of the enterprise. Therefore, the indicator "Index of the contribution of human capital to the innovative development of the enterprise" should take into account the following two elements:

- 1) innovative development of the enterprise, which is the result of the formation and use of human capital;
- 2) development of human capital.

$$I_{CHCIDE} = I_{IDE} \times I_{HCD}$$

here, I_{CHCIDE} - is the index of the contribution of human capital to the investment development of the enterprise, in unit shares;

I_{IDE} – the innovative development index of the enterprise (reflects the efficiency of human capital used in the innovative development of the enterprise), in unit shares;

I_{HCD} – human capital development index (reflects the level of influence of the existing human capital in the enterprise on its innovative development), in unit shares.

It is proposed to define the innovative development index of the enterprise as the average geometric product of investments in the human capital of the enterprise, because innovative activity is the result of highly developed human capital and the efficiency of innovative activity in a certain period:

$$I_{IDE} = \sqrt{C_{HCI} \times (1 + C_{IAE})}$$

here, I_{IDE} - is the innovative development index of the enterprise, in unit shares;

C_{HCI} – human capital investment coefficient (this indicator reflects the share of human capital development costs in the total costs of the enterprise), in unit shares;

C_{IAE} – efficiency coefficient of innovative activity (this indicator shows the degree of influence of innovative activity on the financial condition of the enterprise), in unit shares.

$$C_{IDE} = \frac{I}{\text{the total cost of the enterprise}},$$

where, I - is the employer's investment in human capital (mandatory and additional expenses of the employer on human capital), swm.

In most cases, the economic result of attracting innovation in the enterprise is considered as the result of innovative activity and is calculated as the difference between the economic result of the activity and its costs. These indicators are shown as an internal report on the development of innovative activities of the enterprise. One of the main indicators affecting the financial condition of the enterprise is the "total costs of the enterprise", most innovative projects are aimed at reducing it, therefore, it is proposed to determine the coefficient of efficiency of innovative activity as follows:

$$C_{IAE} = \frac{\text{the result of the innovative activity of the enterprise}}{\text{the total cost of the enterprise}},$$

Based on the logic of its definition, the essence of the indicator "Index of innovative development of the enterprise" is always a non-negative indicator.

Looking at the indicator under the square root, it can be said that the coefficient of investment in human capital cannot be greater than 1, because it is equal to the ratio of human capital costs to the total costs of the enterprise.

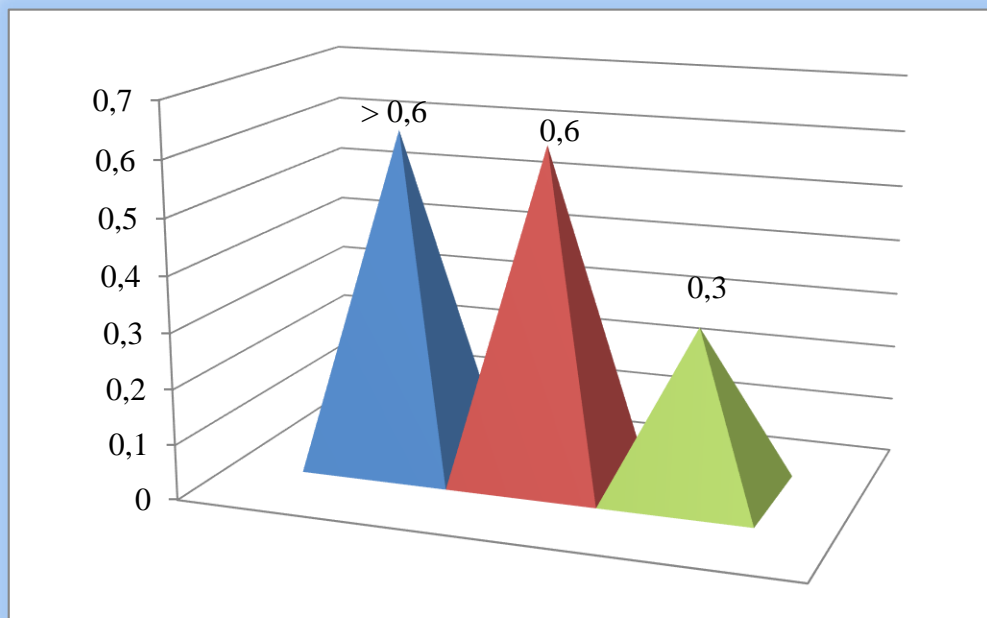


Figure 2. Differential value of the innovative development index of the enterprise (in percentage of units)

The coefficient of innovative activity, which is determined by the ratio of the innovative activity of the enterprise to the total costs of the enterprise, in turn, may have a negative character, because the innovative activity may not always be positive. But in addition to the negative character, the efficiency coefficient of the innovative activity of the enterprise and the coefficient of costs for the development of human capital do not exceed 1, because both positive and negative values may not be equal to the total costs of the enterprise. This may be the case with high-risk innovations (venture), which are rarely introduced by enterprises. In the event of a negative result on the coefficient of innovative activity, the positive value gives its sum with 1.

Thus, the coefficient of investments in human capital can be from 0 to 1, and the coefficient of innovative activity of the enterprise can take a value from -1 to +1.

For the purposes of differential management, we graphically show the general scale of the enterprise's innovation development index value: from 0 to 0.3 as a low level of enterprise innovation development, from 0.31 to 0.6 as an average level, above 0.6 as a high level (Figure 2).

Discussion

The index of human capital development represents the level of influence of the existing human capital in the enterprise on its innovative development in the future, it must include the main elements of human capital that have a positive effect on the financial condition and innovative development of the enterprise.

According to correlation-regression analysis, such elements include:

- the work experience of employees (taking into account the specific characteristics of the field), the more time an employee has worked in a certain field, the more practical knowledge he acquires directly in this field, which differs from the theoretical knowledge he received in an educational institution, based on this, the employee's opportunities to create and implement innovative projects expands so much. Because the period of up to three years for an employee who starts working in a certain enterprise is the adaptation period, during which the employee learns practical knowledge, skills, and specific features of the enterprise. The proposed model considers the share of employees with more than three years of work experience in the relevant service sector

compared to the average number of employees of the enterprise. We designate this coefficient as the coefficient of experience (c_e);

- continuous development, retraining, upgrading of the company's employees. Since knowledge has the ability to become obsolete, the creation of new technologies and products (services) requires a modern view of the world and modern knowledge of the profession, therefore it is necessary to train, retrain, improve and develop not only the management staff of the enterprise, but also all personnel. Since training, retraining and retraining of personnel is a very expensive business, no enterprise can train, retrain and retrain all employees every year, as a result of which the number of trained employees should be analyzed for three years. We define this coefficient as the vocational training coefficient (c_{vt});

Also, according to the results of the correlation-regression analysis, in addition to the selected indicators, it is necessary to take into account the factors of employee motivation, which is inversely proportional to the level of personnel turnover. We define this coefficient as the personnel motivation coefficient (c_{pm}).

Thus, the human capital development index of the enterprise was defined as the geometric mean value of the above indicators:

$$I_{HCD} = \sqrt[3]{c_e * c_{vt} * c_{pm}}$$

$$c_e = \frac{\text{the number of employees with more than three years of experience in the field}}{\text{average number of employees}},$$

where c_e is the experience coefficient of employees, in unit share,

$$c_{vt} = \frac{\text{number of employees trained (retrained and retrained) within three years}}{\text{average number of employees (ANE)}}$$

where c_{vt} is the coefficient of professional training of employees, in unit share,

$$c_{pm} = \frac{1}{(\text{number of employees dismissed at will for no good reason})/ANE * 100}$$

where c_{pm} is the coefficient of employee motivation, in unit percentage.

The product of these coefficients is related to the need to consider the degree of influence of these factors on the general indicator, to determine the value of each coefficient and its impact on the overall indicator. At the same time, the coefficient of employee encouragement (motivation) is inversely proportional to the level of staff turnover, excused reasons for voluntary resignation (except for good reasons) include: moving to a permanent place of residence in another region, taking care of a child until the age of 2, and the law of the Republic of Uzbekistan other reasons specified in the documents. It should be noted that if one of the above indicators (c_e , c_{vt} , c_{pm}) is equal to zero, it is not taken into account in the calculation.

The human capital development index, as well as the innovation index of the enterprise considered above, cannot have a negative value, since the values of the used coefficients are non-negative values. Thus, the experience coefficient can take a value from 0 to 1, since the number of employees with more than three years of work experience in the field (enterprise) should not exceed the average number of employees. The coefficient of professional training can take a value from 0 to 3, because the number of trained people can be three times its number, provided that all employees are trained in three years. The coefficient of employee motivation depends on the coefficient of personnel turnover in service sector enterprises, and to calculate its value, we

calculate the speed (norm) of personnel turnover in the service sector. In turn, the level of employee turnover depends on many factors, for example, the territorial location of the enterprise, the scope of activity and the characteristics of industries. Many companies calculate this rate for their own company, taking into account these and other factors. Taking into account that the model will be tested in enterprises of the service sector located in the same region, it is proposed to determine the average value of the staff turnover coefficient using the method of "benchmarking" (comparison of the best practice), for which the average value of the staff turnover coefficient is calculated between the studied service sector enterprises.

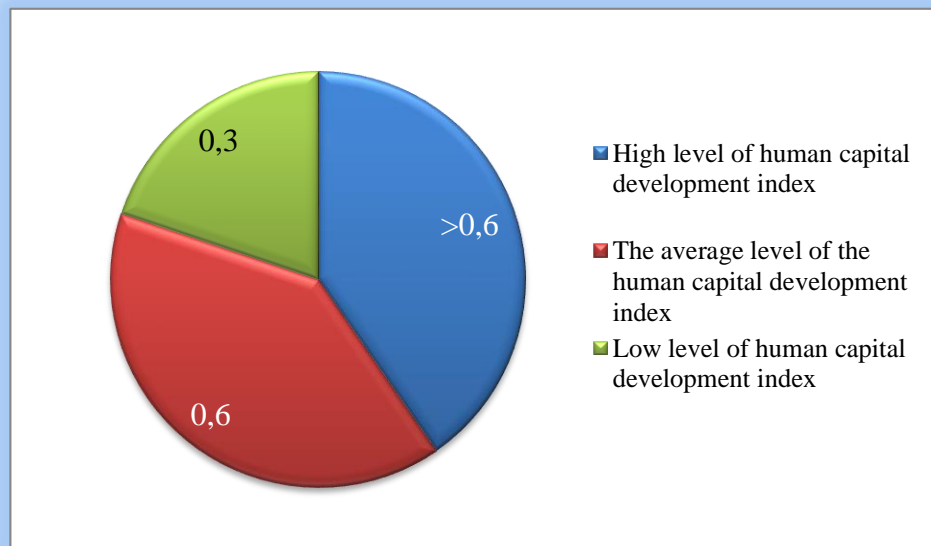


Figure 3. A differentiated scale of human capital development index values ⁴

The value of turnover rate among the considered enterprises varies from 2.0% to 10.0%, and the calculated turnover coefficient for the service sector is 5%. Thus, the value of the employee motivation coefficient can vary from 0.1 to 0.5, but an average value of 0.2 should be used as a guideline. It should be noted that the staff turnover rate in large enterprises does not reach 4%, and in small enterprises it even reaches 10%, which shows that the policy of motivating and retaining its employees is more effective for large enterprises.

Thus, taking into account the value ranges of the coefficients that make up the human capital development index, we can conclude that the value of the human capital development index itself can vary from 0 to 1. Differentially, we can define ranges with specific values. So, from 0 to 0.30 - a low level of human capital development; From 0.31 to 0.60 - the average level of human capital development; If it is higher than 0.6, it means a high level of human capital development in the enterprise (Figure 3).

When comparing the values of the indices of the innovative development of the enterprise and the development of human capital, the value scale of the index of the contribution of human capital to the innovative development of the enterprise is determined, which can be taken from 0 to 1, where:

- from 0 to 0.3 - insignificant contribution of human capital to the innovative development of the enterprise;
- from 0.31 to 0.6 - sufficient;
- if it is higher than 0.6, it is important (Figure 4).

⁴ It was developed by the author based on the results of the analysis

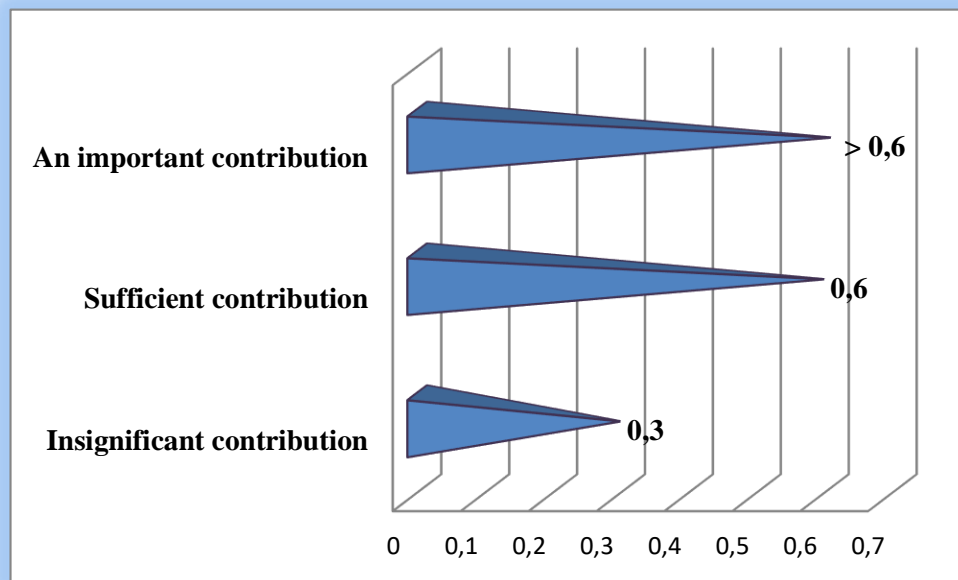


Figure 4. A differentiated scale of the values of the index of the contribution of human capital to the innovative development of the enterprise, in unit share⁵

Conclusion

Thus, the proposed approach to determining the value of human capital in the enterprise reflects the value of the human capital of the enterprise, taking into account the impact on the innovative development of the enterprise. By comparing the costs of human capital and its real cost calculated by the proposed method in the dynamics of a certain period, we can draw a conclusion about the state of human capital in the enterprise and the efficiency of its use.

Literature

1. Decree No. PF-60 of the President of the Republic of Uzbekistan dated January 28, 2022 "On the development strategy of New Uzbekistan for 2022-2026", <https://lex.uz/docs/5841063>.
2. Decree No. PF-213 of the President of the Republic of Uzbekistan dated August 31, 2022 "On additional measures to increase the welfare of the population through the rapid development of entrepreneurship, innovative technologies and infrastructures in the Republic of Karakalpakstan". <https://lex.uz/docs/6181114>
3. Mirziyoev Sh.M. New Uzbekistan strategy. - Tashkent, "Uzbekistan" publishing house, 2021. - 464 p.
4. Abdurakhmonova G.Q., Rustamov D.J. "Directions of development of human capital based on digital economy". Monograph. - Beau Bassin: "GlobeEdit" Publisher, 2020. - 20, p. 43-48.
5. Becker G.S. Human Capital: A Theoretical and Empirical Analysis. N.Y.: Columbia University Press for NBER, 1964.
6. Ben-Porath. The Production of Human Capital and the Life Cycle of Earnings. – N.Y.; -L, 1970.- P.49.
7. Dauletmuratov A. M. Factors of formation and development of human capital in the enterprise. // Scientists of the XXI century. International scientific journal. Russia. No. 4 (85) April 2022, pp. 24-27. ISSN 2410-3586
8. Khudyakova E. G. Human capital as a factor in the competitiveness of an enterprise / E. G. Khudyakova // International Research Journal. - 2015. - No. 6 (37) (part 3). - S. 124-126.
9. Usmanov B.Sh., Kadirov M.Q., Eltazarov J.D. The role of education and science in the formation of human capital (scientific and popular treatise). – Samarkand: SamDU, 2015. -18 p

⁵ It was developed by the author based on the results of the analysis