Discussion on the Advantages and Disadvantages of the Monetary Measurement Model of Human Resource Value

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Abstract

The era of the knowledge economy calls for human resource accounting, and the problem of human resource value measurement is the crux of the slow development of human resource accounting. This paper focuses on the scope of application, advantages, and disadvantages of several models of monetary measurement of human resources value.

Keywords

Human Resource Value; Human Resource Accounting; Monetary Measurement.

1. Introduction

With the advent of the knowledge economy, human resources have become the driving force of social progress. In the final analysis, the competition among enterprises is the competition of talents. How to effectively measure and calculate human resources has become a difficult problem for enterprises. Human resource accounting came into being. As a new branch of accounting, human resource accounting is paid more and more attention by enterprises and scholars.

At present, there are two measurement methods of human resource value: monetary measurement method and non-monetary measurement method. The monetary measurement method is a method to measure the value of human resources by using accounting functional currency. Non-monetary measurement methods reflect some aspects of human resource value that cannot be measured directly in monetary units, mainly including performance parity method, function list method, etc. Non-monetary measurement is an auxiliary mode, but it can provide information users with important information that cannot be expressed by monetary measurement. This paper will discuss and analyze the advantages and disadvantages of several monetary measurement models of human resource value.

2. Monetary Measurement Model based on Employee Compensation

This method holds that employee compensation is the monetary expression of labor price, the necessary value of labor, and is inseparable from the value of labor. Under this theoretical model, there are two main methods.

2.1. Future Employee Compensation Discount Model

This model measures the value of human resources according to the concept of economics and holds that the value of human resources of an employee is equal to the present value of future employee compensation in the remaining employment period. It uses the present value of future employee compensation as the value of human resources, which is more suitable for the measurement of individual value. The mode is expressed by the formula:

$$V= \sum I_t / (1+r)^t$$

Where: V represents the value of human resources; It refers to the employee remuneration in the T year; T represents the time, in years, from 1 to t, where t is the calculation period of human resource value; R is the discount rate.

The advantages of this method are: first, the calculation is simple. The required data is relatively easy to obtain. It can be calculated only after obtaining the amount of future employee compensation, years, and the selected discount rate. Second, it can be roughly regarded as the exchange value of artificial labor force, that is, the input value of human resources, which reflects the function of enterprises using human resources and can make the effective distribution of human resources.

The disadvantages of this method are: first, the use-value of the labor force is far greater than its exchange value. It is difficult to prove whether the human resource value calculated based on employee compensation is fair and reasonable. Second, it predicts the future salary level of employees based on the stability of employees' identity and role. It believes that employees all serve in the same enterprise and engage in a career for life, ignoring the possibility of changing roles during employees' work. This is inconsistent with the status quo. Third, this measurement method only takes employee compensation as the basis for measuring the value of human resources, but in fact, the value created by human resources may be higher or lower than its employee compensation. Therefore, using this method to estimate the value of human resources may be inaccurate. Fourth, the selection of discount rates needs subjective judgment. Fifth, the selection time of employees' service life is likely to be too long, which will greatly limit the effectiveness of this method and make the evaluation results inaccurate. Therefore, this method is more suitable for some existing state-owned enterprises and institutions in China. Their employee salary system is relatively fixed and employee salary is easy to predict.

2.2. Adjust the Discount Mode of Future Employee Compensation with Benefit Coefficient

In this model, the benefit coefficient is used as the adjustment factor to adjust the future salary of employees, and the adjusted discounted value of future employee salary is used to calculate the value of human resources. This method is mainly suitable for calculating the overall human resource value of enterprises. This model holds that there may be great differences in benefits between different enterprises with roughly the same asset-liability scale in the same industry, even if the technical level is similar. This benefit difference is mainly caused by the difference in human resource quality, and the discount method of future employee compensation cannot reflect this difference. To reflect the difference of human resource quality, after calculating the discount of employee compensation, it needs to be adjusted with the benefit coefficient of the enterprise, to determine the value of enterprise human resources. The benefit coefficient is reflected by the rate of return on investment of the enterprise in a certain period and the average rate of return on investment of the industry, and its calculation formula is:

$$E = (5 \times ROA_1/ROA_{i1} + 4 \times ROA_2/ROA_{i\,2} + 3 \times ROA_3/ROA_{i\,3} + 2ROA_4/ROA_{i\,4} + ROA_5/ROA_{i\,5})/15$$

Where: E represents benefit coefficient; ROA represents the return on assets of the enterprise in the year of realization; ROA_i represents the average return on assets of the industry in the year; ROA_t (t = 1, 2, 3, 4, 5) represents the return on assets of the enterprise in the T year pushed forward from the realization year; ROA_{it} (t = 1, 2, 3, 4, 5) represents the average return on assets of the whole industry in the year t pushed back from the realization year.

The advantage of this method is that it not only calculates the value of human resources according to the employee compensation but also appropriately considers the benefit differences between different enterprises in the same industry caused by the differences in the

quality of human resources. It is more scientific than the discount method of employee compensation in the future.

The disadvantages of this method are: first, theoretically, the value created by employees for the enterprise includes not only the value (V) created by necessary labor but also the value (M) created by surplus labor. Employee compensation only reflects the value created by necessary labor, but cannot reflect the value created by surplus labor. Therefore, the model ignores the value of surplus labor and is imperfect. Second, the model also does not consider the changes in employee positions or jobs in the next five years. Third, the model does not consider the payment of social security and other enterprises in the compensation value of human resources, but only reports information to external investors, ignoring the needs of internal management. Fourth, the determination of the weight of the formula is also subjective. The length of service of employees is only 5 years, which is unreasonable. In addition, the benefit difference of enterprises of the same scale in the same industry is mainly caused by the difference in human resource quality, but it is not safe. It is inappropriate to attribute all the benefit differences to the difference in human resource quality in this model. This method is suitable for enterprises that pay attention to the role of human resources in production and operation activities, such as high-tech enterprises, foreign-funded enterprises, and so on.

3. Benefit based Model

3.1. Random Reward Value Model

This model holds that a person's value to the enterprise lies in the number of services he can provide in the future. The amount of services is determined by many factors such as people's production capacity, transfer, promotion, and the possibility of being a member of the enterprise. The volume of services depends on the possibility of people's current or future role in the enterprise, and this possibility is random. The calculation formula is:

$$V = \sum [\sum R_i \times P(R_i)] / (1+r)^t$$

Where: V represents the value of human resources; I refers to different positions that an employee may hold within the expected service life for the enterprise; R_i indicates that the benefits that the employee can bring to the enterprise when he is in the position i are the value created for the enterprise; $P(R_I)$ refers to the probability that the employee obtains the position i; $\sum R_i \times P(R_I)$ refers to the benefits that the employee may bring to the enterprise every year within the expected service life of the enterprise; R is the discount rate; T refers to the time, which is the expected service life of the employee for the enterprise, that is, the calculation life of human resource value.

The advantages of this method are: first, the monetary measurement model based on employee compensation uses the employee compensation paid by the enterprise to calculate the value of human resources, and this method uses the value created by the services provided by human resources to the enterprise to calculate the value of human resources. The measurement attributes of the two are different, and the latter is more persuasive. Second, it uses the benefits that employees can bring to the enterprise in the future to calculate the value of human resources, and considers the mobility of employees among the service states of various departments in the enterprise and the possibility of employees leaving. It is a dynamic process model. Third, the factors considered in the calculation process are more systematic and comprehensive, the data calculation is more objective, and the estimated human resource value is relatively more accurate and easier to be accepted.

The disadvantages of this method are: first, RI value is the value of human resources, itself is an unknown number, and the measurement is lacking operability. Second, it is difficult to determine the possibility of employees holding a position accurately, with uncertain factors; The value that employees can create for the enterprise in a certain position is also an unknown quantity to be determined. Third, this method does not solve how to use the method of monetary measurement to reflect the service value under various service states.

3.2. Adjusted Random Return Value Model

In the first mock exam, human resources are important factors that affect the efficiency of enterprises, but not the only factor. Therefore, when calculating the value of human resources based on income, we should exclude the impact of other resources on the enterprise's income. Therefore, the "human resource share coefficient" is introduced to adjust the random reward value model. The calculation formula is:

Human resource share coefficient (K_i) = ($K_1 \times$ Employee compensation) ÷ ($K_1 \times$ Employee compensation + $K_2 \times$ Depreciation of plant and equipment + $K_3 \times$ Interest on current and other funds + $K_4 \times$ Resource consumption cost)

Where: K_1, K_2, K_3 and K_4 are weights, $K_1 + K_2 + K_3 + K_4 = 1$. The values of K_1, K_2, K_3, and K_4 can be different for different enterprises. Using the share coefficient of human resources, the random compensation value model is adjusted to:

$$V=\sum [\sum K_i \times R_i \times P(R_i)]/(1+r)^t$$

The advantage of this method is that the human resource share coefficient is increased, and the calculated human resource value seems to be more accurate than the random reward value model.

The disadvantages of this method are: first, considering the Non-human resources factors such as delivery room equipment and current assets in the model, it is not clear whether these factors are necessary. Second, four weights of K_1, K_2, K_3, and K_4 are added to the model. How to determine the proportion of these four weights is a new problem. The determination of these four weights is greatly affected by human factors, which will affect the share coefficient of human resources, and then affect the accuracy of human resources value.

3.3. The Economic Value Model of Distinguishing Human Resources from Non-human Resources

This model holds that the expected profit of an enterprise is jointly created by human resources and Non-human resources. After discounting the part created by human resources, it is the value of human resources. The calculation formula is:

$$V=\sum R_t \times H_t/(1+r)^t$$

Where: V represents the value of group human resources expressed by the present value of future earnings; R is the discount rate; R_t represents the future net income of the enterprise in period T; H_t represents the proportion of human asset investment in total asset investment; T refers to time, which is the calculation period of human resource value.

The advantages of this method are as follows: first, it distinguishes human resource investment from Non-human resource investment, pays attention to the investment ratio of human and Non-human resources, and compares the contribution of human resources and Non-human

resources to the enterprise, which is conducive to the formation of systematic human resource accounting information, so that managers and decision-makers know the expected effect of human resource investment, It is conducive to making the limited funds used for the best decision-making; Second, it is also reasonable to measure based on profit.

The disadvantages of this method are: first, the future net income is an estimated value, which is subjective and uncertain. In this mode, when the present value of future income realized by human resources investment is greater than zero, the present value is the value of human resources. This part only reflects the value determined according to the investment rate of human resources in the part of the surplus value created by human resources that are transformed into the benefit of the enterprise, so it underestimates the value of human resources. When the value of the realized part of human resources investment in future income is less than or equal to zero, this method cannot be used to measure the value of human resources. Second, the value of human resources is affected by many factors and does not necessarily have a linear relationship with the proportion of investment. Third, this method does not measure the part of employee compensation, that is, it does not reflect the exchange value of human assets and underestimates the value of human resources.

3.4. Goodwill Evaluation Model

This model holds that the income of an enterprise exceeding the industry average can be regarded as the contribution of human resources and should be recognized as the value of human resources through capitalization procedures. This method is like the method for enterprises to confirm the value of non-purchased goodwill, so it is called the "goodwill evaluation model". The goodwill evaluation method is mainly used to evaluate the value of the enterprise's overall human resources. The formula is:

Human resource value = (net income of the enterprise – total assets of the enterprise × Industry average return on investment) / industry average return on investment

The advantages of this method are: first, its calculation is based on the actual amount of income every year, and there is no need to estimate the future income. Therefore, it not only has greater objectivity but also is close to the current accounting practice. Second, it takes the historical cost as the measurement basis, which has a certain objectivity. This method applies to enterprises with certain goodwill in the same industry and this part of goodwill can be easily measured, such as enterprises with well-known trademark rights at home and abroad.

The disadvantages of this method are: first, the past form of enterprise goodwill is used to express the value of human resources, ignoring the time value of money. Second, the value of human resources determined by the model is only part of the value of human resources. It not only does not calculate the exchange value of human resources but also only calculates part of the residual value. The normal profit of an enterprise, like its excess profit, also contains a part of the value of human resources, which cannot be ignored. Therefore, this method underestimates the value of enterprise human resources more than other methods. Third, when the enterprise's rate of return is equal to or lower than the industry average rate of return, the value of human resources calculated by the goodwill parity method is zero or negative, which is unreasonable.

4. Summary

The implementation of human resource accounting is the need for the development of knowledge economy, the necessary premise of China's economic growth, the need for enterprise internal operation and management, and the requirement of financial accounting.

The following conditions apply to human resource accounting in China: the social environment of China's economic system reform creates conditions for the implementation of human resource accounting in China; The demand of enterprises promotes the development of human resource accounting. As the key to the development of human resource accounting, the research on the measurement model of human resource value is more important. At present, the advantage of various monetary measurement models of human resource value is that they can reflect the economic value of enterprise human resources and provide relevant information for decision-makers. However, its shortcomings are also obvious. The measurement results are not completely based on objective records. To a certain extent, subjective estimation or trend calculation is needed. The measurement of human resource value is the crux of the slow development of human resource accounting. Therefore, it is urgent to design a scientific and reasonable human resource value measurement model in line with the current situation of our country.

Acknowledgments

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