



MODELS OF HUMAN RESOURCE ACCOUNTING AND ITS APPLICABILITY IN THE VALUATION OF A FACULTY MEMBER



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ABSTRACT

Every business entity is an amalgam of factors like men, money, machine, material, market and management. Human resource is the organic component of this amalgam that breathes life into the organization and imparts to the attributes of a going concern. Human resource value is thus value addition made by the organic components to inorganic components. Human resource is the most fundamental of all the available resources. The human being is a capital asset and his productive value arises from the acquisition of knowledge and skills that have an economic equivalent. Human resource accounting is an attempt to recognize the worth a firm's human inputs and quantify the same in monetary terms. The value of an individual member of any organization is the present worth of the set of future services that the individual is expected to render during the period he is likely to work for the organization. Thus the purpose of this study is to review the various human resource accounting models and its practical difficulties at the time of implementation. This study mainly emphasis on the application of Lev & Schwartz model and Flamholtz model in the valuation of a faculty member. Thus the study clearly shows that these two HRA models can be comfortably applied for valuing the worth of a faculty member of any institution having a systematic pay structure and promotion policy and it also reveals that the career advancement from one post to a higher post indicates an increase in human resource value.

KEY WORDS: Human resource accounting, Lev & Schwartz model, Flamholtz model

INTRODUCTION

Human beings are the most valuable resources in an organization. The success or failure of an enterprise depends upon the quality, caliber and character of the people working in it. According to Alfred Marshall "the most valuable of all capital is that investment in human beings". The ability of employees working in an organization is termed to be as real asset but it is quite unfortunate that so far, no attempt has been made to put this most vital asset on the balance sheet along with other assets while doing the accounting practices. During the mid-

sixties, behavioral scientists pointed out that the failure of accountants to value the human resources was a serious handicap for the effective management.

The first attempt to value the human beings in monetary terms was made by Sir William Petty in 1961 and opined that labor was "the father of wealth" and it must be included in the estimate of national wealth. Value of human resource was again recognized by William Apton in 1920 and commented that in a well organized business, loyal personnel may be more important asset than a stock of merchandise. According to Rensis Likert, human



resource refers to the value of the productive capacity of the human organization as well as the value of customer goodwill.

In recent years accounting of human resource has become popular among different organizations. The American Accounting Association defined human resource accounting as “the process of identifying and measuring data about human resources and communicating this information to interested parties”. According to Eric Flamholtz, human resource accounting is the accounting for the people as an organizational resources and it involves the measuring of cost incurred by the business firm to recruit, select, hire, train and develop human assets. It also measures the economic value of the people to the organization. Without men, all money and material resources cannot be effectively geared for achieving the goal of an enterprise. The variables in human behavior like group loyalty, skill, motivation and capacity for effective interaction, communication and decision making are the true indicators of organizational health. Information about human asset for planning and control is essential in the same way as data regarding other resources are needed for presentation in the financial statements. It is through a system of HRA that information regarding acquisition, development, maintenance and utilization of human asset would be available. If the values of human and physical assets are shown together in the balance sheet, a more

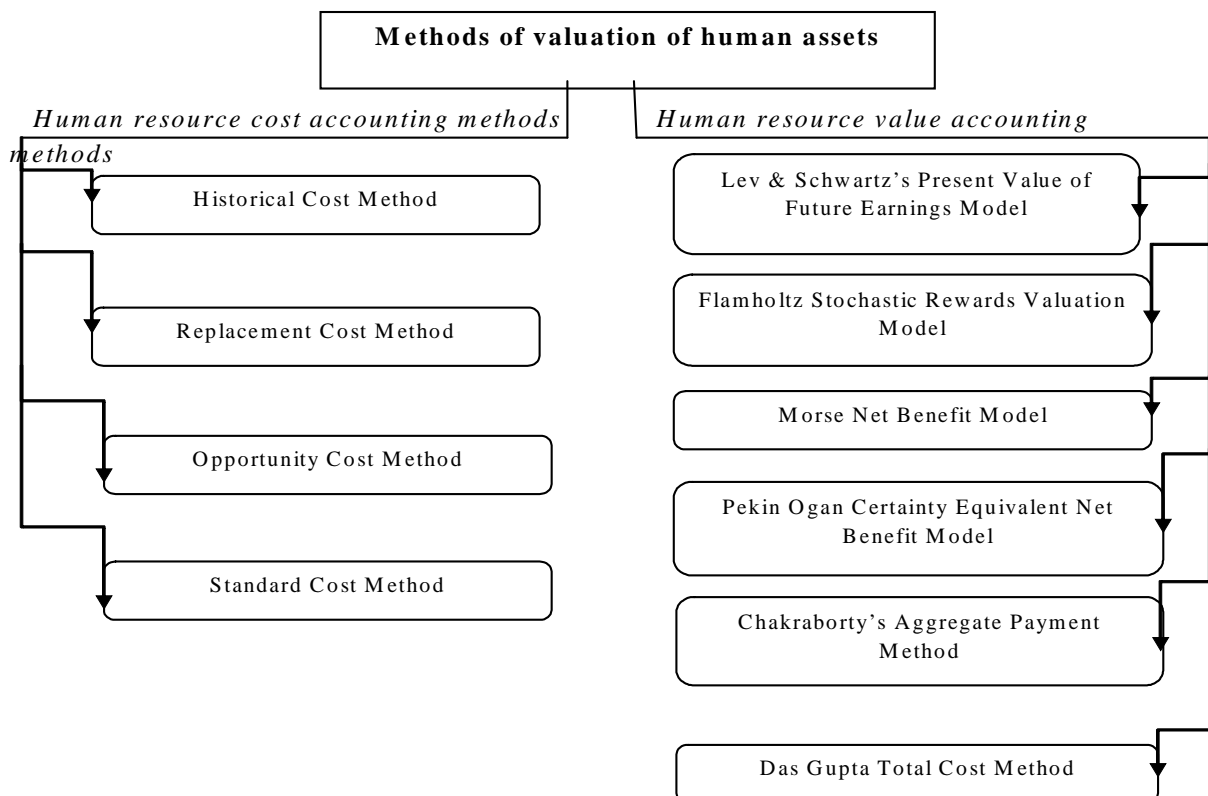
realistic assessment of the firm can be presented before the investors, financiers, creditors, Government and the general public.

Higher education provides people with human capabilities to reflect, make better choice, seek voice in the society and enjoy a better life. The core element in the higher education is the faculty resource. Faculty member impart knowledge and information. They help in creating an atmosphere in which their students can become successful professionals in future. Thus a faculty member is accountable to both the institution and to the society. Hence there is a need to develop a system through which the worth of a faculty members can be assessed, the training needs can be identified and they can be motivated further to develop an interest in their profession. In this context, researcher makes an attempt to apply two human resource models namely Lev & Schwartz model and Flamholtz model to value a faculty member.

OBJECTIVES OF THE STUDY

1. To review the models of human resource accounting.
2. To study the practical difficulties of human resource accounting.
3. To calculate the human resource value of a faculty member as per the UGC norms through Lev model and Flamholtz model.

MODELS OF HUMAN RESOURCE ACCOUNTING



Historical Cost Method:-

Historical cost method was developed by W.C. Pyle and his associates at R.G. Barry Corporation, USA in 1967. According to this approach the actual cost incurred on recruiting, selecting, training, placing and developing the human resources of an enterprise are capitalized and written off over the expected useful life of human resources. The procedure followed for human resource asset is the same as that of other physical assets. Any amount spent on training and developing human resources increases its efficiency; hence capitalized. The human resource assets are also written off in the same way as other assets are written off. The unexpired value is shown as investment in human resources.

Replacement Cost Method:-

This approach was developed by Rensis Likert and Eric Flamholtz. Under this method, the human resources are valued on the basis of cost of replacing employees. The human resource of a firm are to valued in terms of the cost that the firm will have to incur in replacing the present employees with the new employees of the equal efficiency and experience. Replacement cost may be of two types – personal or individual cost and positional replacement cost. The former refers to the cost to be incurred to replace an individual with a substitute having the same talent and experience for all types of position. This approach is like historical cost approach except that it follows for change in the cost of acquiring and developing employees in place of taking their historical cost.

Opportunity Cost Method:-

This approach has been suggested by J.S. Hekiman and C.H. Jones in 1967. Under this approach human resource are valued on the basis of economic concept of opportunity cost. Thus the value of human resource is determined on the basis of the value of an individual employee in alternative use. The principle is that human assets have value only when there is alternative use for them. If employees can be hired easily, there is no opportunity cost. This implies that human resource asset has a value only when it is scarce. If alternative positions are available within the firm for particular employees, managers of concerned departments may bid for each employee and the highest bid would be taken as the opportunity cost of the employee. The total value of human assets would be the aggregate of the individual value of employees.

Standard Cost Method:-

This approach was given by David Watson. In this method the standard cost of recruiting, hiring, training and development is accumulated every year for each grade

of employees. However, this method is found to be suitable for control purposes and variances analysis.

Lev & Schwartz's Present Value of Future Earnings Model:-

The model of measurement of human capital suggested by Lev and Schwartz in 1971 is based on the economic concept of the human capital. Human capital is defined as the source of income over a period of time and its worth is the present value of future incomes discounted by a certain rate. According to them, the value of human capital is represented by a person of age 'r' is the present value of his remaining future earnings from his employment. The following formula is given by them for calculating the value of an individual:

$$V_r = \sum_{t=r}^T \left\{ \frac{I(t)}{(1+r)^{t-r}} \right\}$$

Where; V_r = value of an individual or r years old

$I(t)$ = the individual's annual earnings up to retirements age

T = retirement age

r = discount rate specific to the person

t = active year of service

The model identifies an individual's expected economic value to the organization to his future earnings for his remaining service life. His future expected income stream is discounted by an appropriate discount rate to arrive at the present value of his services. The value of total human resource of an organization is found out by aggregating the present value of all employees.

Flamholtz Stochastic Rewards Valuation Model:-

Under this model human assets are valued on the basis of the present worth of the services of employees expected to be derived during the period of their employment in the organization. Stochastic Rewards Model was developed by Eric G.Flamholtz in 1971. The model is based on the presumption that a person's value to an organization depends upon the positions to be occupied by him in the organization. He determined the movement of employees from one organization to another as Stochastic Process. In order to quantify human resource value the period any employee work in the organization, role of employee and value of present position are determined and discounted expected service rewards. To be precise an employee value is the product of individual conditional value and the profit that the individual offers to the organization in his/her service life. The conditional

value comprises of productivity, transferability and promotion, skills and activation levels are also the determinants of an individual's conditional value. The model suggests a five steps approach for assessing the value of an individual to the organization:

1. Forecasting the period will remain in the organization (expected service life)
2. Identifying the role that he might occupy at the time of leaving the organization.
3. Estimating the value derived by the organization when a person occupies a particular position for a specified period of time.
4. Estimation of the probability of occupying each possible mutually exclusive state at specified future times.
5. Discounting the value at a predetermined rate to get the present value of human resources.

The model is certainly an improvement over the Lev & Schwartz as it takes into account the factors relating to the possibility and probability of employees career movement and of quitting the organization for reasons other than retirement and death. The following formula is given for calculating the value of an individual:

$$E(RV) = \sum_{i=1}^n y \left[\sum_{i=1}^n \left(R_t * \frac{P(R_t)}{(1+r)^t} \right) \right]$$

Where; E (RV) =expected realizable value

R_t = Value derived by an organization in each possible state

P (R_t) =Probability that the organization will have R_t

t= time; n= state of exit; r = discount rate; i = 1,2,3.....

Morse Net Benefit Model:-

This approach was developed by Morse in 1973. Under it the value of human resource is equivalent to the present value of the net benefits derived by the enterprise from the service of its employees. The following steps are involved under this approach:

1. The gross value of the services to be rendered in future by the employees in their individual and collective capacity.
2. The value of direct and indirect future payments to the employees is determined.
3. The excess of the value of future human resources over the value of future payments is ascertained. This represents the net benefit to the enterprise because of human resources.

4. By applying a predetermined discount rate to the net benefit, the present value is determined. This amount represents the value of human resource to the enterprises.

Pekin Ogan Certainty Equivalent Net Benefit Model:-

This approach has been suggested by Pekin Ogan in 1976 is an extension of net benefit approach of Morse. Under it, the value of human resource is determined by taking into consideration the certainty with which the net benefits in future will accrue to the enterprise. The method involves the following steps:

1. Net benefit from each employee.
2. Certainty factor at which the benefits will be available in future.
3. The certainty equivalent benefits will be calculated by multiplying the certainty factor with the benefits from all employees. This will be the value of human resource of the enterprise.

Chakraborty's Aggregate Payment Method:-

S.k.Chakraborty of Indian institute of management Calcutta was the first Indian to attempt at valuation of human resources 1976. This model was similar to historical cost model, he noticed the cost of recruiting ,learning, selection, training and development of each employee should considered for acquisition cost method of valuation and be treated as different revenue expenditure, this is subject to gradual written off. The balance, not the written off amount, should be shown separately in the balance sheet under the head of investment. To derive the present value of HR average feature tenure of employment of employee's and average future salary should discounted at an appropriate rate, it is shown as investment in the asset side of balance sheet which is to be added to the capital employed in the liability side. separate valuation can be made for managerial and non- managerial employee the discount calculate the present value should take as expected average after tax return on capital employed, taken from the conventional balance sheet. The Chakraborty model basically considered a combination of acquisition method and present value.

$$V = \sum_{i=1}^n \left\{ N_i * \frac{AS_i}{(1+k)^n} \right\} + AC$$

Where; V= Value of a category of employee

N=Number of employees

AS= average annual pay

K= after tax return on capital employed

i=1, 2, 3.....n years (average tenure of employed

Das Gupta Total Cost Method

This model is popularly known as total cost concept. According to this model, the total cost incurred by the individual up to that position in the organization should be taken as the value of the person which is further adjusted by his intelligence level. The value thus calculated is revised time to time on the basis of age, performance, experience and other capabilities.

PRACTICAL DIFFICULTIES OF HUMAN RESOURCE ACCOUNTING

1. There is no specific guideline for measuring the cost and value of human resources.
2. Sometimes discouraging attitude of human resources may frustrate them leading to low productivity.
3. While valuing the human assets, demand for rewards and compensation might be higher.
4. The nature of amortization to be followed is yet to be fixed up.
5. Tax laws do not recognize human assets and it remains only as theoretical concept.
6. Several methods are available in valuing human resources but there is lack of their wide acceptance.
7. The methods for valuation of human resources are different from each other. All of them give varying result. There is no generally accepted method for valuation of human resources.
8. IAS/IFRS/BASs do not provide any guidelines for the treatment of HRA approach.
9. Uncertainty of human resources creates uncertainty in its valuation in a realistic approach.
10. Human beings cannot be owned like other assets. Thus they cannot command any value.

The above objections are basically because of human resource accounting being a new concept. The opinions are still to be crystallized. It is yet not less satisfying that the accountants these days have realized that disclosure of human resources in the financial statement "is a must" if they have to show a true and fair view of the state of affairs of the business. In course of time, proper techniques are bound to be developed for valuation of human resource and generally acceptable formats will be evolved by the accountants for disclosure of this vital information in the financial statements of the firm.

CALCULATION OF HUMAN RESOURCE VALUE OF A FACULTY MEMBER AS PER THE UGC NORMS THROUGH LEV & SCHWARTZ MODEL AND FLAMHOLTZ MODEL

Designation of Mr. X	: Assistant Professor
Age	: 37 years
Experience	: 4 years
Remaining year of service	: 19 years
Scale of Pay	: 15600-39100
Present annual income	: '4, 62, 000
Cost of capital (discounting rate)	: 10%

Lev and Schwartz model defines the value of human capital as it is embodied in a person of certain age as the present value of employee's remaining future earnings from present employment. **Lev and Schwartz model has been applied to calculate the human resource value of a faculty member working as an Assistant professor** under the following assumptions:

1. Faculty member is evaluated individually to determine his human resource value.
2. The faculty member will continue to be in employment till the age of retirement.
3. Salary is considered on the basis of UGC norms.
4. Discounting rate is assumed to be 10%.

Thus human resource value of an Assistant Professor can be computed using the following formula:

$$V_r = \sum_{t=r}^T \left\{ \frac{I(t)}{(1+r)^{t-r}} \right\}$$

Alternatively the value of an Assistant Professor can be computed with the help of annuity table. The present value of an annuity of ' 1 for 19 years at 10% discount rate is 8.365, hence the present value of '4, 62, 000 for 19 years comes to

$$4, 62,000 \times 8.365 = \underline{38, 64,630.}$$

Therefore, Total value of an Assistant Professor till the age of retirement is '38, 64,630

If the Assistant Professor has been promoted to another post as a part of career advancement as per UGC norms, his total human resource value can be computed using Flamholtz model and this model suggests the application of the probability technique to predict the service one will occupy at a future point of time.

Valuation of an Assistant Professor using Flamholtz model:-

The employee considered for valuation, being in the 4th year of service, will be in the grade of Assistant Professor drawing an annual income '4, 62, 000. As per UGC norms he will be serving as Assistant Professor for 8 more years including the current year.

The present value of an annuity of ' 1 for 8 years at 10% discount rate is 5.335, hence the present value of '4, 62, 000 for 8 years comes to

$$4, 62,000 \times 5.335 = \underline{24, 64, 770}$$

Therefore, Total value of an Assistant Professor till the age of promotion is **24, 64, 770**

Valuation of an Associate Professor in the scale of 37400-67000 using Flamholtz model:-

The same employee (Mr. X) under consideration is eligible to serve as Associate Professor for a period of 11 years being the remaining service period and he will be drawing an annual income of ' 8, 64,000. The present value of an annuity of ' 1 for 11 years at 10% discount rate is 6.495, hence the present value of '8, 64, 000 for 11 years comes to

$$8, 64, 000 \times 6.495 = \underline{56, 11, 680}$$

Therefore,

Total value of an Associate Professor after promotion and till the retirement is **56, 11, 680**

Hence the total value of an individual serving as a faculty member with career advancement (Promotion from the post of Assistant Professor to the post of Associate Professor) = 24, 64, 770 + 56, 11, 680 = ' 80, 76, 450.

It is understood that the human resource value under the Flamholtz model is an improvement over the Lev & Schwartz model as it takes into account the factors relating to the possibility and probability of an individual serving as a faculty member with career advancement. From the above calculation, human value of a faculty member under Lev & Schwartz model is **'38, 64,630** and it is **' 80, 76,450** under the Flamholtz model which indicates an increase in human value when a faculty member gets Promotion from the post of Assistant Professor to the post of Associate Professor. Thus it clearly shows that these two HRA models can be comfortably applied for valuing the worth of a faculty member of any institution having a systematic pay structure and promotion policy and it also reveals that the career advancement from one post to a higher post indicates an increase in human resource value.

CONCLUSION

It is understood that the human resource is an asset whose value gets appreciated over the period of time provided, applied and developed in the right direction and thus the Human Resource Accounting is the measurement of the cost and value of people to the organization. It involves measuring costs incurred by the organizations to recruit, select, hire, train and develop employees and judge their economic value to the organization. The study identifies that the human resource valuation techniques can act as an effective tool for evaluating the performance of a faculty member. Thus in this competitive situation, in the field of education where private institutions plays a major role as education providers by starting of new courses and attracting bright students by providing all the required physical resources, it has become quite imperative that they also report on the value of faculty resources. Hence a well developed and transparent system of valuation helps in the better employee-management relationship and there by develops a healthy atmosphere which ultimately enhances the knowledge based work culture and commitment to the institution.

REFERENCES

1. Mirvis, P. H., & Macy, B. A. (1976). *Accounting for the costs and benefits of human resource development programs: An interdisciplinary approach*. *Accounting, Organizations and Society*, 1(2), 179-193
2. Loqman, M. (1987). *Human Resource Accounting (HRA). The Cost and Management*, 15(1), 5-11.
3. Prabhakara Rao D. (1993). *Human asset accounting: An evaluation of Indian practice*, *ASCI Journal of Management*, 22
4. Islam, M.N. (1998). *A Survey of Human Resource Accounting. The Cost and Management*, 4-7
5. Made Gowda J. (1998). *Human resource accounting (A Comprehensive model) Abhigyan*, 14(4), 9-16
6. Flamholtz, E. G. (1999). *Current issues, recent advancements, and future directions in human resource accounting. Journal of Human Resource Costing and Accounting*, 4(1), 11-20.
7. Fitz-enz, J. (2000). *The ROI of human capital, measuring the economic value of employee performance*. Amacom Books.
8. Narayanankutty M (2003). *The role of human resource accounting in human resource management*", *Management accountant* 38(7), 540-545
9. Parameswaran, R. (2005). *Human resource accounting. The Chartered Accountant*, 1, 867-874.
10. Ahmed, A. (2010). *Human resource accounting (HRA): Techniques and accounting treatment*. Institute of Chartered Accountants of Bangladesh Working Paper Series, June 2010.
11. Bullen, M. L., & Eyler, K.-A. (2010). *Human resource accounting and international accounting developments: Implications for measurement of human capital*. *Journal of International Business and Cultural Studies*, 3.

