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A STUDY OF HUMAN ASSET VALUATION MODELS IN INDIAN ENTERPRISES

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ABSTRACT

Skillful and specialized human resources are of vital importance for an organization just like its physical properties and investments. Human resource accounting has very high significance not only for the management, but also for analyst and even for employees. It helps management in better utilization, planning and management of human resources in the organization. Academicians, Scholars and companies are working on ways to measure human capital. In a biotech, software or telecommunications company, the truly valuable assets are not the physical assets like networked computer systems or the new lab equipment, but the minds behind it all. Assessing the value and effectiveness of human capital is generally difficult; let alone trying to attach a rupee amount to it. This study verifies human valuation models adopted by enterprises in India. The present study based on the secondary data related to the measurement models used for valuation of human resources.

KEYWORDS

human asset, valuation model, decision making and disclosure.

INTRODUCTION

It is highly complicated in the today's market to find well knowledge, coached, and highly motivated people. Human resource is one of the most important back office operations of any organization or business. Their skills, creativity, ability cannot be replaced by machines. We can lose efficiency in work if no qualitative people. At all levels and areas of the business or firm human efficiency is required with machine efficiency. Human can work without machine but machine can't. All the processes of the organization are operated by human resource, hence valuation of this resource is very necessary and information about the valuation should be given to the investors, the management and others through financial statements.

Human resource accounting is basically an information system that tells management what changes are occurring over time to the human resources of the business. In the early 1990s industries recognized the value and importance of human assets. When service sector started major contribution to a country's economy the significance of human assets got prominence. Knowledge sectors like Information Technology (IT), Banking, Teleservices and others the intangible asset especially humans contributed highly to the building of shareholder value. Intellectual power of employees only major input to these sectors. The critical success factor for any knowledge based company is its skilled and intellectual work force.

OBJECTIVES OF THE STUDY

1. To evaluate the prevailing HRA practices adopted by Indian enterprises.
2. To examine HRA models adopted by Indian enterprises for the valuation of human resources.
3. To derive conclusions for improvement in HRA valuation in India.

SCOPE OF THE STUDY

The present study is undertaken to study on Human Resource Accounting Practices and Valuation Model used for the valuation of human resources in enterprises in India. For this purpose, HRA practices followed by Indian enterprises have been examined upto the financial year 2011-12.

RESEARCH METHODOLOGY

With a view to achieve the aforesaid objectives the scope of the present study is restricted to the analysis of the HRA Models adopted by enterprises in India. This study is based on the secondary data collected from the annual reports and websites of enterprises following HRA practices in India up to 2011-12. The present study will be helpful to develop the insight of HRA in various interest groups as well as to improve the HRA valuation in Indian enterprises. The major limitation of this study is the lack of adequate disclosure practices by Indian enterprises.

HUMAN RESOURCE ACCOUNTING – INDIAN EXPERIENCE

The concept of HRA was first pioneered by Public sector giant BHEL in India during the year 1974-75. Infosys technology was the first software enterprise to value HR in India. Many other leading public and private sector enterprises had followed HRA practice. They are (SAIL), (ONGC), (HPCL), (CCI), (KRL), (MMTC), (NTPC), (EIL), (OIL), (PEC), (HSL), (HZL), (MECON), (ECL), (HMT), (INFOSYS), (ACC), (SPIC), (HLL), (MRL), (RIL) and (TELCO) etc.

VALUATION OF HUMAN RESOURCES

The different models for valuation of human resource are as follows:

❖ **COST BASED MODELS**

1. Historical Cost Model
2. Replacement Cost Model
3. Opportunity Cost Model
4. Standard Cost Model

❖ **ECONOMIC MODELS**

1. Goodwill Method
2. Adjusted Discounted Future Wages Model
3. Present Value of Future Earnings Model
4. Normative Economic Model
5. Jaggi and Lau Model
6. Human Asset Multiplier Method
7. Stochastic Model on Human Resource Valuation
8. A Surrogate Measure for the Firm's Investment in Human Resources
9. A Model on the Measurement of Human Asset
10. A Model on Estimation of Human Capital Associated with an Organisation
11. Penkin Ogan Model
12. Chakraborty Model

❖ **BEHAVIOURAL MODEL**

1. A Model on Valuation of Human Organisation

❖ **COST BASED MODELS**

1. Historical Cost Model (Brummet Flamholtz and Pyle): Under this method, the cost of acquisition, i.e. selection, hiring, training costs of employees are capitalized and written off over the expected useful life of the employees. If employee leaves the company before the anticipatory period of service, the remaining unamortized costs will be written off against the profit and loss account in the corresponding year. If the service period exceeds the anticipated time then the amortization of costs is rescheduled.

2. Replacement Cost Model (Flamholtz) : Replacement cost refers to the cost incurred by an organization on replacing the previous employees and strengthening the organization further, should reflect the HR value to both the employees and organization.

The disadvantage of replacement cost is that it does not consider the knowledge, competence and loyalty or the ability to work as a team. Also, it does not take into account that there may be some people who are paid less than they are worth and some paid more than they are worth.

3. Opportunity Cost Model (Hekimian and Jones): To overcome the pitfalls of the replacement cost method, this method was proposed by Hekimian and Jones. This method is also known as the competitive bidding model. It means that opportunity cost of an employees or a group of employee in one department is calculated on the basis of the bids (offers) by other departments for those employees. Thus the value of human resources is determined on the basis of the value of an individual employee in alternative use.

4. Standard Cost Model (David Watson): In this method the standard cost of recruiting, hiring, training and development is accumulated every year for each grade of employees. It is sensitive approach for control purpose through the technique of variance analysis and it has also the disadvantage of amortization.

❖ **ECONOMIC BASED MODELS**

1. Goodwill Method (Hermanson): According to this model the extra profit generated by an organization during a specified period is compared to the industry's average rate that is goodwill credited to the organizational human resource for its valuation.

The HR value is measured by adopting the following formula:

HR Value = Goodwill × (Investments in HR/Investment in Total Assets)

2. Adjusted Discounted Future Wages Model (Hermanson): According to this method, the present value of future wages which is payable for the next 5 years is discounted at the adjusted rate of return and considered as the value of HR of the organization. This model has been criticized by various critics, mainly because, the weighted given to calculate the efficiency ratio is fully arbitrary and has no empirical justification.

3. Present Value of Future Earnings Model (Lev & Schwartz): According to this model, an organization's HR is divided into uniform groups of employees like skilled, semi-skilled and unskilled workforce, different sorts of engineers, managerial cadres, sales force etc. Based on the sample data, average earnings profiles are created and the present value of the future earning capacity of an employee, from the period of joining the organization up to the retirement is computed. The amount of present values over the various employee groups indicates the total human value of the organization. According to this model the value of human resource is obtained with the help of following formula:

$$Vr = \sum_{t=T}^{\infty} \frac{I(t)}{(I+R)^{t-R}}$$

Where; Vr = the value of individual r years old
 I (t) = the individuals annual earning up to the retirement
 t = retirement age
 r = a discount rate specific to the cost of capital to the company.

This model works with the main assumption that the value of human resource or individual is equal to the present value of remuneration payable to him during his service life. This model is very popular and has been adopted widely by most of the Indian enterprises.

4. Normative Economic Model (Flamholtz): According to this model the value of an employee is calculated using the discounted sum of the values of the service states that the individual will occupy (i.e., rank and performance rating) during the career in the organization. This model is popularly known as "Reward Valuation Model" or "individual's expected realizable value".

5. Jaggi and Lau Model: Under this method, the value of an employee is computed by considering the employee's past performance in relation to his exit from the organization before retirement, estimated over the period, assuming that the past trend of employee movement will also continue in the future. The present value of the future services from the employees relevant to different service states is considered the value created by the employee.

6. Human Asset Multiplier Method: This method is suggested to avoid the complicated calculation of present value method, and to overcome the drawbacks of other methods. In this method "present salary" of each employee is directly multiplied by a factor called "Human Asset Multiplier" and the total amount so calculated is considered as the value of human resource asset for the balance sheet.

7. Stochastic Model on Human Resource Valuation This method of valuation considers both, stochastic process i.e. probability of moving people in upward positional service state and also considers the reward i.e. benefits derived by the organization. The economic value of an individual to a firm has been defined as the present value of the expected future contributions from the individual, discounted by the firm's cost of capital.

HR Value = Gross Service State Value (-) Cost of Individual

This method considers both the cost as well as the return to an organization by considering the future movement of the employees.

8. A Surrogate Measure for the Firm's Investment in Human Resources (Friedman & Lev) : The firm's personnel policies pertaining to training, indirect compensation, welfare provisions, job design or promotion policies etc. represent firm's actual wages and the average market wages may be viewed as the return on the firm's such investment in HR. Based on such a premise, the present value of differences in wages that might exist between the firm and market average over the years during the expected service life of the employee may be considered as the value of HR investment due to specific personnel policies adopted by the firm.

9. A Model on the Measurement of Human Asset (Myres & Flowers): According to this method, the productivity of an employee is decided by his attitude and general outlook towards the job in the organization. Based on the above assumption, the value of HR is calculated by adopting the following formula:

HR Value = Employee's Attitude Index (x) Wages Payable to the Employee

(i.e., the likely benefits) (-) Wages Payable (i.e., the cost)

10. A Model on Estimation of Human Capital Associated with an Organisation (Morse): This model popularly known as "net benefit model",

Morse has suggested that human asset value is determined by applying, discounted rate to net benefit to the excess of gross value of services rendered by, over the value of future payment, direct as well as indirect, expected to provide to.

Net Present Value = Gross Value (x)Discount Rate

Gross Present Value = Future Services of an Employee in Future (-) Future Payments

11. Penkin Ogan Model: Penkin Ogan gave an approach which was the extension of net benefit approach of Morse. He introduced a certainty factor, to be multiplied with net benefit of employees and then make the valuation of human resource.

12. Chakraborty Model: Prof. S. K. Chakraborty suggested this model in the year 1976. He is the first Indian to suggest a model in HRA. He suggested that the human resources should be valued as a group and not on individual basis.

❖ **Behavioural Model**

A Model on Valuation of Human Organisation (Likert): It was developed by Rensis Likert. The model aims to establish through psycho-social test results how a set of casual variables reflecting the management system adopted by an organization determine the appreciating or depreciating condition of the human organization, as reflected by a set of intervening variables, which in turn likely to result in the achievement of end result variables over time.

TABLE – 1: STATEMENT OF HUMAN RESOURCE VALUATION MODEL ADOPTED BY ENTERPRISES IN INDIA UP TO 2011-12

Enterprises	HRA Introduce in the Year	Valuation Model Adopted	HRA Practice Followed at present
BHEL	1973- 74	Lev & Schwartz	No
CCI	1979-80	Lev & Schwartz Model with Refinement	YES
PEC	1980-81	Lev & Schwartz	No
ONGC	1981-82	Lev & Schwartz	YES
OIL	1982-83	Lev & Schwartz	No
MMTC	1982-83	Lev & Schwartz	No
SAIL	1983-84	Lev & Schwartz Model with Refinement	No
EIL	1983-84	Lev & Schwartz	No
NTPC	1984-85	Lev & Schwartz	No
KRL	1987-88	Lev & Schwartz	No
HPCL	NR	Lev & Schwartz	YES
INFOSYS	1995-96	Lev & Schwartz	Yes

Source: Compiled from the Annual Reports of above Indian Enterprises up to 2011-12.

Table- 1 indicates following Analysis of disclosure of human resource accounting information:

- Development of HRA in India:** In India, the concept of HRA was first pioneered by BHEL in 1973-74. It is followed by CCI in 1979-80, PEC in 1980-81, ONGC in 1981-82, MMTC and OIL in 1982-83, SAIL and EIL in 1983-84, NTPC in 1984-85 and KRL in 1987-88. HPCL had not disclosed the year of introduction of HRA though it had followed HRA. While INFOSYS is the first software enterprise in India to adopt HRA since 1995-96.
- Methods and Models of HRA:** Economic value model of Lev & Schwartz is most popular model to calculate the value of human resources among the Indian enterprises. This model is used by BHEL, PEC, ONGC, OIL, MMTC, EIL, NTPC, KRL, HPCL and software giant INFOSYS. While SAIL and CCI have been using this model with certain refinements as suggested by Eric G. Flamholtz and Jaggi and Lau.
- HRA practice at Present:** It is clear from above that among 12 enterprises following HRA practices in past, at present only 4 enterprises are following HRA practice.

FINDINGS

- In India, the first initiative in the direction of human resource accounting and valuation came from the public sector giant BHEL from the financial year 1974-75 and Software giant INFOSYS from the financial year 1995-96.
- The present study indicates that very small number of enterprises were found to have accepted HRA valuation and reporting practices in past. At present only 4 enterprises ONGC, HPCL, CCI and INFOSYS are found practicing HRA.
- It was found that, public sector giant BHEL, SAIL, NTPC and others who were following HRA practices since last 30 to 35 years had discontinued the same.
- There are several approaches or models for valuation of human resources. All these models have different backgrounds and different theoretical foundations. It was observed under the study that most of the Indian enterprises had adopted the Lev & Schwartz Model (1971) of economic value and have used an employee's anticipated future earnings as a surrogate of his value. While SAIL and CCI had adopted economic valuation concept and accepted the model suggested by Lev & Schwartz with refinements suggested by Eric Flamholtz, Jaggi & Lau.
- It is found that in spite of various models for valuation, clear cut practical calculation or the method of calculation is not reported by any of the enterprises.
- It is found under the study that there is significant difference in HRA reporting practices in India.

SUGGESTIONS

- This study suggests that the seriousness in valuation and reporting of human resources is needed to be enhanced at enterprises in India.
- At this juncture formulation of generally accepted human accounting standard is essential.
- Human Resource Accounting and Reporting must be made mandatory by companies act and this information must be audited.
- Most of the Indian enterprises had adopted the model suggested by Lev & Schwartz. Serious efforts must be taken to improve, modify and provide more detailed information regarding proper valuation of human resource in India.
- At this juncture it is necessary to formulate International Accounting Standards for Human Resource Accounting and Valuation.

CONCLUSION

From the above study, it is evident that there are several methods which not only provide different approaches but also different mechanisms for computing the value of an employee. All these models have different backgrounds and different theoretical foundations. In the Indian context, most of the enterprises in India had adopted the Lev & Schwartz Model. The model devised so far, for the valuation of HRA, has been developed in USA keeping into consideration the environmental prevailing there. There is a great need to review their applicability in India, a country which is substantially facing different environments. Here, it has to be noted that though this model is widely satisfactory, before selecting the model every organization should take into consideration the advantages and disadvantages of all models, because every organization is a separate entity, has different levels of intelligence, backgrounds, interest and mobility. Human asset valuation is still in its infancy, particularly in India. Human resources have not yet been fully recognized as assets like other tangible and intangible assets. Hence there is scope for further discussion on professional training in and development of human asset valuation system.

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