

# ANALYSIS OF THE HUMAN RESOURCE ACCOUNTING METHODS FOLLOWED BY INDIAN FIRMS

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## ABSTRACT

Human resources are considered as essential assets and are different from the physical assets. Physical assets do not have feelings and emotions, whereas human assets are prone to various types of feelings and emotions. In the same way, human assets never gets depreciated like the physical assets. Therefore, the valuations of human resources along with other assets is required in order to find out the total cost of an organization. The American Association of Accountants (AAA) defines HRA as follows “HRA is a process of identifying and measuring data about human resources and communicating this information to interested parties”. The need for human asset valuation arose because of growing concern for human relations management in the industry. Hence we chose this topic to show how the firms that follow HRA are better off and help not only themselves and the industry but also the nation as a whole, grow. Being the land with second largest population, HRA solves the issue of unemployment, poverty and standard of living of people. HRA can be done with several methodologies and so the result of this paper highlights which among the many is the best suited and has a wider perspective.

**Keywords:** *Human Resource, Assets, Accounting, Valuation, Industry*

## INTRODUCTION

**Human resources** are the people who make up the workforce of an organization. Being the country with second largest population, India has human resource in abundance. Therefore, proper accounting and management of human resource is a necessity and if it's achieved a lot of nationwide issues will be solved. Human Resource Accounting (HRA) is a modern branch of accounting. It is based on the traditional concept that all expenditure of human capital formation is treated as a charge against the revenue for the period as it does not create any physical asset. But now a days this concept has changed and the cost incurred on any asset (as human resources) should be capitalised as it yields benefits that can be measured in terms of money. Human Resource Accounting means accounting for people as the organisational resources. It is the measurement of the cost and value of people in the organisations. It involves measuring costs incurred by private firms and public sectors to recruit, select, hire, train and develop employees and judge their economic value to the organisation. Accounting is a man-made art and its policies and procedures have been evolved over a long period to help business in reporting for the management and public. Of the four factors of production, that is, man, money, material and land, the last three of them can be amended as per conventional

accounting, but the first one, i.e., the human resource has not been subject to such accounting. Over the last two decades the idea of accounting for human resources is gaining active consideration and importance. Much of the work on accounting for human resources focuses primarily on development of HRA concepts. The American Accounting Society Committee on HRA defines HRA as follows: “Human Resource Accounting is the process of identifying and measuring data about human resources and communicating this information to interested parties.”

The objective of HRA is not only the recognition of the value of all resources used by the organisation, but it also includes the management of human resource which will ultimately enhance the quantity and quality of goods and services and improve the efficiency of the firm.

## MODELS OF HUMAN RESOURCE ACCOUNTING

### LEV AND SCHWARTZ MODEL

This model was developed in 1971 by Lev and Schwartz for valuing human resources. This model is popular for calculating the value of HR used by public sector like SAIL and Infosys. It is based on future earnings of an employee till his/her retirement. This model determines the value of human capital embodied in a person at a particular time. According to this model, the value of human resources is determined as follows –

1. All employees of the firm are classified in specific groups according to their age and Skill.
2. Average annual earnings are determined for various age groups.
3. The total earnings which each group will get up to retirement age is calculated.
4. The total earnings calculated as above is discounted at the rate of cost of capital. The value arrived at will be the value of human resources.
5. The following formula has been given for calculating the value of an employee according to this model –

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

Where,

V = the value of an individual r years old.

I = the individual's annual earnings up to the retirement

t = retirement age

r = present age of the employee

R = discount rate.

### HERMANSON'S MODEL

This model was developed by Roger H Hermanson which presented a model for human resource valuation to the financial reporting of an external organization. He determined that the human resource accounting was primarily used as a managerial tool, instead of as a way to value people as assets.

In the first model, it is argued that super normal profits in a firm are the indicators of presence of human resources. The model requires computation of the ratio of net income after taxes (EAT) to total assets (excluding human assets) of each firm. This is compared with the ratio

for the industry as a whole. The value of human resources of a firm is measured with the help of differential rates.

The second model uses compensation as a measure of person's value to the firm. Compensation is the present value of future stream of wages and salaries to employees of the firm. He suggested a five year period and applied an adjustment which is calculated on the ratio of average earnings rate on owned assets of the firms to the average rate on owned assets of all firms in the economy.

## REVIEW OF LITERATURE

(Kodwani & Tiwari, 2007) **Dr. Amitabh Deo Kodwani and Ravindra Tiwari** have proposed a model for valuation and accounting of human resources. The model that they proposed is an extension of Lev and Schwartz(L&S). It removes major weakness of L&S model such as it is able to account for human resource in balance sheet. This model encourages employee to achieve high level of performance

(Appelbaum & Hood, 1993) **Steven H Appelbaum, Jamie Hood** explores the value of human resources as measured by the present worth of potential services that could be rendered to the firm if the individual maintained membership throughout his/her expected service life. They also examine the firm's responsibility towards shareholders with regard to reporting human resource investments.

(Flamholtz, Narasimhan, & Bullen, 2004) **Eric G Flamholtz, Maria L Bullen** reviews the development of HRA. The paper analysis methods for measuring human resources. It also demonstrate the use of HRA in human resource management in decision making and also discusses the recent development in this field such as balanced scorecard. The paper draws conclusions on the state of HRA and suggests recommendations for future research and development.

(Trussell, 1976) **Peter Trussell**, in his paper has familiarised both the financial and non-financial managers with the technique of accounting and also the methods of valuing human resources. It also discusses the benefits and objectives of human resources accounting. It highlights the effect of this accounting on annual accounts demonstrated with regard to Liverpool Football Club.

(Dawson, 1994) **Chris Dawson**, in his paper discusses how simulation method is used to explore the relationship between two prescriptive models of human resources accounting- the replacement cost model and the stochastic rewards valuation model. It also reveals the reason why managers use it for determining and arriving at the data. The paper goes on to discuss the benefits and limitations of simulation methodologies and how it is important for the study of management.

## RESEARCH DESIGN

### HUMAN RESOURCE ACCOUNTING AT INFOSYS

Infosys started in year 1995-96, it became the first software company to value its human resources in India by Lev and Schwartz model for the purpose of valuation of its human resources. In 90's Infosys identified human resource costs as an investments rather than as expenses, and added the dimension of "value" of individuals and the whole organization.

Infosys, has started showing human resource as an asset in its balance sheet, and has been stating high market valuations.

## OBJECTIVES OF THE STUDY

- To monitor effectively and efficiently the use of human resources by the management.
- To find out which among the many methods is the most suited method for accounting human resources and why
- To aid in the development of management policies and the right decision making for the future by classifying financial consequences of various practices.

## STATEMENT OF PROBLEM

Most of the firms in India that account for human resources follow Lev and Schwartz model of human resource accounting (economic value model). Therefore, the present study is made to attempt and analyse the reason and the basis on which the firms decide on to choosing a particular method.

## METHODOLOGY

The purpose of the present research is to analyse why Lev and Schwartz model of HRA is used by most of the firms that follow HRA in India. In the present study, the haphazard (convenience) sampling technique has been used for the selection of the company on whom all the economic value methods of human resource accounting are going to be applied to find out which method is the best suited and why. In India, some of the companies that follow HRA are: Infosys, Bharat Heavy Electricals Ltd (BHEL); the Steel Authority of India Ltd. (SAIL), the Minerals and Metals Trading Corporation of India Ltd. (MMTC), etc. For valuing human resources, different models have been developed. Some of them are opportunity cost Approach, standard cost approach, current purchasing power Approach, Lev and Schwartz present value of future earnings Model Flamholtz's stochastic rewards valuation Models etc. Of these, the model suggested by Lev and Schwartz has become popular among Indian companies. As the model was developed by Baruch Lev and Aba Schwartz, it is called the Lev and Schwartz Model. Since this model has been adopted widely by Indian organizations like SAIL, BHEL, Infosys, Satyam Computers etc, we selected INFOSYS to conduct our research.

## SOURCE OF DATA

The study is based on secondary data. Data is collected from the annual report of the selected company, websites and accounting books.

## PERIOD OF STUDY

The data was examined for the accounting year 2017-18.

## HYPOTHESIS

H<sub>0</sub> - Lev and Schwartz is not the best suited model of HRA for Indian companies

H<sub>1</sub> - Lev and Schwartz is the best suited model of HRA for Indian companies

## SAMPLING TECHNIQUE

Haphazard sampling technique has been used to select the company. Since the emphasis is more on the methods used and not the company, hence the methods have been chosen on the basis of stratified sampling. There are several methods of accounting human resources out of which economic value methods are tested in this research.

## DATA ANALYSIS TOOLS

We have used Excel as our data analysis tool with graphs and figures adding to the presentation and giving a clear understanding about the topic.

## EXPECTED OUTCOME

The expected outcome is the method that is best suited for accounting of human resources in India and why that method is chosen by almost all the firms that follow HRA in India.

## LIMITATIONS

- Only economic value methods of HRA are considered.
- The research is based on secondary data only, collected from the annual report of the company for the year 2017-18
- The firm does not reveal information regarding the employees except the key managerial personnel, hence computation of the value of human resources is difficult

## DATA ANALYSIS AND INTERPRETATION

### Lev and Schwartz model

1. We were able to find salary structure of key managerial persons and directors, because this information is displayed in annual report of the company and it does not disclose salary structure of all the employees.
2. So we have categorised the employees as:
  - Key managerial persons and
  - Directors and others
3. Lev and Schwartz model says that the future salary payments to employees must be brought forward to present value (i.e) discounting to present value.
4. The number of years taken for the above calculation is the difference between Current age of the employees of respective categories and their respective retirement ages.
5. The total value of human assets depicts the total of value of Key managerial personnel and Directors and others.

	Key managerial person	Others
Average earning	73,60,00,000	8,71,00,000
Age of retirement	60	60
No of employees	13	10
Current average age	55	50
Dicount rate	13.50%	13.50%

### Value of key managerial calculation

Time	PVF @ 13.5%	Amount	Present value
1	0.8811	73,60,00,000	64,84,58,150
2	0.7763	73,60,00,000	57,13,28,766
3	0.6839	73,60,00,000	50,33,73,362
4	0.6026	73,60,00,000	44,35,00,760
5	0.5309	73,60,00,000	39,07,49,568
Total			2,55,74,10,606

### Value of Directors and others

Time	PVF @ 13.5%	Amount	Present value
1	0.8811	8,71,00,000	7,67,40,088
2	0.7763	8,71,00,000	6,76,12,412
3	0.6839	8,71,00,000	5,95,70,407
4	0.6026	8,71,00,000	5,24,84,940
5	0.5309	8,71,00,000	4,62,42,238
6	0.4678	8,71,00,000	4,07,42,060
7	0.4121	8,71,00,000	3,58,96,088
8	0.3631	8,71,00,000	3,16,26,509
9	0.3199	8,71,00,000	2,78,64,766
10	0.2819	8,71,00,000	2,45,50,455
Total			46,33,29,965

The total value of human resource =3,02,07,40,572

### Hermanson's adjusted present value model

1. Under this model, efficiency ratio is calculated taking into consideration past five years return on investment for Infosys and IT industry as a whole.
2. Weights are assigned to current year as 5, previous year as 4 and so on till 5<sup>th</sup> previous year whose weightage is 1.
3. Corresponding weights are multiplied with Infosys's rate of return on investment and divided by rate of return of the IT industry and summation of all respective years are obtained.

Once an overage efficiency rate is computed, it is multiplied with salary of employees to obtain total value of human assets

year	Infosys(%)	KPIT cummins(%)	Return on investment of industry	Efficiency ratio(%)
2018	24.1	15.90	20.00	6.0250
2017	21.4	13.24	17.32	4.9423
2016	22.7	12.36	17.53	3.8848
2015	24.1	13.33	18.715	2.5755
2014	22.9	17.95	20.425	1.1212
Total				18.5487

		Value
Salary of key managerial personnel	2,55,74,10,606	47,43,65,948
Salary of Directors and others	46,33,29,965	8,59,41,600
Total	3,02,07,40,572	56,03,07,547

LEV&SCHWARTZ	3,02,07,40,572
HERMANSON'S UNPURCHASED GOODWILL	2,55,00,00,000
HERMANSON'S ADJUSTED PRESENT VALUE	56,03,07,547

### Hermanson's unpurchased goodwill model

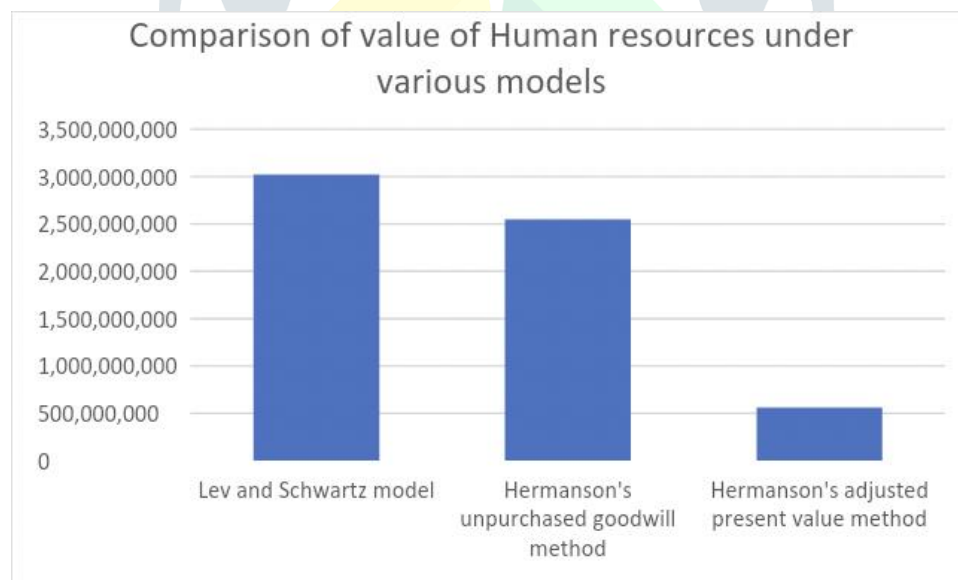
Profit=1,60,29,00,00,000

ARR=20%

Capital base= $160290000000/0.2 = 8,01,45,00,00,000$

Value of human resources= $8,01,45,00,00,000 - 7,98,90,00,00,000$   
 $= 2,55,00,00,000$

### COMPARISON OF VALUES OF HUMAN RESOURCES UNDER VARIOUS MODELS



## FINDINGS AND SUGGESTIONS

1. Infosys treats human resources as assets and since the value of human resources is maximized by using the Lev and Schwartz model, it is best suited for HRA valuation.
2. It helps show a better financial position of the firm.
3. It is proved that in the first hypothesis, H0 is false and H1 is true.
4. Based on the results disclosed, Lev and Schwartz model proves to provide better financials of any firm in the industry that uses HRA.
5. The second hypothesis shows that H0 is true and H1 is false as Hermanson's adjusted present value model gives way low valuation than any other model.
6. The third hypothesis also shows that H0 is true and H1 is false as Hermanson's unpurchased goodwill model gives a valuation, slightly lesser than the Lev and Schwartz model. Maybe it has to do with the ARR of the firm as compared to the industry.

## CONCLUSION

The study of the HRA METHODS used by the Indian firms proves that why most of them use Lev and Schwartz method to value their human resource. Of all the methods used, Lev and Schwartz provides the maximum value to the human capital which are the most essential assets of the firm. If the right man is not employed to the right job, we all know how enormously that can impact the firm as well as the industry as a whole. Hence proper valuation and implementation is a must. Although only 23 firms in the country have implemented human resource accounting, it is something that should be promoted as it is the future. Since firms do not disclose enough information about their employees, the calculations have been done taking the key managerial personnel into consideration as they are the ones who represent the workforce of any organisation. Not enough disclosure has been made regarding the HRA policies which should be made so that stakeholders can take better decisions and importance of human capital increases.

Hence proper HRA policies and method should be implemented in the firms and human resource should be given relative importance as they are the ones that make a firm.



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