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## HUMAN RESOURCE ACCOUNTING IN INDIA – QUANTIFICATION OF QUALITATIVE FACTORS OF EMPLOYEES

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### ABSTRACT

*This paper seeks to explain the quantification of qualitative information of employees by adopting Human Resource Accounting approach. The study found that human resources can be calculated by discounting of future earnings of employees as an asset under the economic value approach. The concept of Human Resource Accounting was attracted by academicians during the period of 1966-71, and this approach applied to organization initially by R.G. Barry Corporation in the year 1971 further it achieved more prominent in the year 1980 due to expansion of service sector. There are two methods to measure the human resources are (1) Cost Approach (2) Economic Value Approach. The Lev and Schwartz model was followed by most of the public sector organizations. It is suggested that working employees can be shown as an asset in the Balance Sheet like other fixed assets.*

### KEYWORDS

HRM, human resource accounting.

### INTRODUCTION

Human Resources are concerned to knowledge, skill and attitude of the employees, but these are not measured, just like a physical assets, like furniture, machinery etc. It is an immense need of calculation of human resources to reflect the true and fair view of the financial statements. The success of an organization depends upon the qualitative human force rather than quantitative human force, but the measurement of the qualitative human force is a complicated issue. This can be overcome by the Human Resource Accounting Approach which is facilitating to measure the qualitative human capital

### NEED FOR HUMAN RESOURCE ACCOUNTING

1. To provide qualitative information of employees, in the form of quantitatively for effective and efficient management within the organization, and also useful to analyze the changes in structure of manpower to the management.
2. To measure the cost incurred in personnel, and to evaluate the return on investment as human capital and help to management developing principles by differentiation of financial consequences of various practices.
3. To communicate to the organization and public about the worth of human resources and to know whether they allocated and used properly or not.
4. To know, whatever the human resources are giving a return equivalent to their worth or not, to know their appropriate allocation and usage.

### NEED FOR HUMAN RESOURCES ACCOUNTING IN INDIA

1. The huge amount of expenditure incurred on recruitment of employees, therefore, it should be calculated.
2. The main objective of financial statements "true and fair view" is not fulfilled without measurement of human resources.
3. Human Resources Accounting is useful to take various internal decisions regarding employee welfare, promotions, training, work distribution.
4. Human Resource Accounting can enlighten the employee attitude by disclose the information of investment on per employee.
5. Non-valuation of human resources in a particular organization is a cause of strikes, lockouts, go slow, work to rule, absenteeism, high labour turnover rate etc.

### OBJECTIVES OF HUMAN RESOURCE ACCOUNTING

According to Likert (1971), HRA facilitate the following objectives:

1. It is used to monitor the human resources in a right path.
2. To know the, whether the human resources appreciated, depleted or conserved.
3. It facilitates to strengthen the management principles by classifying the financial consequences of various practices.

### HUMAN RESOURCE ACCOUNTING – HISTORICAL DEVELOPMENT

The development of Human Resource Accounting as a systematic and detailed academic activity, according to Eric G. Flamholtz (1999) began in sixties. He has explained the human resource accounting in five phases.

First Phase (1960-66) – During this phase academicians concentrated more on this topic rather than professionals.

Second Phase (1966-71) – In this phase, they stressed on to identify the different validating models to measures human resources as an assets, like Roger Hermanson who was studied problem of measuring the value of human assets as an element of goodwill.

Third Phase (1971-76) – The wide spread interest was emerged in the area of Human Resource Accounting leading to a rapid growth of research in this area during this time. The applicability of HRA in organizations made an effort in this phase, especially by (R.G. Barry Corporation, 1971), R.G. Barry experiments.

Fourth Phase (1976-1980) – This phase concerned to decline the popularity of Human Resources accounting, because of organizations felt that cost of measuring is more than that of benefit of measuring.

Fifth Phase (1980 onwards) – Due to transition from manufacturing to service economies, especially in developed countries the prominence of human resource accounting was increased. Since, the survival, growth and profits of the organizations were perceived to be dependent more on the intellectual assets of the companies than on the physical assets the need was felt to have more accurate measures for HRA investments and value.

### HUMAN RESOURCE ACCOUNTING – STAKE HOLDERS PERSPECTIVE

**Governments:** The key reason for HRA is regulation, provision of education and training, cost optimization and cost sharing.

**Investors:** They want to know the structured information on human resources before they invest in a particular organization.

**Enterprises:** To improve human resources management to attract the investors and to use on cost benefit analysis of investments in human resources.

**Employees:** Human Resource accounting facilitates the employees to improve the work environment, education and training opportunities and career prospects.

### HRA MEASUREMENT APPROACHES/ MODELS

HRA calculation is divided into two parts, namely cost approach, economic value approach. Cost approach concern to the calculation of total cost of employees, this can be calculated by

**Original Cost Method:** This is also called as Historical cost consist of recruitment, selection, hiring, placement, orientation and job training. There are two methods standard cost method; competitive bidding method.

**Replacement Cost Method:** may spent on HRA was spent on something else.

#### The Economic Value Approach

This method says that the value of an object, in economic terms, is the present value of the services that is expected to render in future. In this approach employees are treated as assets, therefore expected cash flows are raised like physical assets. Therefore, these are providing the benefits for the future period. Present value of future services can be calculated regarding individuals groups and human organizations.

Individuals: Calculation of present value of future services are divided into two types :

- (1) Monetary Method
- (2) Non-Monetary method

Monetary Method: This method consist of

(a) Flamholtz's model determinants (b) Flamholtz's stochastic Rewards valuation model (c) The Lev and Schwartz model (d) Hekimian and Jones competitive Bidding Models.

(a) **Flamholtz's model Determinants:** Flamholtz said that "the value of an individual is the present worth of the services that he is likely to render to the organization in the future and other way, it is treated as the expected realizable value, implies that the individual will remain in the organization for the duration of his/her productive service life.

#### Assumptions

1. Set of services contributed in his/her existing position called as productivity or performance.
2. Set of Services provided by him/her, if and when she/he perform different positions at the same level called as transferability.
3. Set of services provided by him/her when he/she performs at higher level positions called as lapromotability.
- (b) **Flamholtz's stochastic Rewards valuation model:** The stochastic rewards model is a direct way of measuring a person's expected conditional value and expected realizable value. The information required to calculate the value of human resources under this model is
  1. The identification of set of mutually exclusive states that an individual may perform in the system during his/her career.
  2. The value of each state, to the organization.
  3. Estimates of a person's expected tenure in the organization .
  4. The probability that in future, the person will occupy each state for the specified time.
  5. The discount rate to be applied to the future cash flows.

(c) **The Lev and Schwartz Model:** The value of human capital embodied in a person who is 'y' year old, is the present value of his/her future earnings from employment and can be calculated by using the following formula.

$$\text{€}(v_y) = \text{€} py (t+1) \text{€I} (T) / (1+r)^{t-y}$$

T = y

Expected value of a "y" year old persons human capital = sum of the probability of the persons leaving the organization x expected earnings of the persons in period (I) divided by

$(1 + \text{Discount rate})^{\text{the persons retirement age} - \text{persons } y \text{ year old.}}$

It can also be stated

$$V_r = \frac{l(t)}{(1+R)^{t-r}}$$

Where

$V_r$  = the value of an individual r years old.

$l(t)$  = the individuals annual earnings up to the retirement.

t = retirement age

R = a discount rate

The value of an individual r years old (r) =  $\frac{\text{Annual earnings up to retirement}}{(1 + \text{a discount rate})^{\text{retirement age} - r \text{ years old.}}}$

This method of accounting is basically oriented towards measuring changes in employee's value rather than employers gains from the employees. According to Dr. Prabhakara Rao (1993) under the Lev Schwartz model the value of human resources will be more or less increasing, even if the organizations continuously incur losses/decrease in profitability. The attitude and morale of the employees, the contribution of the employees to the organization, and such other factors are out of the purview of the Lev Schwartz model.

(d) **Hekimian and Jones competitive Bidding model:** Value of the employee is determined by the managers, they bid against each other for human resources already available within the organization. The highest bidder wins the resource.

#### Non-Monetary methods for determining value:

These methods may refer to a simple inventory of skills and capabilities of people within an organization and to assess the human resources of an organization by using the same

#### Behavioral measurement techniques

(B) **Measurement of Group Value:**

(1) **The Likert and Bowers Model:**

The group's value of an organization determined by casual, intervening and result variables. Casual variables consist of managerial behavior and organizational structure. Intervening variables reflect organization capabilities and involve processes, peer leadership organization climate, and the subordinate's satisfaction. Both the casual and intervening variables decide the end result variables of the organization.

**(2) Brummet, Flamholtz, and Pyle's Economic value model:**

$$\text{Groups of Human Resource value} = \frac{\text{Employees contribution}}{\text{Total economic value of the firm}}$$

According to this method, groups of human resources should be valued by estimating their contribution to the total economic value of the firm. Thus firms forecasted future earnings are discounted to know the firm's present value and apart of these earnings is apportioned to human resources according to their contribution.

**(3) Hermanson's Unpurchased Goodwill Model:**

This method is based on the relationship among casual, intervening and end-result variables. The casual variables influence the intervening variables, which in turn, determine the organizations end result variables. Hence changes in the key dimension of organization can be used as dependable indicators for forecasting future changes in productivity and financial performance.

**Steps:**

1. Use a Likert scale to measure the key dimensions of human organization; these are concern to the non-monetary measurements.
2. Familiarize with standard statistical methods to measure the variability of the set of responses.
3. Calculation of delta which indicates the change in an index of specified dimensions of the human organization.
4. From present change in dimensions of the human organization, the expected future change in end result variable is estimated.
5. Standard scores are converted into the measuring monetary units for the end result variables.

**(5) Flamholtz model for Valuation of Expense Centre Groups:**

He used the surrogate value used for estimation. The three methods are (a) capitalization of compensation (b) Replacement, cost valuation (c) Original cost valuation.

**(A) Capitalization of Compensation:**

In this method a person's salary capitalizing, and using it as a surrogate measure of human capital.

**(B) Replacement Cost Valuation:**

The replacement cost of a group is defined as the sacrifice that would have to be incurred today to recruit, select, hire, train and develop a substitute group capable of providing a set of services equivalent to that of a group presently employed.

**(C) Original Cost Valuation:**

The original cost valuation method involves estimation of original cost of recruiting, selecting, hiring, training and developing a firm's existing human organization.

**HRA – Emerging Issues:**

The human resource accounting has not been introduced so far as a system in India. The Companies Act 1956 does not require furnishing of any significant information about human resource in financial statements of companies. The Institute of Chartered Accountants of India has also not made any guidelines regarding this concept.

**Measuring Human Capitals Contribution Enterprise Goals:**

Chiranjib Das proposed various human resource measurements techniques:

**Calculation of FTE ( FTE Full Time Equivalent;****Hourly Employees)**

- Step 1 : No. of pays Ratio = Expected No. of pays/Normal No. of pays  
 Step 2 : Hours Ratio = Standard Hours per week/Normal Hours per week.  
 Step 3 : FTE calculation = step1 x step 2

Or

$$\frac{\text{Expected No. of Pays}}{\text{Normal No. of Pays}} \times \frac{\text{Standard Hours per week}}{\text{Normal Hours Per week}}$$

**Human Capital Cost Factor (HCCF):** The principal costs of human capital are four: Pay and benefit costs per employees, pay costs for contingents, the cost of absenteeism, and the cost of turnover.

$$\text{HCCF} = \text{Pay} + \text{Benefits} + \text{Contingent labour} + \text{Absence cost} + \text{Turnover cost}$$

**Illustration 1 :** Y Limited disclose the following information : Revenues 2,00,000,000 ; Expenses Rs. 10,00,00,000 ; Payout and other benefits Rs. 3,40,00,000 ; Contingent cost Rs. 47,50,000, Absent cost Rs. 3,00,000 ; Turnover cost Rs. 46,00,000 ; Employees (FTEs) 500 ; Contingent (FTEs) 100 ;

$$\text{HCCF} = \text{Pay} + \text{Benefits} + \text{Contingent Labour} + \text{Absence Cost} + \text{Turnover cost}$$

$$(3,40,00,000 + 47,50,000 + 3,00,000 + 46,00,000) = \text{Rs. } 4,36,50,000$$

It make clear that lab our cost is Rs. 4,36,50,000 not a Rs. 2,40,00,000 and 43.65 per cent (Approx).

If we elaborate this information, we can calculate the average FTE cost is not Rs. 3,40,00,000/500 = (68,000) but (Rs. 4,36,50,000/500) = 87,300 Rs.

**HCVA (Human Capital Value Added )**

This can be calculated by using the formula of

$$\text{HCVA (or) Average profit per FTE} = \frac{\text{Adjusted Profit}}{\text{FTEs}}$$

Adjusted profit = Revenue – (Expenses – pay and benefits)

$$\text{HCVA} = \text{Revenue} - (\text{Expense} - \text{Pay and benefits})/\text{FTEs}$$

$$\text{HCVA} = 2,00,000,000 - (10,00,00,000 - 34,00,000)/500 = 2,68,000 \text{ Rs. per FTE}$$

If we include the cost of contingencies, absences and turnover, we would have an adjusted profit figure of Rs.

$$2,00,000,000 - (10,00,00,000 - 4,36,50,000)/600 = \text{Rs. } 2,39,416 \text{ per FTE}$$

The 600 FTEs include employees and contingents.

The average profit per FTE can be calculated by subtracting all corporate expenses except for Pay and benefits, we obtain an adjusted profit figure, in effect, we have calculated no human expenses. Then divide the adjusted profit figure by FTEs, to ascertain an average profit per FTE. The cost of contingencies absence and turnover also included in this calculation.

**Human Capital Return on Investment (HCROI):**

$$\text{HCROI} = \text{Revenue} - (\text{Expenses} - \text{Pay and benefits})/\text{Pay and benefits}$$

$$= 2,00,000,000 - (10,00,00,000 - 3,40,00,000)/3,40,00,000 = 39.4 \text{ per cent}$$

(or) if we use contingent cost

$$\frac{2,00,000,000 - (10,00,00,000 - 4,36,50,000)}{4,36,50,000}$$

This implies that amount of profit per rupee invested in human capital.

It can be calculated by using the formula of

$$\text{HCROI} = \text{Adjusted Profit}/\text{Pay and benefits}$$

**Note:** Pay and benefits will be treated as investment in human resources. For every rupee spent on human costs with no change in total expense, we got a smaller human capital profit ratio.

$$HCMV = (\text{Market value} - \text{Book value}) / \text{FTEs}$$

By using this formula, can find the market value premium per FTE (Full time equivalent)

Human Economic Value Added (HEVA)

$$HEVA = (\text{Net Operating Profit after Tax} - \text{Cost of capital}) / \text{FTE}$$

**HRA – IN PUBLIC ENTERPRISES OF INDIA**

S.No.	Name of the Public Enterprise	HRA introduced year	Model Adopted	Discount Rate Applied (Percentage)
1.	BHEL	1974-75	Lev & Schwartz	12
2.	CCI	1979-80	Lev & Schwartz	11
3.	EIL	1980-81	Jaggi & Lev Schwartz model	13
4.	ELIC	1983-84	Lev Schwartz model	10
5.	HPCL	1981-82	Lev Schwartz model	11
6.	KRL	1987-88	Lev Schwartz model	12
7.	MELON	1984-85	Lev Schwartz model	12
8.	MRL	1985-86	Lev Schwartz model	15
9.	MMTC	1982-83	Lev Schwartz model	15
10.	NTPC	1986-87	Lev Schwartz model	15
11.	OIC	1982-83	Lev Schwartz model	12
12.	ONGC	1981-82	Jaggi & Lev Schwartz model	11
13.	SAIL	1983-84	Lev Schwartz model	15

Source: Consolidated Annual Reviews of the companies

**The Key Ratios of Human Resource Accounting:**

1. Total Income/Human Resources Value (Ratio)
2. Value added/human resources value (Ratio)
3. Value of human resources per employee (Rs. in crore)
4. Employee cost/Human Resources value (%)
5. Return on human resources value (%)

**Required items:**

1. Value of human resources
2. Total Income
3. Total Employee Cost
4. Value Added excluding exceptional items
5. Net profits excluding exceptional items.

**Value Added Statement:**

Income		xxx
Less Operating expenses	xxx	
Value Added from operations	xxx	
Add other income including exceptional item	xxx	
Total Value Added	xxx	
<b>Distribution of value Added :</b>		
Human Resources:		
Salaries and Bonus		xxx
Providers of Capital:		
Dividend and minority interest	xxx	
Taxes: Income Tax		
Tax on Dividend		xxx
Retained in business:		
Depreciation		xxx
Income Retained on business	xxx	
Total		xxx

**Balance Sheet:**

1. A firm has started its business with a capital of Rs. 6, 00,000. It has purchased fixed assets worth Rs. 3,50,000 in cash. It has kept Rs. 1,30,000 as working capital and incurred Rs. 1,20,000 on recruitment, training and developing the engineers and a few workers. The value of engineers and workers is assessed as Rs. 5,00,000. Show these items in Balance Sheet.

**BALANCE SHEET (INCLUDING HUMAN RESOURCES)**

Liabilities	Rs.	Assets	Rs.
Capital	6,00,000	Fixed Assets	3,50,000
Human Assets	5,00,000	Human Assets	
		(i) Individual value	5,00,000
		(ii) Value of firms investment	1,20,000
		(iii) Working Captial	1,30,000
	11,00,000		11,00,000

**SUGGESTIONS**

1. Companies should recognize the importance of knowledge capital.
2. There should be an Internationally Accepted Valuation System for Intellectual Capital.
3. The Professional bodies regarding Accounting (ICWAI, ICAI and the Institute of Actuaries of India) should develop a unanimous accounting procedure for Human Resource Accounting.
4. Incorporate intellectual capital just like as an intangible asset of Goodwill.
5. Incorporate intellectual capital value measures in capital investment decisions.
6. The companies should conduct seminars, lectures to know about this concept by the individual employee.

**CONCLUSION**

In any circumstances, we can look forward to the day when human capital receives the same strength of recognition as other assets in accounting reporting practices as well as the overall management paradigm.

Hence, it can be conclude that the main objective of financial statement accounting has achieved only through adopting of a Human Resource Accounting approach, it will reveal the "true and fair view" of the financial statements.

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