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COMPARATIVE STUDY OF HUMAN RESOURCES ACCOUNTING IN INFOSYS TECHNOLOGIES LTD

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ABSTRACT

In the organization employee is one of the most important asset for the achieving organizational objective there is arise need of proper information about the cost, value and performance of their human resources. This information is the basis of effective management of human elements in any organization. With a view to provide significant information about effective human resource management, a new and specialized branch of accounting has been developed and it is known as human resource accounting (HRA). Human Resources Accounting is an accounting of identifying, measuring, classifying, summarizing and reporting the data about human resources to the investors for effective decision-making regarding the human resources of an organization. In this paper attempt has been made to explain and evaluate the Human Resources Accounting (HRA) practices of Infosys technology limited (ITL).

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INTRODUCTION

In present Human resources is most important asset of an organization. Human resources are playing key role in an organization for process of production. An organization having physical and financial resources. Each and every organization having human resources in this case every organization must know the total cost incurred towards that human resources and also further information like impact of human resources on income, net profit, revenue etc. For this purpose there is need arise to maintain proper records of human resources and fair information regarding to human resources. Because of all this records organization can know about the use of their human resources and in case of lack of proper records organization may not effective use of human resources and it may be unable to achieve objective. Financial statements are the main source of information about the performance and position of the resources held by an organization. Traditional accounting system provides this information about the physical and financial resources only and not about the human resources of an organization, which may resulted into the unfair presentation of financial statements. This serious limitation of traditional accounting system was noticed in the 1950 by behavioral scientists, economists and various scholars in the area of accountancy. And efforts of these scholars has introduce new branch of accounting known as Human resource accounting (HRA).

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Human Resource Accounting (HRA) has been defined by the Committee on Human Resource Accounting of the American Accounting Association as “the process of identifying and measuring data about human resources and communicating this information to interested parties” In the words of Eric G. Flamholtz, “Human Resource Accounting involves measuring the cost incurred by business firms and other organizations to recruit, select, hire, train and develop human assets. It also involves measuring the economic value of people to organizations. One of the first attempts to estimate the money value of human beings was made around 1691 by Sir William Petty considered labour the “father of wealth” and thus felt that labour must be included in any estimate of national wealth. Accordingly, this first attempt at human asset valuation estimated the value of the stock of human capital by capitalizing the wage bill in perpetuity at the market interest rate; the wage bill being determined by deducting property income from national income. Theodore Schultz, who received Nobel Prize for his work, published a paper “Investment in Human capital” in 1961. He stated that “From a Macro Economic view point, the services which are provided by people can potentially constitute a form of capital. In the year 1962, William Paton opined that “In a business enterprise well-organized and loyal personnel may be a much more important asset than a stock of merchandise. However, origin of human resource accounting is found in the work of Resins Likert who was the first person to use the term ‘human asset’ in the late 1950s. This term was replaced by the term human resources by the scholars. The suitable work was started to

determine the cost and value of human beings by behavioral scientists from 1960 onwards. The experts in this field were Shultz (1960), William Pyle (1967), Lev and Schwartz (1971) Flamholtz (1973), Kenneth Sinclair (1978) and Dr. Rao (1983), etc. who contributed appropriate methodology and correct methods for finding out the value of the employee to the organization.

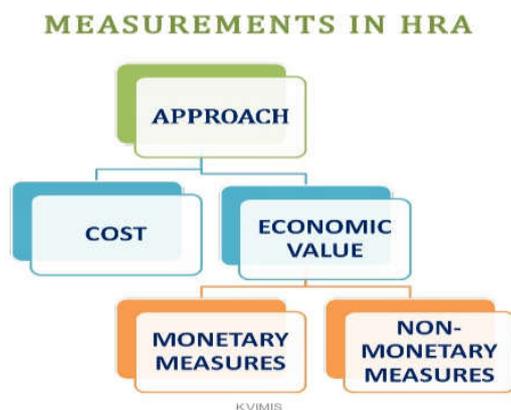
HRA – Objectives

The more specific objectives of human resources accounting are as follows:

- To know whether the human resources have been properly utilized and allocated.
- To evaluate the return on investment on human capital.
- To measure the costs incurred on human capital by organization.
- To provide qualitative information on human resources.
- To provide basis to future investors in making better decision about investment in human resources.
- To facilitate effective and efficient management within the organization for human resources.

Measurements of HRA

It is known facts that measurement is the process of representing the qualities of objects in numerical terms. Here how we can calculate human resources cost? This question arise, this is one biggest challenge in HRA is that of assigning monetary values to different dimensions of HR costs, investments and the worth of employees. The two main approaches usually employed for this are:



Cost Approach

It involves methods based on the costs incurred by the company, with regard to an employee. Cost is a sacrifice incurred to obtain some anticipated benefit or service. The various methods of measurements of costs and valuation of human resources are Historical cost method, Replacement cost method, and Standard cost method, Present value of future earnings method, Expected realizable value method and Economic value method.

Cost based HR valuation

- Historical cost
- Replacement cost
- Opportunity cost

Economic Value Approach

It includes methods based on the economic value of the human resources and their contribution to the company's gains. This approach looks at human resources as assets and tries to identify the stream of benefits flowing from the asset. The value of an object, in economic terms is the present value of the services that it is expected to render in future. The methods for calculating the economic value of individuals are Lev and Schwartz (1971) model, Eric Flamholtz (1974) model, Jaggi-Lau's model. Of these Lev and Schwartz model become popular. According to this model, the value of human capital represented by a person of age is the present value of his remaining future earnings from his employment. They have given the following formula for calculating the value of an individual. According to this model, the value of human capital embodied in a person who is 'Y' years old, is the present value of his/her future earnings from employment and can be calculated by using the following formula

For the computation of the value of human resource of an organization branch Lev and Schwartz suggested the following formula:

$$v_t = \sum_{t=T}^{TI(t)} \frac{I(t)}{(1+r)^{t-T}}$$

Where

VT = human capital value of a person T years old

I (t) = person's annual earnings up to retirement

r = discount rate specific to person

T = retirement age

As per this formula we can find the value of human resources only after his retirement. It ignores possibilities of death, and occurring prior to retirement age. So another formula given by lev and Schwartz

$$E(V_t) = \sum_{t=T}^T P_t(t+1) \sum_{i=T}^t \frac{Ii}{(1+r)^{t-T}}$$

Where

E (VT) is the expected value of a person human capital and

PT (t) is the probability of a person's dying at age t and

Ii = value of a person's each possible service state or future annual earnings.

Before the use of this formula, all the employees of an organization are divided in accordance with the age group into equal groups of employees such as skilled, semi-skilled, and unskilled etc. This study based on this assumption that employees will not make role changes during their service in the organization. The merit of this model is its objectivity in valuing HR value because it depends upon the present value of future earning capacity of an employee. The main limitations of this model are its unrealistic assumption that employees will not change their role. Besides, it does not consider the fact that the value of an employee is not only based on his skills and ability but also on the role of the organization to which he belong. Moreover, it also ignores the possibility that employees may leave the organization for reasons other than retirement and death.

Objective of the study

In this paper an attempt has been made to evaluate and analysis human resources accounting practices adopted by Infosys technologies limited (ITL). To study human resources accounting data provided by ITL for evaluate its usefulness in HR decisions.

MATERIALS AND METHODS

With a view to achieve the objectives the scope of the present study is restricted to the analysis of the HRA practices of ITL for the last ten years under four heads namely method of valuation, disclosure of HRA, form of presentation and usefulness in human resource decision. Computation of the value of human resources in ITL has not been enquired into. For the present study uses the following methodology:

Time Period: Though Infosys started HRA from 1995 onwards; the detailed reporting on HRA has been made from 2004-05 to 2016-17.

Variables: The study is carried out by analyzing the behavior of all the important variables from the HRA point of view. These variables are

- Total no of employees
- Cost per employee
- Human resources value per employee (HRV)
- Total income
- Value added per employee
- Return on HRV

Techniques of Analysis: The case study analysis has been carried out using following statistical techniques:

- Simple correlation

Data Source: The data used in the study has been collected from the annual reports of Infosys for the years 2004-05 to 2016-17. The present study will be helpful to develop the insight of HRA in various interest groups as well as to improve the HRA practices of ITL. The major limitation of this study is the lack of adequate corporate disclosure practices in India.

Infosys Technologies Limited

Infosys was established in 1981 by seven people with US \$ 250. In the journey of over 25 years, it has catalyzed some of the major changes that have led to India's emergence as the global destination for software service talent. It pioneered the Global Delivery Model and became the first IT Company from India to be listed on NASDAQ (National Association of Securities Dealers Automated Quotation). Its employee stock options program created some of India's first salaried millionaires. Infosys is a US \$ 4 billion company with a market capitalization of over US \$ 27 billion. Infosys service offering span business and technology consulting, application services, system integration, *product engineering, custom software development, maintenance, re- engineering, independent testing and evaluation services, IT infrastructure services and business process outsourcing Infosys has a global footprint with offices in 23 countries and development centers in India, China, Australia, the U.K., Canada and Japan.16 It

has employed 91,187 highly educated and skilled employees that is why, the HRA has the importance in ITL.

FINDINGS OF THE STUDY

With a view to evaluate the HRA practices of ITL the data collected from the website and annual reports for the last six years have been analyzed under four major heads namely method of valuation, disclosure of HRA, form of presentation and usefulness in human resource decision-making. A summary of the findings of each head is as under:

Method of valuation

ITL has adopted Lev and Schwartz Present Value of Future Earnings Model for valuing its human resources on the following assumption:

- Employee compensation includes all direct and indirect benefit earned in India and abroad.
- the incremental earning based on group/age have been considered
- future earnings have been discounted at the cost of in various accounting year.

The Lev and Schwartz model adopted by ITL has the merit of objectivity in the valuation of human resources. However, the limitations of this model adversely affect the correct valuation of HR in ITL. Moreover, the rate of discounting future earnings of employees is changing year to year. It is a mathematically proved fact that high rate of discount tends to decrease the value of HR while low discount rate presents the increased valuation of HR. This change in discount rate in each year makes the HR data incompatible and presents misleading valuation of HR in ITL.

Disclosure of HRA

It was found that the valuation of HR has been disclosed by ITL for all the eight years continuously without gap. ITL has disclosed HR valuation in its annual report in the form of supplementary statement as well as a part of 'balance sheet including intangible assets'. However, ITL has not got HRA data audited from the auditors.

Presentation

It was found that Infosys technologies ltd has presented HRA information along with comparative figures of previous year. Further, the number and value of human resources have been shown category wise only and not age wise. Some useful HR ratio has also been shown but the depreciation or appreciation in the HR value has not been reported.

Usefulness in HR decisions

The HRA data provided by ITL include the information regarding the number, cost and value of human resources. Besides, some HR ratios have also been provided. An analysis of the information is asunder

- **Division of employee:** INFOSYS divides its employee in to two parts - software professional and support

Table 1. Analysis of HRA practices in ITL

As at march 31	2011-12	2010-11	2009-10	2008-09	2007-08	2006-07	2005-06	2004-05
Employees (No)								
software professional	1,41,788	1,23,811	1,06,864	97,349	85,013	68,156	49,495	34,417
support	8,206	7,009	6,932	7,501	6,174	4,085	3,220	2,333
Total	1,49,994	1,30,820	1,13,796	1,04,850	91,187	72,241	52,715	36,750
Value of human resources	1,15,900	1,22,539	1,06,173	95,600	92,331	53,592	43,336	26,550
software professional	9,817	12,566	7,114	6,533	6,490	3,860	3,301	1,784
support Total	1,25,717	1,35,105	1,13,287	102,133	98,821	52,452	46,637	28,334
Total income	33,734	27,501	22,742	21,693	16,692	13,893	9,521	7,130
Total employee cost	16237	14,856	12,093	11,405	8,878	7,112	4,801	3,539
value added	30960	25,031	20,935	19,073	14,820	11,879	8,027	6,053
net profit after tax	7,986	6,443	5,755	5,819	4,470	3,777	2,421	1,859s
Human Resources Ratio	0.84	0.75	1.00	0.97	1.08	0.80	0.88	0.77
value of HR per employee								
Employee cost/HR value (%)	12.91%	15.14%	10.67%	11.17%	9.0%	13.56%	10.29%	12.49%
Total income/HR value (ratio)	0.27	0.28	0.20	0.21	0.17	0.24	0.20	0.25
value added/HR value(ratio)	0.25	0.19	0.18	0.19	0.15	0.22	0.17	0.21
Return on HRV (%)	6.35	6.56	5.08	5.70	4.52	7.20	5.19	6.56

- **Variables Disclosed:** It was observed that ITL had disclosed employee numbers, HRV, total income, value added, net profit etc. variables
- **Total number of employees:** Here it was found that in the year 2004-2005 the total number of employees was 36,750 which increased to 1, 49,994 in the year of 2011-12 i.e. 308.15% during the last eight years. The number of software professional and support staff has increased by 311.98% and 251.73% respectively. And this is indicating that the number of human resources in Infosys is continuously increasing.
- **Employee cost :**Total employee cost has increased from Rs. 3,539 crore in 2004-05 to 16,237 crore in 2011-12 It is obvious that though total employee cost has increased by 358.80% during the last eight years, cost per employee has decreasing trend. There is a decrease of about 22% in cost per employee in the period of study. This indicate fair payment policy of the company.
- **Human resources value:** As far as total human resources value is concerned, it has increased from Rs. 28,334 crore to Rs. 1, 25,717 crore during the year 2004-05 to 2011-12 i.e. an increase of 343.69%. Similarly the value of software professional and support staff has increased by 336.53% and 450.28% respectively. The value of human resources in each category shows continuous increase. However, this increase in HR value, to a large extent, due to decrease in discount rate used for valuation of HR under Lev and Schwartz model.
- **Value added:** It has increased from 6,053 in 2005 to 30,960 in 2012. It has increased by 411.48% in last eight years.
- **Ratio disclosed:** Some human resource ratios have also been disclosed by ITL. In the analysis of these ratios, it was found that the value of human resources per employee has increased and decreased like Rs.0.77, Rs. 0.88, Rs. 0.80, Rs. 1.08, Rs. 0.97, Rs. 1.00, Rs. 0.75, Rs. 0.84(all amounts are in crores) in the accounting period of 2004-05,2005-06,2006-07,2007-08,2008-09,2009-10,2010-11,2011-12. Here we can see that human resources per employee has increased in the year 2004-05,2005-06,2006-07,and than in the year of 2008-09 it is decreased and again in the year of 2009-10,2010-11, and again in the year of 2011-12 it is decreased. Same in case of percentage of employee cost

to human resource value is decreased from the year 2011-2012 to 2007-08. These two ratios indicate that the efficiency of human resources of ITL has improved because of producing higher value at lower cost. Total income to human resource value ratio has decreased from 0.25 to 0.20 during the year 2004-05 to 2010-11 and it is increased in the year of 2011-12 i.e. 0.27. While value added to human resource value ratio has decreased from 0.21 to 0.19 during the same period and increased by 0.25 in the year of 2011-12.

- There is a positive high correlation of .999 between total income and total employee cost of ITL. It indicates that the performance of human resources in ITL is very good.

Table 2. Correlations between Cost of Employee and Total Income

Year	Cost of employee	Total income
2005	33734	18549
2006	27501	14856
2007	22742	12093
2008	21693	11405
2009	16692	8878
2010	13893	7112
2011	9521	4801
2012	7130	3539

In short ITL provides some useful HRA data regarding the number and cost of its human resources but the change in discount rate in each year makes HR value and HR ratio data incompatible and misleading which affect the HR decision adversely.

- It is observed from the present study that the overall performance of ITL has improved through a system of HR accounting.
- It is shocking to know that ITL had not disclosed HRA information for the financial year 2012-13 and 2013-14. The reason for non disclosure of this information is not disclosed.

Limitation of this study

- This study is limited to only one software company in India.
- This study is based on secondary published data which is obtained by annual report of INFOSYS LTD.

- Large number of human resource valuation models being practiced the world over. However, in India most of the companies have accepted the Lev & Schwartz model for the valuation of human resources.

Suggestions

Some useful suggestions to improve the disclosure of HRA practices of ITL and its usefulness in HR decision are as under:

- ITL has not disclosed the elements of employees cost such as training and development cost, induction cost etc. The elements of employee cost should be disclosed separately in various tables.
- The number and valuation of human resources in various age-groups should also be disclosed by ITL.
- It seen that ITL has discounting practices in valuing and disclosing HRA.
- Here Infosys technologies Ltd has not follow amortization of human resources. So it is demanded that Infosys technologies Ltd must follow amortization method of human resources, idle time, lock outs, loyalty of employees etc.
- Proper accounting and auditing practices with developed accounting principles for the valuation, accounting and the disclosure of human assets is the requirement of the date and future development of the area. ITL should get HRA information audited so that the trustworthiness of HR data can be ensured.

HRA valuation and disclosure practices are accommodated by different industries in annual reports time to time in last five-six decades. Number of companies have started HR assets valuation and disclosure practices and with emergence of IT and service sector in last two decades, Academic work and social scientist were having hopes for further development in this field.

But discontinuation of accommodation of human resources accounting disclosure in annual reports by Infosys technologies LTD has once again created a big question mark again HRA practices. Infosys technologies Ltd, one of the leading IT based company, which initiated HRA disclosure in ninetens' and discountiation of the same has once again proved that human resources accounting- valuation and disclosure practices has ornamental value at the annual report without practical usefulness to the industries as well as investors.

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