HUMAN RESOURCE ACCOUNTING PRACTICES IN INDIAN COMPANIES

ABSTRACT

THESIS

SUBMITTED FOR THE AWARD OF THE DEGREE OF

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ABSTRACT

The Human Resource (HR) is one of the most neglected aspects of Financial Statement disclosures of corporate entities in India. The managements avoid to disclose the facts about HR, whether they are pleasant or unpleasant facts. However, it is worthwhile to mention here that success of every organisation largely depends on the effective and significant utilisation of men, machinery, materials and money. Buildings, plants, computers and other physical and financial resources are unproductive without human efforts and decisions. The results of the application of physical and financial resources are reported in financial statements under conventional accounting practices. Nevertheless, it is widely accepted that HR is the most important asset of the company. Yet human resources are neither valued annually nor incorporated in the financial statements of the companies.

It is against this background that the present study was undertaken to make an assessment of Human Resource Accounting (HRA) practices in Indian companies. The entire work has been divided into six broad chapters so as to study almost all aspects of HRA in general and its application in Indian companies in particular.

Chapter I is an introduction of the whole research project. It reviews the various studies conducted in the field of HRA. A

number of doctoral dissertations and research papers published by the scholars have also been surveyed.

The second chapter deals with a conceptual framework of HRA. It explains definitions, scope, problems, limitations and importance of HRA. It has been observed that HRA is the process of identifying and interpreting data about HR and communicating this information to the interested parties. HRA is specifically significant in India because on the one hand human resources are in abundance while on the other hand there is a shortage of skilled and technically qualified people. In a technologically oriented society, HR can not be ignored. HR is more important asset than any other tangible asset because without it other factors of production can not be utilised. Thus, this feature of the human asset places the human resource at a higher level than the non-human assets. Therefore, the investments on HR have become an important factor in accounting systems.

In fact, in the present accounting system, the investment on HR is considered as only revenue expenditure and not as a capital expenditure. Hence, the amount invested in HR is not shown on the balance sheet along with other assets. This deficiency can be very well rectified through the concept of HRA. By measuring the value of HR at different points of time, it can be revealed as to whether the management is building up HR or simply depleting them. The importance generated through HRA can help management in formulating policies and programmes for development of HR. Such information can be used for making decisions in the areas such as manpower planning, appraisal of Human Resource Development (HRD) programmes, identification of training needs, usefulness of cost reduction programme in view of their possible impact on human relations, studying the impact of budgetary control on motivation and morale of employees and facilitating allocation, conservation and reward of HR.

Thus, ever expanding dimensions and growing complexities of business activities, increasing governmental monitoring on business affairs, pressing trade unions' demand for greater disclosure on human performance in business and emanation of scientific management within the organisation necessitate the development of a system of accounting for the associated men who are indispensable resources to an organisation. For the last few decades, the accounting scenario across the world is much concerned with the valuation of HR and reporting the same in the annual accounting statements. The academicians as well as practitioners in the accounting world are deeply engrossed in the accounting issues and have shown an increasing interest in the application of models developed so far. Although the techniques of measuring HR and the latest developments on the issue are still in developing stage, the subject has created a widespread appeal.

The third chapter of this study highlights the various approaches to HR valuation. It concentrates on a number of valuation models which have been developed over the last three decades or so. These models of HR valuation have been broadly divided into monetary and non-monetary and monetary models. Eminent scholars like Lev and Shwartz, Rensis Likert, Hekimian and Jones, David Watson, Jaggi & Lev, Giles and Robinsons, Morse, Pekin Ogan, Taylor and Bower, S.K. Chakrobarty, Das Gupta, S.M. Shukla, Sunil Maheshwari etc. have given their models of valuation of HR. But it has been observed that there is not even a single model which fulfils all the requirements of a model which could help in the process of HRD. Certain models fail to recognise the factors determining the value of HR whereas others have computational complications.

The fourth chapter dwells upon the Human Resource Accounting Practices in Public Sector Companies in India where an has been made attempt to study the pattern of HRA in Government run organisations. It has been observed that the Government of India took the initiative way back in 1968, by issuing the guidelines for incorporating the required information in the Annual Reports of the Public Sector Enterprises. The relevant guidelines relating to HR are reproduced below:

- Employee- employer relations, strikes, lockouts, incentive schemes, training, etc.
- Staff welfare activities like township, education, health facilities etc.

The above information can be called as part of HR accounting information. Many public sector enterprises are disclosing this information as part of the Annual Report. Some of the companies have also ventured to value the HR which they disclose in the Annual Reports. Such organisations were identified after scanning their Annual Reports from the year 1985-86 onwards. The computation of values of HR in these companies is based mainly on Lev and Schwartz model.

The survey of several public sector enterprises reveals that a number of enterprises have been valuing their HR but, at same time, there are certain PSEs which have discontinued the practice after adopting it for a year or so. On the whole, it would be improper to assume that majority of the public sector enterprises which started HR valuation are still continuing the practice.

Out of five top ranking public sector enterprises namely, BHEL, MMTC, SAIL. ONGC. and NTPC selected as sample companies for the assessment of HRA practices in India, all are not continuing the practices of HR valuation. It is surprising to note that the first three companies have discontinued the practice of HR valuation. Now only ONGC and NTPC evaluate their employees using Lev and Schwartz model of HR valuation and also report the same in the financial statements.

For making a comparative analysis of HRA practices in public and private sectors, the fifth chapter endeavours to assess the application of HRA practices in Indian Private Sector Companies. Two companies Infosys Technologies Ltd and Satyam Computers Services Ltd from Indian corporate sector were selected for the study of application of HRA practices in this sector and were considered as an appropriate number from the point of view of comparability. It has been observed from the survey and study of financial statements of these companies that both the companies have not only been regularly evaluating their human assets but also reporting their values in financial statements. There has been significant increase in the number of employees and in their values as well.

However, on the plea of righsising, the government has offered the Voluntary Retirement Scheme (VRS) for public sector employees. Consequently, the number of employees has decreased in almost all public sectors companies. The sample units are not an exception. This is. undoubtedly, in the interest of public sector enterprises as one of the reasons for poor performance of public sector companies has been over-staffing due to political interferences in them. The rationalisation will, thus, help to present a better picture and image of public sector companies in India.

The main findings of the study, as emerging from the foregoing analysis of HRA practices in Indian companies, clearly indicate that HRA has not been introduced so far as a system in India. The Indian Companies Act, 1956 does not require furnishing of any significant information about human resources in financial statements of companies.

Moreover, the Institute of Chartered Accountants of India (ICAI) has so far issued 29 Accounting Standards on different technical aspects of accounting but it has not been able to bring any definitive accounting standard for measurement and reporting of cost and value of HR of an organisation.

HRA is necessary to disclose what is happening to the energy of human beings and what is their value for management, and to find out the productivity of investment on human beings in an organisation. It is the scaling tool that generates and reports quantitative control information about the contribution of HR for promoting industrial productivity. The application and usefulness of HR measurement will largely depend on the future efforts and experiments to be made by practicing managers, accountants and academicians. The application of HRA, to be effective, will also need support from the professional bodies and Government.

In the absence of HRA, the management may not realise the negative effects of certain programmes aimed at improving profits in the short-run. Such programmes may result in decreased value of human assets due to fall in the productivity levels, high labour turnover, low morale, etc. Undoubtedly success of an organisation very much depends on the quality of workforce at all levels. The success stories of BHEL, ITC, Hindustan Lever, Larsen & Turbo, Infosys Technologies Ltd., Satyam Computer Services Ltd. and several other enterprises are largely due to the emphasis on HRD.

It is noted, after going through the latest literature on the subject and practices of HR information, that there is no uniformity in professional areas as to which information must be provided in financial statements. Also, there is a wide gap in disclosure of HR information in the financial statements of different companies. In addition to the aforementioned general remarks, there are some specific findings of this study with regard to HRA practices of all sample companies. These particular findings are as follows:

The BHEL, SAIL and MMTC evaluated their HR on the basis of the Lev and Schwartz model. Moreover, BHEL provided detailed HR information in the Annual Reports till the year 1992-93 only. But from 1993-94 onwards the valuation of HR has been discontinued. Now, only brief HR information and human cost summary is published in Annual Reports of BHEL. SAIL also sailed in the same boat upto the year 1993-94 and thereafter the practice of valuation has been given up. It is now reporting only limited information on HR. It has discontinued the valuation of HR in financial statements. The MMTC has also joined the race with effect from 1998-99. The categorisation of employees in all these three companies has been condensed ever since they discontinued the HR valuation. Thus, now only 2 sample public sector companies out of total of 5 surveyed for the study are evaluating their HR and furnishing this information in financial statements. On personal query, the enterprises which discontinued the HRA practice, told the scholar that now only relevant disclosure is made in financial statement. Excessive human disclosure is not at all binding either under the Indian Companies Act, 1956 or under the requirements of any other Accounting Body. Apart from this, the officials also told that publication of detailed HR information made their Annual Reports bulky. It will also not be wrong to say that now the wave of liberalisation, privatisation and globalisation is going to bury Indian Public Enterprises. These enterprises are gradually losing their own existence. Hence, their HR is also bound to suffer. It is evident from the fact that not only the number of the employees in all public sector companies has decreased but also there is regular take over of one or other enterprises by the private sector enterprises.

On the contrary, private sector in India has become an emerging sector with regard to disclosure of adequate information regarding human resources. Due to ever expanding development, the number of employees is increasing in private sector in India. It is evident from the survey of two private sector companies, namely, Infosys Technologies Ltd. and Satyam Computers Services Ltd. where the number of employees has been increasing continuously. The value of employees is also multiplying each year. Both the sample companies have been disclosing adequate information of HR in their Annual Reports.

It has also been observed that, in general, traditional, accountants have paid greater attention to money, material, machinery and other physical resources in enterprise accounting as compared to HR. Whatever is spent on acquisition, training and development, maintaining, placement, transfer, replacement etc of HR by a firm has been generally treated as revenue expense by the accountants. No part of the cost of HR is generally capitalised and shown on a Balance Sheet as an Asset. They have always been very conservative in their approach towards treatment of HR. But, simultaneously it is not wholly true to say that they have completely failed to recognise the value of HR. The study reveals the need for modifications and improvements in the present system of HRA. Some of the useful suggestions are listed below:

Firstly, greater awareness should be developed in reporting of human resource information, appropriate methods must be evolved for reporting human resource information to make organisation socially responsible and accountable.

Secondly, the accountants should assetise the historical costs and amortise these on the basis of expected service period based on 'group' probabilities of staying with the firm.

Thirdly, the accountants should seriously reconsider the existing treatment of goodwill. Valuation of goodwill should not be based on the net profit only. The factors affecting goodwill should be separately identified, suitably grouped and valuation of each factor group should be separately made. The grouping may be as internal human resources; external human resources; customers and others factors like special license, trade mark, strategic locational advantage, etc.

Fourthly, as there is not a single model which fulfils all the requirements of a model which could help in the process of HRD, there is an urgent need for great deal of research with regard to evolving a system of accounting for HR which could be of considerable help in the process of HRD. However, it has been recognised that HRA throughout the world is still in its infancy. Further researches in the field of macro perspective of HRA, formulation of HR performance standards in the light of corporate goals; the development of usable systems and procedures of HRA; the adaptation of human asset accounting to the administration of productivity programmes and incentive systems, etc. are urgently needed.

Fifthly, as the HRA helps in making goal oriented managerial and investment decisions, the Institute of Chartered Accountants of India should make HR valuation in the Annual Reports mandatory by issuing a suitable Accounting Standard or Section 217(2A) of Indian Companies Act, 1956 should be amended to make it compulsory on the part of all companies having a particular amount of share capital to evaluate their human assets and report the same in the Annual Reports.

Sixthly, HR should be regarded as an inseparable part of the accounting system. They should be treated as an asset like other financial and physical assets. It will be possible only when companies not only value them but also incorporate that in the financial statement at least in the form of supplementary statement.

Seventhly, efforts should be made to evaluate the HR on the basis of their 'net contribution' to the profit and loss account of the company. This can be done by way of estimation of net contribution from one year to other after making necessary adjustments of price fluctuations during evaluation period, policies of the government etc.

Finally, it is suggested that managements in general, and accountants in particular, should pay adequate attention towards the strenghting of the HR reporting system with a view to catering to the information requirement of a cross-section of the society in the light of fast changing socio-economic and legal environment.

Indeed, HRA is emerging as a new concept to asses value of HR involved in production and service of an organisation. The non-disclosure of HR information will have a negative impact on the decisions of several parties to the enterprise including the investors. Undoubtedly, in the absence of any legal enforcement there is no compulsion or motivating force behind the adoption of HRA practices in Indian companies except image building and fascination towards the latest accounting system. It is sincerely hoped that in the years to come this aspect would be reflected in the financial statements of all the organisations and its relevance and scope would be recognised by all concerned.

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Reshu

(Reshu Agarwal)

LIST OF ABBREVIATIONS

AAA	American Accounting Association.
BHEL	Bharat Heavy Electricals Ltd.
BOL	Bhilai Oxygen Ltd.
CCI	Cement Corporation of India Ltd.
CMO	Central Marketing Organisation
CMO	Central Marketing Organisation
COS	Clerical and Office Staff
CRL	Coachin Refineries Ltd.
DWARC	Differential Weighted Average Replacement Cost Model.
EIC	Engineers India Ltd.
EIL	Electrical India Ltd.
HCIS	Human Capital Information System.
HPCL	Hindustan Pertroleum Corporation Ltd.
HR	Human Resource.
HRA	Human Resource Accounting
HRCA	Human Resource Cost Accounting
HRD	Human Resource Development
HRG	Human Resource Group

HRM	Human Resource Management
HSL	Hindustan Shipyard Ltd.
HZL	Hindustan Zink Ltd.
ICAI	Institute of Chartered Accountants of India.
ICMA	Institute of Cost & Management Accountant
ICWAI	Institute of Cost and works Accountants of India.
IISCO	Indian Iron & Steel Co. Ltd.
IPM	Institute of Personnel Management
LRP	Long Range Plan
MIS	Management Information System
MITCO	Mica Trading Corporation of India Ltd.
MMTC	Minerals and Metals Trading Corporation of India Ltd.
MTI	Management Training Institute
MUC	Maruti Udyog Ltd.
NICMR	National Institute of Construction Management and Research.
NPTC	National Power Transmission Corporation
NTPC	National Thermal Power Corporation Ltd.
OIL	Oil India Ltd.
ONGC	Oil and Natural Gas Corporation Ltd.

PEC	Project and Equipment Corporation of India
PFC	Power finance Corporation
PSEs	Public Sector Enterprises
ROI	Return on Investment
SAIL	Steel Authority of India Ltd.
STPP	Super Thermal Power Project
STS	Supporting Technical Staff
U.S.A	United States of America
U/S	Under Section
USSW	Unskilled/Semi Skilled Workers
VRS	Voluntary Retirement Scheme

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Chapter-I

Introduction

CHAPTER- I

INTRODUCTION

Human resources of the enterprise are its most important asset, because without human resources other factors of production cannot be utilised. Thus, this feature of the human asset places the human resources at a higher level than the non-human assets. Therefore, the investment on human resources has become an important factor in accounting systems. In fact, in the present accounting system, the investment on human resources is considered as only revenue expenditure and not as capital expenditure. Hence, the amount invested on human resources is not shown in the balance sheet along with other assets. This deficiency can be very well ractified through the concept of Human Resource Accounting (HRA). The concept of HRA implies:

(a) Valuation of human resources as organisational assets;

(b) Recording the valuation in the books of accounts; and

(c) Presenting the information in the financial statements that can be used while making decisions.

Though the other physical assets get value when they are combined with human resources. the accountants have not recognised the human assets as the prime asset of the organisation. Yet the top managements always remark consciously or unconsciously that, 'the people are our most important assets'.

While small items like furniture are valued and put on the balance sheet, the acquisition and development cost of human resources go unnoticed. An enterprise is investing large sums of money in developing the human resources but this is not reflected in the balance sheet. The only resource of a business which is not presented in monetary terms is human resources which includes acquisition cost, training cost and the cost concerned with the developing the capability, morale and productivity of the employee. If accounting is to provide a meaningful information about the state of affairs of a company, it must develop standards to measure the value of human resources both for financial reporting and for aiding managerial decision making.

HRA is proposed by its advocates as a logical and significant extension of the scope of enterprise accounting. It is the process of measuring and reporting the human dynamics of an organisation. It is the assessment of the condition of human resources within an organisation and the measurement of the change in this condition through time which matters a lot not only for the management and the employees but for the society as a whole. HRA is the process of providing information about individuals and groups of individuals within an organisation to decision makers both inside and outside the organisation. It involves the concept of human resources as assets, determines invested costs and related cost expiration and in some instances estimates and provides surveillance over economic value of the human organisation.

Though significance of human resources in an organisation or at the enterprise level has been recognized in accounting literature throughout history, the accounting process has been limited largely to financial and physical resources. It was not until the early 1960's that specific suggestions started to appear for inclusion of human resource representation in routine assessments of enterprise condition or within the structure of accounting systems of enterprises. During the past two decades emphasis on recruiting, training, employee motivation and work environment, and on the use of employee attitude and perception surveys, attest to the increasing, recognition of the role of human resources in organisational effectiveness. Substantial identifiable outlays in these areas may account, in part, for the increasing consideration of accountant's involvement in this new subject of human resource accounting.

Therefore, it was necessary to study the application of HRA in Indian industries. It is in this backdrop that the present study has been undertaken to examine the human resource accounting practices in Indian companies.

Objectives of the Study

The principal objective of the study is to present to the accountants some thoughts in human resource accounting which may provide a basis for financial reporting purposes and using it for managerial decision making. The research project also aims at making a comparative study of human resource accounting practices in the public and private sector companies of India. The following are some of the specific objectives of the study:

1. To make a survey of available literature on the subject as a whole.
2. To review the conceptual framework of human resource accounting at length.
3. To highlight the various monetary and non-monetary models of human resource accounting.
4. To examine the application and progress of human resource accounting in public sector companies in India.
5. To study the application of human resource accounting practices in private sector companies in India.
6. To suggest guidelines and recommend a long range strategy to adopt human resource accounting in Indian companies.

Scope of the Study

The present work is an analytical survey of Human Resource Accounting Practices in Indian Companies. In this study, the meaning of accounting is taken in the sense of an information system. As such, the present thesis covers the issues relating to collection, compilation, presentation, analysis and interpretation of data regarding human asset.

The study evaluates the existing accounting practices in respect of expenditure on human resources. More specifically, the study examines the accounting treatment regarding conducting interviews, and training and development. It is a micro level study of selected public and private sector companies of India. Moreover, the study also examines the performance of human resources in terms of profitability, investment, costs and benefits. Eventually, an attempt has also been made to evaluate the performance of human asset. The public and private sector enterprises selected for the study are:

Public Sector Companies:-

1. National Thermal Power Corporation Ltd. (NTPC).
2. Bharat Heavy Electricals Ltd. (BHEL).
3. Steel Authority of India Ltd. (SAIL).
4. Oil and Natural Gas Corporation (ONGC).
5. Minerals and Metals Trading Corporation of India Ltd. (MMTC).

Private Sector Companies:-

1. Infosys Technologies Ltd. (ITL).
2. Satyam Computer Services Ltd.

Hypotheses

The present study is based on the hypotheses that Indian companies consider human resource as an asset of the organisation and incur expenses of capital nature on acquiring, developing and retaining human resources apart from incurring revenue expenditure on them. To prove the basic assumption and investigate the objectives, the following specific hypotheses have been tested:

1. The Indian companies intend to retain the existing human resources until their useful service life expires.
2. There is a positive relationship between the human resources to remain in the organisation and the efforts of the companies to retain them.
3. There is a positive relationship between human resource development by the companies and the benefits accruing from such efforts.
4. The accounting treatment of cost incurred on acquisition of human resources neither complies nor satisfies the principle of matching of cost and revenue.
5. The accounting treatment of cost incurred in retaining the human resources is not compatible with the matching principle of cost and revenue.

Research Design

The Indian industrial sector is divided into different sectors, viz., organised sector (Public/Private/Cooperative) and decentralised sector. This study refers only to the organized sector of which public and private sectors are considered as most important segments. However, one of the best method of the study would have been to make a survey of human resource accounting practices in all the

Indian companies. But this would have been a very large and time consuming project. It was, therefore, decided to use the sampling method. A sample of seven companies was considered as the modest number from the point of view of feasibility of time and cost. It is worth mentioning that out of seven companies, two companies hail from Indian private corporate sector and the remaining five belong to the public sector. Moreover, the researcher also made an opinion survey of executives of some organisations in order to explore their views on what they feel about the presentation of information regarding human valuation in their financial statements. These interviews undoubtedly have provided much needed information to make this study more comprehensive and purposeful.

Research Methodology

The present work is based on published and unpublished data collected from both primary and secondary sources. All the information based on primary data has been collected through structured questionnaire and personal interviews of executives of the companies selected on simple random sampling basis. The major chunk of the portion based on the secondary data has been obtained from annual reports of the selected companies, government publications, newspapers, journals, magazines, unpublished Ph.D. theses, M.Phil Dissertations, different websites, books, statements etc. Finally, all the information and data collected are analyzed and important inferences have been drawn from them.

Limitations of the Study

The present study covers various aspects related to the application of human resource accounting practices in Indian companies both in public and private sectors. The researcher has been particularly anxious to cover all important aspects of human resource accounting with maximum degree of thoroughness, so as to make this study more useful and result oriented. But in this earnest endeavour, the researcher had to experience various difficulties of a serious nature at all stages of the survey and enquiry.

Firstly, in view of the limited literature available on human resource accounting and also due to ever increasing concern for human resources in products, productive resources, employment and economic development, the present study is full of many limitations which are usually inherent in a research project of this nature. Despite these limitations the researcher tried her best to ahead with the project. This helped her in pointing out the precautions to be observed in analysing the data and drawing logical conclusions and making sensible recommendations.

Secondly, though many companies have been using human resource valuation in their financial statements yet due to time and money constraints it could not become possible to assess all of them.

Thirdly, there was lack on the part of managerial staff of the companies to supply adequate information to jump to important conclusions.

Many companies even did not respond to her request for supplying the required information. Even government companies did not supply annual reports of several years which could have helped her in knowing the trend. Even as it is, the study brings within its fold almost all vital issues relating to application of human resource accounting practices in Indian companies within the boundaries of available data.

Above all, the study has taken into account for investigation only those variables which can be measured in terms of money for accounting treatment such as emoluments and the perquisites. This limitation is necessary because it is the limitation of financial accounting too for the sake of objectivity and verifiability.

Plan of the Study

The study has been divided into six broad chapters so as to highlight the main aspects of the probe as well as its related issues:

- The first chapter is an introduction of the entire research project. It is also devoted to review some of the existing empirical researches undertaken by eminent experts in the field of HRA.

- The second chapter is devoted to the study of the basic concepts of human resource accounting, the underlying principles of human resource accounting, origin and background of human resource accounting, limitations and significance of human resource accounting. It also deals with the views of accountants and executives regarding the application of HRA in financial statements.
- The third chapter reviews the various models of human resource accounting prevalent in India and abroad.
- In fourth chapter an effort has been made to examine critically the human resource accounting practices in Indian public sector companies.
- The fifth chapter analyses the application of human resource accounting practices in selected private sector companies in India.
- The sixth and last chapter presents the summary and findings of the entire research project. It also provides suggestions and recommendations for the application of human resource accounting in Indian companies in the globalized Indian economy for parity at international level.

Review of Literature

The present chapter, an introduction of the entire research project will remain incomplete if various studies conducted in the field of human resource accounting are not taken into account. Thus, in the following pages an attempt has been to review some of the important studies conducted by various researchers in this field in India and even in foreign countries.

Paton **(1952)**[1] in his book, "Accounting Theory", referred to people as assets. He stated that in the business enterprise, a well organised and loyal personnel may be more important "assets" than a stock of merchandise. At least there seems to be no way of measuring such factor in terms of the dollar they cannot be recognised as specific economic assets. But let's not, accordingly admit the serious limitation of the conventional balance sheet as a statement of financial condition.

Argyris **(1953)**[2] in his article entitled, "Human Problems with Budgets", has concluded that the progress of the enterprise itself is the product of human activity. He has also pointed out that most of the company failures are because of the otherwise performance of people who constitute the enterprise.

Rao **(1954)**[3] opined in his published research project entitled, "Human Resource Accounting". that HRA is a means of measuring the cost and value of people. It is one of the neoteric developments in the area of accounting. Though a good amount of research has been rapidly accumulated in the science of human resource management, the measurement aspect of human resource is touched very peripherally. The framework of human resource accounting is concerned with the effort of the accounting research to prepare human resource investment and value analysis for managerial planning and control.

In the process of transforming the human inputs, a great deal of dynanism is required to deal with the delicacy and vitality of *human attitudes and ambitions in relation to the work requirements* and job prospects. Here, the concept of productivity comes into operation. It emphasizes the role of human resource as a critical factor to accomplish the production programmes in congruence with the corporate goals. The course of action may be identified with acquiring, training, developing, allocating, utilizing, evaluating, compensating and handling of people. The human output can be recognised as the manual or mental, creative or technical services rendered by the employees. Very often the effectiveness of human resource system would directly or indirectly interact with the effectiveness of the total system. HRA is the need of the day to measure the human input/output behaviour and to provide useful information for human resource planning and control operations.

Paton **(1962)**[4] in his book on "Accounting Theory", expressed the opinion that people are important asset of the organisation. He defined asset as any consideration owned by a firm and its value to that enterprise. His alternative notion of asset is that a factor of production, which has not yet reached the point in the business process where it may be correctly treated as 'Cost of Sales' or expenses.

Brummet, Flamholtz and Pyle **(1968)**[5] in their article "Human Resource Measurement – A Challenge for Accountants", *stated that the essential criterion for determining whether a cost is* an "asset". or an "expense" relates to the notion of future service potential. Thus the human resource costs, incurred by the firm in obtaining services with the objective of deriving future benefits, can be classified as either assets or expenses. They should be treated as expenses in the periods in which benefits result. If these benefits relates to a future time period they should be treated as assets.

Burns **(1970)**[6] carried out a study of the "Behavioural Aspects of Accounting Data For Performance Evaluation". He found that human resource accounting is an attempt to identify and report investment made in resource of the organisation that are not presently accounted for under conventional accounting practice.

Flamholtz (1972)[7] in his another publication, "Towards A Theory of Human Resource Value in Formal Organisations", presented a model which according to him is a first step toward a theory of human resource value in formal organisations. This theory seems to have relevance to accounting's objectives of measuring and reporting information for decision-making, management of human resources, custodianship of human resources and social controls over the utilization of people. Thus the model can potentially help enlarge the scope of accounting in accordance with the recommendations in a statement of basic Accounting theory.

There are, of course, some limitations involved in the model. First, the model's scope is restricted to the nature and determinations of an individual's value to an organisation. Thus it should not be inferred that the model purports to explain the value of groups of people in formal organisations. Similarly it should not be inferred that the model purports to fully explain the nature of an individual's value, Future research may find that other variables should be included or that present variables are unnecessary. Similarly, the validity of the hypothesised relations among the variables needs to be assessed. These are empirical questions.

The model treats an individual's value as an independent or marginal phenomenon. The validity of this treatment upon several variables including the nature of the organisation and the degree of interdependence of organisational roles. Accordingly, this model does not fully taken into account the dynamic aspects of organisational phenomena. For example, an individual's promotability may be determined not only by his own skills, activation level and expected service potential but also by the promotability of others.

These limitations suggest the need for further research on this complex problem. In the meantime, it is hoped that the model provides a useful preliminary framework for analysing and understanding the nature and determinates of a person's value to an organisations, and that if makes a contribution toward the development of a very necessary theory of value of an organisation's human resources.

"Report of the Committee on Accounting for Human Resources" **(1974)**[8], pointed out that the models and methods of human resource valuation must be subjected to empirical testing. Because of the nature of human resource management problems. It is required to demonstrate both the feasibility of HRA and its effects on attitudes and behaviour. Actual organisations must begin to use HRA concept and systems and conditions which are effective and ineffective and perhaps useless.

Perhaps the most important task facing those who wish to advance work in accounting for human resources stems from the necessity to demonstrate the usefulness of HRA systems. Unless empirical data from organisations using HRA systems are collected, analyzed and published, the attractiveness of current theoretical arguments for HRA may soon lose their glamour.

Flomholtz **(1974)**[9] in his another book entitled, "Human Resource Accounting", discussed that it involves measuring the costs incurred by business firms and other organisations to recruit, select, train and develop human assets. He further pointed out that the primary objective of accounting for human resources is to help facilitate the effective and efficient management of people.

Hendricks **(1976)**[10] in his study entitled, "The Impact of Human Resource Accounting Information on Stock Investment Decisions : An Empirical study", examined the impact of HRA information on stock investment decisions and the reasons thereof. He used accounting and finance students at a large mid western University in the United States. Some of the students were business persons, taking the finance course in the evening. All the subjects had a high level of sophistication in finance and accounting. The subjects were required to make two stock investment/capital allocation decisions, one with and one without human resource cost data. The differences in the two decisions were statistically significant, based upon a difference of correlated means t- test. Hendricks found a significant correlation between the decisions, difference measure and the subjects age and work experience, he was unable to establish such relationship among other demographic and personality variables.

Schwan **(1976)**[11] in his paper entitled "The Effect of Human Resource Accounting Data on Financial Decisions : An Empirical Test", considered the effects of human resource cost measures on decision making by bankers. He found that the inclusion of human resource accounting data in published financial statements resulted in (1) Significantly different ratings of managements preparedness to meet future challenges and opportunities and (2) statistically different predictions of a firms net income.

Flamholtz **(1976)**[12] has pointed out in his study, "The Impact of Human Resource Valuation on Management Decisions : A Laboratory Experiment", that there is a difference in decisions between traditional information and human resource accounting information, but no difference between monetary/non-monetary human resource accounting information.

Tomassini **(1976)**[13] in his paper identified three categories of variable which may impact the extent to which a system of HRA is accepted and is effective. These categories include attributes of the information in the system, organisational attributes such as the task environment, the management control system and organisational goals and rewards and individual attributes which cover aspects such as the individual cognitive information processing and overt behaviour. He developed a series of propositions which purports to explain how HRA system is dependent upon these variables. Incorporating Flamholtz's "hierarchy of information measurement" concept, Tomassini provides a significant impetus to direct future research in an area of HRA.

Trotman **(1979)**[14] in his study of 100 largest companies of Australia indicated that social responsibility and human resources discloures have increased consistently from 26% in 1967 to 48% in 1972 to 69% in 1977 and 79% in 1980 even though it is purely voluntary. This proves the increasing concern of corporate world about disclosing information about human resources which is lacking in India.

Sharma **(1979)**[15] in his paper entitled, "Need for Developing Human Resource Accounting", highlighted, that HRA is very significant in India because on one hand the human resources are in abundance while on the other hand there is acute shortage of skilled and technically qualified people. In a technology oriented society, that India is emerging, human resources cannot be ignored. They need to be groomed and trained for being effective and efficient to achieve sustained growth of production and productivity. So that, an imperative need is now felt for human resource accounting.

Ravishankar and Mishra **(1985)**[16] in their study titled, "Management of Human Resources in Public Enterprise", provided an understanding of the system of H.R.M. rather than merely the activities assigned to those who provides various personnel services for effective public enterprise management. They also gave a balanced and comprehensive grasp of the concept, problem, approaches and strategies of HRM.

Dave **(1987)**[17] in his paper entitled, "Towards a Comprehensive Model for Human Resources Accounting", pointed out that once human asset is valued, it is one of the significant aspects in human resource accounting. It has been suggested by him that how it should be shown in the balance sheet. According to him, it can be shown as some extra information below the balance sheet or it can form part of double entry system. Due to some legal restrictions it is shown separately as unaudited data in the balance sheet. There it is shown as an asset though it is not forming part of accounts. Some treat it as fixed assets or investments but it should form a separate category at it can not match with any other category. Human resource is an asset forming its own category and therefore, its merits hold display under the heading – Human Resources.

A research paper entitled, "Human Resource Accounting With Special Reference to India", published by Bose (1989)[18] highlighted that in the coming century human assets would be reflected in the financial statements of the organisations and its relevance and scope would be recognised. He observed that the concept for human resource is still at the experimental and developmental stage; very few firms in developed nations have introduced it in their respective organisation. HRA is still new and much additional research will be necessary before it can be applied universally.

Bardia **(1989)**[19] in his paper entitled, "Human Resource Accounting", pointed out that several internal and external manmade factors lead to gradual deterioration of the efficiency and productivity of the human resources of Indian enterprises. Had there been some attempt to systematically measure and report the 'depreciation or appreciation' of human resources, the quality of management would have certainly improved. The author further maintained that the practical use of human resource accounting will be an invaluable contribution of accountancy to business and industry in this context.

Katiyar **(1991)**[20] in his paper, "Human Resource Accounting – Professional Stance In India", explains that the accountants have given every justice for physical resources and financial resources of business entities as far as their accounting treatment is concerned, due recognition has not been given on accommodating some standard accounting procedures and treatments on human resources. In India human resource accounting has not been introduced so far as a system. The companies Act, 1956 does not require furnishing of any significant information about human resources in financial statements of companies. The Institutes of Chartered Accountants of India (ICAI) has issued several accounting standards on different technical subjects of accounting but it has not been able to bring any definitive accounting standard for measurement and reporting of cost and value of human resources of an organisation. The existing accounting standards fully support the adoption of human resource accounting for the purpose of meeting their own requirements in true sense. The result of non-disclosure of human resources cost and value information in financial statements of business enterprises has been that financial statements do not reveal any quantitative information on human resources side and the statement of affairs is improperly reported to different authorities.

Shankariaah, Sudarshan and Sarma **(1992)**[21] designed a study of "Human Resource Accounting in Public Sector: An Appraisal". They highlighted that the application and usefulness of HRA depends on the future efforts and experiments to be made by practicing managers, accountants and academicians. There is no motivating force behind the adoption of HRA except image building and fascination towards the latest accounting systems. Therefore, the application of HRA needs supports from the professional bodies and Government.

Vashisht **(1993)**[22] in his research paper, "Accounting for Human Resource Development", stated that there is not even a single model which fulfils all the requirements of a model which could help in the process of HRA. Certain models fails to recognise the factors determining the value of human resources whereas others have computational problems. Therefore, there is a need for great deal of research with regard to evolving a system of accounting for human resources which could be considerable help in the process of human resource development.

Rao **(1993)**[23] in his book entitled, "Management of Human Assets", threw light on the complexities of managing human being in the present day organisations. The various aspects of personnel management in relation to small scale units operating in industrial estates have been presented initially followed by theoretical presentation on personnel management. Different aspects of training, organisational development, employee coordinating activities have also been put to close examination. It also attempted to find out how do employee related activities flourish in various other sectors like urban government, co-operatives, informal sector and small scale sectors.

"The Lev and Schwartz Model of Human Resource Accounting: A Perspective", published in **(1993)**[24] by Gupta pointed out that the Lev and Schwartz have been strongly on an unrealistic assumption of not considering the possibility of an employees leaving the organisation prior retirement. The paper attempted to provide a different interpretation of the model stating that Lev and Schwartz by suggesting the use of 'person specific' discount rate, have implicitly considered the possibility of leaving the organisation.

Luther **(1995)**[25] has conducted study of "Resource Management – Career Development". He found that the growing demand for right type of personnel in an organisation is tremendous due to changing economic scenario in India. The organisations are becoming international in their operations and perspective. To withstand the international competition apart from local competition organisation should develop quality, cost consciousness and productivity and no doubt that human resources planning and career development are two pillars in which the organisations stand strongly.

Murty **(1995)**[26] conducted a study of "Human Resource Management and Accounting in Construction Industry". He has rightly observed that the management accountants in construction companies should realise that the time is ripe to break the ice and start introducing HRA in the companies they work. As the oddities are more in this task, the introduction of HRA requires detailed planning, sustained efforts and longer time to implement. The professional bodies like the Institute of Cost and Works Accountants of India (ICWAI), Calcutta, and the National Institute of Construction Management and Research, Bombay, should also think about it and guide the construction companies in imbibing this modern tool of Management.

Gupta **(1997)**[27] in his paper entitled, "Valuation of Intellectual Assets and Human Resource Accounting", focused on the methodology adopted by some of the orgnisations to value their intellectual assets and extends the same methodology to value the human resources associate with the creation of such intellectual assets. Intellectual assets are judgmental to the growth and value of an enterprise in the current globally competitive environment.

Sudarshan and Anjancyulu **(1997)**[28] conducted a case study of "Human Resource Disclosure in Public Enterprises – A Study of Selected Public Enterprises in India". The main finding of the study states that a majority of the central public enterprises have not been disclosing adequate information regarding human resources. Therefore, it has been suggested that the managements in general and accounting departments in particular should pay adequate attention towards the strengthening of the human resources reporting system with a view to catering to the information requirement of a cross-section of the society in the light of the fast changing socio-economic and legal environment guiding the prosperity of business enterprises.

Spieceland and Zaunbrecher **(1997)**[29] wrote a paper entitled, "The Usefulness of Human Resource Accounting in Personnel Selection". They concluded that there is a relationship between use of information and decision making. Human resource accounting information was used when traditional information was confusing.

Gurusamy **(1998)**[30] in his article entitled, "Accounting and Reporting for Human Resources", measured that a proper reporting of human resource in the financial statements of a company will go a long way in giving a fair and complete view of the accounting information, infuse confidence in the people working in the organisation, boost their morale and help the management in fulfilling their social responsibility towards their own employees.

Gupta **(1999)**[31] in his another paper entitled, "Third Wave and Human Resource Accounting", highlighted that accounting is a social science and it has to respond to the expectations of the society. As the global system is getting a splash of 'third wave' the accounting system has to confront with intangible variables which were forbidden in the first and second wave accounting systems. One such important intangible variables happens to be the human resource. Human resource accounting attempts to assign cost value figures to human resource using different methodologies. However, value based methodology has found greater acceptance in India and aboard.

Singh **(1999)**[32] in his paper entitled, "Human Capital Information System", provides a new framework of management information system under the nomenclature of Human Capital Information System (HCIS). The sub-system of HCIS have also been discussed to highlight the spectrum of HCIS. An attempt has been made to overcome the limitations of financial accounting, particularly in the field of human asset, by providing compatible information pertaining to human asset/capital which can be integrated with the existing financial accounting information system. There are many models that have been developed over the last decade which the decision makers are unable to use due to lack of support from the MIS department on the issues related to human asset retention. Each model provides some kind of information which can support decision making of an executive.

Sonara **(1999)**[33] in his paper "Human Resource Reporting – Practice and Problems in India", discussed that the companies Act 1956 requires disclosure of only few information's u/s 217 (2A) regarding employees. Relating to name, age, qualification, design and nature of duties, remuneration, date of commencement of employment, experience. Such details are required for employees in higher income group only as limit of remuneration was Rs. 72000 p.a. which was increased to Rs. 1,44000 p.a. w.e.f. 15.6.88 which was further increased to Rs. 12,00,000 p.a. w.e.f. 25th Oct, 2000. Thus, it is not sufficient for disclosure of HRD hence, considering the great value attached to human resources, necessary and adequate provisions shall be made in the companies Act, 1956 in order to make it obligatory for the companies to evaluate and report the human resources. The task of finding out an appropriate methods of valuation of human resources to be uniformly followed by all companies in India may be entrusted to an expert committee which may be formed for that purpose. This may be expected to enable more and more companies to come forward to account and report the value for human resource in their financial statements.

Priem (2000)[34] in his article entitled, "Shortage of Executives Starts War For Talent", explain that at present human resource accounting is not followed by many concerns while it is a more important asset that any other tangible asset. Specially when demand for valuation of intellectual property and brand valuation is increasing which is simply extension of human resource accounting. There is no question that human capital is going to be more important to companies that financial capital in the future. There has been a tremendous increase in mobility.

Mathur (2000)[35] in his paper "Human Capital Is The Key", discussed that, high performance organisations have time and again proven that their success comes from good human resource management strategy. They must treat their human capital as the most important and valuable asset. He suggested that we should treat them as adults, as partners and with dignity and respect.

Shankaramarayana (2000)[36] in his publication entitled, "Pedagogical Paradigm for Human Resource Accounting: A Case for Consolidation", explained that the accounting treatment of resource to the organisation cannot be made in vacuum. The changed role of human resource to the organisation should get the required status in the balance sheet. Accounting for intangibles like goodwill appears in the balance-sheet. In the era of mergers and acquisitions, patenting for intellectual property right the ignored asset, i.e. human resource should appear in the balance sheet.

Anjaneyulu **(2000)**[37] designed a study of, "HRA in Selected Central Public Enterprises of India", In his paper he pointed out that a substantial amount is expended by Public Enterprises on recruitment, selection, training and development and the benefits to employees, no organised and systematic efforts is made so far to collect, compile, analyze and report the information. According to the provisions of conventional accounting all the expenses and receipts are classified into revenue items and capital items. While capital payments and receipts are shown in the balance sheet, revenue expenses and receipts are shown in the profits and loss account. Capital expenditure is shown in Balance Sheet and such amounts are written off against the income of subsequent years on the appropriate basis. On the other hand, revenue expenses are charged to the years in which the expenses are incurred.

He further observed regarding the expenditure incurred on human resource in public enterprises, total expenditure is treated as revenue expenditure and as such it is written off against the income of the years in which they are incurred. Though the expenditure incurred on human sources is vital and meant for strengthening the human asset with a view to extracting benefits during the services period of the employees, this expenditure is not capitalized. Further records maintained under conventional accounting system do not provide us with the needed information on human resources. As such, the information disclosed by the public enterprises at the end of each financial year does not portray true and fair view of the business as it fails to take cognizance of information regarding human resources. More specifically, it will have a bearing on profit and profitability of the enterprises. With a view to strengthening the existing valuation models of HRA, a refined model, namely Differential Weighted Average Replacement Cost (DWARC) Model has been suggested by him.

Sinha and Gahlot **(2000)**[38] in their publication, "Human Resource Accounting Explained", concluded that using different models, accounting of human resource is a fairly simple affair. Since we are dealing with human resource, there will naturally be certain limitations and deficiencies in different models of HRA. A high turnover of employees in every company also possess problems for HRA. Notwithstanding these difficulties, HRA today is being implemented by most professionally managed companies like BHEL, SPIC, ONGC, NTPC., etc.

Narayan and Rao **(2000)**[39] pinpointed in their book entitled, "Personnel Management and Industrial Relations", that HRA may be considered as a method of communicating to the people of the organisation on their crucial role and managers would also be evaluated on the basis of their contribution to the development of the human resources under their control. In spite of the importance of HRA, there are some of the prominent reasons for its non acceptance in many organisations. These are (a) Difficult to change managements view point of people from being an expense rather than a resource. (b) It appeals exploitative to some managers. A resource is usually something that is used up and through accounting process such utility is expressed more efficiently. They felt that HRA is still in its infancy. Much more has to be explored to make it more professional and acceptable in the corporate world as a separate discipline. Undoubtedly, HRA presents an inviting challenge to conventional accountants.

Ahmad **(2002)**[40] in his paper entitled, "HRA An Emergence Issue for Indian Enterprise", observed that HRA can be successful and effective when managers understand the nature of human beings and various models which can be adopted to match the nature. Managerial actions have depended on some assumptions. Such assumptions are very close to human beings because the management works on under organisation universe. In our country, there is a need for establishing system which can generate monetary and non-monetary about managerial talents whose dearth is felt by business organisations.

Jain and Mangal **(2002)**[41] in their paper "Accounting For Human Resource Development", evaluated different approaches to human resource valuation. They analysed that human resource accounting has become very popular in the last few decades. It is the process of measuring and communicating the data relating to human resources.

Shukla **(2002)**[42] in his book entitled, "Advanced Accounting", explained that human resource occupies the key position in the organisation. All the process of the organisation are operated by HR, hence valuation of this resource is very important in providing information about human resource valuation to the investors and management etc. through financial statements. They revealed that HRA should be treated as a part of management information system (MIS). He suggested that (ICAI) must take a lead in this respect in prescribing an accounting standard in this connection and in acquainting the entrepreneurs about the utility of HRA, Government should also give recognition to HR as an asset and part I of schedule VI of the companies Act, 1956 should be amended so as to include human resource as an independent asset rather than including it in an of the existing group of assets.

A paper entitled, "Human Resource Accounting in India", by Chandran **(2003)**[43] dealt with the most important assets of the company i.e. human resource and its valuation. In past, less importance was given by organisations to value their human assets, moreover, it was also considered difficult to value them as there were no parameters of valuation. The importance and value of human asset was recognised in early 1990s and in 1995-96, Infosys technologies became the first software company to value its human resources. According to him the employees are the most valuable resource like any other resource of the company.

Thus many studies in the field of human resource accounting have been undertaken by various researchers. These studies brought into light the significance of valuation of human assets in the financial statements. The present study on the theme of human resource accounting practices in Indian companies will not only be an addition to what has been attempted in the foregoing studies but will also provide an opportunity for highlighting recent happening in this particular field with special reference to its application in certain public and private sector Indian corporate entities.

The next chapter is devoted to the study of conceptual framework of the human resource accounting in a general way. It also prepares a background for a study of human resource accounting practices as prevalent in Indian companies.

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Chapter-II

Human Resource Accounting - A Conceptual Framework

CHAPTER-II

HUMAN RESOURCE ACCOUNTING- A CONCEPTUAL FRAMEWORK

In the first chapter an attempt was made to introduce the entire research project including the review of various researches done in the field of HRA in India and abroad also. The present chapter is a study of conceptual framework of human resource accounting.

Introduction

Accounting is the language of business and its principles and procedures have been evolved over a long period of time. It aims at providing aid to business by reporting the results for decision making by management and also furnishes to public an insight into the financial health of the enterprise. Most of the literature in the discipline of accounting is so far concentrated on the aspects of physical and financial resources, which are well accounted universally with accepted standards of preparation and presentation. Very recently, the idea of accounting for human resources attracted the minds of many scholars. It is now acknowledged that HRA will represent one of the major innovations in behavioural aspects of accounting and control system in the decades to come.[1]

In order to understand the concept of human resource accounting in proper perspective, it is pertinent to discuss the concept of human resource separating it from accounting. Thereafter, the concept of human resource accounting, its meaning, definition, objectives, importance, usefulness, limitations and its practical approach for corporate business world as a whole would be discussed at length. This background discussion will pave the way for articulate explanation and understanding of the human resource accounting practices in Indian companies.

The term 'Human Resource' means and includes all the living human beings of all sexes, all age-groups and all races and description living in a country from macro-view point. However, from micro view-point, it has a restricted meaning. It includes all the human beings having any direct or indirect transaction or contact with an organisation/enterprise. Human resource of an enterprise may be classified into various categories on the basis of the nature of transactions or contact. Thus, share holders, debenture-holders/depositors, suppliers, customers, employees may be the major human resource groups dealing with the organisation. However, from the view-point of human resource accounting it is felt pertinent to further restrict the meaning of the term 'human resource.' Excluded from the term are, therefore, the external human groups like shareholders, debenture-holders, suppliers and customers. Thus for the purpose of human resource accounting, the term 'human resource' shall mean and include employees of all the categories (internal human-resources) working in an enterprise.[2]

Human Resource in Action

It is well known that Human Resources constitute the core element of an organisation. They are the most sensitive, reactive and pro-active resource. There is growing awareness of the importance and role of HR in defining an organisation's cutting edge. It is mainly due to the fact that HR is the mother resource of all other resource because it is only the human being who produces all the other means of production such as machinery, material, money and finally the management. Success of any organisation or business depends, to a great extent, on the quality, calibre and character of the people working in an organisation having vast physical resources. Thus, inspite of all technological developments, the importance of human resource has in no way diminished. Every business organisation depends for its effective functioning not so much on its materials or financial resources as on its pool of able and willing human resources.[3]

These resources by themselves can not fulfill the objectives of an organisation. They need to be united into a team. It is through the efforts of people that material and money resources are effectively utilized for the attainment of common objectives. Without united human efforts no organisation can achieve its goals. Therefore, people are treated as the most significant resource of an organisation popularly called human resources.

They (HR) consist of a large number of individuals each having unique personality, different needs, attitudes and values. Each has his own physical and psychological traits. Hence, most of the problems of an organisation are people related problems. These problems arise from the mistaken belief that people are alive and they can be treated identically. In order to make effective use of its human resources, an organisation must recognize and pay attention to differences between individuals so that each person can maximize his potential. Thus, human resource is the most important element in an organisation. The effective utilisation of all other resources depends on the quality of human resources. The human resources have the greatest potential to develop and grow. An organisation can survive and grow if it has the right people at the right time working at right job.[4]

This is the only resource which can generate unlimited wealth through better ideas. There is no apparent limit to what people can accomplish when they are motivated to use their potential to create new and better ideas. No other resource can do this. This resource is animate, active and living. It is man alone who, with his ability to feel, think, conceive and grow, shows satisfaction or dissatisfaction, resentment or pleasure, resistance or acceptance for all types of managerial actions. All other resources are inanimate, inert and passive and do not act in this way.

Similarly, it is the only resource which appreciates in value with the passage of time. As time passes people become experienced and skilled. It is not so with other resources which generally depreciate with the passage of time.

Thus, the human resources are assuming increasing significance in modern organisations. Obviously, majority of the problems in organisational structure are in the nature of human and social rather than physical, technical or economic. The failure to recognize this fact causes immense loss to the nation, enterprise and the individual.[5]

HR Accounting Need

The greatest assets of an organisation are the human resources and not the buildings. plants, machinery, equipments, furniture etc. it owns. Hence. amount invested in human beings can give a better result to a business unit. However, it is unfortunate that the balance sheets do not exhibit this most vital asset, while capital invested in other assets is shown. This information has not even been included as a part of internal accounting and reporting for management purpose so far.

It is pertinent to note that the expenditure incurred on the services of persons working in an organisation is charged to profit and loss account as an item of revenue expenditure in the form of wages and salaries. During these days companies are investing huge amounts of money on their employees for the training and development and also for developing the human organisation. It is assumed that these trained persons will continue to work in the organisation as organisation is a going concern. Thus, the training will be of great use to the organisation in future years. Though certain benefits will accrue to the organisation in future due to expenditure that is incurred on human resource yet it is not treated as an asset. It is a fact that success of an organisation depends on its managerial, scientific and technical personnel. The results of application of physical resources are reported in various financial statements under conventional or traditional system of accounting, but this system of accounting fails to incorporate the value of human resources.[6]

If management wants to know the total amount invested in human resources, the conventional accounting does not provide this information. This is one of the severe limitations of the present day financial statements and incapacitates the user of these statements from making full use of them.

The accounting theory clearly spells out that for proper accounting, expenses and assets should be distinguished. When heavy expenses are incurred in one year and their benefits accrue to the business for many years to come, they are treated as assets and amortized over the period of their benefits to the business. Charge for each year should be treated as an expense while the unamortized portion should be treated as an asset. When any expenses is incurred on training and development of human resources, the concern stands to benefit for more than one year and, as such, expenses should also be treated as asset. It is rightly observed that "the human resources are also the assets of the organisation because when the employees are appointed the organisation acquires a claim on future service of the appointed employees.[7] When total expenses on human resource development are charged in the same year in which these are incurred, profit of that year is reduced and balance sheet does not show the true picture. Therefore, treatment of human resources as assets is necessary for matching periodic costs and benefits.[8]

Some experts of accounting are of the view that the practice of recording all costs incurred on human capital as 'expired cost' is conceptually wrong and inconsistent with the treatment given to the similar expenditure on physical capital or physical assets. This treatment is in practice because investment in people seems more tenuous than investment in machines, and because there are special difficulties involved in distinguishing between the future benefits of such expenditures and the portion consumed currently. It is difficult in thinking of people individually as assets since they are not legally owned by the firm and because of cultural constraints or taboos on the nation of valuing an individuals in monetary terms.[9]

At the same time some people argue that man is mortal and employees can leave job any time so how can it be treated as an asset? In addition to it, it is not permitted by law. Such arguments are not correct because if once an atmosphere of efficient working is created, it is long lasting. All employees are not leaving job at a time, when new employees are recruited, they are learning from old experienced employees and they are also required to work hard for their survival and growth as a 'work culture' is developed. Contrary to it, if there is no work culture as mostly observed in government sector, new employees will also become inefficient by seeing other employees. Thus. every expenditure on human resource development is creating work culture which should be recognized as an asset. If law is not enforcing to show it as an asset and if no amortization is allowed on it, at least such expenditure should be shown as by way of foot note below the Balance Sheets.

Inspite of the technological advancement and increasing importance of computerisation, human resources continue to play a dominating role in the effective use of physical and financial resources. The value of human services in any organisation is invaluable and it can not be measured accurately. In some organisations like trading and technical services human assets continue the real and major earning base. As such, there has been much emphasis on treating human resources as assets. Today, it is widely recognized that human resources are as good as other assets. Objections to this treatment of people as assets in accounting sense have been, by and large, overruled.[10] Since efficiency in any organisation stems from the human beings. Gaining the HR for their worth is a difficult task and has to be handled with care. Human resource accounting is a method developed in recent times with which such task is sought to be achieved. Now, an attempt will be made to discuss the origin and background of human resource accounting in the following pages.

Origin and Background of Human Resource Accounting

It is believed that human factor largely contributes to the achievements of organisational goals. In order to ensure that their contribution in productivity does not go unreflected in financial statements of the companies, several attempts have been made by people at various points of time to assign money values to HR. Though the concept of human resource accounting is of recent origin, eminent economists like Adamsmith talked about human resources as early as in eighteenth century.[11] He described the contribution made by human capital as one of the major functions of production in the economic world. It is worth recalling what Alfred Marshall commented long ago that, "the most valuable of all capital is that is invested in human beings."[12]

Historically, Sir William Petty was the first economist who attempted to value human labour in a systematic manner.[13] He applied the new concept of human capital for the purpose of determination of the wealth of nation as a measure of its potential power at the macro level. To value the national labour, he first capitalized the national income and subtracted the value of the non-human capital from it. He did not, however, define the term capital or the specific aspects of human ability as capital.

Many other economists have made use of human capital concept for solving various problems pertaining to macro economy over a substantially long period of time. So far as the micro level is concerned, Bruch Lev and Aba Schwartz[14] developed models to value human resources of an enterprise on the basis of present value of future earning concept. The economists have been mainly concerned with the economic value rather than costs of human resources and that too in terms of present value as they considered economic present worth concept as a better measures of value.

It was "Rensis Likert,"[15] one of the proponents of human resource accounting, who suggested that an organisation's human resources should be capitalised like other assets and a system of accounting for human resources and their changes in value over the years be developed. In 1967, Hekiman and Jones[16] emphasised the possibility of considering human resource as asset and of quantifying their asset value. In 1968 Mccowen and Brummet[17] reemphasized the case for human resource accounting. They proposed that human assets value should be calculated for profit centre within a company and the return on these investments be regularly calculated.

In the United States of America, William Pyle[18] at Michigan took a different view point rather than attempt to impute some asset value to total remuneration. He attempted to identify those costs that a company expended in improving the performance of its force in the long term i.e., recruitment, training and development of labour force.

Giles and Robinson[19] attempted to develop a tool to get a more accurate picture of the value of the human resources with total remuneration together with multiplier derived from the price earning of the company. [20]

Practical Application of Human Resources Accounting

The credit for initiating the first practical application of human resource accounting goes to R.G.Barry Corporation of columbus (Ohio U.S.A.)[21] In October 1966 a research project was initiated under the joint efforts of Brummet and his associates and a top management team from R.G. Barry Corporation. The aim of the research was to develop an accounting system for human resources and the system so evolved became operational on January 1, 1968. They capitalised the direct and indirect costs of personnel recruitment, training and development as a framework of analysis, Ninety five managers were initially included in the system. The managers were classified into four categories, namely, (i) Line supervisors, (ii) Engineers, (iii) Middle Managers and (iv) Top level Managers. It was reported that an amount of $3000 is invested on a first line supervisor, while that of a top level executive stands at $35,000. In 1969, they extended the system for 155 management people. The company developed a Proforma. Balance Sheet in which resource investments were reported during the period of its operation starting from 1969. In 1974, they discarded the system. The Vice President incharge of human resources at Barry Corporation had observed that the benefits of the system are not encouraging when compared to the cost of the system. The president of the Barry corporation also commented that the maintenance cost of such system was heavy for a company of their size. So they discarded the system as it was not economical. It was also reported that many companies in U.S.A. are trying to develop HRA system for accurate and specific information.[22]

Human Resource Accounting Practices in India

Since 1978-79 trend of valuation of HR was started on a minor scale. Infosys Technologies became the first software company to value its human resources. The concept of HRA was not new in India. HRA was pioneered by public sector companies like Bharat Heavy Electricals Ltd. (BHEL) and Steel Authority of India Ltd. (SAIL) way back in the 1970s. The concept did not gain much popularity and acceptance during that time. It was only in the mid 1990s, after Infosys started valuing its employees, that the concept gained popularity in India.[23]

The concept of human resource accounting is struggling for its acceptance even in the west. It is said that this concept does not hold good to labour surplus economies of developing countries like India. An analysis of present day situations prevailing in India makes it clear that this concept is of paramount importance here than perhaps in the west.[24]

The Accounting Standards Board of the Institute of Chartered Accountants of India has issued several Accounting Standards on most of the areas in accounting. But it has not formulated any specific Accounting Standard on measurement and reporting of cost and value of human resources. The Indian Companies Act, 1956 has also not formed any rules regarding the valuation of human resources and presentation of significant information about them in the financial statements of companies. In practice, however. a few companies which presently report valuation of human resources include BHEL, SAIL, MMTC, ONGC, ACC, HMT, CCI, Hindustan Shipyard Ltd., Oil India Ltd., EEI, Electrical India Ltd., Cochin Refineries Ltd., Madras Refineries Ltd., TELCO Project and Equipment Corporation of India. Southern Peterochemical Industries Corporation, NTPC Ltd. Satyam Computer Services Ltd. etc.[25]

In India, HRA has not been introduced as a permanent system. But recently its application in Indian companies has gained momentum. So, if research is undertaken to demonstrate the feasibility and potentiality of HRA system, as an aid to manpower planning and its development, it may not take long time for the HRA system to be introduced as permanent system in India in every concern.

Definition of Human Resource Accounting

Human resource accounting is a system of treating the investment made by an enterprise in human resources as an asset. It is similar to principles of accounting system which is in practice. Just as financial accounting reflects the cost of capital assets like machinery and buildings. HRA reflects the cost invested in HR. This concept demonstrates that, the expenses of capital nature, like recruitment, training, welfare, aminities, etc., incurred by an organisation on human resources, are an asset instead of an expense and should therefore, be considered as a part of the total assets of an organisation. Thus human resource accounting shows the investment of the organisation on its people and how the value of these people changes over time.

HRA is an art and science of evaluating the worth of human resource of a business organisation as a whole in a systematic manner and recording them for presenting the information in the financial statements to communicate their worth to the readers of financial statements.[26] It is that branch of managerial accounting which involves the application of accounting concepts to the area of personnel management. It is the process of recognizing, measuring and communicating useful information relating to human resources.

The American Accounting Association Committee on Human Resources Accounting has defined it as the process of identifying and measuring data about human resources and communicating this information to interested parties.[27] Hence, human resource accounting is nothing but the process of collecting and developing financial assessment of people within organisation and report the same. The data about human resources is not only identified and measured but this information is also communicated to those who are interested in such information. Thus, according to this definition there are three functions of HRA namely (i) identification (ii) measurement and (iii) communication of information about human resources.

This definition has some draw backs also, such as what type of data about human resources should be collected has not been pointed out. The process of communication has also not been pointed out in this definition. Human resources is an asset which appreciates with the passage of time while other fixed assets like plant and machinery etc. depreciate. The fact of treatment of this appreciation has also not been focussed in it.[28]

Eric G.Flamholtz defines human resource accounting as accounting for people as an organisational resource. It involves measuring the cost incurred by business firms and other organisations to recruit, select and hire, train and develop human assets. It also includes measuring the economic value of people to organisation.[29]

This definition also suffers from certain limitations like the method of reporting the measurement of cost and value of people has not been disclosed in this definition. Measurement of cost and value of people is done for organisation only. Again, use of the word 'people' is vague in this definition. Whether it refers to the people of the organisation or the people of the country as a whole is not clear.

Woodruff Jr.R.L., Vice President of R.G. Barry Corporation, U.S.A. is of the view that human resource accounting is an attempt to identify quality and report investment made in human resource of an organisation that are not presently accounted for under conventional accounting practice. Basically, it is an information system that tells management what changes over time are occurring to the human resources of the business. It must be considered as an element of a total system of management not as a separate device or gimmick to focus attention on human resources.[30] It is an attempt for identifying and reporting investment made in human resources of an organisation. It also gives an information to the management about the changes which have occurred in the human resources.

This definition also suffers from certain limitations like, the mode of communication of information has not been pointed out in this definition. The process of identification and investment has also not been made clear.[31]

Gcoffrey M.N. Baker suggests that human resource accounting is the term applied by the accountancy professionals to quantify the cost and value of employees to their employing organisation.[32]

Davidson and Well think that it is the process of measuring and reporting the human dynamics of an organisation. It is the assessment of the condition of human resources within an organisation and the measurement of the change in the condition through time. It involves accounting for people as an organisational resource. It is the process of developing financial assessment for people within an organisation and society and the monitoring of these assessments through time.[33]

In the words of Stephen Knauf, "human resource accounting is the measurement and quantification of human organisation inputs, such as recruiting, training, experience and commitment of human resource. He considers HRA as an approach to value the amount spent on human assets from recruitment to the present situation".[34]

All the above definitions and many others regard human being as a resource in measurement and communication to interested parties. So, in simple words we can say that HRA is the systematic recording of the transactions relating to the value of human resources. It is the measurement of cost and value of people for the organisation. It may be concluded that HRA comprises the following three aspects:

1) Evaluation of human resources.
2) Recording the valuation in the books of accounts.
3) Presenting the information in the financial statement for communication to the interpreted parties.

A Taxonomy of Human Resources Accounting

HRA is developing as a tool to aid managers in their decision making. As has been indicated, the most widely used measure of overall organisational efficiency matches the revenue from the sale of firms product or services with the costs required to produce that revenue. Human resource grows out of the recognition that traditional accounting and management information treat costs associated with the development of long-term human capabilities as expenses which understate revenue in the short term. This new accounting concept is designed to correct this distortion in the measures of business efficiency.

As inputs to these measures of efficiency, accountants have provided information on the acquisition, development, maintenance and utilization of certain capabilities employed by the firm. When physical capabilities, to continue the prior example, expire prematurely, the increase write-off becomes an expense against revenue in the current year. Reported profitability is reduced and the responsible manager is held accountable. Unfortunately, the protection afforded to physical assets has not traditionally been accorded to human capabilities. The focus of human resources accounting is to extend this protection to HR.

The Initial Focus: Investments in Human Capability

The initial focus of human resource accounting has been to determine investments in human capabilities and develop appropriate accounting procedures. The primary effort has been in business with large contributions from human capabilities. The major objectives have been:

(1) providing information pertaining to human resources,

(2) providing feedback on manager's performance with respect to human assets in the organisation. and

(3) Providing a more accurate accounting of the return on total assets employed.

Approaches to these objectives include:

- Human resource inventories.

- Determination of outlay costs,
- Determination of replacement costs, and
- Determination of the economic value of the human resources employed in the organisation.

Construction of an inventory is, in some ways, the simplest of these approaches, probably the most sensible first step in approaching the utilization of human resources in the firm. The following are typical questions that might be used in developing an inventory of human resource classes and their importance.

Outlay costs are associated with the actual cash outlays for obtaining, maintaining and developing the organisation's human assets. Large sums are spent each year on recruiting, familiarizing and developing people with the expectation that they will be of benefit beyond these costs. Capitalization of these outlay costs with amortization over the expected employment of the individual which provides a more accurate picture of the firm's overall return on investment that charging them all in the year incurred.

Replacement costs represent the outlay costs that the firm would have to make to replace its employees or to provide a certain level of human resources. This concept introduces the fluctuations of the job market as well as the general increases in cost of living etc. Replacement costs provide better guidelines for forecasting, budgeting and planning extensions. However, since actual outlays are not involved, the values must include some estimation. Therefore, determination of replacement costs are both more difficult to develop and less reliable than outlay costs.

Both outlay cost and replacement cost of human resources point towards the concept of the economic value of human resources. This value may be defined as 'the present discounted value of their future contributions less the costs of acquiring, maintaining and utilizing those resources in the organisation. The concept obviously involves a large measure of estimation and, therefore, would be difficult to measure reliably.[35]

Human resources information is essential for each of the several phases of the management's planning and control functions. Corporate managers generally recognise that employees constitute the most important and the most valuable assets, they often take decisions involving expenditure which may be justified as investment in human resources, traditional accounting requires such expenses to be charged to income without considering the timing of expected benefits. Thus, expenditures made for recruiting, engaging, training and developing people are treated as 'expense', and no attempt is made to formulate rules to distinguish between their asset and expense components. It has been increasingly realised that although outlays for human resources have been traditionally treated as 'expenses' rather than 'assets', it is the result of conventional boundaries of the concept of an asset, and not because of the real nature and timing of benefit that result from such outlays.

The human resource accounting has thus an important role to play in management functions bearing on planning and control. Measurement of the value of human resources, is maintainable, can assist the management in recognizing and defining problems connected with the people at work. Trends in the human-asset investment ratio (i.e. the ratio of investments in human assets to total assets) may be a useful predictor of future profit performance. Charges in the value of human resources may indicate the cost of turnover of employees. Certain leadership styles may result in long run liquidation of human assets, while showing immediate increase in earnings. Managers, who put pressures on employees for cost reduction, may experience increases in current net income as measured by conventional practice; but it may also result unmeasured deterioration of employee-attitude, motivation and other psychological variables adversely affecting the level of profits in future periods. If the accounting system incorporates the value of a firm's human resource and its changes over time, the 'net income' (as conventionally defined) might be adjusted to reflect changes in the value of human resources, so as to avoid the illusion of 'profits' derived from the liquidation of human resources. The adjusted figure would give a more realistic measurement of managerial effectiveness. Besides, the trends in the adjusted net income figures would also provide an improved basis for the projection of future of earnings.[36]

Managerial planning involves search for alternative solutions to problems and evaluation of alternatives in decision-situation the search for alternatives requires an awareness of the critical nature of all human resources. A conscious recognition of this factor in the development of alternatives can be possible with a regular assessment of the value of human resources. Likewise, the impact of capital budgeting decisions on human assets is often considered to be a qualitative factor and its critical significance, if not ignored, is not given due importance. Measures of the values of human resources are expected to make a lot of difference in capital budgeting decisions. Human assets are not included in the asset-base used to calculate the rate of return on investment. Human as well as physical assets have opportunity costs associated with their use. This cost needs to be quantified and considered in the evaluating alternative proposals.

Evaluation of investments in human capital generally is based on a qualitative assessment of the alternatives. Moreover, investments in human assets are often made without evaluating the expected pay-off or return on such investments. The value of managerial training and development programmes is usually taken on faith and expenditure on these accounts is incurred by firms which can afford it with ease, given a high level of profits. Systematic programmes of employee-training and executive development obviously need evaluation of the yield or return on the expenditure involved in such programmes.

In the decision models used in the process of selecting among alternatives, human resource information and changes in the value of human resources over time are important ingredients of decision-making. For example, if the management has to choose among alternative locations for a new plant, it involves transfer of existing employees, it is necessary that a survey of employees attitude should be undertaken towards the alternative locations and attempt should be made to determine the expected turnover, associated with each location, and the expected cost of turnover calculated. This may be a critical factor in the choice of location for the new plant.

The use of human resource accounting for reporting on actions taken and results achieved may also be of crucial significance in the management control system. Human resource data may include information about the composition of investments in human resources and analysed to determine standard costs of recruiting, hiring, training and developing employees to bring them up to a desired level of competence. Besides, these data may be useful to estimate the replacement costs of filling up various positions. replacement costs, in turn, can be used to make budget allocations for investment in manpower planning and development. In other words human resource data may provide the basis of setting up a standard cost accounting system for human resource costs, similar to that for manufacturing costs.[37]

Objectives of Human Resource Accounting

The primary purpose of human resource accounting is to facilitate the management of people as organisational resources. It can also be called as accounting i.e. the application of accounting to the management of human resources. The objectives of human resource accounting can be summarised as under:

(i) To furnish human resource cost and value information for making management decisions about acquiring, allocating, developing and maintaining human resources in order to attain cost effective organisational objectives.

(ii) To allow managerial personnel to monitor effectively the use of human resources.

(iii) To provide a determination of asset control i.e. whether assets are conserved, depleted or appreciated.

(iv) To aid in the development of management principles by clarifying the financial consequences of various practices.

(v) To help the persons interested in the organisation to know whether the human resources are producing a return on investment to their worth or not.

Hence, the objective of human resource accounting is not just the recognition of all resources used or controlled by a business enterprises but it also includes the improvement of the management of human resources so that the quantity and quality of foods and services are increased. The basic objective underlying human resource accounting is to facilitate the effective and efficient management of human resources.[38]

Significance of Human Resource Accounting

The benefits of adopting HRA are manifold. It helps an organisation to take managerial decisions based on the availability and the necessity of human resources. When the human resources are quantified, it gives the investors and other clients true insights into the organisation and its future potential. Proper valuation of human resources helps organisations to eliminate the negative effects of redundant labour. This, in turn helps them to channelise the available skills, talents, knowledge and experience of their employees more efficiently. By adopting and implementing HRA in an organisation, the following important information could be obtained:

- Cost per employee,
- Human capital investment ratio,
- The amount of wealth created by each employee,
- The profit created by each employee,
- The ratio of salary paid to the total revenue generated,
- Average salary of each employee,
- Employee absenteeism rates, and
- Employee turnover rate and retention rate.

Firstly, HRA helps in identifying the right person for the right job, based on the person's specialised skills, knowledge, capabilities, experience, etc. valuation of human assets could also be effectively used to motivate employees to achieve best results, using the best of their abilities. Valuation of human capital also ensures continuous evaluation and follow-up of various human policies associated with recruitment, selection, training, development and retention.[39]

Secondly, HRA gives the cost of developing human resources in the business. This enables the management to ascertain the cost of labour turnover also. There may be a high labour turnover and management may not take it seriously in the absence of cost figures of human resources. Though it is not possible to eliminate labour turnover but in case the cost of labour turnover is high then management should try to reduce it as far as possible.

Thirdly, the investment on the development of human resources can be compared with the benefits and results derived. There may also be a wasteful expenditure on human beings which could have been avoided. Efforts should be made to control avoidable expenditure. The company can develop its own managerial cadres by recruiting and training executives. It can also hire already trained persons. The cost of both the methods can be compared and suitable alternatives can be adopted. This type of analysis will be possible only if expenditure on human resources is treated as an asset. So, HRA allows the analysis of expenditure on human asset.

Fourthly, the Return on Investment (ROI) can realistically be calculated only when investment on human resources is also taken into account. The ROI may be good because there is an investment on human beings. On the other hand, a low investment may be the reason of low investment on human asset. So, ROI can give accurate results only when expenditure on employees is treated as an asset.

Fifthly, it helps management in planning and executing personnel policies. The management will be helped in taking decisions regarding transfers, promotions, training, retirement, retrenchment of human resources, etc.

Finally, it can be seen whether the business has made proper investment in human resources in terms of money or not. If the investment is excessive, attempts should be made to control it. Moreover, human resources accounting helps in improving the efficiency of employees. They come to know of the cost incurred on them and the return given by them in the form of output etc. It motivates the employees to increase their worth.[40]

Human Resource Accounting and Human Resource Development

HRA as a managerial tool can be used for effective management of human resources. In the field of managerial decision making the human resource data as part of management information system helps in making meaningful choices between various types of human investments and investments in other assets. By measuring the value of human resources at different points of time, HRA can reveal whether the management is building up human resources or depleting them. The information generated through HRA can help the management in formulating policies and programmes for the development of human resources. Such information can be of utmost help for making decisions in the following areas:

1. Manpower planning standard,
2. Appraisal of human resource development programmes,
3. Identification of training needs,
4. Usefulness of cost reduction programmes in view of their possible impact on human relations,
5. Studying the impact of budgetary control on motivation and morale of employees,
6. Facilitating allocation conservation and reward of human resources,[41]
7. It helps the management in the decision making process about employment resources,
8. It helps the management in measuring standard cost of recruitment, selection, hiring and training people and the organisation can select a person with highest expected realisable value,
9. It also helps the information seekers to know whether human resources are giving adequate return in comparison to payment made to them and whether they are overpaid or underpaid,
10. Valuation of human resource is absolutely essential in such organisation where the human element is the prime factor, e.g., professional accounting firm, drama company, solicitor and attorney firms, educational institutions etc.,

11. The inclusion of relevant human resource data would create a more complete management information system,
12. Human resource data provides a more adequate basis for decisions on allocation of resources for short and long term decision making, and
13. The value of a firm's human resources is helpful to potential investors and other users in making long term investment decisions.[42]

Human Resource Accounting and Management

Flamholtz has specifically underlined the primary role of human resource accounting as that of providing information essential for management to perform the functions of acquiring, developing, allocating, conserving, utilising, evaluating and rewarding human resource.[43] The first step in human resource acquisition is to forecast manpower requirements; the management must then translate the manpower forecast into a 'manpower acquisition budget', which is essentially a process of cost estimation. HRA can provide measurements of the standard cost of recruiting, selecting and hiring people, for estimates of amounts to be incorporated in the manpower acquisition budget. Again, in making selection decisions, managers need measurements of the value of candidates for particular jobs, so that the person selected is one who possesses the greatest future value to the organisation.

Instead of using non-monetary measures of potential abilities derived through qualitative tests. the potential economic value of candidate may be a better criterion for selection. Using monetary measurements of the expected value of people, decision rules may be designed to optimise the expected value of the firm's human resources.

Budgeting for training and development programmes for employees involves assessment of the value of a proposed investment in such programmes and estimating the cost of such programmes. HRA can be helpful for decision-making, involving the allocation of resources to training and development programmes by measuring the expected rate of return on the proposed investments. By providing estimates of the historical and current costs to acquire and develop people for various position, HRA can also help management to asses the trade-off between the costs of recruitment from outside and development from within.

Allocation of resources, i.e. assigning people to various organisational roles and tasks, needs to be decided on the basis of the efficiency of the employees. opportunity of self-development and job-satisfaction expected to be derived by the employee. HRA can help quantify the variables required to be considered in the process of allocation expressed in terms of the common denominator of monetary units. The management may, thus, be enabled also to apply linear programming for an optimal solution of the manpower allocation problem. Otherwise, allocation decisions may be costly to individuals as well as to the organisation.

Conservation of human resources is yet another area in which HRA can be of great assistance to management. Conservation of human resources is the process of maintaining the capabilities of people as individuals and the effectiveness of the human system developed by an organisation. This needs monitoring the effectiveness of the human organisation to assess the extent to which it is being maintained or depleted. Measures of employee turnover rates. traditionally used to assess the conservation of human resources, are inadequate, firstly, because these are historical figures and secondly because they do not fully reflect the economic impact of turnover. Through monetary measures and reporting of socio-psychological indicators of the condition of human organisation, HRA can help management by providing an early warning system to take care of human resource conservation. HRA can further help management in the utilisation of human resources effectively and efficiently by providing a conceptual framework, so as to develop strategies with respect to acquisition, development, allocation and conservation, designed to influence the value of people. Human resource evaluation involves the measurement of productivity and promotability of people. HRA can be useful in the evaluation of human resources by developing appropriate methods, including both monetary and non-monetary measurements. Moreover, human resource valuation can be used for organisational rewards to be administered in relation to an employee's value to the organisation. Further, the efficiency of personnel management function per se can also be assessed through human resource accounting. The standard costs of acquiring and developing people may be compared with the actual costs incurred for the purpose, and the variances from the standard may be analysed to identify the possible lapses in the personnel management functions.

The purpose of HRA is derived from the above prognosis of the usefulness of human resource information for managerial decision-making. The primary purpose of HRA is to help management plan and control the use of human resources effectively and efficiently.[44] In short, the objective is to improve the quality of financial decisions of management on the promise that the availability of quantitative data on human resources would result in a widening of the scope of managerial decision-making by permitting consideration of a larger set of variables, or improving the basis on which these variables are currently considered. According to the American Accounting Association

(AAA) Committee on HRA, the purpose of HRA is to improve also the quality of decision-making to external users, particularly the investors, who could benefit from HRA through the provision of information to the extent to which the human assets of the organisation have been increased or have diminished during the period.[45]

The usefulness of human resource data for external users has been alluded to by different writers. According to Likert, "Bankers making loans, investment houses and others, who are interested in the earnings and success of the enterprise, should be just as interested as Boards and Senior Officers in having these periodic measurements of the causal and intervening variables available."[46] External reporting of human resource data has been suggested, considering the benefits of the same to external users.[47] One of the arguments in favour of external reporting is that it will increase comparability and completeness of financial statements as well as a closer tie-in-between financial statements.[48]

We have already referred to the conventional accounting treatment of investments in human resources being treated as expenses rather than assets, which results in distorted income statements and balance-sheets. It leads to an artificially lower net income during the period in which there is investment in human resources since the whole amount is expensed in the income statement for that period. Correspondingly, a higher income results during the subsequent period. This could be avoided through the HRA approach as the AAA Committee in preparing a Statement of Basic Accounting Theory has observed:

"A conversion is a recombination of asset-services, reflecting the production of new utility. Expenditures and other costs, devoted to such activities as research and development, personnel recruitment and training and marketing campaign, often involve an element of future usefulness, and are examples of conversions that would be recognised if quantifiable and verifiable."[49]

Since the rate of return is the ratio of net income to total assets, the rate which is conventionally calculated does not reflect the real position because of the distortion in its components. Investors, who base their investment-decisions on a firm's rate of return, should, therefore, adjust the rate of return for investments in human assets. They should also be aware of and concerned about any unintended, dysfunctional result of the accounting treatment of investments in human assets. Specifically, conventional accounting tends to motivate management to disregard the long-term interest of the organisation and emphasises short-term interests. If the expenditure incurred to build human assets is treated as an expense, the reported current earnings will show relatively lower amounts. Thus, management may appear to be doing poorly when it is actually doing well. As a result, an enlightened management may be required to make decisions that are in the interest of the organisation but may be detrimental to their personal interests. In periods of profit squeeze, or when management wants to show higher current earnings, it may simply avoid or postpone necessary investments in human resources.[50]

Limitations of Human Resource Accounting

HRA suffers from the following limitations: Firstly, it is not easy to value the human assets in an organisation there are no guidelines differentiating the 'cost' and 'value' of human resources. After valuing HR in a specific way, many of them may leave the organisation. Human life itself is uncertain and hence valuing the asset under such 'foggy' conditions is not proper. Like physical assets, human assets cannot be owned, retained and utilized at the sweet will and pleasure of an organisation. The so called 'asset' after getting enriched within a company-may simply disappear, causing irreparable loss to the company almost suddenly.

Secondly, HRA is full measurement problems. There is no agreement among the accountants and finance professionals regarding the measurement process. In what form and manner the human assets are to be included in the financial statement? To compound the problems further, there is the question of deciding the recovery rates. How should the HR costs be amortized? Should it be increasing constants or decreasing? Should it remain same or different for different classes of employees?

Thirdly, employees and Unions may not like the idea, because HRA may lead to division among the ranks of employees. A group of employees may be valued lower than their real worth owing to reasons beyond the control of management. The employees may resist the idea of being treated like second-class citizens, despite their useful contribution over a period of time. unions may fight such manipulative practices or the part of management. They may even demand higher compensation better rewards when things turn rosy and employees are valued at a 'premium' and

Finally, there is no empirical evidence to support the idea that HRA is an effective tool to measure the economic value of people to the organisation. There is very little data to support the contention that it facilitates better and effective management of human resources.[51]

In conclusion, it can be observed that though the need for HRA has been recognised globally only recently, the aims, objectives, functions and role of HRA in an organisation are quite significant. The various concepts and theories of HRA have been summarized so that they can be utilized for enhancing profit which is an ultimate objective of any business organisation.

It is in this backdrop that the next part of this chapter deals with the viewpoints of executives and accountants regarding the desirability of human resource accounting.

Executives' and Accountants' Attitude towards Human Resource Accounting: A Survey Analysis

Human resource accounting is passing through developing stage and has become very popular in the last few decades. The extent of popularity is as much as was required. The views of executives regarding different aspects of applicability have already been expressed in the studies conducted by Gupta (1988)[52] and Singh (2003).[53] These researches clearly indicate that majority of executives of public and private sector enterprises of India agree to the desirability of human resource valuation e.g. as per Gupta's study out of 49 executives in private sector companies 40 agree, 5 strongly agree i.e. 91.8 per cent of total executives are in favour of HR valuation. Only 3 executives disagree and 1 strongly disagree i.e. only 4 executives (8.2 per cent of total) are not in favour of desirability of human resource valuation. In case of public sector companies, except 3, all executives expressed a favourable opinion. The number of executives in the public sector who agreed with the proposition, was 36, while 12 strongly agreed i.e. of the total, 94.10 per cent were in favour of HR valuation while 5.9 percent expressed their opinion against HR valuation as per findings of the aforementioned study.

It will not be out of place to review here the views of accountants towards HRA because much will depend on their attitude which is not so far encouraging. In this regard, it is worthwhile to mention that the attitude also depends, to a larger extent, on acquaintance with subject and their view regarding its significance. Moreover, it also depends on age and level of education of accountants. Fortunately, Institute of Chartered Accountants of India and other Institutes have adopted it to some extent but still there is a need to further emphasise the subject. A study was conducted in the year 1999 by Franko regarding accountants' attitude towards HRA taking a sample of 39 companies. The data noted in the following table reveals the reasons for introducing human resource accounting:

Table 2.0

Showing Accountants Attitude Towards Human Resource Accounting Practices

Ground	Number of Companies	Share in percentage
Human resources are the most important element of the business process.	39	100.00
Investment into human resources are similar to those into (other) assets.	37	94.90
Human resource information relevant to operating decision making	39	100.00
The direct inclusion of human resource information into accounting statements would confuse the users	28	71.80
Including human resource values into accounting statements would have a negative impact on the morale of the employees	14	35.90
Besides the traditional accounting statements it would be acceptable to draw up parallel statements including human resource data	17	48.70
The expenses related to the introduction of human resource accounting would considerably exceed the benefit derived therefrom	33	84.60
Total	39	100.00

Source: Franko Milsot "The attitude towards HRA in sloven companies – The Management Accountants, August, 1999, p.572.

It is observed from the above mentioned study that accountants of all the sample companies agree that human resources are the most important element of the business process and human resource information is relevant to operating decision making. 94.9 per cent of the Accountants of the sampled companies feel that investment into human resources are similar to those into other assets. Similarly, 33 accountants of 39 companies, that is 84.6 per cent of the Accountants feel that the expenses related to the introduction of human resource accounting would considerably exceed the benefit derived therefrom. Whether the direct inclusion of human resource information into accounting statements would confuse the user was the next question posed to the accountants of all 39 companies. It is noted that 71.8 per cent of total accountants agreed to it. Two more questions i.e. including human resource values into accounting statements would have a negative impact on the morale of the employees and besides the traditional accounting statement it would be acceptable to draw up parallel statements including human resource data were put to the Accountants of the sampled companies. While 35.9 per cent of them were in favour of the former, 48.7 per cent of them supported.

The inferences drawn from the above analysis clearly indicate that accountants do not accept the HRA system in totality. Like management they also believe that HR is the most important element of the business process. But at the same time, majority of them feel that the expenses related to the introduction of human resource accounting would considerably exceed the benefit derived therefrom which means that they are not wholeheartedly in favour of applicability of HRA in the financial statements.[54]

Conclusion

The final conclusion from the analysis of viewpoints of executives and accountants and personal queries by the researcher with the executives and accountants of sample companies is that still these is no change in the viewpoints of executives and accountants towards human resource accounting practices in Indian companies. Majority of executives and accountants still feel human resources as a most important element of the business process. They also feel that human resource information is relevant to operating decision making in organisation. Thus, opinions of the executives and accountants are more in favour than against as assessed by researcher. Their views are almost unanimous regarding HR valuation in both the sectors. Even then, most the companies have been identified in which HR valuation has not actually been in practice. Enquiry was, therefore, specifically made to ascertain the reasons why HR valuation was considered impracticable in Indian corporate entities. The answers were more than one like, firstly, there is no legal compulsion on the companies. Secondly, it is an expensive activity involving additional staff and time. Thirdly, they say that HR can not be valued objectively. Fourthly, evaluation may be disputed. Fifthly, HR itself may develop an attitude of self-importance and above all, employers have a feel that employees union may raise unreasonable demands.

To prove or disprove the above noted argument in favour/against, the best way of presentation of findings would have been to conduct afresh survey of opinions of executives and accountants. But since there was lack of positive response from all related parties, the desired survey could not be conducted. Moreover, time constraint had been a major factor to conclude the research in its present shape. Howsoever it is, an attempt has been made to make the study exhaustive and extensive in its coverage. In the next chapter we will focus on the presentation of certain models for application in Indian Industries.

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Chapter-III

Human Resource Accounting Models - An Overview

CHAPTER-III

HUMAN RESOURCE ACCOUNTING MODELS – AN OVERVIEW

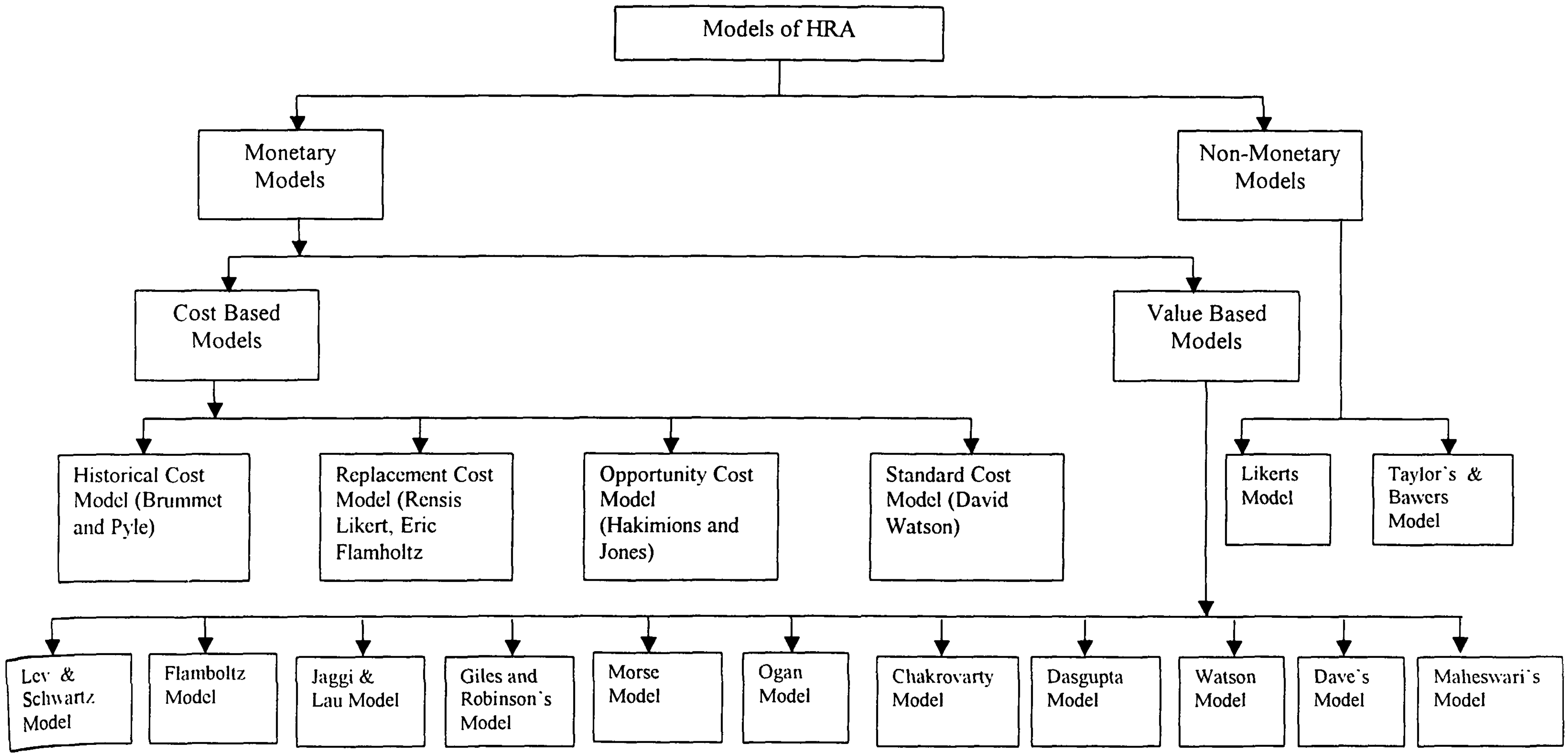
In the preceding chapter an attempt has been made to discuss the framework of human resource accounting wherein the concept, definitions, scope, objectives and significance of human resource accounting have been thoroughly examined. Moreover, we have also highlighted the areas of human resource accounting.

With the ever expanding dimensions and growing complexities of business activities, increasing government monitoring in business affairs, pressing trade union demand for greater disclosure on human performance in business and emanation of scientific management with in the organisation there is a need to develop a system of accounting that account for men who are indispensable resources to an organisation. For the last few decades, the accounting scenario across the world is much concerned with the valuation of human resources and reporting the same in the annual accounting statement. The academicians, practitioners and institutes in the accounting world are deeply engrossed in the issue and have shown an increasing interest in the application of the models. developed.[1] It is in this background that the present chapter deals with the approaches developed for the measurement of the human resources. It is worthwhile to mention that a number of studies designed to compute the cost and value of human resources have been conducted in United States. Many persons has developed different models for valuation of human resource. It has been observed that most of the significant research have been done in past two or three decades. Attempts were made by many thinkers in this field years ago also but the real work regarding consideration of human resource as an asset had started after the evolution of behavioural approach, that is, after 1960. Different types of models have been suggested by many thinkers. The studies reviewed here are those conducted by Hermanson (1964) Shultz (1960), William C. Pyle (1967), Brummet, et al. (1969), Rensis Lakert (1967), Hekimian and Jones (1967), Lev and Schwartz (1971), Flamholtz (1971, 1972, 1973), Jaggi and Lav (1974), Gills and Robinson (1972), Morse (1973), Friedman and Lev (1974), Kenneth Sinclare (1978) etc. Myre's and Flower's (1974) and Chakroborty (1976) etc.[2]

In order to develop the clarity of concept, an endevour is being made to discuss the monetary and non-monetary models of valuation of human resource.

All these models have been classified in the following chart:

Human Resource Accounting Models



Monetary Models

The models which incorporate the monetary aspect are called monetary models. All these models can be classified into two major groups i.e. Cost Based Models and Value Based Models. Cost based models consists of historical cost model, replacement cost model, opportunity cost model, standard cost model and value based model includes Lev and Schwartz Model, Flamholtz Model, Jaggi and Lau Model, Gills and Robinson's Model, Morse Model, Ogan Model, Chakrobarty Model. Dasgupta Model, Watson Model, Dave's Model, Maheshwari's Model.

Cost Based Models

- Human resource cost accounting is the measurement and reporting of the costs incurred to acquire and develop people as organisational resources. It deals with accounting for investments made by an organisation in acquisition and developing human resources as well as the replacement cost of people. Human Resource Cost Accounting (HRCA) includes:
- Accounting for the costs of personnel activities and functions suit as recruitment, selection, placement and training.
- Accounting for costs of developing people as human assets.

The monetary approaches to the measurement of human resource cost is based on either historical cost or replacement cost or opportunity cost.[3]

Historical Cost Model

The original cost model was proposed by Brummet and others in **1968** to measure a firm's investment in human resources.[4] They were of the opinion that human resource costs are current sacrifices for obtaining future benefits and so automatically they form a part of company's assets. In accordance with general accounting practice only those outlays which have an expected value beyond the current accounting period are capitalised; those outlays the value of which is not expected to last beyond this accounting period are treated as expense items. The company's expenditure on acquisition, selection, training, workers education, welfare and other development cost in a particular year would have impact on the efficiency of the human resources and therefore the resultant benefit would last beyond that particular year. The proponents therefore, suggested to capitalise firm's expenditure on recruitment, selection, orientation, training and development of people and treat them as assets for the purposes of human resource accounting. Such capitalised amounts after writing off a certain portion towards turn over loss and amortisation for that year are to be shown on the assets side of the balance sheet, as distinguished from other physical assets.

According to this method human resources accounting is not directly concerned in determining the net worth or rupees value of an individual employee of a firm rather to develop methods for measuring a firm's rather to develop methods for measuring a firm's investment on its human organisation, and to find out the rate at which those investments are performing.

The main strength of this model is that it meets the test of traditional principles of accounting i.e., it is only an extension of the concept of proper "matching of cost and revenue". So one strong point for this method is the fact the effects of human resources accounting can e shown on Balance Sheet and profit and loss account since the information in these statements is also stated on historical basis.

The value of human resources, according to this approach is

$$HRV = AC - L + R$$

Where

HRV	=	Human Resources Value
L	=	Loss on account of premature liquidation of human resources.
R	=	Revision consequent on longer than anticipated life of human.

This method suffers from the following difficulties. It is very difficult to estimate the working period of human resources as is done in the case of plant and machinery. The value of an asset decreases with amortisation but in the case of human resources the situation is just reverse with the acquisition and training in the course of time the utility of employees increases rather than decreasing. It is very difficult to fix a rate of amortization. There are many methods of depreciation, it is difficult to find out the best method for this asset. To the case of human assets the common practices is to charge constant amount of depreciation every year. It is difficult to determine the number of years over which the effect of investment on employees will be realized. The extent to which the employee will utilize the knowledge acquired is also subjectively estimated. The main purpose of HRA is to assist management in decision but in this method historical costs can be of very little use to the management due to changing values of human beings.

Replacement Cost Model

This method was developed by Rensis Likert[5] and Eric G. Flamholtz in **1973**.[6] This Model suggests that human resources are valued at their present cost. Under this method, human resources of an organisation are to be valued on the basis of the estimated cost of replacing the existing human resources with others of equivalent talents and experience.

The major advantage of this approach is that it incorporates the current values of the firms human resource which could make possible realistic presentation of financial statements. In the process, it take into account the fluctuations of the job markets and general rise in price level. It will not be possible to ascertain correct replacement cost of existing human resources as there can be no competitive replacement for them. Hence this approach defies the objective way of determining the value of human resource.

This approach has the advantage of adjusting the human value of price trends in the economy and thereby provides more realistic value in inflationary times. This approach is present oriented. However, this method suffers from some difficulties also. It may not always be possible to obtain such a measure for a particular employee. It is not always possible to find out the exact replacement of an employee. This method does not reflect the knowledge, competence and loyalties concerning an organisation that an individual can build over time. It is difficult to find out the cost of replacing human resources as different persons may arrive at different estimates.

Opportunity Cost Model

This model of HRA has been suggested by Hekimian and Jones[7] to overcome the limitations of replacement cost model. It values human resources on the basis of the economic concept of opportunity cost. The opportunity cost is linked with scarcity. A human resource asset has a value only when it is scarce i.e. its employment in one division is possible and not in another division. The investment centre managers will bid for the scarce employees they need to recruit. These "Scarce" employees come from within the firm and include only those who are the subject of a recruitment request made by an investment centre manager. In other words, employees not considered 'Scarce' are not included in the human asset base of the organisation.

The investment centre with the highest bid, would win the human resource and include the price in its investment base. The competitive bidding process provides an optimal allocation of personnel with in the firm and a quantitative base for planning and developing the human assets of the firm. The amount of bid is added to the capital employed of its successful bidder for determining return on investment. This approach is based on the simple principle of demand and supply.

The maximum bid price may go to the extent of the capitalised value of the extra profits likely to be generated by the ability and competence of the executives. For instance, let us assume that a firm has capital base of Rs. 15,00,000 and it earned profits of Rs. 2,10,000. The required rate of return is 15%. If the services of a particular manager are required, it is expected that profit will rise by Rs. 45,000 over and above the target profits.

If we capitalise Rs. 45000 at 15% rate of return, it works to Rs. 3,00,0000 i.e. Rs. $\frac{45000 \times 100}{15}$. The firm may bid upto Rs. 3,00,000 for the manager. The new capital base shall be Rs. 18,00,000 (15,00,000+3,00,000). 15% of Rs. 18,00,000 is Rs. 2,70,000. Thus, the extra profit earned shall be Rs. 60,000 (2,70,000-2,10,000) and the maximum bid may go upto the capitalised value of Rs. 60,000, the excess profit to be generated by the manager; i.e. $\frac{60{,}000 \times 100}{15}$ = Rs. 4,00,000.

The opportunity cost suffers from a number of drawbacks. Apart from being subjective, it excludes from its preview those employees who are not bid by investment or profit centres. The inclusion of 'Scarce' employees only may be taken as discriminatory by other employees. This may lead to lowering morale of employees especially of specialists who can not be used in other divisions. Further less profitable divisions may be penalised by their inability to outbid for the recruitment of better employees. The economic and current value approaches using the present value of expected future benefits have strong theoretical approach. From practical point of view, it is very difficult to quantity future economic benefits. Despite certain objections, this approach has it own merits and utility in a decentralized set-up.[8]

Standard Cost Model

This model has been suggested by David Watson. According to him standard costs of recruiting, hiring, training, and developing per grade of employees are determined year after year. The standard cost so arrived at for all human beings employed in the organisation is the value of human resources for accounting purposes.

The approach is easy to explain and can work as a suitable basis for control purposes through the technique of analysis. However, determination of the standard cost for each grade of employee is a ticklish process.

Value Based Models

The value of HR of an organisation can be assessed in two different ways:

i) By discounting the future salaries and other capital costs (such as costs incurred on hiring, recruiting, training and developing employees) by a certain rate of discount) and

ii) By discounting the future earnings of the organisation as at a certain date by a suitable rate and allocating a part of the present value of earnings to HR.

In consonance with the above to premises a number of valuation models have been suggested in the literature.

These are discussed below:

The Lev and Schwartz Model Present value of future earnings

This model was proposed by Branch Lev and Aba Schwartz[9] in **1971** for value the human resources in a firm. They suggested that "the valuation of human capital embodies in a person of age x is the present value of his remaining earnings from employment." They have given the following formula for calculating the value of an individual.

$$Vx = \sum_{t=x}^{T} \frac{I(t)}{(I+r)^{t-x}}$$

where

Vx = The value of an individual x years old

I(t) = The individuals annual earnings upto retirement

r = a discount rate specific to a person and

t = retirement age.

The original model of HRA given by Lev and Schwartz ignored the possibility of death prior to retirement age which promotion the authors to refine the model by incorporating $P_x(t)$ the probability of a person dying at age t in the following.

$$\sum(V'x) = \sum_{t=x}^{T} Px(t+1) \sum_{t=x}^{T} \frac{I'i}{(I-r)^{t-x}}$$

I'i	=	Future annual earning
Px(t)	=	the probability of a person dying at age t, and
$\Sigma(V^i x)$	=	the expected value of an individual's human capital.

The model requires the division of the whole labour force of a firm into certain homogeneous groups such as unskilled, skilled, semi-skilled, technical staff, managerial staff etc. and in accordance with different classes and age groups. Average earnings stream for different classes and age groups are prepared for each group separately and the present value of human capital is computed by using the cost of capital as the discount rate. The aggregate present value of different groups represents the capitalized future earnings of the firm as a whole.

The model given by Lev and Schwartz can be considered as an improvement over the cost models as it seeks to value the human resources of an organisation on the basis of the economic value of employees of total organisation. This model suffers from certain deficiencies as it ignores: (1) The individual's value to an organisation depends upon the role in which an individual is placed in addition to his qualities traits and skills; (2) employees change their roles during their career due to promotion, transfer etc. and (3) an individual may leave the organisation for reasons other than death and retirement.

Flamholtz Stochastic Rewards Valuation Model

The model propounded by Eric Flamholtz **(1971),**[10] identifies the major variable which determines the values of an individual to the organisation. The model advocates that a person generates value for an organisation as he occupies and plays different roles and renders services to the organisation. The movement of people from one organisation role to another is a stochastic process. As people move and occupy different organisational roles they render service (rewards) to the organisation. Based upon the above concept, a persons expected reliable value to the organisation can be measured as the discounted mathematical expectation of the monetary worth of the future rewards (services) a person is expected to render to the organisation in future roles he is expected to occupy, taking to consideration the probability of his remaining in the organisation.

The model suggests a five step approach to assess the value of an individual to the organisation:

1) Forecasting the period a person will remain in the organisation i.e. his expected service life.

2) Identification of service states, i.e. the position he might occupy and the time at which he will quit the organisation.

3) Estimating the value derived by the organisation when a person occupied a particular position (service state) for specified time period.

4) Estimating the probability of occupying each possible mutually exclusive service state at specified future times.

5) Discounting (at a specified predetermined rate) the expected service rewards to their present value.

Flamholtz clarifies that an individual's expected realisable value is determined by two factors: (i) the individual's conditional value, and (ii) the probability that the individual shall maintain his expected service life. The profit of these two variables is the present worth of potential services that are expected to be rendered to the organisation. This value in turn consists of three factors namely productivity, transferability and promotability. Productivity means the present position. Transferability refers to the set of services an individual is expected to provide if he is transferred to a same position level in a different department of the organisation. Promotability is a set of services an individual is expected to provide after his promotion to higher positions.

Further an individual's conditional value is determined by his skill (currently developed potential to provide services to the organisation) and activation level (the extent to which that person is affected by motivation). In addition to the personal factors the organisational factors also influence the conditional value of an individual. They are: (i) the role occupied/performed by the individual within the organisation, and (ii) organisational rewards.

Theoretically the model suggested by Flamholtz is the most scientific model as it provides a future-oriented economic value of human assets. However, its practical use is very difficult as the collection of reliable data regarding the value of a service state, a person's expected tenure and the probabilities of occupying various service states at specific times in not an easy job.

Jaggi and Lau Human Resource Valuation

The model suggested by Jaggi and Lau **(1974)**[11] is based on valuation of groups rather than individuals. A group implies homogeneous employees who may or may not belong to the same department or division. It might be difficult to predict an individual's expected service tenure in the organisation or at a particular level or position, but on a group basis it is easier to ascertain the percentage of people in a particular group likely either to leave the firm during each of the forthcoming period or to be promoted to higher levels. In order to consider the role movements of employees within the organisation, a Markov Chain representation can be used. The model requires the determination of Rank Transitional Matrix and the expected quantities of services for each rank of service. The matrix can be prepared from the historical personal records of the employees available in the organisation. For the purpose of measurement of quantities of services, a certain service or performance criteria is used.

The value of the services an organisation's current employees render in a future period is computed by multiplying the estimated number of current employees that will be in each service state in that period, by the value of the services an employee in each state (i.e. rank) renders to the organisation. The equation for the computation of value of human resources of an organisation using Jaggi and Lau Model is given below:

$$TV=(N)r^{n}\,(T)^{n}\,(V)$$

Where

TV = Column indicating the current value of all current employees in each rank.

(N) = Column vector indicating the number of employees currently in each rank,

n = time period,

r = discount rate,

(T) = rank transitional matrix indicating the probability that an employee will be in each rank within the organisation or terminated in the next period given his current rank, and

(V) = Column vector indicating the economic value of an employee of rank I during each period.

The model given by Jaggi and Lau tries to simplify the calculations of the value of human resources by taking groups of employees as base of valuation. However, this method is also difficult to apply in practice because of difficulty in obtaining reliable data.

Giles and Robinson's Human Asset Multiplier Model

In **1972**, The Institute of Cost and Management Accountants (ICMA) an The Institute of Personnel Management (IPM) sponsored Giles and Robinson[12] to produce a report on Human Asset Accounting. They suggested a human asset measurement method known as Human Asset Multiplier. According to this method the valuation of human resources should be made in the same way as other business assets on a going concern basis. The calculation of human asset value, under this method, is based on the notion that an individual's remuneration, or the remuneration of a group of persons in the same grade, may be multiplied by a factor determined on the basis of his contribution to the success of the business. The total value of human assets employed in the business can be calculated by simply adding together all the individual values so calculated. For instance, let us assume that a firm has four types of grades, i.e. A,B,C and D and the total remuneration of these grades is Rs. 5 lacs, Rs. 7 lacs, Rs. 10 lacs and Rs. 30 lacs respectively. Further, if we assume that the relevant factors and 4,3,2 and 1. The value of human asset shall be Rs. 20 lacs for grade A, Rs. 21 lacs for grade B, Rs. 20 lacs for grade C and Rs. 30 lacs for grade D. The total value of the human asset shall be Rs. 91 lacs.

Morse's Net Benefit Model

This approach has been suggested by Morse **(1973).**[13] According to this approach, the value of human resources is equivalent to the present value of net benefit derived by the organisation from the service of its employees. The method involves the following steps.

1. The gross value of services to be rendered in future by the employees in their individual as well as their collective capacity is determined.
2. The value of future payments (both direct and indirect) to the employees determined.
3. The excess the value of future human resources (as per 1 above) over the value of future payments (as per 2 above) is ascertained. This, as a matter of fact, represents the net benefit to the organisation on account of human resources.

4. The present value of the net benefit is determined by applying a pre-determined discount rate (generally the cost of capital). This amount represents the value of human resources to the organisation.

Ogan's Discounted Certainty Equivalent Net Benefit Model

This approach has been suggested by Pekin Ogan **(1976)**.[14] This model is an extension of "net benefit approach" as suggested by Morse. According to this approach, the certainty with which the net benefits in future will accrue should also be taken into account while determining the value of human resources. The approach requires determination of the following;

1. Net benefit from each employee as explained under 'net benefit approach' above.
2. Certainty factor at which the benefits will be available.
3. The net benefits from all employees multiplied by their certainty factor will give certainty-equivalent net benefits. This will be the value of human resources of the organisation.

Chakraborty Aggregate Payment Approach

This approach has been suggested by S.K. Chakraborty **(1976)**.[15] Who is the first Indian to suggest a model for valuation *of human resources of an organisation. According to his model,* the human resources are to be valued as a group and not a individual basis i.e.;

1. All the employees of an organisation are divided in two groups, managerial and non-managerial.
2. The average tenure of the employment of the employees in the group is estimated on the basis of past experience.
3. The average salary of the group is determined on the basis of the salary wage structure prevalent in the organisation.
4. The value of human resources is now determined by multiplying the average salary of the group with the average tenure of the employees in the group.
5. The value determined under '4' above, is discounted at the expected average after tax return on capital employed over the average tenure period to ascertain the present value of the estimated future payment. Chakraborty suggested that the adoption of such a long term rate will avoid fluctuations in the value of "human assets" from year to year simply due to changing annual rates of return.

Chakraborty has also suggested that the recruitment, hiring, selection, development and training cost of each employee should be recorded separately. This should be treated as deferred revenue expenditure and may be written off over the expected average stay of the employee in the organisation. The deferred portion, not written off, should be shown in the Balance Sheet of the organisation. If there is premature exit of an employee on account of death, retirement, etc., the balance of the deferred revenue expenditure attributable to that person should be written off against the income of the year of the exit itself.

As regards disclosure of accounting information relating to human resources, Professor Chakraborty has suggested that 'human assets' should be shown under the heading "Investment" in the Balance Sheet of an organisation. He has not favoured its inclusion under the heading fixed assets since it would cause problem of depreciation, capital gains and losses, in the event of their exit. Similarly, he has not favoured their inclusion in current assets on the ground that this will not be in conformity with the general meaning of the term.

Dasgupta's Total Cost Concept Model

This approach has been suggested by N. Dasgupta **(1978).**[16] According to him the various approaches in the previous pages into account only those persons who are employed and ignore those who are unemployed. In case the value of human resources of the nation is to be determined, it should be done in a manner that it brings in its purview both employed and unemployed persons. The system should be such that it fits in preparation of a balance sheet showing the human resources not only of a firm but also of the whole nation.

Dasgupta suggested that the total cost incurred by the individual, the state and the organisation in bringing the individual up to that the position in the organisation (in case of a nation making him fit for appropriate employment) should be taken as the value of a person on the day he starts serving the organisation or becomes fit for appropriate employment. It will include his education, training expenses which he and the state have incurred. The value should be further adjusted by the amount of intelligence (higher or lower which he has). The amount spent by the organisation on recruitment. training, familiarising and developing human beings employed in the organisation should be considered separately. However, it should also be treated as a cost increasing the value of human beings. In case the number is large, the valuation can be done group-wise.

The value determined on the aforesaid manner should be adjusted at the end of each year by the organisation on the basis of his age, seniority, status. performance, experience, leadership, managerial capabilities. etc. The measurement can be done with the help of psychologists and other concerned experts. The revised value would be the value of the employee at the end of the year.

Dasgupta's model seems to be sound theoretically. However, its practical application may be difficult since it will involve a number of abstract factors which may not be capable of being expressed in monetary terms precisely and objectively.

The usefulness of HRA model in the process of HRD would depend upon how best it meets certain basic requirements. These requirements are:

I. The model should identify the factors which determine the value of human resources.

II. The model should identify the factors which can improve the value of human resources.

III. The model should be capable of measuring the value of human resources operationally. A model can be made operational only if the data which it requires can be made available. Very often, a model can be theoretically sound, but, if the required data are not available its usefulness shall be greatly reduced.

IV. The information generated by the model should help users to make decisions relating to the process of human resource development.

Watson's Return on Effort Employed Method

David Watson[17] developed this method which involves the measurement of effort employed on various functions i.e. buying, manufacturing and selling. Factors which distinguish the quantity and quality of effort expended are used to rate the contribution made by individuals. Such factors are:

i. Levels or Grade of work done.

ii. Effectiveness with which the individuals performs his job.

iii. Experience which increases, upto a point, the efficiency of job performance.

These factors are then multiplied together in determining a measurement of effort employed for each individual. Individual scores are aggregated to obtain the figure of total effort employed in an Organisation.

The method helps in more efficient allocation of Human Resources. It makes possible to question the existing allocation of resources between the different functions like buying, manufacturing and selling on the basis of ratio of profits to efforts.

Dave's Modified Present Value Model

The model developed by Shiv Kumar Dave[18] in **1987** incorporates in its indicators to reflect the effect of five factors which often affect the contribution of employees to the organisation and thereby, the calculated value of human resources. The model incorporates suitable indicators to take care of the positive and negative factors affecting the contribution of an employee to his organisation. The indicators are given below:

a) Experience Indicator

b) Efficiency Indicator

c) Labour Turnover Indicator

d) Labour Unrest Indicator

e) Output-per-Employee Indicator

These indicators can be fitted on to any of the existing models and that is why the model is known as modified present value model.

Maheshwari, Rana and Krishnamoorthy Differential Matrix Utility Model

Maheshwari, Rana and Krishnamoorthy in their research paper entitled "Measuring the Marginal Worth of Human Resources: A Differential Matrix Utility Model", have proposed the new model of valuation of HR. The basic data for this model will come from the job title or job responsibilities of that position. Identify the basic critical factors relevant to the firm's profitability, success, and market share etc. related to the individual job title or position.

Develop a differential matrix of the individual for those factors. The differential matrix is based on 1:1 ratio for an equally effective candidate for replacement. A better candidate, therefore, gets a merit point more than one and a less effective candidate gets a merit point less than one.

Merit point given is for the new candidate with the existing candidate. Merit Point for the existing candidate will be one. If a firm can get a better candidate for a CSF then the merit point for the new candidate will be greater than 1 otherwise the merit point value will be less than one.

Probability refers to the chance of finding a replacement. Product of Merit points and weight gives the weighted merit points of the new person. Weights are given because a person may be excellent in one CSF but that CSF may not be rated that highly by the hiring institution. The total of product in nutshell measures whether the new person is more valuable than the existing one.

Assign weights to those factors such that the sum of weights is equal to one. Allocate the proportionate salary to these weighted factors. Assume the existing salary of a key employee is $100,000.

CSFS	Merit Point	Weight	Weighted Merit	Salary
CSF1	0.9	0.40	0.36	
CSF2	1.2	0.25	0.30	
CSF3	0.9	0.20	0.18	
CSF4	1.6	0.10	0.16	
CSF5	1.0	0.05	0.05	
	5.6		1.05	105,000

$105,000 gives the relative monetary worth of the new candidate to the organization. However, the market value of the candidate may be higher than $105,000. Assume the candidate can only be attracted to the organisation when the offer is for at least $125,000. Knowing this, the organisation should reevaluate the worth of existing candidate.

Conditional worth of the existing candidate (perceived market value) is therefore $125000/1.05=$119,048 due to the existing market rates. (There are additional cost of hiring and training the new person. Those costs are not relevant to the person leaving the organisation. The person leaving the organisation will also incur some cost in terms of money, time, change in social set-up, and effort.

How to optimize the likelihood that the existing candidate to stay. Here we assume that the existing person has an expectation of $130,000 if he moves to another organisation, other things remaining same. Therefore the expectation gap is the difference of the salary expected and the potential salary at the existing organisation.

Salary offered	Expectation gap	Probability of Stay
100,000	30,000	0.20
105,000	25,000	0.50
110,000	20,000	0.80
115,000	15,000	0.90
120,000	10,000	0.95

The decision-maker will not offer more than $119,048 to the existing person. We look at the incremental likelihood as the salary is increased and the expectation gap is reduced. Make an offer when incremental probability per unit of salary increase is maximized. (Possible use of game theory for the theoretical background). Suppose, after thoughtful consideration and negotiations the final offer by the company is $110,000. The company in effect is saving $10000 per year plus the cost of hiring and training the new person. It is expected that the savings of $10,000 will continue for the next 5 years. The present value of these inflows may then be computed. (This incremental present value may be reflected in the balance sheet as an asset? Why or why not? The existing salary is reflected as an expense in the profit and loss account). In terms of sale it may need to generate $100,000 in revenue. The market value for the person will change every year and therefore the incremental value of the key personnel may be computed every year. The skills of the person and job requirements may also change every year which again necessiates the computation of incremental worth of the human capital. of the Normally the value of an asset decreases over a period of time due to depreciation. However, the human capital may actually be worth more with an additional year of experience. The question is how to reflect that asset in the coming years and what happens when the person leaves. If this information is gathered for the key personnel in the organization the Market gap is the asset. The sum total for the key personnel is the incremental value of the human capital. Weighted merit compared to the new person.[19]

Key Personnel	Perceived Mkt. Value	Salary offered	Market Gap
1.	119,000	110,000	9000

Non-Monetary Models

The models which are dominated by behavioural variables can be classified as non-monetary models. There are only two non-monetary models available so far, developed by Likert's casual intervening and End-result variable model and Taylor and Bowers models.

Likert's Causal Intervening and End-result Variables Model

Rensis Likert[20] and David G. Bowers of the Institutes for social Research, University of Michigan, USA developed a model to measure the human resource value as a group to an organisation.

The model assumes that the organisational productively can be explained in terms of the human organisation. The model has classified certain human variables into three categories:

i) Causal Variables

These are independent variables which can be directly or purposely altered or changed by the organisation and its management which, in turn, determine the course of developments within an organisation.

ii) Intervening Variables

These variables reflect the internal state, health and performance capabilities of the organisation e.g. the loyalties, attitudes, motivation, performance, goals and perceptions of all members and their collective capacity for effective action, interaction, communications and decision making.

iii) End Result Variables

These are dependent variables which reflect the results achieved by that organisation such as its productivity, costs, scrap loss, growth, share of market and earnings. Thus it includes financial and performance data reflecting the results achieved by the firm. Hence some of the end result variables are monetary in nature.

The model shows that the changes in leadership styles, technical proficiency level, managerial behavior, organisational structure (called the intervening variables) which produce changes in productivity, innovation, cost, revenue, quality, output, manpower development (called the end-result variables). If a meaningful relationship among the three variables is established, the trend in earnings can be predicated. Forecast of predicated earnings can be discounted to determine the present value of the firm and its human resources.

Managerial leadership determines organisational climate which in turn influence the subordinate` satisfactions and subsequently the total productive efficiency. Time lag of two years or more, often exist between a change in causal variables and the resultant changes in the end-result variables.

Likert observes that a firm in which the causal variables display the characteristics of participative management style, will generate more effective intervening variables and consequently more desirable end-result variables. He argues that the philosophy and practice of conventional accounting concentrate on a few end-result variables which are consistent with the exploitative type of management style. He opines that by over emphasising short run profits and cost savings the present accounting system penalizes managers who are making the greatest long run contribution to the organisation.

Merits

a) The model unfolds the magnitude of human resource contribution to accomplish the objectives of the organisation and can be used as a means to formulate policy to build long term human resource capabilities.

b) It indicates the probable effects of management style on the results of the organisation both in the short run and in the long run.

Demerits

a) The model assumes linear relationship between causal, intervening and end-result variables after allowing for time lag effects which reduces the degree of reliability.

b) It is an expensive and time consuming model.

c) The questionnaire duly completed by members of the organisation forms the basis of all subsequent calculations. Hence, different people may not arrive at the same value due to personal bias of the respondents.

d) The completed questionnaire requires interpretation which again will be subjective.

Taylor and Bowser's Model

The measurement model, suggested by Taylor and Bowers which is, in part. based on an earlier model suggested by Likert and Bowers provides an approach to the determination of group-value in non-monetary terms. It is designed to measure the 'organisational climate' or the 'state of human organisation' as termed by Likert. Actually, the method suggested in the model is the survey of an organisation through questionnaire.

'Organisational climate' is a concept, which refers to the perception of the members of an organisation about the social-psychological reality of the organisation. For the determination of group value, a set of variables are selected for measurement, viz., leadership processes, the character of motivational forces, communication processes, interaction-influence processes, decision-making processes, goal-setting processes, and control-processes. The questionnaire used for the survey is designed to evoke perceptual responses, intended to stimulate the respondents to consider facts and express their opinions as to how they perceive the facts, irrespective of whether they like them or not. Using the five point Likert Scale for response, the model requires the respondent to indicate the degree to which he agrees or disagrees with a series of statements. The questionnaire items can be combined into indices for each of the variables being measured. Taylor and Bowers have constructed composite indices for various dimensions of organisational climate. These indices are taken to reflect a measure of the value of human organisation.

Dwelling on the relationship among several variables, Taylor and Bowers identified the following consistent clusters of variables: (i) technological readiness; (ii) human resource primacy; (iii) communication flow; (iv) motivational conditions, and (v) decision-making practices. Composite indices, with respect to each cluster of variables, were measured and tested for the internal consistency, reliability and discriminant validity. All the composite indices, except 'Technological readiness', were found to have acceptable internal consistency, reliability and discriminant validity. Thus, four of the indices could be used in practice as a measure of organisational climate and, hence, of the value of human organisation.

The cost models of HRA fail to recognise the factors which determine the economic value of human resources. Also no serious effort is made in these models to identify factors which can enhance the value of human resources. The Historical Cost model measures the value of human resources on the basis of capital cost incurred to acquire and develop these resources. Since this model fails to recognise the economic value of human resources of an organisation, the data generated through this model is of little significance for making decisions regarding matters relating to human resources development. The replacement cost model seeks to incorporate the current values of company's human resources in its financial statements. However, this model cannot be used in practice as it is really difficult to find identical replacements of existing employees. The opportunity cost model is based on the economist's concept of opportunity cost. This method can be used for computing the value of those employees only who can be employed on alternative jobs. This method fails to measure the value of those employees who are specialists in certain fields.

From the above analysis it can be said that cost models of human resource accounting are of little use in the process of human resource development. Among the present value models, the Lev and Schwartz Model and the Hermanson's Model do not make any serious attempt to identify factors determining the value of human resources. At the same time these models also fail to explain the factors which can improve the value of human resources. Both these models suggest to use the future wages and salaries of employees of an organisation as a surrogate of the value of its human resources. Both these models assume that wages and salaries paid to the employees fairly represent the contribution made by them to their organisation. However, in actual practice the things might be quiet different; as there are evidences that employees sometimes are not fairly compensated. Therefore, the information generated by the above two models can not help the management in making HRD-related decision to a significant extent.

The Flamholtz's Stochastic Valuation Model and Jaggi and Lau's model explain the factors determining the value of human resource to a considerable extent. These models also explain the factors which can improve the value of human resources. The Flamholtz's model focuses on individual employees for the measurement of human resources whereas Jaggi & Lau suggest the use of homogenous groups of employees as the basis for the same. However, there are a number of computational problems which make the practical use of these models a difficult preposition. An organisation desirous of using these models for human resource valuation must create facilities for estimating the reliable value of variables determining the value of human resources. If this could be done the information so generated, could be of considerable importance for making HRA related decisions.

A discussion of the HRA models in the foregoing pages reveals that there is not even a single model which fulfils all the requirements of a model which could help in the process of HRA. Certain models fail to recognise the factors determining the value of human resources whereas other have computational problems. Therefore, there is a need for great deal of research with regard to evolving a system of accounting for human resources which could be of considerable help in the process of human resource development.

In the next chapter, we will focus on the practices adopted by Indian Public Sector companies regarding the human resource accounting. It will also give instances where this important aspect of accounting has been applied and once it is applied what have been its consequences.

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Chapter-IV

Human Resource Accounting Practices in Public Sector Companies in India

CHAPTER-IV

HUMAN RESOURCE ACCOUNTING PRACTICES IN PUBLIC SECTOR COMPANIES IN INDIA

The foregoing chapter highlighted the various approaches developed for measurement of human resources. Different models developed by eminent experts of India and foreign countries have been thoroughly examined and explained with their relative usefulness and limitations.

The present chapter deals with a survey of financial statements of public sector enterprises regarding the valuation of human resources. It is important to denote here that the HR is the most valuable resource because of providing services in future to an organisation. Their valuation popularly known as (HRA) has not been introduced so far as a system of regular nature in Indian corporate sector. The lack of this practice is attributable to a variety of reasons. But the most specific reason is the Indian companies Act, 1956 which does not make any provision for furnishing any significant information about the HR in financial statements of the companies. The Indian companies Act, 1956 does not make it obligatory for the Indian companies to publish information about the value of human resource and to present an assessment in the form of their performance during the accounting year in the form of notes and schedules. If we look at the annual reports of public and private enterprises in India, we find that chairmen's report invariably contains the statements highlighting the significance of human resources. The chairman, in their reports usually make the remarks at the annual general meeting of the shareholders that 'our employees are most important assets and without their significant contribution, the present growth in the operations would not have been attained'. 'I wish to place on record my sincere gratitude for the hard work, done by employees of our company'. 'I thankfully acknowledge the contribution made by our employees' etc. These qualitative pronouncements reflect the importance of HR in an enterprise but the quantitative information relating to their contribution or their value is not shown in the financial statements.

However, of late a few enterprises, value their HR and report this information in their annual reports. The Government of India took the initiative way back in 1968 by issuing the guidelines for incorporating the required information in the Annual Reports of the public sector enterprises (No.BPE/10(1) Adv(1)/1968 dated 11th September.1968).[1] The relevant guidelines relating to human resources are namely, employee-employer relations, strikes, lockouts, incentive schemes, training, staff welfare activities such as township, education, health facilities etc.

The above information can be called as part of HR information. Many public sector enterprises are disclosing this information as part of the Annual Report. The following are some of the public sector enterprises which have not only ventured to evaluate the HR but also have been disclosing the same in their annual reports:

1. Bharat Heavy Electricals Limited (BHEL)
2. Cochin Refineries Limited (CRL)
3. Cement Corporation of India Limited (CCI)
4. Electrical India Limited (EIL)
5. Engineers India Limited (EIL)
6. Hindustan Petroleum Corporation Limited (HPCL)
7. Hindustan Shipyard Limited (HSL)
8. Hindustan Machines Tool Limited (HMT)
9. Hindustan Zinc Limited (HZL)
10. Madras Refineries Limited (MRL)
11. Maruti Udyog Limited (MUL)
12. Minerals and Metals Trading Corporation of India Limited (MMTC)

13. Metallurgical and Engineering Consultants (India) Limited (MECON)

14. National Thermal Power Corporation Limited (NTPC)

15. Oil and Natural Gas corporation limited (ONGC)

16. Oil India Limited (OIL)

17. Project and Equipment Corporation of India (PEC)

18. Steel Authority of India Limited (SAIL)

In order to study the trends in HRA practice in public sector enterprises, case method has been used for which 5 public sector companies have been selected on random basis. These companies, namely, NTPC, BHEL, SAIL, ONGC and MMTC have been evaluating their employees and also disclosing the same in their annual reports. Almost all of these companies are following the Lev and Schwartz Model with certain modifications here and there. The following is a survey and study of HRA practices in selected public sector companies in India.

National Thermal Power Corporation (NTPC)

Introduction

NTPC was a set up in November 1975 by the Government of India with the objectives of planning, design, construction, operation and maintenance of large-capacity pit head power stations. Singrauli, Korba, Ramagundam and Farakka were the first four large Super Thermal Power Projects (STPP) commissioned during early and mid 80's on regional considerations. Initially, nobody had a clear idea about NTPC's growth plans. In the beginning, NTPC concentrated on construction of projects only and there was no Long Range Plan (LRP). In the initial years, the focus was not on recruitment, selection, procurement, quality assurance etc. rather as mentioned, the focus was on erection and commissioning of STPPs.

The first unit of NTPC was commissioned at Singrauli during 1982. NTPC had no LRP till 1982. The first draft corporate plan of NTPC was prepared during the year 1983-84 for 15 years for the period 1985-2000 and this was the first of its kind in any power utility company. It identified key areas, such as engineering and technology, construction, operations, commercial operations, organisation & HRD, maintenance, finance, materials. This document described, and outlined strategies in each of these areas for attaining the plan targets. Based on the experience of Singrauli Super Thermal Power Project, subsequent units were commissioned. The first LRP of NTPC was reviewed after five years of commencement and found that NTPC had done better than the projections more in terms of power generation. NTPC takes pride in the fact that it has in the fifteen years of its existence achieved remarkable success.

NTPC has grown to become the largest power utility enterprise in the country. It has not only achieved remarkable growth in terms of size of operations, but has also established for itself a commendable track record of project implementation and operational efficiency. During the Seventh Five Year Plan period two more organisations emerged namely (i) Power Finance Corporation (PFC) and (ii) National Power Transmission Corporation (NPTC) now called National Power Grids Corporation. Now power transmission and distributions have become the reasonability of Power Grid Corporation.[2]

Present Position

Today, NTPC has been ranked the 6th largest thermal generating utility in the world in terms of actual generation and the 2nd most efficient among the largest thermal utilities in terms of capacity utilisation. NTPC is a matured utility and has demonstrated that it can achieve technical performance parameters comparable with those achieved elsewhere in the world. It has developed a corporate culture based on professional pride of doing things well through a highly motivated staff. NTPC has grown and developed into a power producer of international repute and a potential force for change in India. NTPC has an installed capacity of 19,435 MW, with 12 coal based and 7 Gas based stations. Over the last twenty five years of its march, the company, a Navratna PSU, has today emerged as one of the largest power utilities in Asia, known for its speedy project execution and operational excellence. With 19.2 per cent of India's operating capacity the company generates 26 per cent of country's electricity.

NTPC has embarked on an ambitious Corporate Plan which aims at realising its vision "To be one of the world's largest and best power utilities, powering India's growth." The corporate Plan "LOOKING AHEAD 1997-2012" charts the road map to become a world class 40.000 MW plus power utility by the year 2012. The company is at present implementing four power projects with a total capacity of 4500 MW viz, 1000 MW Simhadri in Andhra Pradesh, 2000 MW Talcher stage- II in Orissa, 1000MW Rihand-II in Uttar Pradesh and 500 MW Ramagundam-III in Andhra Pradesh.

NTPC has a strong conviction that HR are its most vital asset. NTPC has laid considerable emphasis on HRD. In view of its ambition growth plan, manpower planning has assumed considerable significance. A careful manpower planning has resulted in recruiting and retaining the best techno-managerial workforce.[3] NTPC's growth in term of number of employees during the last seven years is depicted in the following table:

Table (4.0)

Showing Trends in Professional Profile of Human Resources in NTPC Ltd.

(Period 1992-93 to 2001-02)

Year	Executives	Supervisors	Workmen	Total
1992-93	6499 (29.82)	3040 (13.95)	12258 (56.23)	21797 (100.00)
1995-96	6914 (28.48)	2951 (12.15)	14414 (59.37)	24279 (100.00)
1996-97	7014 (28.75)	2951 (12.10)	14429 (59.15)	24394 (100.00)
1997-98	6933 (29.40)	3074 (13.03)	13578 (57.57)	23585 (100.00)
1998-99	7248 (30.67)	3059 (12.95)	13323 (56.38)	23630 (100.00)
1999-2000	7607 (31.66)	2893 (12.04)	13524 (56.29)	24024 (100.00)
2000-2001	7945 (33.13)	2779 (11.59)	13254 (55.28)	23978 (100.00)
2001-2002	8423 (35.14)	2435 (10.16)	13114 (54.70)	23972 (100.00)

Note: Figures with in brackets indicate percentage to total.
Source: Annual Reports, NTPC Ltd.

The data mentioned in above table reveals that for the purpose of HRA, the corporation has classified all employees into three categories namely executives. supervisors and workmen. In the year 1992-93, the total number of executives was 6499 which increased continuously to 8423 in 2001-02, although many executives have resigned under the Voluntary Retirement Scheme.

The percentage of executives in the total of manpower has slightly increased during the period of study. The table also depicts that the total number of supervisory personnel which was 3040 in 1992-93 decreased to 2435 in the year 2001-02. The percentage of supervisors in the total number of employees also came down from 13.95 in the year 1992-93 to 10.16 in 2001-02 showing a declining trend in their relative importance in the corporation. From the analysis of workmen in the corporation, it is observed that the percentage of workmen in the total number of staff has also dipped from 56.23 in the year 1992-93 to 54.70 in 2001-02. This decling trend in the total number of employees in the corporation does not indicate the low importance of employees in the company organisation. It is simply because of the golden handshake scheme and policy of downsizing in public sector enterprises by the Government of India. This decrease in the number of employees has in no way resulted into poor performance of corporation rather it still continues with the tag of Navratan.

Human Resource Accounting Practices in NTPC

NTPC assesses its human resource assets using various accounting principles embedded in HRA philosophy to treat them at par with other assets. Lev and Shwartz model of HR accounting has been employed to asses the value of HR in the corporation.

Category wise details of the same for different years are depicted in the following table:

Table (4.1)

Showing Trends in Structure and Valuation of Human Resources in NTPC

(Period 1999-2000 to 2001-2002).

Category	1999-2000		2000-01		2001-02	
	No. of Employees	Value of HR (Rs. in Crores)	No. of Employees	Value of HR (Rs. in Crores)	No. of Employees	Value of HR(Rs. in Crores)
Executives	7607 (31.66)	3284.96 (40.61)	7945 (33.13)	3657.30 (38.32)	8423 (35.14)	3917.53 (40.06)
Supervisors	2893 (12.04)	935.27 (11.56)	2779 (11.59)	1106.92 (11.59)	2435 (10.16)	1011.99 (10.35)
Workmen	13524 (56.29)	3868.19 (47.82)	13254 (55.28)	4779.15 (50.08)	13114 (54.70)	4849.56 (49.59)
Total	24.24 (100.00)	8088.42 (100.00)	23978 (100.00)	9543.37 (100.00)	23972 (100.00)	9779.08 (100.00)

Note: Figures with in brackets indicate percentage to total.

Source: Annual Reports, NTPC Ltd.

Data set out in above noted table shown that the total value of human resources in NTPC Ltd has increased from Rs. 8088.42 crores in 1999-2000 to Rs. 9779.08 crores in 2001-02 registering an increase of 20.9 per cent over the year 1999-2000. However the number of employees as noted in earlier table also due to downsizing and VRS policy of government of India has decreased by 0.22 percent over the same period.

In percentages terms, the value of executives in total value of all employees was 40.61 in 1999-2000, 38.32 in 2001-01 and 40.06 in 2001-02. The value of supervisors in total value was 11.56 in 1999-2000, 11.59 in 2000-01 and 10.35 in 2001-02. Similarly the value of workmen in total value of HR in NTPC Ltd was 47.82 in 1999-2000, 50.08 in 2000-01 and 49.59 in 2001-02. The final analysis of percentage share of value of executives, supervisors and workmen clearly reveals that value of executives has not changed much in all three years of review, but supervisory personnel's value in total value has decreased in all the years. The proportion of value of workmen in total value of HR in NTPC has shown an upward movement in 2000-01 as compared to previous year but has dipped marginally in 2001-02 as compared to 2001-02.

Employee Cost

Employee cost has been depicted by the NTPC in all the Balance sheets. Data noted in table (4.2) makes an assessment of what has been spent by the NTPC on its employees during 1992-93 to 2001-02. It is observed that the amount spent on salaries, wages and benefits including Provident Fund and other contributions and excluding payment to personnel for social amenities amounted to Rs. 11744 lakhs in 1992-93which jumped to Rs. 74943 lakhs in the year 2001-02 registering a significant rise of 538.14 per cent over 1992-93.

Table (4.2)
Showing the Summary of Employee Cost in NTPC Ltd.
(Period 1992-93 to 2001-02)

Description	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
A. Salaries, Wages & Benefits* (Incl Provident Fund and other contributions)	11744	14890	20625	23145	26183	34106	43626	57888	70819	74943
B. Others Benefits										
1 Welfare expenses	2095	2556	3178	4032	5309	7826	7328	7718	10441	13593
2 Township	2137	2110	2600	3058	3608	3667	4614	5653	5199	4694
3 Educational & school facilities	180	307	368	582	899	1107	1155	1246	1397	1206
4 Medical facilities	710	932	1176	1427	1527	3645	2619	2839	2979	3585
5 Subsidised transport	1108	140	143	178	187	212	278	385	284	387
6 Social & cultural activities	272	289	377	468	544	601	866	673	1325	788
7 Cooperative fair price shops	2	2	2	1	2	2	2	5	2	1
8 Subsidised canteen	338	474	578	726	927	1042	1124	1297	1424	1145
Total (B)	5842	6810	8422	10472	13003	18102	17986	19816	23051	25399
Total (A+B)	17586	21700	29047	33617	39186	52208	61612	77704	93870	100342
9 Year end number of employee**	18635	18827	19223	21233	21407	20710	20798	21265	21289	21383
10 Average number of employees	18453	18731	19025	20228	21320	21059	20754	21032	21277	21336
11 Average Salary, wages & benefits per employee per annum (Rs)	63643	79494	108410	114421	122810	161955	210205	275238	332843	351251
12 Average cost of other benefits per employee per annum (Rs)	31659	36357	44268	51770	60990	85958	86663	94218	108338	119043
13 Average cost of employees remuneration and benefits per annum (Rs.)	95302	115851	152678	166191	183800	247913	296868	369456	441181	470294

*Excluding payment to personnel employed for social amenities
** Excluding BTPS and BCPP
Source Annual Reports, NTPC Ltd.

Table (4.3)

Showing Performance Indicators of NTPC Ltd.

(Period 1995-96 to 2001-02)

S.No.	Details	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001	2001-2002
1.	Value added (Rs. Crores)*	450	5486	6552	7633	911	10334	8089
2.	Turnover (Rs. Crores)*	8344	9840	12741	14057	16102	19045	17883
3.	Generation (MU)*	89838	97609	106290	109450	118676	130154	133189
4.	Manpower*	21233	21407	20710	20808	21265	21289	21383
	a) Value added/Emp. (Rs. Lakhs)	21.19	25.63	31.64	36.68	42.87	48.54	48.54
	b) Turnover/Emp. (Rs. Lakhs)	39.30	45.97	61.52	67.56	75.72	89.46	89.46
	c) Generation/Emp. (MU)	4.23	4.56	5.13	5.26	5.58	6.11	6.11

*All figures excluding Badarpur and Balco captive

Source: Annual Reports, NTPC Ltd.

There is significant rise in expenditure on other benefits also such as welfare expenses which amounted to Rs.2095 lakhs in 1992-93 and rose to Rs.13593 lakhs in the year 2001-02 – registering a significant rise of 548.83 per cent. Township is another head of expenses on which company spent Rs. 4694 lakhs which is more than double of the figures of the year 1992-93 when it was just Rs.2137 lakhs. Educational and medical facilities have also been accorded top priority by the corporation. It spent Rs. 180 lakhs and Rs. 710 lakhs on educational and medical facilities respectively in the year 1992-93. The same has gone up to Rs. 1206 lakhs and 3585 lakhs respectively in 2001-02 there by indicating an increase of 570 per cent and 404.93 per cent on educational and medical facilities. The NTPC also provides subsidised transport facilities to its employees. The expenditure on transport has increased from Rs. 108 lakhs to Rs. 387 lakhs in 2001-02. In terms of percentage it has increased by 258.33 per cent in 2001-02 over 1992-93. NTPC has also taken care of social and cultural activities of its personnel. The expenditure thus on social and cultural activities has increased by around four times i.e. it has increased from Rs. 272 lakhs in 1992-93 to Rs. 788 lakhs in 2001-02 corporative fair price shops and canteen are other two subsidised amenities on which NTPC has spent lakhs of rupees. The expenditure on subsidised canteen has gone up tremendously from Rs. 338 lakhs in 1992-93 to Rs. 1145 lakhs in 2001-02 – a sharp rise of 238.76 per cent over 1992-93. Thus, expenditure on all other benefits totality has in risen from Rs. 5842 lakhs in 1992-93 to Rs. 25399 lakhs in 2001-02 registering a growth of 334.77 per cent over 1992-93.

A review of HRA practices in NTPC reveals that the corporation has been evaluating its HR regularly. This information is published in annual reports also. Though the number of employees has decreased over a period of time yet there is no decline in their values. There has been a continuous rise in the values of HR in NTPC. Moreover, the amount spent on salaries, wages and other benefits has gone up tremendously over a period of time. it is also important to note here that there has been no change in the HR disclosure during the period of study. Due to non-availability of Annual Reports for all the years, the information could not been presented in a symmetric way.

Bharat Heavy Electricals Limited (BHEL)

Introduction

BHEL is India's largest engineering company and one of its kind in this part of the hemisphere. It manufactures a wide range of power generation equipment and system besides equipment for industry, transmission, transport, defence, telecommunication and oil business. The first plant of BHEL was set up at Bhopal in

1956, which signalled the dawn of the heavy electrical industry in India. In the early sixties three more major plants were set up at Hardwar, Hyderabad and Tiruchirapalli. They form the core of the diversified product range. systems and services that BHEL offers today. The company now has 14 manufacturing divisions, 9 service centres and 4 power sector regional centres, besides its project sites are spread all over India.

BHEL's business broadly covers conversion, transmission, utilisation and conservation of energy in the core sectors of the economy that fulfils infrastructural needs of the country. Its products have established an enviable reputation for high quality and reliability, which is largely due to the emphasis placed all along on contemporary technology. BHEL has consistently upgraded its design and manufacturing facilities to international standards by acquiring and assimilating some of the best technologies in the world from leading companies in the USA, Europe and Japan together with technologies from its own research and development centres.[4]

BHEL has a corporate research and development centre supported by an R&D group at each of the manufacturing divisions. BHEL's technology policy. which has been derived from the National Technology Policy. has adopted a judicious mix of indigenous effort and selective collaboration in essential areas.

The company is thus able to continuously upgrade its technology and product designs to contemporary standards.[5]

Around 46855 employees in BHEL, form the backbone of the company. The greatest strength of BHEL is it highly skilled and committed people. The Human Resource Development Institute and other training institutes of the company not only help in keeping their skills updated and finely honed but also add new skills when required. Every employee is given an equal opportunity to develop himself and improve his position. Continuous training and retraining, a positive work culture and a participative style of management have led to the development of motivated work force and enhanced productivity and quality levels.

BHEL has also set up several national level research institutions with the assistance of the United Nations Development Programme (UNDP). These include Welding Research Institute and Occupational Health Service Centre at Tiruchy, Pollution Control Research Institute at Hardwar, Centre for Development of Electrical Transportation at Bhopal and Ceramic Technology Institute at Bangalore. Since the majority of the utilities are coal-based, a fuel evaluation facility has been set up to test coal for evolving better design parameters.[6]

BHEL's operations are organised around three business sector, namely; Power, Industry and International Operations. It has exported its equipment and service to over 50 countries. With the receipt of repeat order, 80% of boilers installed in Malaysia are of BHEL make. Besides, several BHEL hydro sets are also in operation there. BHEL rehabilitated several boilers in Malaysia and converted these to gas firing. The company also supplied and commissioned gas turbines to Malaysia on a tight delivery schedule. BHEL also made a breakthrough in the European market by supplying 2 TG sets of 600MW rating to both Malta and Cyrus. BHEL does trade with Egypt and Saudi Arabia also.[7]

Human Resource Accounting Practices in BHEL

BHEL is one of the earliest organisations in India which started the practice of HRA. The company does not consider labour as a cost but as a resource and in valuing this important asset it has been guided by the Lev and Schwartz model. The expected salary, increments there of and expected years of service of an employee are taken into consideration and further discounted at a rate decided by the organisation. BHEL follows this model with the following assumptions:

i. present pattern in employees compensation, including direct and indirect benefits, including the effect of wage revision;

ii. normal career growth as per the present policies with vacancies filled from the levels immediately below;

iii. weightage to change in efficiency due to age, experience and skills; and

iv. application of the discount factor, 12% per annum on the future earnings, to arrive at the present value.[8]

The history of HRA practices in BHEL dates back to 1971-72 and since then it has never looked back. For the purpose of analysing trends in HRA, the data since 1981 onwards has been reviewed to provide a more comprehensive and detailed picture of the valuation of HRA in the organisation. In certain years some of the information has been omitted whereas in some others some more information has been added. However, in recent years, the company has changed it methodology of presentation of accounts. Hence, first of all, the trends in HRA are being assessed subject to availability of information in the financial statements from 1981-82 to 1993-94. Thereafter, the recent practice of HRA has been thoroughly analysed. However, it is important to mention that there is no compulsion for that compulsory disclosure of human assets in the financial statements. There have been certain changes in presentation of accounts in different years. Table No. 4.4 exhibits a comprehensive profile of HR and their valuation in BHEL since 1981-82 onwards.

Table- (4.4)
Showing Trends in Professional Profile and Valuation of Human Resources in BHEL.
(Period 1981-82 to 1993-94)

	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94
Professional profile (in figures)													
Executives	9080	9410	9750	10346	10914	11185	11529	11870	12044	11930	11970	12081	11899
Supervisors	10220	11225	11900	12170	12188	12543	12486	12305	11646	11356	11197	11219	11167
Artisans	27160	27645	28155	27644	27953	28926	28723	29760	29809	29766	29712	29354	28935
Supporting Technical Staff	4310	4250	4175	4105	3934	3839	3743	3804	3768	3737	3679	3589	3496
Clerical and Official Staff	6090	6120	6230	6263	6202	5699	5580	5581	5602	5522	5537	5397	5193
Un-sikilled and Semi-skilled workers	12940	13100	14590	13724	13936	13226	12752	11886	11567	11363	10525	10106	9773
Total	**69800**	**71750**	**74800**	**74464**	**74915**	**74918**	**74813**	**75116**	**74436**	**73664**	**72620**	**71746**	**70436**
Values of Human Asset (in millions)													
Executives	1900	2430	2600	2995	3580	3960	4744	5367	6992	9068	9573	9959	10736
Supervisors	1060	1600	1835	2190	2420	3121	3841	4533	5546	6266	6400	6606	6512
Artisans	2290	2020	3385	3840	4165	5169	5550	7198	8550	9624	10031	10640	12300
Supporting Technical Staff	430	530	570	660	655	698	742	923	1081	1205	1242	1301	1486
Clerical and Official Staff	550	740	810	940	1000	1036	1106	1354	1607	1785	1869	1958	2208
Un-sikilled and Semi-skilled workers	830	1030	1150	1535	1755	1899	1982	2459	3026	3164	3205	3288	4290
Total	**7060**	**9250**	**10350**	**12160**	**13575**	**15883**	**18265**	**21834**	**26732**	**31112**	**32320**	**33747**	**37532**

Source: Annual Reports, BHEL.

Table -(4.5)
Showing Trends in Professional Indicators in BHEL
(Period 1981-82 to 1993-94)

	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94
Productivity													
Personnel payment (per employ in rupees)	NA	22000	25000	28500	32600	37800	43650	50000	55000	61000	67000	75000	80000
Capital Employed (per employ in rupees)	1.24	1.35	1.16	1.24	1.29	1.38	1.42	1.70	2.07	2.19	2.90	3.31	3.40
Turnover (per employ in rupees)	1.35	1.67	1.81	1.99	2.30	2.66	3.10	3.49	3.91	4.28	4.58	4.88	5.00
Value Added (per employ in Rs/lakhs)	0.57	0.66	0.75	0.82	0.94	1.06	1.19	1.23	1.42	1.59	1.78	1.97	2.17
PBT* (per employ in Rs/lakhs)	0.07	0.08	0.10	0.15	0.20	0.20	0.25	0.26	0.29	0.27	0.26	0.43	0.45
Per Rupees of Wages													
Turnover	NA	7.47	7.08	7.00	7.8	7.04	7.09	6.98	7.12	6.96	6.85	6.53	6.34
Value Added	NA	3.00	2.94	2.84	2.88	2.80	2.73	2.45	2.58	2.59	2.67	2.63	2.73
Compensation Packages													
Salaries, Wages and Benefits (in millions)	NA	1547	1859	2116	2436	2833	3265	3778	4172	4533	4862	5375	5608
Personnel Payments as percentage of value added	NA	32.60	33.90	35.20	34.80	30.70	32.10	40.80	39.30	38.60	37.50	38.00	36.60
Human Asset vis-à-vis Total asset (rupees in millions)													
Value of Human asset	7060	9250	10350	12160	13575	15883	18265	21834	26732	31112	32320	33747	37532

	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94
Total Resources at Current Cost	22341	24985	24440	28231	30990	35133	40511	48019	55429	63851	72406	78073	78935
Turnover	9431	11792	13247	14818	17269	19939	23183	26200	29215	31536	33308	35083	35537
Value Added	4007	4748	5489	6998	6998	7922	8925	9203	11741	11741	12967	14162	15317
Ratios													
Turnover/Human Resources	1.33	1.28	1.28	1.22	1.27	1.26	1.27	1.20	1.09	1.01	1.03	1.04	0.95
Turnover/Total Resources	0.42	0.47	0.54	0.52	0.56	0.57	0.58	0.55	0.53	0.49	0.46	0.45	0.45
Value added/Human Resource	0.57	0.51	0.53	0.49	0.52	0.50	0.49	0.42	0.40	0.38	0.40	0.42	0.41
Value Added/Total Resource	0.18	0.19	0.22	0.21	0.23	0.23	0.22	0.19	0.19	0.18	0.18	0.18	0.19
Human Resource/Total Resources	0.32	0.37	0.42	0.43	0.44	0.45	0.46	0.45	0.48	0.49	0.45	0.43	0.48

Source: Annual Reports, BHEL.

It is evident from the table that since 1981-82, they have been classifying the professionals under 6 major heads as Executives, Supervisors, Artisans, Supporting Technical Staff (STS), Clerical and Office Staff (COS) and Unskilled/semi-skilled workers (USSW). However, in 1977-78 there were 7 types of employees namely, Engineers/ Technicians, Accountants, Doctors, Scientists, Artisans, Clerical Staff and others

BHEL had been quite consistent and strict in this classification upto 1993-94. Now there has been a change in these major heads (see table-4.6). So far as the number of total employees is concerned, it has been increasing with the size and profitability of the organisation. However, in some years it has been observed that the number of total employees has gone down. In 1975-76, total number of employees was around 52,000, which went up to 56,137 in 1977-78. In 1981-82 it, was 69,800 which means that in 4 years, i.e. 1977-78 to 1981-82, there was a sharp increase in the total number of employees by 13,663. This increase in the number of employees in just four years is a record increase in BHEL, the reason being that during these years a lot of new units of BHEL were set up and started operating. More importantly, this increase was in the field of managerial and technical jobs as the number of artisans went down during the period. It was 28,792 in 1977-78 and 27,160 in 1981-82. It was

69,800 in 1981-82 and rose to 71,750 in 1982-83, 74800 in 1983-84 and went down to 74,464 in 1984-85. Again there was an increase by around 500 employees and in 1985-86 it was 74,915. In 1986-87 a mere increase of 3 employees was noticed as it was 74,918. In 1987-88 it was 74,813, which went up to 75,116 in 1988-89. Since then the total number of employees has been decreasing and in 1993-94 it was shown as 70,463.

The break-up of the total number of employees on the basis of their designation is done, it will guide us to have a better understanding. With this point in mind, now an attempt is being made to discuss the separate categories of the employees of the company.

Executives

The number of executives had been going up till 1989-90 when their number was 12,044, being 16% of the total employees. After 1989-90 the number started having a downward trend and it fell to 11,899 in 1993-94, being 17% of the total employees. It is evident here that though the total number of employees and also the number of executives had a downward trend, their share in the total employees has always been going up. In 1981-82 out of the total employees, 13% were executives. In 1985-86 it went to 15%, in 1989-90 to16% and in 1993-94 to 17%. It shows that BHEL has been in need of more and more executives year by year, which proves that the planning and decision-making force is more effective and efficient. Further, the management is supposed to be more concentrated on the decision-making body of the organisation.

Supervisors

The number of supervisors in BHEL has not been increasing in the same way as that of the executives. It we take into account the percentage of supervisors out of the total employees, we find that it has been quite consistent during all these years. In 1981-82 the percentage was 14, in 1985-86 it was 16 and since then it had a stable position at 16. it should be kept in mind there that the size of executives in total started going down in 1989-90 whereas the number of supervisors in total started having a downward trend in 1984-85. These two different trends can provide some ground for being technically self-sufficient and the efficient working of supervisors.

Artisans

The role of artisans in a company like BHEL, which deals in manufacturing heavy plants and generating electricity etc. is very important. In 1977-78 BHEL had 28,792 artisans who constituted 51% of its total force. The greatest number of employees in BHEL is still of artisans and in 1993-94 their number was 28,935, which was 41% of the total employees i.e. 10% less than in 1977-78.

However, during this period (1977-78 to 1993-94) there were both an increase and a decrease in the total number of artisans and also in the percentage of total staff. In 1981-82 there were 21,160 artisans who constituted 39% of the total work force. From 1981-82 to 1983-84 the number of artisans had an upward trend, it being 28,155 in 1983-84. In 1984-85 the number of artisans was 27,644 and in 1985-86 was 27,953 when their percentage in the total employees went down to 37%. In 1986-87 there was an increase in the number of artisans by around 1.7%. In 1989-90 the number of artisans touched its peak in BHEL with that of 29,809, which was 40% of the total work force. Since then there has been a marginal decrease in the total number of artisans which was 28,935 in 1993-94, being 41% of the total work force. Importantly, it should be noted here that in 1977-78, when were only 28,792 artisans, their share in the total employees was 51% whereas in 1993-94 even when the total number was 28,934, its share was only 41%. It shows that in the initial years, out of the total available work force, there were more artisans and today their share has gone down.

Supporting Technical Staff (STS)

Out of the 6 types of employees in BHEL, the total number of STS has always been the least, the reason being its supporting nature. Such employees are generally attached to supervisors and artisans in some way or other. Generally, the number of STS has been going down in the last 12-13 years. In 1981-82, its number was 4,310 which followed a downward trend till 1987-88 when it was 3,743. After 1987-88, in 1988-89 its number went upto 3,804 and since then again it has been going down. In 1993-94 its number was 3,496, which is the lowest figure for in the last 13 years. If we analyse the percentage of the total employees we find that it has been going down in the last years and the decrease is quite consistent as in 1981-82, out of the total employees, 6% were STS whereas in 1985-86 and 1993-94, it was merely 5% of the total strength of employees. In can be interpreted that BHEL's policy of achieving excellence is to make technical staff more self-dependent and responsible rather than going for supporting staff. To some extent BHEL has succeeded in its target by increasing the percentage of artisans more than that of STS in the total strength of employees.

Clerical and Office Staff (COS)

So far as COS is concerned, BHEL has taken due care to maintain their size in total employees. It has been keeping track of the office automation systems and more efficient use of the office machinery. Though the total number of COS increased marginally in the initial years of the study, the later decrease in size in recorded. In 1981-82 the number of COS was 6,090, which went up to 6,120 in 1982-83 and further to 6,230 in 1983-84 and 6,263 in 1984-85. After 1984-85 there has been a decrease in the total size of COS. In 1985-86 it was 6,202 and it further went down to 5,699 in 1986-87 and 5,580 in 1987-88. Again in two consecutive years there was an increase as in 1988-89 it was 5,581 and it was 5,602. Its number went down to 5,522 in 1990-91 and again a small increase was observed as in 1991-92 it went up to 5,537. Since then it has been going down. In 1992-93 it was 5,397 and in 1993-94 it reached 5.193. The decrease in the total number of COS has been because of the good office management techniques followed by BHEL and commuterisation through the percentage of COS in the total number of employees, it may be seen that is number has been quite consistent as in 1981-82 its percentage was 9 per cent and it has been going down marginally as in 1985-86 it was 8 per cent and in 1989-90 and 1993-94 it stood at 7 per cent of the total employee strength.

Unkilled/Semi-Skilled Workers (USSW)

This category of employees comes next to artisans so far as number is concerned, initially. But in the later years it has gone down to number four because the number of executives and supervisors has gone up. It can be treated as an indication of the progressive approach of BHEL. In 1982-83 the number of USSW was 13,100, it being 19% of the total employees. This number went up to 14,590 in 1983-84, which is highest ever between 1981 and 1994. After 1983-84 it had a downward trend and in 1985-86 it was 13,724, which constituted 19% again of the total employees. This consistency was very well maintained in the organisation, but in the downward trend and it reached 11,567 in 1989-90, being 16% of the total employees and further in 1993-94 it was 9,773, being 14% of the total employees. It should be noted here that 1993-94 had lowest figure of USSW in the course of the study. i.e. 1981-94. It shows that BHEL went for adopting new technology for keeping pace with the other industries, which resulted in a decrease in USSW.

Valuation of HR in BHEL

As mentioned at the outset, BHEL follows the Lev and Schwartz model of valuation of HR. "Prior to 1981-82 one change in the model has been made which assumes the maintenance of staff strength at the existing level, and no replacement as and when retirement takes place."[9] Though such valuation and depiction is not audited, it helps the management to have a sound decision policy and the correct picture of total assets including physical assets, current assets and human assets come before the management and the parties interested in the financial information of the organisation. If the total value of HR in different years is compared, it will show the speed of progress in the organisation and the creation of HR in different years. In 1977-78 the organisation had HR worth Rs. 4,127 millions which reached Rs. 37,532 millions in 1993-94. This increase of around 9 times in the value of HR shows that the organisation has reached a matured stage and year after year a good amount of HR has been added to the worth.

This also shows that there has been a steady rise in the value of HR. However, if it is studied together with the number of employees, it will be seen that the number of employees has a downward trend now. It shows that the per employee worth is increasing, which is a good sign for the organisation. Each segment of employees is analysed below on the basis of its value.

Executives

BHEL values its executives at a very high price. If we look at their value we find that one executive valued at Rs. 2.09 lakhs, in 1981-82 reached to Rs. 3.28 lakhs in 1985-86 and further to Rs.4.11 lakhs in 1987-88. There has been a regular increase in their values as the value of one executive was recorded at Rs. 5.75 lakhs in 1989-90 and Rs. 9.02 lakhs in 1993-94. This increase indicates the creation of assets within executives on the basis of their important role in the organisation. If we see the percentage of executive, values in the total value, we can draw interesting conclusions. In 1981-82, 27 per cent of the total value of HR was of executives, which went down to 26 per cent in 1985-86 and stood at it in 1989-90. But in 1993-94 it went upto 29 per cent. These marginal fluctuations are the result of different experiments made by the organisation. And at present executives have the most important role to play. Their percentage is lower then that of artisans only because of their size. In number, artisans are around three times as great as executives. But valuation wise executive are at the top. It may be because of their earning capacities which are the very basis of the calculation of HR.

Supervisors

So far as technical supervision is concerned, supervisors are valued at the top. In 1981-82, one supervisor was valued at Rs. 1.04lakhs, which has been increasing throughout the study period. In 1985-86 it went up to Rs. 5.83 lakhs. As the organisation is getting mature, the value of supervisors is increasing. Interestingly supervisors value is quite on a par with the average value of an employee which was Rs. 1.01 lakhs in 1981-82, Rs. 1.81 lakhs in 1985. Rs. 4.22 lakhs in 1989-90 and Rs.5.33 lakhs in 1993-94. It can also be analysed that the increase in the value in the initial years is more than in the later years. If the share of supervisors is interpreted, it again leads us to an interesting picture of the organisation. The position of supervisor value is the reverse of that of executives so far as its percentage it in the total value of HR is concerned. In 1981-82, 15 per cent of the total HR was the value of supervisors which had an upward trend till 1989-90, as in 1985-86 it became 18 per cent and in 1989-90, 21 per cent. But in 1993-94 the percentage of the value of supervisors in the value of total HR went down to 17 per cent, whereas in the case of executives in went up to 27 per cent. The decrease in the value share of supervisors was shifted to executives and artisans, although per artisan value was less than per supervisor value.

Artisans

As discussed earlier, the number of artisans is at the top in BHEL and constitutes a little more than one-third of the total work force of the organisation. But since the per employee salary of artisan is much less than that of executives and supervisors, their per artisan value is also less. In 1981-82 one artisan was valued at Rs. 0.84 lakh, which went up to Rs. 1.49 lakhs in 1985-86, Rs. 2.87 lakhs in 1989-90 and Rs. 4.25 lakhs in 1993-94. If the per artisan value is compared with the average employee value, we find that the difference between them is decreasing year by year. It is an indication of the efficient service provided by artisans in BHEL. The percentage the value of artisan constitutes a little less than one-third of the total value of HR. In 1981-82 their share was 32 per cent, in 1985-86 it went down to 31 per cent and there was a again, a decrease in the share of supervisors' value. Interestingly the number of artisans is around three times as great as that of executives whereas in value it is merely a 5 per cent to 6 per cent increase.

Supporting Technical Staff (STS)

As discussed earlier, BHEL has a policy of making its engineers self-sufficient and responsible by decreasing the size of supporting staff, which is one of the importance reasons for increase in the number of executives, supervisors and artisans. In the same way as the number of STS is going down, their values share in the total value of HR is also decreasing consistently. In 1981-82 it constituted 6 per cent of the total value of HR, which went down to 5 per cent in 1985-86 and further to 4 per cent in 1989-90. In 1993-94, it stayed at 4 per cent. At first, STS was valued at a bit more price than artisans but later on it was on a par with them. In 1981-82 one STS was valued at Rs.1 lakh which went upto Rs.1.66 lakhs in 1985-86 and Rs. 2.87 lakhs in 1989-90. It stayed on a par with artisans in 1993-94 with Rs. 4.25 lakhs per STS. The difference between the average value of one employee and that of one STS is more or less the same as that of artisans. Again, it should be noted that BHEL wants to decrease the size of STS by shifting them to various other fields.

Clerical and Other Staff (COS)

The number of COS is more than that of STS in BHEL. Their number also has a downward trend during the last years because of office automation, computerisation and other new technologies adopted by the organisation. But COS still plays a major role in achieving the goal of the organisation. COS has been valued at just a bit more price than USSW and almost on a par with artisans and STS but artisans than USSW. In 1981-82 one COS was valued at Rs. 0.90 lakh which increased to Rs. 1.61 lakhs in 1985-86, Rs. 2.87 lahks in 1989-90 and was on a par with STS and artisan at Rs. 4.25lakhs in 1993-94 which is around Rs. 1 lakh less than the average value of an employee. If the trend in the value share out of the total value of HR is analysed, it can be seen that COS has the same trend as STS. In 1981-82, COS had 8 per cent value of the total HR, which went down to 7 per cent in 1985-86 and 6 per cent in 1989-90. In 1993-94 it stayed at 6 per cent. It has a downward trend which is an indication of the modernisation and efficient use of COS, keeping in view their value and number.

Unskilled/Semi-Skilled Workers (USSW)

This segment of employees had the second position in number of artisans in 1981-82 which went down to the fourth position in 1993-94. These years revolutionised the working in BHEL and brought it to an international standard. But so far as their value is concerned, it had the same place in 1993-94 as in 1981-82. In 1981-82, 12 per cent value of the total HR was constituted by USSW which increased to 13 per cent in 1985-86 and went down to 11per cent 1989-90. In 1993-94, it stayed at 11 per cent and had the fourth position, as in 1981-82. So far as the value of one USSW, is concerned, it used to be least valued till 1992-93 but 1993-94 valued him at a more price than an artisan and a member of the STS and COS. In 1981-82 one USSW was valued at Rs. 0.64 Lakh, in 1985-86 the value was Rs. 1.28 lakhs and in 1989-90 it went upto Rs. 2.61 lakhs, being the least value segment. But in 1993-94 it reached Rs. 4.39 lakhs which was more than that of an antisan and of a member of the STS and COS by around Rs. 0.14 lakh. It shows the importance given to this segment of employees in BHEL.

During the years 1986-87 and 1987-88, HR Values went up by 15% partly due to a rise in emoluments and partly due to the growing number of professionals and artisans. Valuing the employees in BHEL has brought about a lot of good results in the organisations and at present it is one of the most important organisations for the government. The employees of BHEL have been bagging a lot of national awards and it has made its presence felt in the international area. It is no longer a conservative organisation and has shown adaptability to all new techniques which are beneficial to it.[10]

Current Trends in Human Resource Accounting Practices in BHEL

To asses the HRA practices of BHEL, a comprehensive assessment of annual reports of the company was done. Method of presentation of HR information in financial statements after 1993-94 revealed a different picture than that of followed by the company prior to that. The company has discontinued the practice of HR valuation. Moreover, the professional profile has also undergone a change. On personal enquiry with the accounting department, various reasons of this changing pattern of presentation of information in financial statements were brought to our notice, the most difficult one was that there is no compulsion under any act or accounting standard so far to value HR. Apart from this, a lot of complications for accounting department arise if adequate HR information is presented in annual reports. It adds to the size of annual reports. Now, the company reveals only classification and summary of cost of employees in the annual reports. The following table shows the professional profile of HR of BHEL after 1993-94:

Table (4.6)

Showing Trends in Professional Profile of Human Resources in BHEL

(Period 2001 to 2003)

Group/class	2001	2003
	Number of employees	Number of employees
Group A	11851 (25.25)	12876 (24.65)
Group B	10672 (22.74)	10429 (19.97)
Group C	21233 (45.24)	24597 (47.10)
Group D	3179 (6.77)	4323 (8.28)
Total	52225 (100.00)	46935 (100.00)

Note: Figures with in brackets indicate Percentage to total.
Source: Annual Reports, BHEL.

A cursory glance over the data set out in above table reveals that now there are only four categories of employees in BHEL namely A, B, C, and D. The total number of employees was 52225 in 2001 which declined to 46935 registering a decline of 11.27 per cent over 2001. There is decrease in the number of all groups of employees except group B which has increased marginally by 243. The number of total employees in BHEL had been over 75000 in 1988-89. The decrease in the number of employees is mainly due to the fact that now many employees are opting for VRS due to downsizing policy of Government.

Table (4.7)

Showing the Summary of Employee Cost in BHEL (Period 2000-2003)

(Rs. in Lakhs)

S.No	Items	2000	2001	2002	2003
1.	Salary, Bonus & other Allowances	84661.74	168452.49	110968.41	115024.66
2.	Contribution to Gratuity Fund	4405.48	19923.19	9097.37	9770.00
3.	Contribution to Provident & other Fund	7406.89	15743.12	9816.58	9968.38
4.	Group Insurance	318.94	238.00	327.32	213.25
5.	Staff Welfare Expenses	16503.93	12664.36	14252.04	15488.15
	Total	113296.98	217021.16	144461.72	150464.44

Source: Annual Reports, BHEL

Above noted table depicts the employee cost in BHEL during the years 2000 to 2003. It clearly indicate that the total amount spent on salary, bonus and other allowances, contribution to gratuity fund, provident fund and other funds, group insurance and staff welfare was amounted to Rs 113296.98 lakhs in the year 2000. The amount increased significantly to Rs. 150464.44 lakhs in 2003 registering a rise of 32.81 per cent over 2000. A deeper probe further reveals that expenditure on salary, bonus and other allowances increased from Rs. 84661.74 lakhs in 2000 to Rs. 115024.66 in 2003 and increase of 35.86 per cent over 2000. The contribution to gratuity fund increased over two times i.e. from Rs. 4405.48 lakhs in 2000 to Rs. 9770 lakhs in 2003. The expenditure on group insurance during 2003 has decreased because of a simple reason that the number of employees has also decreased during the same period. The expenditure on staff welfare has also decreased from Rs. 16503.93 lakhs in the year 2000 to Rs 15488.15 lakhs in 2003 registering a minor decline of 6.15 per cent over 2000 due to similar reasons.

The analysis of financial statements of BHEL for different years reveals that the company had been valuing its HR up to the year 1993-94, though the company was pioneer in valuation of its HR and showing the same in annual reports. It is important to mention. here that BHEL had opened the door for other similar organisation which were not aware of this emerging area of accounting. The BHEL to our estimation had been able to convince the accounting fraternity about its disclosure practices but a review of latest accounting reports is representing altogether a different picture. The company is now reporting information about human resource management, HRD policies, HR classification

(New) and expenditure incurred on employees only. The company has discontinued the practice of HR valuation in the annual reports. This new trend indicate the inconsistent method of disclosure HR information by BHEL over the period of study.[11]

Steel Authority of India Ltd. (SAIL)

Introduction

Steel Authority of India Ltd. (SAIL) is a company registered under the Indian Companies Act, 1956 and is an enterprise of the Government of India. It operates and manages five integrated steel plants at Bhilai (Chhatisgrah), Bokaro (Jharkhand), Durgapur (West Bengal), Rourkela (Orissa), Burnpur (West Bengal), and a plant of the Indian Iron and Steel Co. Ltd. (IISCO), which is wholly owned subsidiary of SAIL. SAIL has also four units of Alloy Steels and Ferro-alloys at Durgapur (West Bengal), Salem (Tamil Nadu), Chandrapur (Maharashtra) and Bhadravati (Karnataka). The plant at Chandrapur belongs to the Maharashtra Elketrosmelt Limited which is a subsidiary of SAIL. The IISCO-Ujjain Pipe and Foundary Company Ltd., a subsidiary of IISCO, which was manufacturing costs Iron Spun Pipes at its works at Ujjain (Madhya Pradesh), is under liquidation. Besides, SAIL has seven central units viz. the Research and Development Centre for Iron and Steel (RDCIS), the Centre for Engineering and Technology (CET), the Management Training Institute (MTI) all located at Ranchi, Central Coal Supply Organisation located at Dhanbad, Raw material division, Growth Division and Environment Management Division all located at Kolkata. SAIL Consultancy Division (SAILCON) functions from New Delhi. The marketing of products of SAIL plants is done through the Central Marketing Organization (CMO), Kolkata which has a countrywide distribution network. As part of the business restructuring plan, subsidiary companies were incorporated under the name of Bhilai Oxygen Limited (BOL) on 9th February, 1999, Bokaro Power Supply Company Limited on 17.8.2001 and Bhilai Electric Supply Company Limited on 20.9.2001.[12]

Human Resource Accounting Practices in SAIL

The human resource is one of the most important resources in SAIL. The company always works for the development of its HR. Need based training is provided to employees to equip them to meet the challenges of the competitive environment. The manpower strength as on 31st March, 2003 was 1,37,496. The manpower productivity at 123 tonnes of crude steel per man per year registered an increase of 9.75 per cent over the previous year. With a view to optimizing the manpower and reducing the labour cost, Voluntary Retirement Schemes were launched whereby 5814 employees separated.

Presidential Directives on Scheduled Castes and Scheduled Tribes have been implemented and monitored on regular basis in SAIL. Out of the total manpower, 14.6 per cent were Scheduled Castes and 11.5 per cent were Scheduled Tribes.

The company continues its efforts to promote the various disciplines of sports in tune with its passion for the all round personality development of an individual. Around 50 medal winning SAIL wards were awarded sports scholarships for furtherance in sporting events. With its philosophy of "Catching them Young", the company is running three major Sports Academics-one each at Bhilai, Rourkela and Bokaro where players of different disciplines are developed and imparted training.

Consistent efforts are made by SAIL Safety Organisation for improving safety standards in the company specific by taking measures like intensive safety drives in works area, introduction of Risk Control Grading System in Bhilai, Durgapur and Rourkela Steel Plants, conducting safety audit, workshop & training etc. During the calender year 2002, there was 33.1 per cent reduction in injuries on works compared to year 2001. A number of safety training programmes, workshops and seminars covering heads of shops, line managers, safety personnel and trade unions leaders were organised. safety audits were conducted in hazardous developments of different plants and mines. Activities of Joint Committee on Safety, Health & Environment were intensified with a view to promote safety consciousness among wider cross section and inculcate safety culture.

SAIL's innate strength lies in its human resources. They are the key to its growth and success and are the most valuable of all its assets. SAIL is investing not only on modernisation of its technologies and equipments but also on HRD which is imperative for the success of its modernisation programme. The vast potential of existing HR have been tapped to the maximum possible extent by assessing their needs through the profile of distribution of human assets profession-wise and age-wise.

For evaluation of human assets, SAIL has adopted the "Economic Valuation Method" and the basic model as conceived by LEV and SCHWARTZ incorporating certain refinements as suggested by ERIC FLAMHOLTZ and JAGGI & LAU. Minor modifications have been made to suit special requirements of SAIL. The human assets valuation is done by ascertaining the future anticipated earnings and discounting the same to their present worth.

Classification of Employees

SAIL has classified its employees as managers, executives, supervisors, clerical staff, skilled workers and semi-skilled workers upto 1992-93 (Table 4.8). Thereafter, there has been a

Table (4.8)
Showing Trends in Professional Profile of Human Resources in SAIL
(Period 1986-87 to 1992-93)

Category	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93
Managers							
Below 25	-	-	-	-	-	-	-
25 to 35	45	30	30	83	184	114	208
35 to 45	1307	1318	1658	2000	2412	2636	2696
45 to 50	1051	1005	1192	1322	1566	1763	1869
Over 50	1484	1410	1659	1637	1958	1924	2203
Total	3387	3763	4539	5042	6120	6437	7076
	(1.91)	(1.91)	(2.33)	(2.61)	(3.21)	(3.40)	(3.78)
Executive							
Below 25	639	558	740	897	694	942	1046
25 to 35	3346	3407	3271	3154	3139	2830	2994
35 to 45	4288	4069	3746	4152	2991	2824	2516
45 to 50	2146	2320	2307	2207	2365	2167	2098
Over 50	2482	2854	3291	2975	3952	3550	4051
Total	12881	13208	13355	13385	13141	12313	12605
	(6.34)	(6.69)	(6.85)	(6.93)	(6.87)	(6.51)	(6.74)
Supervisors							
Below 25	451	249	954	620	983	965	392
25 to 35	3925	4007	4911	5061	4760	4589	3640
35 to 45	18715	18934	19625	24329	20718	19385	21470
45 to 50	17472	19168	18364	16091	18300	18768	19059
Over 50	15724	17278	19458	15381	24572	25296	26404
Total	56287	59636	63312	62022	69333	69003	70695
	(27.69)	(30.23)	(32.49)	(21.10)	(36.26)	(36.47)	(37.93)
Clerical Staff							
Below 25	246	179	119	250	177	170	166
25 to 35	3314	2974	2131	3020	1718	1472	1336
35 to 45	5543	4991	4260	5841	1951	2052	1866
45 to 50	1645	1561	1758	1236	467	884	906
Over 50	771	719	1261	720	276	578	599
Total	115198	10424	9529	11067	4589	5156	4873
	(5.67)	(5.28)	(5.73)	(5.73)	(2.40)	(2.73)	(2.60)
Skilled Workers							
Below 25	2541	1932	2065	2075	228	1802	2034
25 to 35	13074	13159	12716	12163	11859	11411	12094
35 to 45	28991	27644	25792	28956	24522	24004	24605
45 to 50	15427	16494	15347	12831	14111	14421	12780
Over 50	11961	10377	11533	9371	12190	12570	12894
Total	71994	60606	67453	65396	64810	65208	64407
	(35.41)	(30.72)	(34.61)	(33.84)	(33.89)	(34.47)	(34.42)
Semi-Skilled Workers							
Below 25	2765	2789	3258	2904	3194	3965	4654
25 to 35	17742	16697	13072	13562	11910	9393	8980
35 to 45	16754	14320	13432	12045	11824	11768	8855
45 to 50	5905	4329	4247	4407	3723	3702	2583
Over 50	3558	2524	2675	3393	2585	2250	2107
Total	46724	40659	36684	36311	33236	31078	27179
	(22.98)	(20.61)	(18.82)	(18.79)	(17.38)	(16.43)	(14.53)
Grant Total	203292	197296	194872	193223	191229	189195	187105
	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)

Note: Figures within brackets indicate percentage to total.
Source: Annual Reports, SAIL.

change in classification of its employees. Firstly a review of employee as per former categorisation has been done which indicates that the number of employees have been classified in different age group as below 25, 25 to 35, 35 to 45, 45 to 50 and above 50. For analysing the human assets structure the percentage of each category of employee from the total of employees have been calculated.

It is also apparent from table that the proportion of managers marked an increasing trend. It was 1.91 per cent during 1986-87 which ultimately went up to 3.78 per cent during 1992-93. The proportion of executives was always more than that of managers. The proportion of executives also marked a rising trend except in 1990-91 and 1991-92. It was 6.34 per cent in 1986-87 which increased and reached to 6.74 per cent in 1992-93. Obviously, the organisation could emphasise more on the higher level of staff. The strength of supervisors was highest among all the categories and it continuously marked an increasing trend. The number of supervisors was 56,287 in 1986-87 which increased to 70,695 in 1992-93. The proportion of clerical staff was less than the proportion of supervisors. Their proportion fluctuated from year to year. It was 5.67 per cent in 1986-87 which decreased to 5.28 per cent in 1987-88 and 4.89 per cent in 1988-89, though it increased sharply to 5.73 per cent in 1989-90. Again it came down to 2.40

per cent in 1990-91, stepped upto 2.73 per cent in 1991-92 and decreased to 2.60 per cent in 1992-93.

The proportion of skilled workers was about 5 times the proportion of clerical staff. The proportion of skilled workers and semi-skilled workers fluctuated from year to year. It was 35.41 per cent and 22.98 per cent in 1986-87 which decreased to 34.42 per cent and 14.53 per cent in 1992-93. It may be noted that the proportion of managers, executives and supervisors marked an *increasing trend throughout the period of study whereas the* proportion of clerical staff, skilled workers and semi-skilled workers normally registered a decreasing trend. This gives us a picture of structural change that the company is shifting from middle and lower level of employees to higher category employees. This structural change improved the human efficiency of the concern.[13]

Valuation of Human Resources in SAIL

Intellectual capital is one of the most valuable asset of SAIL. The company SAIL is investing not only on modernisation of its technologies and equipments but also on HRD through training etc. to enhance the potential and optimal utilisation. The company evaluated its HR upto the year 1993 only. A thorough review of accounts for all the years upto 2002-03 was made to observe trends in valuation of HR but it was noted that SAIL also alike BHEL is reporting current cost of its employees HR values during 1989-93 have been recorded in the following table to highlight the past pattern of HR valuation in the company. The trends in presentation of HR information in current years have also been analysed to indicate the new methodology of presentation of information related to HR in SAIL.

Table (4.9)

Showing Valuation of Human Resources in the SAIL (Period 1989-1993)

(Rs. in crore)

Category	1989	1990	1993
Managers	NA	663.15	1225.59
Executives	NA	1779.69	2176.69
Supervisors	NA	4810.50	6292.09
Clerical Staff	NA	1052.79	554.13
Skilled workers	NA	4770.99	6027.17
Semi-skilled/unskilled workers	NA	2713.27	2839.46
Total	**12725.33**	**15790.39**	**19115.13**

Source: Annual Reports, SAIL.

It is observed from the data noted in above table that the value of human resource in SAIL has gone up from Rs. 12725.33 crores in 1989 to 19115.13 crores in 1993-an increase of 50.21 per cent over 1989. It is further observed that the value of managers has become almost double in 1993 as compared to 1990. There has been rise in the value of executives also. In 1990, the value of executives was Rs. 1779.69 crores which jumped sharply to Rs. 2176.69 crore in 1993 thereby registered an increase of 22.31 per cent over 1990. valuation of supervisors reveals that their value has also gone up from Rs. 4810.50 crores in 1990 to Rs. 6292.09 crores in 1993 resulting into a rise of 30.80 per cent over 1990. There is a decline in the value of clerical staff which has been just above half in 1993 as compared to 1990 i.e. from Rs. 1052.79 crores in 1990 to Rs. 554.13 crores in 1993. Value of skilled workers has increased sharply by 47.37 per cent in 1993 over 1990 i.e. it went up from Rs. 4770.99 crores in 1990 to Rs. 6037.17 crores in 1993. The value of semi skilled/unskilled workers has increased from Rs. 2713.27 crores in 1998 to Rs. 2839.46 crores in 1993-an increase of 4.65 per cent over the same period.

Current Trends in Human Resource Accounting Practices in SAIL

As noted earlier, the company has changed the entire pattern of HRA. It has not only discontinued the evaluation of its HR, but also changed the classification of HR from several categories in the past to only two categories now namely executives and non-executives. Moreover, the company has been depicting only the current cost of employees in its financial statements since 1995 onwards. The following are the latest trends in HR strength in SAIL:

Table (4.10)

Showing Trends in Professional Profile of Human Resource in SAIL

(Period 1995-2003)

Groups	**1995**	**1999**	**2000**	**2001**	**2002**	**2003**
Executives	20117 (10.62)	18249 (10.44)	16995 (10.63)	16775 (10.70)	16003 (10.84)	15078 (10.97)
Non-executives	169389 (89.38)	156487 (89.56)	15687 (89.37)	139944 (89.30)	131598 (89.16)	122418 (89.03)
Total	189506 (100.00)	174736 (100.00)	159940 (100.00)	156719 (100.00)	147601 (100.00)	137496 (100.00)

Note: Figures with in brackets indicate percentage to total.

Source: Annual Reports, SAIL

Data recorded in table indicates a continues declining trend in the number of employees during the period under review. The number of total employees i.e. executives and non-executives has decreased from 189506 in 1995 to 137496 in 2003 decreasing of 27.45 per cent over 1995. It is further observed the number of non-executives has always been significantly higher than those of executives. It is because if a simple reason that the non-executives class consist of all employees other than managers and executives. The number of executives was 20117 in 1995 which declined to 15078 registering a decrease of 25.04 per cent over 1995.

Similarly the number of non-executives has also gone down from 169389 in 1995 to 122418 in 2003 – a decrease of 27.73 per cent over the same period.

Employees cost

SAIL is reporting employee cost regularly in all financial statement. Employee cost being an important aspect of disclosure of HRA has been depicted in table (4.11) which reveals that the total expenditure on salaries, wages and annual bonus, contribution to provident fund and other funds, travel concession, welfare and gratuity jumped from Rs. 1474.96 crores in 1994 to Rs. 3723.47 crores in 2003 registering a significant rise of 152.45 per cent over 1994. Out of total expenditure incurred by the company, the salaries, wages and annual bonus constitute the majority share i.e. it was 78.26 per cent of total employee cost in 1994 and 71.11 per cent in the year 2003. Gratuity and provident fund have always been the next head of expenditure after salaries and wages. In 1994. 6.41 per cent of total expenditure was incurred on the provision of gratuity. The same was 14.35 per cent in the year 2003. company's contribution to provident fund & other funds, travel concession and welfare expenses are other heads of expenditure on which there has been a regular increase except travel concession with effect from the year 2000 due to the withheld on the LTC policy of the government.

Table (4.11)

Showing Summary of Employee Cost in SAIL.

(Period 1994 to 2003)

(Rs. in Crores)

Head	**1994**	**1995**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**
Salaries/wages and Annual bonus	1154.37	1341.39	1648.96	1894.79	2198.88	2649.51	2567.99	2647.75
Company's contribution to provident funds & Other funds	77.22	97.53	146.82	176.81	181.08	179.99	240.81	236.79
Travel concession	78.01	53.69	109.39	63.92	6.74	3.37	7.69	0.18
Welfare expenses	70.85	78.49	102.46	98.34	100.30	101.61	104.96	304.27
Gratuity	94.51	110.09	193.69	159.99	251.67	177.60	328.33	534.48
Total	**1474.96**	**1681.19**	**2201.32**	**2393.85**	**2738.67**	**3112.08**	**3249.78**	**3723.47**

Source: Annual Reports, SAIL.

It is observed from the foregoing analysis of HRA practices of SAIL that the company was famous for its consistency in terms of reporting regarding HR in its financial statements. But since 1994-95, there has been a remarkable change in the policy of the company. The SAIL also alike BHEL, almost on account of similar reasons has discontinued the HR valuation in the financial statements. It is also reporting HR information almost on the lines of BHEL. Though, these companies were considered as trend setters in the past.[14]

Oil and Natural Gas Corporation Ltd. (ONGC)

Introduction

ONGC was formed by an Act of Parliament (known as the Oil & Natural Gas Commission Act No. 43 of 1959) to take over the activities of the Oil & Natural Gas Directorate set up by the Government of India in 1956. it is a corporate body, similar to a company. ONGC is the premier entity through which the Government explores Oil & Natural Gas Resources in the country. Its main accent is, therefore, on exploration for development and production of oil and natural gas. It does not participate in "Down Stream" activities such as petroleum refining, distribution and retailing of refined products.

ONGC operates throughout India both Offshore and Onshore. It struck oil for the first time in 1969 in Ankleshwar (Gujrat).

Major find of Hydrocarbons are in Cambay Basin in the West, Assam in the East and Bombay off-shore along the West Coast. Production is mainly obtained from the three sources maintained above. However, production has started recently from Cauvery, Rajahmundry and Agaratala; also exploratory efforts are on in Rajasthan, Tamil Nadu, Jammu and Kashmir and Himachal Pradesh, West Bengal Off-shore.

ONGC has distinction of being one of the few oil companies of the world engaged in every aspect of oil exploration, drilling, production, research, development and training.[15] Oil and Natural Gas Corporation Limited (ONGC) is India's highest profit making corporate, which has achieved the landmark of registering a net profit of Rs. 6197.87 crore in the year 2001-02. Since its inception, ONGC has produced more than 600 million metric tones of crude oil and supplied more than 200 billion cubic metres of gas, thus fuelling India's economy.

To achieve this sustained growth, ONGC decided to double the oil and gas reserves. In 45 years of operation, ONGC accreted six billion tones oil and oil equivalent reserves, and ONGC has drawn a plan to double these reserves in the next 20 years. Secondly, the global recovery factor of ONGC is of the order of 28 per cent. The target is to raise this to the level of 40 per cent, over the same 20 years. Out of the six billion tones of oil and gas reserve accretion, four billion tones are expected to come from offshore and deep waters.

Human Resource Accounting Practices in ONGC

ONGC is manned by a team of nearly 40,000 professionals. Their toil is amply reflected in the performance figures and aspirations of ONGC. The company has adopted progressive policies in scientific planning, acquisition, utlisation, training and motivation of the team. Needless to emphasise, over 18,000 experienced and technically competent executives, mostly scientists and engineers from distinguished universities/ institutions of India and abroad, form the core of manpower of ONGC. They include geologists, geophysicists, geochemists, drilling engineers, reservoir engineers, petroleum engineers, production engineers, engineering and technical service providers, financial and human resource experts, IT professionals and so on. Prior to assessing the trends in professional profile and valuation of HR, a brief review of HR policies of ONGC will give greater insight of the outlook of company towards its employees.

HR policies at ONGC revolve around the basic tenet of creating a highly motivated, vibrant and self-driven team. The company cares for each and every employee and has in-built systems to recognise and reward them periodically. Motivation plays an important role in HR development. In order to keep its employees motivated, the company has incorporated schemes such as reward and recognition scheme, grievance scheme, grievance handling schemes, suggestion schemes, incentive schemes to enhance productivity, productivity honourarium scheme, job incentive, quarterly incentive, reserve establishment honourarium and group incentives. Therefore, HR policies have been designed to provide the satisfaction to the employees.[16]

The basic assumption in ONGC is that the quality of HR determines, to a great extent, the success of business enterprise. The commission has always endeavoured to harmonise individual aspirations and corporate objectives through enlightened personnel policies. A number of studies were carried out in areas related to human resource planning, optimisation of resources, organisational, work motivation etc. to improve productivity and organisational growth.

In ONGC manpower planning is done by the Human Resource Group (HRG). The salient features of manpower planning system in ONGC are as follows:

(i) Organisation structure is decided at the corporate level and slightly modified sometimes, through proper channel by Chairman and Members of ONGC.

(ii) For upper, middle level, junior level and workers level manpower planning, there is a separate department called

HRG at Dehradun, and each of its subsidiaries etc. at regions and projects.

(iii) These Human Resources Groups at HQ, regions and projects keep up-to-date manpower information quantity wise, level wise and place wise.

(iv) Whenever any new work centre/project is opened or some equipment are planned to be added, the departments/projects concerned inform HRG in advance.

(v) HRG has prepared some sort of manpower norms for important work like "crew per drilling rig", detailing number of senior executives, junior executives, skilled workers and helpers etc. to man those positions. HRG may revise such norms sometimes.

(vi) For specific requirement of miscellaneous nature, the work study team of HRG visits the work place and decides the manpower required there.

(vii) Thus, by work study, or with the help of manpower norms, the posts are created, and they may be filled either by transfer from one place to another or promotion of existing employees; and recruitment from outside the organisation.

(viii) Recruitment of executives and transfers are generally done or decided at HQ, Dehradun through the help of Interview Board and Transfer Committee.

(ix) Recruitment of Class-III and Class-IV is generally done by regions and projects and they remain in respective region or projects (not transferred).

(x) HRG also does career planning for various levels of executives in important disciplines and succession planning for key positions in the organisation also.

(xi) Turnover of employees due to superannuation is worked out, considering the age factor, where as attritions due to resignations, dismissals etc. are not calculated.

The ONGC also has been using Lev and Schwartz model for computing the value of HR. This model has been used with the following assumptions:

i. The employee continues at the same position till superannuation,

ii. All direct and indirect employee costs are considered with esclations limited to corporate compensation practice, and generate economic conditions, and

iii. A discounting factor of 8 per cent is applied.

The HR of ONGC have been classified into two groups, namely, Groups A and group B. Group A consists of Technical–executives and non executives Group B consists Non-Technical–executives and non executives. The following table shows the professional profile of human resource in ONGC:[17]

Table (4.12)
Showing Trends in Professional Profile of Human Resource in ONGC as on 31st March, 2003

(Numbers)

Employee group	Age distribution				Total
	<31	31-40	41-50	51-60	
A)Technical Executives	430 (25.49)	3897 (41.49)	10595 (53.64)	4207 (49.37)	19129 (20.57)
Non-executives	541 (32.07)	2999 (31.93)	3103 (15.71)	624 (7.32)	7267 (18.47)
Total-A	971 (57.55)	6896 (73.43)	13698 (69.35)	4831 (56.69)	26396 (67.08)
B) Non-Technical Executive	197 (11.68)	525 (5.59)	2472 (12.51)	1461 (17.15)	4655 (11.83)
Non-executive	519 (30.76)	1970 (20.98)	3583 (18.14)	2229 (26.16)	8301 (21.09)
Total-B	716 (42.44)	2495 (26.57)	6055 (30.65)	3690 (43.30)	12956 (31.86)
Grand Total (A+B)	1687 (100.00)	9391 (100.00)	19753 (100.00)	8521 (100.00)	39352 (100.00)

Note: Figures with in brackets indicate percentage to total.
Source: Annual Report. ONGC.

Data noted in above table reveals that the total number of employees on 31st March 2003 was 39352. In the absence of adequate information, it cannot be said whether the number has increased or decreased. But it is observed that the highest number of employees in ONGC belong to technical group only. The technical staff is 48.61 per cent of the total employees followed by non-technical executives who are 18.47 per cent of total employees in the company. It is to be further mentioned that out of technical employees, the majority were in executive category i.e. 72.46 per cent of total employees in Group A. However, the same were 35.93per cent in Group B. Non executives were 27.53 per cent of total employees of Group A and 64.07 per cent of total employees in Group B. A very significant depiction of employees on the basis of ages has been done by the ONGC. For this purpose employees have been classified in four categories i.e. below 31, 31-40, 41-50 and 51-60. It is important to denote that majority of Group A and Group B employees fell in the age group of 41-50 followed by 31-40, 51-60. The least number of employees are in the age group below 31 category. This is a clear indication that the company has majority of employees in the matured age group.

Table (4.13)

Showing Valuation of Human Resources in ONGC as on 31st March, 2003

(Rs. in millions)

Employee group	Age distribution				Total	Per employee
	<31	31-40	41-50	51-60		
(A)Technical Executive	5291.05 (34.48)	42241.71 (52.98)	86192.37 (62.31)	13844.00 (57.14)	147569.13 (57.28)	7.71
Non-executive	4051.29 (26.40)	19844.49 (24.89)	16656.61 (1.24)	1429.62 (5.9)	91982.01 (35.70)	5.78
Total (A)	9342.34 (60.89)	62086.20 (77.87)	102848.98 (74.36)	15273.62 (63.04)	189551.17 (73.58)	7.81
(B) Non-Technical Executive	2354.38 (16.52)	5546.50 (6.96)	18228.14 (13.18)	4628.55 (19.10)	30751.57 (11.94)	6.61
Non-executive	3646.29 (23.76)	12100.53 (15.18)	17241.48 (12.47)	4326.26 (17.86)	37314.56 (14.48)	4.50
Total (B)	6000.67 (39.11)	17647.03 (2.2)	35469.62 (25.64)	8754.81 (36.13)	68072.13 (26.42)	5.25
Grand total (A+B)	15343.01 (100.00)	79733.23 (100.00)	138318.60 (100.00)	24228.43 (100.00)	25762.327 (100.00)	6.55

Note: Figures with in brackets indicate percentage to total.
Source: Annual Reports, ONGC.

The values of human resources as on 31st March 2003 mentioned in table (4.13) reveals that the value of all employees of ONGC was recorded at Rs. 257623.27 million in 2003. As maximum employees fall in the age group of 41-50, the value of this age group has been highest of all i.e. 53.69 per of total value of all employees. Per employee value was highest in case of executives i.e. 7.71 million in Group A followed by executives in Group B being 6.61 million. Per employee value of non executives in Group A and B was 5.78 million and 4.50 million respectively. Moreover, per employee value of all employees of Group A was 7.81 million and 5.25 million, in Group B. Aggregate value per employee for the entire company was 6.55 million. Thus a review of HR practices in ONGC revealed that the company is disclosing adequate information about its HR in its annual reports. Not only status wise but age wise classification has been done in annual reports of ONGC which in none of the sample companies has been done. Though in the absence of adequate information, trends could not be formed. At the same time the company also does not indicate trends in other performance indication of employees.[18]

Minerals Metals Trading Corporation of India Ltd. (MMTC)

Introduction

The (MMTC), established in 1963, occupies a prominent position in India's foreign trade. Export of iron, manganese and chrome ores, and among finished fertilizers, only import of urea is canalised. It continues to be the largest non-oil importer of the country and has made considerable headway in increasing its imports. It has also emerged as the largest bullion trader in the sub-continent, importing and selling the largest quantity of gold and silver. The Mica Trading Corporation of India Limited (MITCO) was incorporated in 1973 as a wholly owned subsidiary of MMTC to look after the business of mica exclusively. Due to the steady decline in turnover which had turned negative, BIFR ordered merger of MITCO with MMTC from 1 April 1995.

Human Resource Accounting Practices in MMTC

MMTC has always recognised that every member of the company whether a manager or staff, is an essential ingredient of the total HR of the corporation. Unlike those trading organisations whose business consists mainly of purchase and sales transactions, MMTC's business includes customer servicing and, therefore, implies field operations, MMTC has distribution centres in Madras, Bangalore, Hyderabad, Cochin, Calcutta, Haldia, Bombay, Ahmedabad, Delhi, Ludhiana, kanpur, Jaipur and Yamuna Nagar. Of total working strength, about one-third are involved in aforesaid field operations. Because of field operations and customer servicing, deployment and management of human resources assume special significance for the Corporation.

Despite the constraints and challenges MMTC has taken lead in introducing HRA in the organisation HRA in MMTC covers all the employers irrespective of their cadre, pay and experience. For the purpose of HRA, all the employees of MMTC have been classified into two broad categories namely managers and staff. Supervisory and non supervisory cadre, employees are called as staff. This classification of employees has been made on the basis of pay scale and status in the organisation. It is greatifying to note that, apart from calculating the value of human asset, MMTC has also decided to analyse the turnover and the value added of these human assets. HR of the corporation have been evaluated by working out the present value of the anticipated future earnings of the employees after taking into account the present pay scale and the promotional policies.

The computation of HR value has been based on the guidelines and principles enunciated in Lev and Schwartz Model. The break up of total HR deployed. So in term of managers and staff, during 1982-83 to 1997-98 as well as their total values calculated on the lines indicated above has been depicted in table (4.14). It is observed that total number of employees increased from 3534 in 1982-83 to 3862 in 1987-88 thereafter there is a declining trend in the number of employees. In the year 1997-98, the number of total employees stood at 3144 which if compared with 1982-83 has recorded a decrease of 11.04 per cent over 1982-83. The decrease in the number of employees in MMTC is also due

Table (4.14)
Showing Trends in Professionals Profile and Valuation of Human Resource in MMTC Ltd.
(Period 1982-83 to 1997-98)

(Rs. in Millions)

		82-83		83-84		84-85		85-86		86-87	
	CATEGORY	No. of Employees	Value (Rs.)	No. of Employees	Value (Rs.)	No. of Employees	Value (Rs.)	No. of Employees	Value (Rs.)	No. of Employees	Value (Rs.)
1.	Managers	482	153.6	490	164.4	751	236.7	784	298.7	930	395.0
		(13.64)	(20.71)	(13.75)	(19.10)	(20.64)	(26.11)	(20.85)	(24.79)	(24.28)	(28.14)
2.	Staff										
	(a) Supervisory	509	111.2	735	208.4	1,137	318.5	1146	387.9	1,085	421.6
		(14.40)	(14.99)	(20.62)	(24.22)	(31.25)	(35.13)	(30.48)	(32.19)	(28.33)	(30.03)
	(b) Non-Supervisory	2,543	476.9	2,339	487.8	1,750	351.4	1830	518.5	1,815	587.1
		(71.96)	(64.30)	(65.63)	(56.68)	(48.10)	(38.76)	(48.67)	(43.03)	(47.39)	(41.83)
	Total Staff	3,052	588.1	3,074	696.2	2,887	669.9	2976	906.4	2,900	1008.7
		(86.63)	(79.29)	(86.25)	(80.90)	(79.36)	(73.89)	(79.15)	(75.22)	(75.72)	(71.86)
	Grand Total	3534	741.7	3564	860.6	3638	906.6	3760	1205.1	3830	1403.7
		(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)

		87-88		88-89		90-91		91-92		92-93	
	CATEGORY	**No. of Employees**	**Value (Rs.)**	**No. of Employees**	**Value (Rs.)**	**No. of Employees**	**Value (Rs.)**	**No. of Employees**	**Value (Rs.)**	**No. of Employees**	**Value (Rs.)**
1.	**Managers**	968	429.3	939	505.9	1302	900.6	1243	1113.9	1010	931.9
		(25.06)	(37.25)	(24.54)	(29.05)	(33.94)	(38.06)	(35.84)	(39.99)	(31.12)	(36.70)
2.	**Staff**										
	(a) Supervisory	1,256	528.6	1328	665.47	800	513.6	638	481.3	584	487.5
		(32.52)	(45.87)	(37.70)	(38.21)	(20.86)	(21.70)	(18.40)	(17.28)	(17.99)	(19.20)
	(b) Non-Supervisory	1,638	623.5	1560	570.22	1734	952.2	1767	1189.8	1652	1119.9
		(42.41)	(54.10)	(40.76)	(32.74)	(45.20)	(40.24)	(50.95)	(42.72)	(50.89)	(44.10)
	Total Staff	2,894	1,152.1	2888	1,235.69	2534	1465.8	2405	1671.1	2236	1607.4
		(74.93)	(99.97)	(75.46)	(70.95)	(66.06)	(61.94)	(69.55)	(60.00)	(66.88)	(63.30)
	Grand Total	3862	1581.4	3827	1741.63	3836	2366.4	3648	2785	3246	2539.3
		(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)

		93-94		94-95		95-96		96-97		97-98	
	CATEGORY	**No. of Employees**	**Value (Rs.)**	**No. of Employees**	**Value (Rs.)**	**No. of Employees**	**Value (Rs.)**	**No. of Employees**	**Value (Rs.)**	**No. of Employees**	**Value (Rs.)**
1.	**Managers**	929	1008.4	946	1159.5	1.060	2,342.3	1140	3040	1019	3637.5
		(30.00)	(32.48)	(30.71)	(32.63)	(35.09)	(36.57)	(33.43)	(35.04)	(32.41)	(37.59)
2.	**Staff**										
	(a) Supervisory	591	566.2	611	639.6	461	934.8	733	1916.6	743	2545.7
		(19.09)	(18.23)	(19.84)	(17.10)	(15.26)	(14.59)	(21.50)	(22.09)	(23.36)	(26.30)
	(b) Non-Supervisory	1576	1530.5	1523	1754.31	1,500	3,128.6	1537	3718.7	1382	3494.5
		(50.90)	(49.29)	(49.45)	(49.37)	(49.69)	(48.84)	(45.07)	(42.87)	(43.96)	(36.11)
	Total Staff	2167	2096.7	2134	2393.9	1,961	4,063.4	2270	5635.3	2125	6040.2
		(69.99)	(67.52)	(69.29)	(67.37)	(64.91)	(63.43)	(66.57)	(64.96)	(67.59)	(62.41)
	Grand Total	3096	3105.1	3080	3553.4	3,021	6405.7	3410	8675.3	3144	9677.7
		(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)

Note : Figures within brackets indicate percentage to total.
Source: Annual Reports, MMTC Ltd.

(4.15)
Showing Trends in Performance Indicators of MMTC Ltd.
(Period 1982-83 to 1997-98)

Rs. in Millions

ITs application	82-83	83-84	84-85	85-86	86-87	87-88	88-89	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98
	Value (Rs.)	Value (Rs.)	Value (Rs.)	Value (Rs.)	Value (Rs.)	Value (Rs.)	Value (Rs.)	Value (Rs.)	Value (Rs.)	Value (Rs.)	Value (Rs.)	Value (Rs.)	Value (Rs.)	Value (Rs.)	Value (Rs.)
Value of Human Assets	742	861	907	1205	1404	1581	1742	2366	2785	2539	3105	3553	6406	8675	9678
Fixed Assets (Net) at	43	48	57	63	98	112	178	200	198	203	213	222	254	389	422
Current cost															
Investment	518	33	33	40	358	561	1108	2326	2332	2332	2509	2706	2516	2561	1865
Net current Assets atCurrent Cost	1190	1843	2725	3254	1988	1886	4732	11095	3248	4639	3257	6022	6096	5379	5316
Total Resources	2493	2785	3722	4562	3848	4140	7760	15987	8563	9713	9084	12503	15272	17004	17281
Turnover	12050	13106	27753	30005	27819	28941	38800	56230	81158	51225	32173	52626	62240	47385	44734
Value Added	1148	890	1417	1459	1786	1540	2071	3440	4558	2626	2026	2679	6689	5169	5516
Ratio of:															
Turnover/Human Resources	16.24	15.22	30.60	24.90	19.81	18.30	22.27	23.76	29.14	20.17	10.36	14.18	9.72	5.46	4.62
Value Added/Human Resources	1.55	1.03	1.57	1.21	1.27	0.97	1.19	1.45	1.64	1.03	0.64	0.75	1.04	0.60	0.57
Human Resources/Total Resources	0.30	0.31	0.25	0.26	0.36	0.38	0.22	0.15	0.33	0.26	0.34	0.28	0.42	0.51	0.56

Source: Annual Reports, MMTC Ltd.

to VRS and rightsizing policies of the Government of India, more specifically with the onset of new economic policy of 1991, a deeper probe of data also reveals the professional profile of HR. In the year 1982-83, the managers constituted only 13.64 per cent of total employees. Next to managers are supervisors who have outnumbered the managers just being 14.40 per cent of the total employees. Non-supervisory staff constitutes the 71.96 per cent of total employees. There is large number of employees in this category because of the field operation of MMTC at its distribution centres.

Looking at the value of HR in MMTC, it is observed that 3534 employees in 1982-83 were valued at Rs. 741.7 millions which has gone up to Rs. 8677.7 millions in the year 1997-98 – an increase of 1204.79 per cent over 1982-83. Further break up of category wise valuation of employees reveals that the total value of managers in 1982-83 was Rs. 153.6 millions i.e. 20.71 per cent of total value of all employees. Staff consisting of supervisory and non-supervisory cadre were holding 79.29 per cent of total value of all employee in 1982-83, out of which 64.3 per cent of total value of all employees was attributed to non-supervising staff during the same period. In the year 1997-98, the total value of managers was Rs. 3637.5 millions i.e. 37.59 per cent of total value of all employee which is much more than that of supervisory staff.

The value supervisor was 2545.7 millions being 26.30 per cent of total value of all employees. As usual the number of non-supervisory personnel was highest in 1997-98, so was their value as compared to other category of employees. Their value was 62.11 per cent of total value of all employees during the same year.

Inferences drawn from the HRA practices in MMTC clearly indicate that the corporation had been evaluating its HR regularly upto the year 1997-98. Though the number of employees has decreased with the passage of time but their value has gone up sharply during the course of time. In the meanwhile, it is important to mention that alike other public sector undertakings like BHEL and SAIL, the MMTC has also discontinued the practice of evaluating its HR since 1998-99. The accounts department did not give any definite answer to our query about changed policy of the corporation, regarding HR valuation. But it is presumed that due to similar reasons of discontinuing HR valuation in BHEL and SAIL, MMTC has also switched to the existing practice and has reverted back to traditional practice.[19]

Conclusion

The foregoing assessment of the application of HRA Practices in Public Sector Enterprises in India lead to some important findings. Though access to data has been a limiting factor in almost all companies taken up for the study, yet an endeavor has been made to make the study more meaningful and purpose-oriented. Financial statements of all the five companies reviewed for study of HRA practices reveal that they are all optimising their human resources to cut costs. These companies have been offering friendly Voluntary Retirement Scheme (VRS) to their employees. For instance, in BHEL alone, over 1300 employees have taken advantage of the scheme. Over the years, the staff strength in BHEL has come down from 62000 to 47172. This was done through VRS between 1999 to 2002. The move is aimed at making the organisation leaner through downsizing, now called by these companies as rightsizing and rationalisation of the work force. This is a good attempt on the part of public sector enterprises as one of the most important reasons of poor performance of these enterprises has been use of manpower in excess of requirement i.e. over-staffing. But a significant change that appears from the survey and study of the annual reports is that out of five companies, namely, NTPC, BHEL, SAIL, MMTC and ONGC, only three companies, namely, BHEL, SAIL, MMTC have stopped the valuation of HR after doing it far several years. NTPC and ONGC are still evaluating HR performance. How long ONGC and NTPC will continue with this practice is still not known. It should, however, be note that by discontinuing the HR valuation, public sector enterprises will have a poor impression on the society in general and employees in particular.

Thus far, we have assessed the HRA practices in some of the public sector undertakings in India. The important inferences have also been drawn with respect to the application of HRA practices in these organisations. In the next chapter, a study of the HRA practices in some of the private sector companies in India has been taken up in order to indicate the differences, if any, in the approaches of both the sectors.

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Chapter-V

Human Resource Accounting Practices in Private Sector Companies in India

CHAPTER V

HUMAN RESOURCE ACCOUNTING PRACTICES IN PRIVATE SECTOR COMPANIES IN INDIA

The preceding chapter analysed the application of human resource accounting practices in selected public sector companies in India such as National Thermal Power Corporation Ltd. (NTPC), Bharat Heavy Electrical Ltd. (BHEL),Steel Authority of India Ltd. (SAIL), Minerals and Metals Trading Corporation of India Ltd. (MMTC), and Oil and Natural Gas Corporation Ltd.(ONGC).

The present chapter makes a critical review of applications of HRA practices in private sector companies in India. At the outset it is worth mentioning that the importance of human beings as an asset has been recognised since times immemorial. Indian private sector realises the role of Human resource in attaining the goal of enterprise and hence, endeavours to create a favourable work environment that encourages and motivates the human resources to put in its best for the success of the organisation. Though the HRA practices are not commonly prevalent in all the private sector companies, yet there are certain forward looking organisations with modern outlook which have introduced HRA practice in their organisation.

The popular private sector companies which not only evaluate human resource but also report their values in the financial statements are:

1. Associated Cement Companies Limited (ACC)
2. Southern Petro-Chemical Industries Corporation (SPIC)
3. Infosys Technologies Limited (ITL)
4. Tata Engineering and Locomative Works (TELCO)
5. Satyam Computer Services Ltd.
6. Reliance Industries Ltd.
7. D.S.Q Software Ltd.

In order to assess the application of HRA, a sample of two important private sector companies namely Infosys Technologies Ltd. (ITL) and Satyam Computer Services Ltd. has been taken. An indepth study of the HRA practice in these organisation has been made. The study would be representative of application of HRA in the companies in Indian private corporate sector.

Infosys Technologies Ltd. (ITL)

Introduction

Seven Technocrats with a capital of approximately $250, established ITL in 1981 to provide software service to corporations in developed markets. In the early 1990s, with developments in telecommunication, technology, the company began implementing a model of maximising the effort delivered on a client project from cost-competitive and talent rich locations such as India. The company also made investments in quality processes, getting certified under ISO 9001 in 1993 and under the capability maturity of the Carnegie-Mellon Software Engineering Institute (SEI CMM) in 1997. The company believes in using "speed and imagination" to deliver superior results to all its stakeholders. It was the first Indian public company to offer an Employee Stock Option Plan, the first Indian company to list on a US Stock Exchange, and sets standards for transparent financial disclosure, investor relations and corporate governance. Infosys is also employer of choice in India, having been voted No.1 Employer in two independent surveys by prominent Indian corporations.

The Infosys Board is comprises of 5 founder directors, 3 employee directors and 8 independent external directors. The external directors are respected professionals in the area of business, strategy, law and public policy. The Board has four committees –Compensation, Audit, Nominations (comprised of external directors only) and Investor Grievances (contains internal directors but headed by an external director). These committees meet regularly and their reports are included in the quarterly and annual reports to shareholders.

Vision and Growth Strategies

Infosys was started with a dream of creating and sharing wealth through an ethically run, world-class corporation. The vision of Infosys is to be a globally respected corporation that provides best of breed software solution delivered by best-in-class people. *Qualities and characteristics that differ Infosys from its* peers are; abundant high quality personnel; world-class quality processes; enduring client relationships; a visionary management; conservative financial risk management and corporate governance policies; world class infrastructure; and perfection of a winning global software services delivery model. Infosys aims to grow by expanding its relationships with existing clients; adding new, market-driven services; adding new clients and adding personnel. Infosys is today one of the most profitable IT services companies in the world and intends to maintain profitability within an acceptable band. Infosys substantial complies with the following Corporate Governance Standards:

- Recommendations of the US SEC's Blue Ribben Committee on Corporate Governance.
- Euro Shareholders Corporate Governance Guidelines 2000.
- Generally Accepted Corporate Governance Guidelines of Australia, Canada, France, Germany, Japan and the United Kingdom.
- United Nations Global Compact Programme.

Organisational Structure and Human Resources Development in ITL

Infosys is organised as "Practice Units" (PUs). These tend to be organised either along geographic, technological or vertical lines. The Practice Units are:

- Canada and Eastern North America
- Southern North America
- Western North America
- Europe
- Asia Pacific
- Communications and Product Services
- Engineering services
- Enterprise solutions
- Business consulting service
- Banking business unit

In addition, there are several support departments:

- Education and Research
- Human Resources
- Finance and Administration
- Computers, Communication and Networking services
- Information systems
- Quality

Infosys has chosen the geographic method of organisation for optimal customer service and cross functional coordination. The focus on vertical/technologies ensures adequate attention to nascent practices. Most of Infosys recruits come fresh out of engineering schools, but it has an active lateral recruitment programme. Prospective employees who meet basic academic standards are required to take a test of "Learnability" (defined within Infosys as the ability to extract generic learning from one situation and apply that to a new unstructured situation). People who pass the test are then interviewed and successful candidates in the interview are made an offer.

Entry-level employees go through a classroom-training programme for 14 weeks. This programme focuses on generic principles of software engineering and programming, quality processes and imparts training in specific contemporary technologies. The company's utilisation rate, excluding trainees, is between 70 to 80 per cent. Utilisation is reported by including and excluding trainees. Due to the high growth and recruiting, the company believes that it is important to separate out the influence of the new trainees on utilisation rates.

Infosys has sound people management practices to create healthy environment. It distinguishes the company among other technology companies, enabling Infoscions to excel and innovate in what the company do for its client and in what they stand for as a company. Challenging and exciting client engagements and an organisational culture that emphasises learning drive every Infoscion to excel in his individual capacities and as team players. Be it technology or pr'oject managements, each client engagement provides unique opportunities to innovate and excel –to build next generation technology product or realise IT programmes that change the ways of business for it clients.

As a dynamic and fast growing company, this excellence extends beyond technology roles and is equally important to how they manage and sustain this rapid growth. The spirit of innovation and excellence is most evident in how they build and manage their physical, technological, or people infrastructure – or in what they do for financial, marketing, and quality practices.

The spirit of learning among people and an organisational commitment to continuous personal and professional development keeps Infosys at the forefront in a fast changing industry. Framework of focused programmes for its employees ranges from major initiative such as the Infosys Leadership Institute to various ongoing management development and personal improvement programmes. They complement a host of technology advancement and ongoing training options.

Dedicated organisations or groups within Infosys lead these initiatives. The investment in people and infrastructure to build a holistic learning framework demonstrates Infosys' commitment to continuous learning and building intellectual capital for the employees. This learning framework is continuously enhanced with new programmes and the latest learning technologies –and close knit coordination across these initiative ensures that it meets the different learning needs of the employees in specific areas of technology, management, leadership, cultural and communications skills, and other soft skills.

Apart from formal programmes – a typical example of an informal employee-driven programme is the Infosys Toastmasters Club, formed in 2000. The mission of this club is to provide a mutually supportive and positive learning environment to develop communication and leadership skills to foster self-confidence and personal growth. The club has been recognised by Toastmasters International and joins the roster of other recognised Corporate Clubs around the world (including those of Microsoft, Boeing, Citicorp and Sun Microsystems).[1]

Human Resource Accounting Practices in Infosys Technologies Ltd.

Infosys believes that valuing intangible assets and reporting it in the balance sheet and other financial statements would help investors to evaluate the market worthiness of the company. Infosys reported several benefits due to the early adoption of HRA. It is felt that by adopting HRA, the company could determine whether its human asset was appreciating over the years or not. This information was important for the company as its success depends solely on the knowledge of the employees. In addition, the company could also use this information internally to compare the performance and productivity of employees in various departments.

The company states in its annual reports that the dichotomy in accounting between human and non-human capital is fundamental. The latter is recognised as an asset and is therefore recorded in the books and reported in the financial statements, whereas former is totally ignored by accountants. The definition of wealth as a source of income inevitability leads to the recognition of human capital as one of the several forms of wealth such as money. securities and physical capital. To evaluate its intangible assets including the human assets and the 'Infosys' brand, Infosys had framed models based on a score sheet from the book. The company follows the Lev and Schwartz model for calculating the value of its human resources.

The formula used by Infosys as per the Lev & Schartz model was:

$$H = \sum^{E} \sum^{t} I_e(y)/(1+d)^{t-P_e}$$

where,

H = discounted present human capital value for all individuals in the company.

$I_e(Y)$ = annual earnings of employee e for year 'y'

d = discount rat specific to the cost of capital of the company.

R = retirement age

E = total number of revenue earning employees in the company

P_c = Present age of the employee

HRA model used by infosys is based on the present value of the employees' future earnings with the following assumptions:

An employee's salary package including all benefits, whether direct or otherwise, earned both in India and in a foreign nation. The additional earnings on the basis of age and group were also taken into account.

Thus in the financial year 1995-96, Infosys became the first software company to value its human resources. To calculate the value of its human assets in 1995-96, all the 1,172 employees of Infosys were divided into five groups, average compensation was calculated. Infosys also calculated the compensation of each employee at retirement by using an average rate of increment. The increments were based on the industry standards, and the employee's performance and productivity. Finally, the total compensation of each group was calculated. This value was discounted at the rate of 27.36 per cent per annum which was the cost of capital of Infosys and the sum for the values of all the groups was calculated to arrive at the figure of Rs. 1.86 bn. In the year 2003, the future earnings have been discounted at 16.99 per cent, the cost of capital for Infosys. Beta was assumed at 1.57, the beta for Infosys for India.[2]

To reveal, how ITL has valued its employees to whom it treats a key resource, a review of human resource structure and valuation has been done in table No.(5.0). It is evident from the data that the total number of employees has increased by leaps and bounds in ITL. The number of employees has registered an increase of 800.65 per cent in 2003 over 1997 i.e. it went up from 1705 in 1997 to 15356 in 2003. Similar, rise has been in the value of HR of ITL. Total value of HR was Rs. 278.55 crores in 1997, it jumped remarkably to Rs. 10417.03 crores in 2003 an increase of 3639.6 per cent over the same period.[3]

A further probe of data exhibits the category wise classification and valuation of HR in Infosys. It is observed that Software Delivery Group i.e. Production Staff was 75.84 per cent of total staff in 1997. The same rose to 91.18 per cent of total

Table (5.0)
Showing Trends in Professional Profile and Valuation of Human Resources in Infosys Technologies Ltd. (period 1997-2003)

As of March 31	1997		1998		2000		2001		2002		2003	
Group	No. of employees	Value of HR (Rs. in crores)	No. of employees	Value of HR (Rs. in crores)	No. of employees	Value of HR (Rs. in crores)	No. of employees	Value of HR (Rs. in crores)	No. of employees	Value of HR (Rs. in crores)	No. of employees	Value of HR (Rs. in crores)
Software delivery	1293	227.31	1755	397.31	4292	1965.14	7641	4406.53	9405	8662.99	14001	9717.98
	(75.84)	(81.60)	(67.37)	(78.60)	(79.64)	(87.83)	(77.72)	(86.01)	(87.59)	(90.82)	(91.18)	(93.29)
Support:												
Technical	157	33.80	472	59.67	450	81.65	1230	302.83	319	155.67	224	89.19
	(9.21)	(12.13)	(18.12)	(11.72)	(8.35)	(3.65)	(12.51)	(5.91)	(2.97)	(1.63)	(1.46)	(0.86)
Others	255	17.45	378	52.02	647	190.63	960	414.06	1014	720.49	1131	609.86
	(14.95)	(6.27)	(14.51)	(10.22)	(12.01)	(8.52)	(9.77)	(8.08)	(9.44)	(7.55)	(7.37)	(5.85)
Total	1705	278.55	2605	509.00	5389	2237.42	9831	5123.42	10738	9539.15	15356	10417.03
	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)

Note: 1. Support technical includes trainees, employees in R&D activities and support personnel allocated to production.

2. Figures within brackets indicate percentage to total.

Source: Annual Reports, Infosys Technologies Ltd.

staff in 2003. Similarly, the value of software delivery staff was Rs. 227.31 crores in 1997 i.e. 81.60 per cent of total value of all employees in the company. The value of this staff registering a growth of 4175.21 per cent in 2003 over 1997 went up from 227.31 crores in the year 1997 to Rs 9717.18 crores in 2003. The support staff which consists of technical and others was 9.21 per cent and 14.95 per cent of total staff in 1997. The same declined to 1.46 per cent and 7.37 per cent of the total staff in 2003. But Their value of has gone up significantly over the period of review. The value of technical staff being 12.13 per cent of total in 1997 became 0.86 per cent of total in the year 2003. In absolute term, it went up from Rs. 33.80 crores in 1997 to Rs. 89.19 crores in 2003 a rise of 3.65 per cent over 1997. Staff other than production and technical support category being 255 i.e. 14.95 per cent of total staff was valued at Rs. 17.45 crores i.e. 6.27 per cent of total value of all employees. The number of other staff rose to 1131 i.e. 7.37 per cent of total staff in 2003. Similarly the value of support staff has increased in 2003 when it was valued at Rs. 609.86 crores — a remarkable increase of 3394.89 per cent over 1997.

Financial statements of ITL reveal other indicators of HR also. To have a deeper understanding of HRA practices in ITL, the analysis of data has been done in table (5.1).

Table (5.1)

Showing Trends in Performance Indicators in Infosys Technologies Ltd. (Period 1997-2003)

As of March 31	1997	1998	2000	2001	2002	2003
Number of employees	1705	2605	5389	9831	10738.00	15356
Value of human resources	278.55	509.00	2237.42	5123.42	9539.15	10417.03
Total turnover	143.81	260.37	921.46	1959.94	-	-
Software revenue	139.22	275.66	882.32	1900.57	2603.59	3622.69
Employee cost	51.63	93.73	334.56	717.78	1117.87	1677.12
Value Added	100.02	185.79	723.31	1563.17	2239.07	3073.25
Net profits excluding extraordinary income	33.68	60.36	285.95	623.32	807.96	957.93
-Total turnover/HR value (Ratio)	0.52	0.51	0.41	0.38	0.41	-
-Total software revenue/HR values (ratio)	0.50	0.51	0.39	0.37	0.27	0.35
-Value added/HR value (ratio)	0.36	0.37	0.32	0.31	0.23	0.29
Value of HR per employee	0.16	0.19	0.42	0.52	0.89	0.68
Employee cost/ HR value (%)	18.54	18.41	14.95	14.01	11.72	1610
Return on HR value (%)	12.09	11.86	12.78	12.17	8.47	9.20

Source: Annual Reports, Infosys Technologies Ltd.

It is apparent from the data that the number of employees in ITL has gone up from 1705 in 1997 to 15356 in the year 2003. The value of HR has also increased sharply to Rs. 10,417.03 crores in the year ending March, 2003 as compared to Rs. 278.52 crores in the year ending on March 31, 1997 mainly due to inception of more HR in the company. However, these absolute figures do not reveal the real position. For the purpose of analysis, the relative value of an employee has also been calculated. The value of HR per employee was Rs. 0.68 crore in the year 2003 as compared to Rs. 0.16 crores in the year 1997. The ratio of total revenue to HR value decreased to 0.41 times in the year 2002 from 0.52 times in the year 1997. the return on HR value moved down to 9.20 per cent in the year 2003 as against 12.09 per cent in the year 1997.

Thus, inferences drawn from above analysis reveal that the company has been regularly evaluating its HR even since it started the process of valuation of HR. The number of employees has gone up tremendously. Similarly, their value has also multiplied sharply over a short span of 7 years. The value of all categories of employees has jumped significantly except technical staff. The reason being a highly sophisticated organisation, most of the HR belong to software delivery section. It all indicates that the company is keeping its commitment with its staff and seems really No.1 employer in IT sector as ranked by Dataquest several times.[4]

Satyam Computer Services Ltd.

Introduction

Satyam Computer Services Ltd was set up in 1987 with the primary objective to achieve excellence in the IT arena. By 1992, Satyam had established its status as one of the pioneers in offshore software development in India. Satyam's multi-faceted activities include Software Services & Engineering Services, Systems Integration, Electronic Commerce, Software Product Development and Management Consulting. Satyam offers software services covering a broad band of industry segments such as telecom, manufacturing, financial services, insurance, banking, industrial, health and transportation sectors. Satyam focuses on enhanced relationships with existing customers and addition of new customers by continued investments in technology, facilities and people. To realise its objective of becoming a truly global organisation, Satyam is setting up several offsite development centres in the USA and other parts of the world.

The Offsite Development Centre (ODC) defines Satyam's strategy to move closer to its customers and its markets. The ODC functions as a local software entity, executing projects on-site but utilising offshore capabilities wherever required. In the process, leveraging the width of its offshore project competencies, large resource pool and wide customer base to position the ODC to deliver a unique value proposition. Satyam's emphasis on customer satisfaction is also mirrored in its strong service support provided by dedicated teams of professionals located on-site at clients' locations, worldwide.

Satyam has constantly stepped up to the quality demands of its multinational clients by providing world class IT solutions. The Geneva based World Economic Forum has reaffirmed this, by conferring on Satyam the prestigious "Global Growth Company" award. Satyam is rated as one of India's fastest growing software solutions providers. This is made possible through the commitment and the dedication of nearly 3000 Satyam associates who integrate leading edge technology with innovation to provide the best IT solutions. Satyam celebrated the completion of an evenful 10 years across all offices as a 'Decade of Excellence'.

In keeping with the need for global quality IT solutions all over the world, Satyam has constantly focused on moving up the value chain. It has consistently built on its early foundation as one of the pioneers in offshore software development and has striven to add value in the range of its services.

Satyam Computer Services Ltd, is one of the select ISO 9001 Tick IT certified software solutions provider in India. It has set up six development centres across India and has opened offices in several countries including the USA, UK, Australia and Japan.

Satyam works closely with around 100 multinational clients, many of them Fortune 500 corporations. Satyam offers services in application development and maintenance, systems integration, conversion and migration and Year 2000 solutions. Anticipating the Year 2000 date problem, Satyam evolved its own comprehensive Y2K methodology – the SOS 2000, which is the first Indian methodology to receive the coveted ITAA 2000 Certification. Engineering services is another focus area where Satyam offers CAD/CAM/CAE services to several prestigious global clients.

Steering Committee

Satyam's Steering Committee is an apex body that gives strategic direction to the entire organisation. It strives to provide a global focus for Satyam, taking into account people, resources and systems within the organisation. All its deliberations and decisions are consistent with the Core Purpose and Core Values of the organisation. Core Purposes of Satyam includes, everaging information, knowledge and technology to enhance human endeavour and its Core Values are belief in people, entrepreneurship, customer orientation and pursuit of excellence.

Satyam's unique management style has been the nucleus of its success, where every Satyamite is considered an 'associate'. Built around the Concept of Circles, it has a two fold purpose i.e.

integration across functional barriers and emphasis on individual accountability. The concept of Circles facilitates and encourages the entrepreneurial spirit and empowers associates to effectively take appropriate decisions. The underlying principle of the concept is the importance given to customer satisfaction and the value addition to the service provided – be it an internal customer or external.

To bring sharper focus to the activities of circles, a well-defined structure has been evolved. Depending on the nature and scope of responsibility, the circles have been classified as Independent Business Unit (IBU), Strategic Business Unit (SBU), Strategic Support Unit (SSU), Customer Business Unit (CBU) and Internal Support Unit (ISU). The unique feature of the concept is the combining of operational freedom and the interdependency it builds between the circles to reach a common objective i.e. customer satisfaction.

In the area of technology, Satyam has always striven to provide its people with the latest tool and technologies. It world class development facilities include a sophisticated, high-speed data, voice and video communications network – **the Satyam Net.** Using dedicated 'hotlines', the network enables tele and video conferencing between clients across the globe and the Satyam teams back home. This enhances the levels of services provided to customers. Today, Satyam is equipped with the most sophisticated infrastructure at all its development centres and at the Satyam Technology Cetnres (STC).

Human Resource Accounting Practices in Satyam

The key to Satyam's success is its people. This is reflected in the credo of the organisation "**our people make the difference**". Satyam has evolved a well-thought out Human Resource Management System where the accent is not on merely hiring the best talent but shaping them into world class professionals.

Satyam has taken several pioneering measures in the area of innovative recruitment. As one of the steps in this direction, Satyam has identified a segment of non-software professionals who have excelled in their respective fields. Through Satyam's training efforts they have emerged as full-fledged software professionals.

Satyam has successfully attracted back well-qualified and experienced Non-Resident Indians by providing a professional environment and infrastructure on par with global standards. At Satyam, the focus is to constantly raise the levels of competency and capabilities of its people by providing the necessary learning inputs and a conducive environment for both professional and personal growth. As such, decision making is encouraged at all levels and the system of participative management is always at work.[5]

Satyam has been using the Lev & Schwartz model for computing the HR value. HR value is the present value of future earnings up to retirement age and in this model earnings are dependent on age alone. The professional profile of HR and their valuation is given in the following table:

Table 5.2

Showing Trends in Professional Profile and Valuation of Human Resources in Satyam Computer Services Ltd.

(Period 1998-2003)

	1998		2002		2003	
Group	No.of Associates	HR value Rs. in Lakhs	No. of Associates	HR value Rs. in Lakhs	No. of Associates	HR value Rs. in Lakhs
Development	2005 (88.91)	50,369.59 (92.00)	7898 (91.48)	555,758.05 (95.13)	9031 (92.54)	780,030.43 (94.83)
Support Functions	250 (11.09)	4471.62 (8.00)	736 (8.52)	28445.73 (4.87)	728 (7.46)	42,531.18 (5.17)
Total	2255 (100.00)	54,841.21 (100.00)	8634 (100.00)	584,203.78 (100.00)	9759 (100.00)	822,561.61 (100.00)

Note: Figures within brackets indicate percentage to total
Source: Annual Reports, Satyam Computer Services Ltd.

Above data indicate the number of associates and their values in Satyam Computer Services Ltd. during 1998 to 2003. The total number of associates consisting of associates deputed on Development and Support functions went up from 2255 in 1988 to 9759 to 2003 – an increase of over four times over the year 1998. Similarly, their value has registered a growth of 1399.89 per cent in 2003 over 1998 i.e. it rose from Rs. 54841.21 lakhs in 1998 to Rs. 822561.61 lakhs in 2003. Table also reveals that development staff which were 2005 in number were 88.91 per cent of total employees in 1998. Their value was also 92.00 per cent of total value of all employees during the same year. If compared the number and value of development staff of 2003 with that 1998, it is observed that their number has increased from 2005 in 1998 to 9031 in the year 2003 – a sharp rise of 350.42 per cent over a short span of four years. The value of development staff has also increased from Rs. 50369.59 lakhs in 1998 to Rs. 780030.43 lakhs in 2003 – a significant increase of 1448.61 per cent over 1998. The number and value of support staff has also gone up during the period under review. The number of support staff has become almost thrice in 2003 as compared to 1998 i.e. increased from 250 in 1998 to 728 in 2003. Their value has also increased from Rs. 4471.62 lakhs in 1998 to Rs. 42531.18 lakhs in 2003 – an increase of 851.14 per cent over 1998.

The above analysis leads to this conclusion that Satyam Computer Services Ltd. has been evaluating its employees on regular basis. The number of employees and their values in Satyam have gone up tremendously over the period under review alike other IT companies such as ITL. It is expected that the company will continue the existing practice of evaluating its human resources in the years to come also and will also continue to be a model employer.[6]

Conclusion

In fine, it can be safely deduced from the survey and study of the annual reports of private sector corporate entities in India that these companies are invariably reporting at annual general meetings that employees are their most valuable assets and without their significant contribution the present growth in production, sales and operations would not have been attained. They also value their human resources and report this information in their annual reports. The number and value of human resource has also tremendously risen over the period of study indicating the expanding horizon of these enterprises. As against this, the public sector enterprises of India are shrinking in terms of employment generation and switching to traditional reporting of information regarding human resources in their financial statements.

In the sixth and final chapter, thus the endeavour will be to conclude the entire research project and offer suggestions regarding HR valuation in Indian companies.

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Chapter-VI

Findings and Suggestions

CHAPTER-VI

FINDINGS AND SUGGESTIONS

The human resource is one of the most neglected aspects of accounting disclosures in India. The managements avoid to disclose the facts about human resources, whether they are pleasant or unpleasant facts. However, it is worthwhile to mention here that success of every organisation largely depends upon the effective and significant utilisation of men, machinery, materials and money. Buildings, plants, computers and other physical and financial resources are unproductive without human efforts and decisions. The results of application of physical and financial resources are reported in financial statements under conventional accounting practices.

Nevertheless, it is widely accepted that HR are the most important assets of the company. The chairmen of all the companies make their remarks at the Annual General Meetings such as "the HR are our most valuable assets and without their significant contribution, the present growth in production, turnover and operations would not have been attained," "I wish to place on record my sincere gratitude for the hard work done by the employees of our company." "I thankfully acknowledge the contribution of our employees etc". Although these qualitative pronouncements reflect the significance of HR in an organisation, yet they are neither valued annually nor incorporated in the financial statements of the companies.

It is against this background that the present study was undertaken to make an assessment of HRA practices in Indian companies. The entire work has been divided into six broad chapters so as to study almost all aspects of HRA in general and its applicability in Indian companies in particular.

Chapter I is an introduction of the whole research project. It reviews the various studies conducted in the field of human resource accounting. It has been brought out that no doubt research have been conducted on different aspects of HRA. A number of doctoral theses and research papers published by the scholars have also been surveyed.

The second chapter is a conceptual framework of human resource accounting. It deals with definitions, scope, problems and importance of HRA. It has been observed that HRA is the process of identifying and interpreting data about human resources and communicating this information to interested parties.

HRA is specially very significant in India because on the one hand human resources are in abundance while on the other hand there is a shortage of skilled and technically qualified people. In a technologically oriented society, human resources can not be ignored. HR is more important asset than any other tangible asset because without it other factors of production can not be utilised. Thus, this feature of the human asset places the human resource at a higher level than the non-human assets. Therefore, the investments on human resource has become an important factor in accounting systems. In fact, in the present accounting system, the investment on HR is considered as only revenue expenditure and not as capital expenditure. Hence, the amount invested on HR is not shown on the balance sheet along with other assets. This deficiency can be very well rectified through the concept of human resources accounting. By measuring the value of HR at different points of time, it can be revealed whether the management is building up HRs or depleting them. The importance generated through HRA can help the management in formulating policies and programmes for development of human resources. Such information can be used for making decisions in the areas such as manpower planning, appraisal of HRD programmes, identification of training needs, usefulness of cost reduction programme in view of their possible impact on human relations, studying the impact of budgetary control on motivation and morale of employees and facilitating allocation, conservation and reward of human resources.

Thus with the ever expanding dimensions and growing complexities of business activities, increasing governmental monitoring in business affairs, pressing trade unions' demand for greater disclosure on human performance in business and emanation of scientific management with in the organisation necessitate the development of a system of accounting for the associated men who are indispensable resources to an organisation. For the last few decades, the accounting scenario across the world has been much concerned with the valuation of human resources and reporting the same in the Annual Accounting Statements. The academicians and practitioners in the accounting world are deeply engrossed in the HRA issues and have shown an increasing interest in the application of the models, developed so far. Although the techniques of measuring HR and developments on these issues are still in their initial stage, they have created a widespread appeal.

Therefore, the third chapter of this study highlights the various approaches to the HR valuation. A number of valuation models developed over the last three decades and more have been discussed at length. These Models may be broadly divided into two categories : (i) monetary and (ii) non-monetary. Concepts and techniques have been developed to measure the value in non-monetary terms and such measures are recognised to have significant uses in decision-making which do not require monetary measures like, lay-off decisions. Non-monetary measures may also be used as surrogates for monetary measures. Flamhotz has suggested how non-monetary measures can be arrived at on the basis of the measure of variables that determine an individual's value. According to him. the expected realisable value of an individual can be measured by applying personnel evaluation methods like ranking. When people are ranked by their superiors, peers, subordinates, or an independent expert, it would provide an ordinal measure of people according to the evaluators' subjective assessment of the expected realizable utility. A measure of their economic value should then be possible in terms of their net contribution to the organisation, i.e. their gross value less the compensation and other costs associated with their utilisation. For this purpose, it is also necessary to take into account the probability of the individual maintaining his membership of the organisation for a specified period of time. It is suggested that acturial probabilities can be derived from the firm's past history, and subjective probabilities can be derived from managerial judgment.

A measurement model suggested by Taylor and Bowers, based on an earlier model of Likert and Bowers, provides an approach to the determination of group value in non-monetary terms. It is designed to measure the 'organisational climate' or the state of 'human organisation', which refers to the perception of the members of an organisation about the social and psychological reality in the organisation. For the determination of group value, a set of variables are selected for measurement including leadership processes, the character of motivational forces, communication processes, decision making processes and control processes. Taylor and Bowers constructed composite indices for various dimensions of organisational climate which might be taken to reflect a measure of the value of human organisation. Flamholtz as well as Taylor and Bower tested the validity of their respective models but conceded that the tests of validity should not be taken as conclusive.

Akin to the Taylor and Bowers models is another valuation model suggested by Scott Myers and Vincent Flowers. The model is based on the premise that the value of an employee to his firm rests on his attitude towards the job assigned, his superior, peers, working conditions, and the organisation as a whole. The performance of an employee that represents his value are contended to be a function of five variables; his knowledge, skill, health, availability and attitude, with the attitude variable having the greatest impact on the end-result of other for variables, i.e. performance. Thus, measurement of an individual's value is taken to be based on his attitude score. The model attempts to derive a monetary measure of the value by multiplying the attitude score by the annual salary of the individual concerned. The difference between this value and the employee's annual earnings is taken to be the gain or loss of the firm by retaining the employee. The subjectivity involved in this model with regard to the measurement of attitude score is obvious. Any miscalculation in the attitude score could significantly affect the outcome and a wide dispersion in the value of an individual employee.

Approaches to monetary measures of human resource value have so far centered round two basic perspectives, viz., cost and economic value. However, the measurement models based on cost and economic value are not mutually exclusive, though the differentiation is convenient for analytical purposes.

The earliest model based on historical costs of acquisition was developed for R.G. Barry Company by Brummet, Pyle, Flamholtz and Likert at the Institute of Social Research, Michigan University. The essential feature of the Acquisition Cost Model lies in accumulating the amount invested in human resources and amortizing the amount over the expected useful life of the human asset involved. This model is considered to be useful for both internal and external users of accounting data. It is contended that the model is based on objective information, that it facilitates comparison of levels of human resource investment on a basis consistent with accounting treatment of other assets. And that there is a fair matching of benefit exhaustion with expense in particular time period. However, this model ignores the aggregate costs of the employees' potential services. It does not also recognize changes in the human asset value.

As an alternative to, and sometimes in addition to, the historical cost basis of valuation, the use of replacement cost as basis of valuation has been suggested by some researchers. Flamholtz, for instance, has suggested a measurement model which involves valuation based on the cost to replace a firm's existing human resources. He has referred to two different concepts of replacement cost; 'individual replacement cost' and 'positional replacement cost', This model is considered to be useful in different phases of the manpower planning and control processes. But the applicability of the replacement cost concept may be doubtful, as individuals, especially higher level managers in an organisation, are unique in their talents and capabilities, and the replacement cost of such individuals may be difficult to measure. Analogous to the problem of replacement cost estimation of physical assets, there are a number of problems, more serious in nature, in undertaking the valuation of human assets on the basis of replacement cost.

The limitations of the replacement cost model are sought to be overcome by adopting the opportunity cost as a basis of valuation. This approach, suggested by Hekimain and Jones, involves a competitive bidding process whereby the managers of investment centres may be expected to indicate the value of scare employees. The bidding system, is advocated on the ground that it allows for optimal allocation of personnel and a quantitative basis for planning, evaluating, and developing human assets. Obviously, this model takes care of the valuation of only one category of employees. Those hired from outside are not included for valuation purposes.

A more widely used measurement model is that developed by Lev and Schwartz. This model is based on the hypothesis that, under the normal circumstances, future salaries may be used as a surrogate for the value of HR in view of the close correlation between an employee's compensation and his value to the firm. The value of human capital embodied in a person of a particular age is taken in the model to be the present value of his future earnings in employment. It involves:

a) Classification of employees into homogeneous groups according to age, level of skill, type of service and assignment;

b) Estimation of annual earnings for each group of employees; and

c) Calculation of the present value of the earnings of each group using an appropriate discount rate.

It is claimed that the measurement of human capital, thus made, would be more objective if estimates of an employee's service life are made on the basis of mortality table and census data. The model should also be useful in determining the ratio of human to non-human capital in the firm, and provide information about changes in the structure and age of the labour force. But it is implicitly assumed that employees will continue in employment until they retire, an assumption that is not generally valid. It may, thus, be argued that the value determined represents merely the value of employees to themselves and to the economy as a whole, rather than to the firm employing them. From the firm's viewpoint, the value is indicative of the present value of the future costs of employing people rather than the present value of future contributions of employees to the firm. Besides, the outcome of the valuation may be significantly affected if the discount rate selected is not appropriate.

Two other valuation models, which take into account the mobility of employees, are those developed by Flamholtz and by Jaggi and Lau. The former is referred to as the "Stochastic Process with Service Rewards" model. It is based on the assumption that employees are subject to a process to movement through time among different service stages in the organisation. The value of employees, it is suggested, can be determined on the basis of expected services in each service stage that they may occupy during their stay with the firm. It is possible to introduce the theory of probability to determine the expected stay of employees.

However, the valuation is proposed on an individual basis and the process of determining probabilities is likely to be time-consuming as well as expensive. The model developed by Jaggi and Lau may be regarded as an improvement over that of Flamholtz. It involves the use of group concept and Markov Chain Technique. The model takes into account the duration of employment as well as promotion path of employee for homogeneous groups of employees. Although researchers have applied this model in some cases and found it practicable, its application may be difficult by users in view of the complexity of the technique of stochastic simulation. Morse has suggested an alternative approach highlighting a possible difference in assumptions about the point in time at which the economic value of the employees may be determined. This approach requires less of computations, but with computerized procedures, that should not be regarded as a constraint.

Besides, foreign authors some Indian eminent scholars like S.K. Chakrobarty, Das Gupta, S.M. Shukla and Sunil Maheshwari, Kolay have also given their models of valuation of HR. But it has been observed that there is not even a single model which fulfils all the requirements of a model which could help in the process of HRD. Certain models fail to recognise the factors determining the value of HR whereas others have computational complexities.

With respect to the HRA practices in PSEs in India the Government of India took the initiative way back in 1968 by issuing the guidelines for incorporating the required information in the Annual Reports of the Public Sector Enterprises. The relevant guidelines relating to human resources are reproduced below:

- Employee – employer relations, strikes, lockouts, incentive schemes, training, etc.
- Staff welfare activities township, education, health facilities.

The above information can be called as part of HR information. Many public sector enterprises are disclosing this information as part of the Annual Report. Some of the companies have also ventured to value the human resources which they disclose in their Annual Reports. Such organisations were identified after scanning their Annual Reports from the year 1985-86 onwards. The computation of values of human resources in these companies is based on (a)Lev and Schwartz Model and Eric G. Flamholtz, Jaggi and Lau with suitable modifications required to suit the specific conditions of each organisation. It may be specifically mentioned here that all public sector organisations which evaluate HR do so on the basis of discounted future earnings of present employees and none has used the cost approaches.

It is important to note here, on the basis of survey of public sector enterprises, that several enterprises felt the importance of valuing human resources but many of the PSEs discontinued the practice after adopting it for a year or so. Hence it would not be proper to assume that all the public sector enterprises which started HR valuation are continuously valuing their human resources. It will also be relevant here to mention that valuation of HR in public sector in India is limited to a few selected enterprises only. Many of them discontinued the practice which does not really present encouraging scenario for HRA practices in India.

Even out of five top ranking public sector enterprises namely, BHEL, MMTC. SAIL, ONGC, and NTPC chosen as sample companies for assessment of HRA practices in India, all are not continuing the practices of HR valuation. It is surprising to note that the first three companies have discontinued the practice of HR valuation. Now only ONGC and NTPC evaluate their employees using Lev and Schwartz model of HR valuation and also report the same in their financial statements.

For making a comparative analysis, two companies from Indian corporate sector were selected for studying the application of HRA practices. It has been observed from the survey and study of financial statements of these companies that both the companies, namely, Infosys Technologies Ltd. and Satyam Computers Services Ltd. have not only been regularly evaluating their human assets but also reporting their values in financial statements. There has been significant increase in the number of employees and in their values as well.

In order to get rid of overstaffing, the government has offered Voluntary Retirement Scheme for public sector employees. Consequently, the number of employees has decreased in almost all public sectors companies. The sample units are not an exception. This is undoubtedly in the interest of public sector enterprises as one of the reasons for poor performance of public sector companies has been over staffing due to political reasons. The rationalisation, thus, will help to present a better picture and image of public sector companies in India.

The main findings of the study, emerging from the foregoing analysis of HRA practices in Indian companies, clearly indicate that human resource accounting has not been introduced so far as a system in India. The Indian Companies Act, 1956 does not require furnishing of any significant information about human resource in financial statements of companies except disclosure of statistical information regarding employees of the companies in their Annual Reports, under section 217 (2A) of the Indian Companies Act 1956 regarding the particulars of those employees drawing Rs. 12,00,000 per annum or above. These particulars include names of the employees, designation and nature of duties, gross and net remuneration received, qualifications, age of the employee, experience, date of commencement of employment and particulars of last employment held by the employee. As far as HRA is concerned the disclosure of particulars of employees by companies in fulfilment of statutory requirement of section 217 (2A) is not sufficient to draw any conclusion. Moreover, the Institute of Chartered Accountants of India (ICAI) has issued so far 29 accounting standards on different technical aspects of accounting but it has not been able to bring any definitive accounting standard for measurement and reporting of cost and value of HR of an organisation. The existing accounting standards, however, fully support the adoption of HRA for the purpose of meeting their own requirements in true sense. The result of non-disclosure of human resources cost and value information in financial statements of business enterprises, has been that financial statements do not reveal any quantitative information on human resources side and the statement of affairs is improperly reported to different authorities.

The dichotomy in accounting between human and non-human capital is rather fundamental in that while latter is recognised as an asset and recorded as such in the financial statements, the former is totally ignored. With the accelerated growth in science and technology the value of human capital is gradually increasing and hence it is essential for a company to reflect the investment in human resources.

Recently, the idea of HRA attracted the minds of many scholars viz., Hermanson, Hekiman jones, Likert, Flamholtz, Brument & others. These scholars are of the view that all the assets of the company including the human asset must be properly treated, analysed and reported by an accounting system in view of the long-term interest of the organisation. Hence the need for Human Resource Accounting.

HRA is necessary to disclose what is happening to the energy of human beings and what is their value for management, and to find out the productivity of investment on human beings in organisation. It is the scaling tool that generates and reports quantitative control information about the contribution of HR for promoting industrial productivity.

The application and usefulness of HR measurement depends on the future efforts and experiments to be made by practicing managers, accountants and academicians. The application of HRA also needs support from the professional bodies and Government.

In the absence of HRA the management may not realise the negative effects of certain programmes aimed at improving profits in the short-run. Such programmes may result in decreased value of human assets due to fall in the productivity levels, high labour turnover, low morale, etc.

The success of an organisation largely depends on the quality of workforce at all levels. The success stories of BHEL, ITC, Hindustan Lever, Larsen & Turbo, Infosys Technologies Ltd., Satyam Computer Services Ltd. and several other enterprises are mainly due to the emphasis on human resource development.

It is noted, after going through present literature and practices of human resources information, that there is no uniformity in professional areas as to which information must be provided in financial statements. There is also a wide gap in the disclosure of human resource information in the financial statements of different companies.

In addition to the aforementioned general findings there are some specific findings of this study with regard to HRA practices of all sample companies. These particular findings are as follows:

Of the five public sector enterprises surveyed, BHEL and SAIL disclosed maximum information regarding human resource when compared to ONGC, NTPC and MMTC. The pattern followed by NTPC, ONGC and MMTC in disclosing their HR information is, however, different from BHEL and SAIL. Information in respect of the following was disclosed by all the five sample companies:

1. Personnel payments which include wages and salaries, fringe benefits, incentives, retirement benefits workmen compensation, employer contribution towards Provident Fund;
2. Medical expenditure, which includes the amounts spent on maintenance of the health centres, panel doctors, medical allowances, maternity benefits and family planning benefits to employees;
3. Welfare expenditure which includes the maintenance of toilets, washing and bathing facilities, crèches and child welfare, rest rooms, canteens, recreational, transport, housing and educational facilities; and
4. a passing reference to the state of industrial relations.

The Information in respect of the following items was not disclosed by all the five sample companies:

1. Profile of employee which includes catergorisation of employees on the basis of status, age, sex, income experience and SC/ST;
2. Human resource acquisition costs which include identification of vacancy position, advertisement, inviting applications, selection, recruitment, placement and familiarization costs;
3. Levels and extent of participation of employees in the planning and control process;
4. Attitude of employees towards management and regulatory measures; and
5. Management audit and analysis of impact of human resource accounting disclosure on profit.

Further analysis of the items of human resource disclosure by the enterprises is given below:

The BHEL, SAIL and MMTC evaluated their human resources on the basis of the Lev and Schwartz model. BHEL provided detailed HR information in its Annual Reports till the year 1992-93 only and from 1993-94 onwards the valuation of HR has been discontinued. Now, only brief HR information and human cost summary is published in annual reports of BHEL, SAIL also sailed in the same boat after 1993-94, and like BHEL, it is also reporting limited information of HR and has stopped valuation of HR in financial statements. The MMTC has also joined the race with effect from 1998-99. Even the categorisation of employees has been condensed ever since these companies discontinued the HR valuation. Presently, only two sample public sector companies out of a total of 5 surveyed for the study, are not only evaluating their HR but also furnishing this information in financial statements. On personal querry, it was the plea of the enterprises which have discontinued the HRA practice that now only relevant disclosure is made in financial statement. Excessive human disclosure is not binding on us under any accounting standard. Apart from this publication of detailed HR information makes our Annual Reports bulky was the instant answer of respondents. It will also not be wrong to say that now the wave of liberalisation, privatisation and globalisation is going to bury Indian Public Enterprises. When these enterprises are gradually losing their own existence, what to talk of their human resources. It is evident from the fact that not only number of the employees in all public sector companies has declined but also there is regular take over of one or the other public sector company by the private sector enterprises.

On the contrary, private sector in India has become an emerging sector in regards to disclosure of adequate information regarding human resources. Due to ever expanding development of private sector in India, the number of employees is increasing in it. It is evident from the survey of two private companies namely ITL and Satyam that not only the number of employees has been increasing continuously in these two companies but also their value is also multiplying each year. Moreover, both the sample companies have been disclosing maximum information when compared to public sector companies. In general, traditional accountants have paid greater attention to money, material and other physical resources in enterprise accounting as compared to human resources. Whatever is spent on acquisition, training and development, maintaining, placement, transfer, replacement etc. of human resources by a firm has been generally treated as revenue expense by the accountants. No part of the cost of human resource is generally capitalized and shown on a Balance Sheet as an Asset.

The accountants have always been very conservative in their approach towards treatment of human resources. However, it is not wholly true to say that they have completely failed to recognise the value of human resource. The study reveals the need for modifications and improvements in the present system of HRA. Some of the useful suggestions are listed below:

Firstly, greater awareness should be developed in reporting of human resource information. appropriate methods must be evolved for reporting human resource information to make organisation socially responsible and accountable.

It is difficult task to enlist exhaustively the suitable items of human resource through available literature, annual reports, journals etc. However, there is need for a suitable list of items which can cater to the need of most of the users. Whatever has transferred from the present study is that the following information regarding HR should be reported by an organisation in its annual reports:

(i) Disclosure of valuation of human resources.

(ii) Disclosure of employees cost such as information of salary with break-ups; employees cost for different segment; man-power development cost and production hours lost.

(iii) Disclosure of Productivity/Performance Ratio's such as, production per employee (in terms of Quantity); value-added per employee; employee costs to output value; value-added to Human Resources; profit-before tax to Human Resources; turnover to Human Resources; value of human assets to fixed assets (at current cost); human resources to total resources; Value of Human Resources per Employee; capital investment per employee: average age per employee; turnover per employee; profit before tax per employee; output value per employee and utilization ratio.

(iv) Disclosure of Employees Statistics: Employees' Classifications: Based on Type of work; Qualifications and Grade Trade. Apart from this age-wise distribution; Geographical Distribution; segment-wise Distribution; and information of employees of weaker section, SC/ST and others.

Other disclosures may include average monthly earning per employee, average cost of fringe benefits per employee; capital investment on social benefits per employee; social overhead per employee; contribution to exchequer per employee; awards to employees; ratio of minimum to maximum earning; regular communication with employees; industrial relations and highlight on labour welfare programmes.

Though, the aforementioned information regarding HRs must be published in annual financial statements but even the companies evaluating HR do not report HR information on the above pattern. There is no doubt that HR information has vast potential in the modern era. It is useful in manufacturing concerns, where human resources play a major role. HR information may be useful for the management in particular and for the investors in general. It should be the duty of an organisation to disclose human resource information in proper perspective.

Secondly, the accountants should assetise the following historical costs and amortise these on the basis of expected service period based on 'group' probabilities of staying with the firm:
Cost of recruitment, advertisement, consultancy, interview cost, etc.; cost of familiarization, employee's salary and benefits during acquaintance period, relocation expenses, staff over-time for getting ready for the new incumbent, nursing costs, etc.; setting in period cost 'new ideas' trial and experimentation costs, on the job learning costs. Development costs, internal as well as external training and/or refresher course costs. The information should be utilised whenever a placement, transfer, promotion, demotion, retrenchment or acceptance of resignation decision is to be taken. Similar costs of the replacement should also be computed for the purpose of the last two decisions. Such information related to individual employees may be maintained on service record cards. This will obviate the need for opening ledger account for every individual employee.

The unamortised balance of HR costs will appear on the balance sheet just like Deferred Revenue Expenses or alternatively as Prepaid Expenses. The amount written off annually should be included under the heading 'Wages and Salaries' or 'Establishment Expenses', and should be disclosed separately.

Thirdly, the accountants should seriously reconsider the existing treatment of goodwill. Valuation of goodwill should not be based on net profit only. The factors affecting goodwill should be separately identified, suitably grouped and valuation of each factor group should be separately made. The grouping may be as Internal Human Resources; External Human Resources; Customers and others, factors like special license, trade mark, strategic locational advantage, etc. Valuation of internal human recourses should be based on periodical morale surveys, exit interviews and other similar techniques. The employee turnover, friction, awards and punishments should be properly recorded and analysed. Rates computed for such data should also be utilised while evaluating internal human resources. External human resources should also be evaluated on the basis of periodical opinion surveys. The data regarding customer and shareholder grievances should be maintained. The rates of shareholder and customer turnover should also be computed, wherever feasible. The public image of the enterprise should be evaluated through sample surveys.

The indicators of the trends in external and internal human resource value should be carefully analysed. The traditional valuation of goodwill based on average profits or super profits should be carefully adjusted in the light of the facts, revealed by the evaluation of internal and external human resources. The occasion for valuation of goodwill should not arise only when ownership is to be changed or re-organisation is to take place. In fact, it should be a regular exercise. The internal as well as external accounting reports should contain separate information regarding changes in that part of goodwill which represents internal human resources and that part which represents external human resources. In order to complete the dual aspects of a transaction, the changes in the value of goodwill should be debited or credited to a separate capital account appearing on the liabilities side of the balance sheet. This account may be entitled as 'Human Capital Account'. The existing capital account may be renamed as 'Money or Financial Capital Account'.

Fourthly, as there is not even a single model which fulfils all the requirements of a model which could help in the process of HRD. There is an urgent need for great deal of research with regard to evolving a system of accounting for human resource which could be of considerable help in the process of human resource development. Whatever. researches in the field of HRA have been done throughout the world are still in their initial stages. Further researches in the field of macro perspective of human resource accounting, formulation of human resource performance standards in the light of corporate goals: the development of usable systems and procedures of human resource accounting; the adaptation of human asset accounting to the administration of productivity programmes and incentive systems are needed.

Fifthly, as the HRA helps in making goal oriented managerial and investment decisions, the Institute of Chartered Accountants of India should make human resource valuation in the annual reports mandatory by issuing an Accounting Standard or alternatively Section 217(2A) of Indian Companies Act, 1956 should be amended to make it compulsory on the part of all companies having a particular amount of share capital to evaluate their human assets and report the same in their Annual Reports.

Sixthly, human resource should be regarded as an inseparable part of the accounting system. They should be treated as assets like other financial and physical assets. It will be possible only when companies not only value them but also incorporate that in the financial statement at least in the form of supplementary statement.

Seventhly, efforts should be made to evaluate the human resources on the basis of their 'net contribution' to the profit and loss account of the company. This can be done by way of estimation of net contribution from one year to other after making adjustment for all such types of factors like price fluctuations during evaluation period and policies of the government etc.

Finally, it is suggested that managements in general and accountants in particular should pay adequate attention towards the strenghting of the human resource reporting system with a view to catering to the information requirement of a cross-section of the society in the light of the fast changing socio-economic and legal environments.

In fine, HRA is emerging as a new concept being developed to assess the value of HR involved in production and service of an organisation. The non-disclosure of HR information will have a negative impact on the decisions of several parties to the enterprise including the investors. Undoubtedly, in the absence of any legal enforcement there is no compulsion or motivating force behind the adoption of HRA practices in Indian companies except image building and fascination towards the latest accounting system. It is sincerely hoped that in the years to come this aspect would be reflected in the financial statements of all the organisations and its relevance and scope would be recognised by all concerned.

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Appendices

APPENDICES

Appendix-I:

QUESTIONNAIRE

Name of Executive : ....

Age : ....

Designation : ....

Sector : Public / Private

Note : Please tick the correct choice

(1) With the application of HRA Practices in Indian companies

a) Agree

b) Disagree

c) No opinion

(2) if agree give your preference of model for measurement of HR

a) Monetary

b) Non-monetary

(3) if monetary method, which one of the following:

a) Historical cost

b) Replacement cost

c) Opportunity cost

d) Economic value

e) Stochastic Rewards value

f) Any other

(4) if non-monetary, which one of the following :

a) Expected Realizable value

b) Discounted Net Present value

c) Value of employee based in attitude scores

d) Any other.

(5) Whether it will be helpful for accounting purposes Yes/No

(6) Whether it will make the disclosure consistent our time Yes/No

(7) Whether it will make inter period comparison easier Yes/No

(8) Whether it will be more credible to external users Yes/No

(9) Whether it will be subject to audit Yes/No

(10) Whether it will be more easily understood Yes/No

(11) Whether it will be expensive to adopt Yes/No

(12) Whether it will affect conventional accounting Yes/No

(13) Whether year-to year changes in value can be fully explained Yes/No

(14) Whether it is expensive in terms of additional staff / time involved Yes/No

(15) Whether HR can be valued objectively Yes/No

(16) Whether evaluation will be disputed Yes/No

(17) Whether employee will develop an attitude of self importance Yes/No

(18) Whether professional institutions have made it obligatory Yes/No

(19) Whether there is a legal compulsion to value HR Yes/No

(20) Whether employee's unions may raise unreasonable demands Yes/No

(21) Does HRA help in manpower planning? Yes/No

(22) Does HRA make the management more conscious of the importance of manpower? Yes/No

(23) Does HRA help in formulating personnel policies more objectively? Yes/No

(24) Does HRA make personnel decisions more objective? Yes/No

(25) Does HRA help in personnel budgeting Yes/No

(26) Does HRA provide basis for resolving employee management disputes? Yes/No

(27) Is HRA useful for the share holders and investors? Yes/No

(28) Is HRA useful for creditors? Yes/No

(29) Is HRA useful for Employees' Unions? Yes/No

(30) Is HRA useful for attaining international accounting standards? Yes/No

APPENDIX – II

A Brief Profile of Human Resource Accounting System in Some Selected Companies in India.

Sl.No.	Name of the Company	Publishing HRA information since	Model	Discount Rate
1.	Oil & Natural Gas Corporation Ltd. (ONGC)	1981-82	Not Reported	11.25%
2.	Engineers India Limited (EIL)	1980-81	---------do---------	10%
3.	National Thermal Power Corporation Ltd. (NTPC)	1986-87	Lev & Schwartz	12%
4.	Minerals and Metals Trading Corporation of India Ltd. (MMTC)	1983-84	Lev & Schwartz	12%
5.	Bharat Heavy Electrical Limited (BHEL)	1974-75	Lev & Schwartz	12%
6.	Steel Authority of India Limited (SAIL)	1983-84	Lev & Schwartz with refinements as suggested by Flamholtz and Jaggi & Lau	14%
7.	Cement Corporation of India Limited (CCI)	1980-81	---------do---------	15%
8.	Madras Refineries Limited (MRL)	1985-86	Lev & Schwartz	15%
9.	Matallurgical and Engineering Consultants (India) Limited (MECON)	1984-85	Lev & Schwartz	14%
10.	Oil India Limited (OIL)	1984-85	Lev & Schwartz	10.5%
11.	Associated Cement Companies Limited (ACC)	1983-84	---------do---------	Not reported
12.	Southern Petro-chemical Industries Corporation (SPIC)	1983-84	Lev & Schwartz	Not reported

Source: Journal of Accounting & Finance, Jaipur, Vol.2, Fall 1991.