

Importance of Human Resource Accounting Practices and Implications of Measuring Value of Human Capital: Case study of Successful PSUs in India.

Neerja Kashive*

Introduction

According to Dun & Bradstreet's-India's top PSUs 2011 study, public sector enterprises in India have grown from only five enterprises post independence and with investment of 0.3 bn in 1951 to 249 enterprises as on March 31,2010.Total investment, including equity plus long- term loans of Central PSUs went up from 5,135.32 bn in FY09 to 5799.20 bn in FY10,growing 12.93 %.Overall profit of all Central PSUs was 925.93 bn during FY10 and dividend declared was 332.23 bn. The CPSEs earned foreign exchange equal 777.45 bn during the year compared with 742.06 bn in FY09.PSUs have contributed significantly to the country's economy and as on April 30 ,2011,of the total 247 Central PSUs and their subsidiaries only 50 are listed. The 47 that were listed at the Bombay Stock Exchange(BSE) constitutes 22% of the total market capitalization of 4,946 companies listed on the BSE. Additionally,28 Public Sector Banks (PSBs) including their subsidiaries and six State Level Public Enterprises(SLPEs),accounted for 6% of the total market capitalization at BSE. The market capitalization of all PSUs taken together was 19.84 trn, constituting 28.7 % of the total market capitalization at the BSE.

The growth and performance of Central PSUs runs parallel with the growth of the Indian economy. As per data from the BSE as on Dec 15, 2010 there were 98 unlisted Central PSUs that made profit for the past three years, clearly indicating the importance of Central PSUs in the growth of the Indian economy. The Central PSU with the highest market capitalization is Oil and Natural Gas Corporation Ltd (ONGC) at 2,642.8 bn on the BSE as on Apr 30, 2011.The total number of employees in Central PSUs was 1.53 mn in FY09 and came down to 1.49 mn in FY10. While the number of people employed by Central PSUs came down by 2.7% in FY10, the average annual per capita emoluments given went up to 609,816 in FY10 up from541,716 in FY09. Moreover, several Central PSUs face high attrition with employees

* Prof. Neerja Kashive, Assistant Professor, VES's Institute of Management Studies and Research, Mumbai. Email: neerja-kashive@yahoo.co.in

looking out for higher salaries elsewhere¹. Thus it will be quite interesting to know their human resource practices.

With new phase in economic development, which is characterized by continuous innovation, spread of digital and communication technologies, relevance of network forms of organization, the importance of intellectual capital, relational capital, and organizational capital are emerging. There are many firms that have started measuring, managing and reporting their intangibles. However, the complete disclosure of intellectual capital (IC) is still at its nascent stage. Several researchers have focused on studying the accounting disclosures made by firms (Abeysekera, 2006; Guthrie et al., 2004). IC has gained significant attention not only among the researchers but also with the well-informed companies who are conscious of the importance of disclosing their intangibles.

The researchers have proved that the difference between the market value of the firm and its book value has to be attributed to the intangibles in the firm (Cordon, 1998). It has also been proved that the market to book value of the firm which happens to be an indicator of importance of IC in the firm has also been increasing over time (Rylander et al., 2000). IC reporting provides companies with the opportunity to take advantage of increased transparency to capital markets, establishing trustworthiness with stakeholders and to employ a valuable marketing tool (van der Meer Kooistra and Zijlstra, 2001). Disclosure of IC information could help in maintaining and enhancing IC value given that “intangible asset creation occurs through enhanced reputation and disclosure influences the external perception of reputation” (Toms, 2002). Thus this practice surely increase employer reputation and creates its unique brand.

Disclosure of IC is not mandatory as per the existing accounting standards in most of the countries. Indian accounting standards also keep these disclosures voluntary. According to the Indian accounting standards (ICAI, 2007, AS 28,) an intangible asset is an identifiable non-monetary asset, without physical substance, held for use in the production or supply of goods or services, for rental to others, or for administrative purposes. Enterprises frequently expend resources, or incur liabilities, on the acquisition, development, maintenance or

¹ www.dnb.co.in/TopPSU2011/PSU_updates.as

enhancement of intangible resources such as scientific or technical knowledge, design and implementation of new processes or systems, licenses, intellectual property, market knowledge and trademarks (including brand names and publishing titles). Goodwill is another example of an item of intangible nature which either arises on acquisition or is internally generated. Though the definition is broad, however the accountability of disclosures is limited to the cases where the intangibles are actually leading to value creation, expense or income.

The problem ultimately comes down to developing reliable measures of intangible assets. Recently, several efforts have been made to measure the intangible assets in the New Economy (Corrado, Haltiwanger and Sichel, 2005; De and Dutta, 2007). One approach adopted for measuring the intangible assets is based on the use of expenditure data. In this framework, intangible capital is estimated by capitalizing expenditures that create long-lasting revenue flows (Corrado, Hulten and Sichel, 2005). Human Resource accounting (HRA) helps the organizations to quantify their intangibles. Organizations are working hard to make a mark in market by following new practices which are employee friendly and create strong employer brand for themselves. This paper discusses the implication of such practices in some of the leading PSUs in India.

Non-Financial Metrics

Non-financial metrics are the value drivers of the organization, representing the value of the company's work force, its customer relations and its ability to innovate. In a special 2001 report, the Financial Accounting Standards Board (FASB) defined non-financial metrics as the indices, scores, ratios, counts and all other information that is not accounted for in primary financial statements (i.e., balance sheet, income statement and statement of cash flows) (Financial Accounting Series, 2001). These non-financial metrics address human resources, customers, technology and internal processes. Non-financial metrics are not required for any disclosure in neither International Financial Reporting Standards (IFRS), nor U.S. Generally Accepted Accounting Principles (GAAP). However, international standards and U.S. GAAP may converge. The Securities and Exchange Commission (SEC) and FASB are bridging the gap between IFRS and GAAP. SEC Chairman Cox recently stated to investors and business owners that the two reporting standards are moving towards convergence

(Dzinkowski, 2007). The evolution of the New Economy (Knowledge Capital) and discussion of convergence has brought the disclosure of non-financial metrics to the fore front.

Since 2001, the International Accounting Standards Board (IASB) has been developing and promulgating the IFRS (International Accounting Standards Board, 2009). Prior to 2001, the International Accounting Standards Committee (IASC) issued International Accounting Standards (IAS), which were adopted initially by the IASB, when it replaced the IASC. While the IFRS do not currently have standards requiring HRA, it could be argued that they are moving closer to providing more flexible approaches to accounting measurements and reporting. For example, the international standards IAS 38 Intangible Assets and IFRS 3 on Business Combinations allows for the recognition of the intangible asset goodwill, which indicates a willingness to allow for valuation of assets that are not traditional tangible assets, such as human resources.

Consequently, despite the importance of non-financial metrics, U.S. companies generally keep their non-financial metrics internal, avoiding public disclosure in their financial statements. Without access to these metrics, investors, stakeholders, researchers, and analysts have an incomplete knowledge. Thus there is increased realization that non-financial data are important and should be valued.

Intangible Assets

Nakamura(2000) estimates the value of U.S. corporate investment in intangibles during 2000 to be around \$1.0 trillion, making it roughly equal to the total investment of the non-financial sector in property, plant and equipment. Further Hall (2000) estimates the total value of intangible capital as ranging between half to two-thirds of the total market value of publicly traded corporations, as indicated by the q ratio (market value to replacement cost of physical assets). Nakamura (1999, 2000) argues that the major growth in value and impact of intangible capital started roughly in the mid-80s, with the emergence of major 'intangible industries' (software, biotech, internet, etc). Gu and Lev (2001) show that firm-specific estimates of intangible capital improve significantly the association between capital market values and accounting-based measures of performance and value (e.g., earnings or book values). More recently, McGrattan and Prescott (2007) emphasize the importance of

considering intangible investments in explaining the real economic growth in the 1990s. Overall, it is widely accepted that intangible assets are the major drivers of national as well as corporate success.

A framework developed by Lev (2001) for intangible capital classifies intangible assets into the following four groups.

1. Discovery/learning intangibles—technology, know-how, patents and other assets emanating from the discovery (R&D) and learning (e.g., reverse engineering) processes of business enterprises, universities and national laboratories.
2. Customer-related intangibles—brands, trademarks and unique distribution channels (e.g., internet-based sales), which create abnormal (above cost of capital) earnings.
3. Human-resource intangibles—specific human resource practices such as training and compensation systems, which enhance employee productivity and reduce turnover.
4. Organization capital—unique structural and organizational designs and business processes generating sustainable competitive advantages.

Olsson (2001) argued that a firm would disclose its personnel policy by managing, measuring and reporting human capital (HC), since disclosures give transparency and transparency gives the stakeholders information they need to predict the future value of HC. The potential advantages for firms are that reporting their HC not only communicate the firm's advantages, but could also attract valued resources (Mouritsen et al., 2004). Skoog (2003) found a positive correlation between the reported HC and profitability in the long run. According to the VCI (value creation index) study conducted by Low (2000), a top non-financial performance driver for financial services is HC. Wright and Snell (2005) argued that in a knowledge-based industry, value creation could be achieved by giving attention to the skills, knowledge, capability and commitment of workforce.

The value of HC is distinct in two types of firms in relation to how firms create value. First, professional firms use HC as a direct resource, and second, other firms (such as computer firms, high-technology firms and software firms) use HC as an indirect resource (Edvinsson and Sullivan, 1996). Both types of firms create value from the commercialization of the knowledge created by their employees. However, Edvinsson and Sullivan (1996) suggested

that it is not the store of knowledge in employees but rather the ability of the firm to leverage knowledge that drives the value creation. A successful firm would understand the expectation of shareholders and their risk perception (Anderson, 2000) and transform the firm's HC capabilities to better meet shareholders' expectations (Bassi et al., 2000; Meer-Kooistra and Zijlstra, 2001).

Therefore, if a firm efficiently manages and reports its HC, it would result in increase in the shareholder value. There has been a shift in the outlook of management towards employees and contribution of employees to the firm (Bassi et al., 2000). Firms have realized that HC practices, and their reporting to shareholders play an important function in firm performance (Boudreau, 1991; Wright and McMahan, 1992). The HC practices include acquisition, development, allocation, replacement or retention of employees (Flamholtz, 1972). Selective staffing, comprehensive training, employee empowerment, participative problem-solving, incentive compensation, job rotation and teamwork can increase the firm's value creation by the transformation of processes (Youndt et al., 1996).

Human Resource Accounting (HRA)

Human Resource Accounting (HRA) involves accounting for the company's management and employees as human capital that provides future benefits. In the HRA approach, expenditures related to human resources are reported as assets on the balance sheet as opposed to the traditional accounting approach which treats costs related to a company's human resources as expenses on the income statement that reduce profit. Objective of human resource accounting is to facilitate the management to get information on the cost and value of human resources which will enhance the quantity and quality of goods and services. It provides data to the interested persons about the cost of human resources and correspondingly comparing it with the benefit obtained out of its utilization. The human resource accounting is used to furnish cost value information for making proper and effective management decisions about acquiring, allocating, developing and maintaining human resources in order to achieve cost effective organizational objectives.

Further, it helps the organization in decision making in the various areas like Direct Recruitment vs. Promotion, Transfer vs. Retention, Retrenchment vs. Retention, Impact on

budgetary controls of human relations and organizational behavior, decision on reallocation of plants, closing down existing units and developing overseas subsidiaries etc. It helps in evaluating the expenditure incurred for imparting further education and training in employees in terms of the benefits. It helps an organization to take managerial decisions based on the availability and the necessity of human resources. When the human resources are quantified, it gives the investor and other client's true insight in to the organization and its future potential. Proper valuation of human resources helps an organization to eliminate the negative effects of redundant labour.

Flamholtz (1979) describes the HRA paradigm in terms of the "psycho-technical systems" (PTS) approach to organizational measurement. According to the PTS approach, the two functions of measurement are: 1) process functions in the process of measurement and 2) numerical information from the numbers themselves, thus one role of HRA is to provide numerical measures, an even more important role is the measurement process itself. The HRA measurement process helps to increase recognition that human capital is paramount to the organization's short and long-term productivity and growth.

When managers go through the process of measuring human resources, they are more likely to focus on the human side of the organization and are more likely to consider human resources as valuable organizational resources who should be managed as such (Bullen, 2007, p. 89). Flamholtz, Bullen & Hua (2003) utilized the HRA measure of expected realizable value, and found that employees' participation in a management development program increased the value of the individuals to the firm. The HRA represented both a paradigm and way of viewing human resource decisions, and the set of measures for quantifying the effects of human resource management strategies upon the cost and value of people as organizational resources.

Davidove & Schroeder (1992) indicate that although many business leaders still view training as an overhead expense, with thorough ROI evaluations, training departments can convince business to view them as partners in creating the assets crucial to organizational success. Johanson & Mabon (1998) indicate that expressing human resource interventions in financial terms and or cost benefit terms is more effective than using soft accounting information such as data on job satisfaction. Toulson & Dewe (2004) conducted a survey

study utilizing component analysis and found two reasons for human resources to be important. The first is that measurement reflects the strategic and competitive importance of human resources, and the second suggests that to earn credibility, human resources must be expressed in financial terms. McKenzie & Melling (2001) suggest that, if properly implemented, the human capital planning and budgeting process will become a key driver of strategy as strategic human capital planning and budgeting ensures that the best resources are mobilized for each internal process..

Moore (2007) suggests that the value of human capital should be considered when making decisions about the acquisition and disposal of people and accounting practices currently employed by companies can have an undue influence in driving the strategic decisions of these companies. Moore notes that there are link between the process of acquiring an employee (a human capital asset) and that of acquiring a fixed capital asset. However while most companies acknowledge the contributions of its employees, they do not think of the acquisition or disposal of human capital assets in the same way or with the same thoughtful planning or strategic thinking as they do fixed capital assets.

HRA Measurement Models

Flamholtz (1999, p. 160) noted that the concept of human resource value is derived from general economic value theory as all resources people possess value because they are capable of rendering future service. An individual's value to an organization can be defined as the present 'value of the future services the individual is expected to provide for the period of time the individual is expected to remain in the organization. The Stochastic Rewards Valuation Model, originally developed by Flamholtz (1971) for human resource valuation has five step process: It begins with defining the various service states or organizational positions that an individual may occupy in the organization. The next step is to determine the value of each state to the organization, the service state values, which can be calculated either by using a number of methods such as the price-quantity method or the income method. Then the person's expected tenure or service life in the organization is calculated and the person's mobility probability or the probability that a person will occupy each possible state at specified future times is derived from archival data. Next the expected

future cash flows that the person generates are discounted in order to determine their present value.

Similar to the Flamholtz model, another earliest model of human resource value measures human capital by calculating the present value of a person's future earnings (Lev & Schwartz,(1971). Dobija (1998) proposes an alternate model for capitalization, where the rate of capitalization is determined through the natural and the social conditions of the environment. Utilizing a compound interest approach, this method takes into account the three factors for valuing the human capital which include the capitalized value of cost of living, the capitalized value of the cost of professional education, and the value gained through experience. Turner (1996) refers to the framework issued by the International Accounting Standards Committee and recommended the use of the present value of the value added by enterprise, and measures assets by the four methods of historical cost, current cost, realizable value and present value.

Cascio (1998) proposed a method for measuring human capital based on indicators of human capital of innovation, employee attitudes and the inventory of knowledgeable employees. According to him, innovation can be measured by comparing gross profit margins from new products to the profit margins from old products. Similarly employee attitudes predicting customer satisfaction and retention are an important indicator of human capital and therefore need to be measured, as well as measures of tenure, turnover, experience and learning.

Thus approaches to human resource accounting can be broadly classified as monetary approaches and non monetary value-based approaches. The monetary approaches are further classified as (a) Cost Based Approaches, which incorporate historical cost approaches, replacement cost approach, opportunity cost model, standard cost method, current purchasing power method, and (b) Value-Based Models that embrace Hermanson's adjusted discounted future earnings model, Lev and Schwartz present value of future earnings model, rewards valuation model, Jaggi and Lau model, net benefit model, Eric Flamholtz model and Morse model.

Lev and Schwartz model

Many models have been created to value human capital. Some are based on historic costs while some are based on future earnings. But each has its own limitations and one model has proved to be more valid than other. Lev and Schwartz model has been the most widely used for its ease of use and convenience. The Lev and Schwartz Model states that the human resource of a company is the summation of value of all the Net Present Value (NPV) of expenditure on employees. The human capital embodied in a person of age 'r' is the present value of his earning from employment. Under this model, the following steps are adopted to determine human resource value:

- (i) Classification of the entire labour force into certain homogeneous groups like skilled, unskilled, semiskilled etc. and in accordance with different classes and age.
- (ii) Construction of average earning stream for each group.
- (iii) Discounting the average earnings at a predetermined rate in order to get present value of human resources of each group.
- (iv) Aggregation of the present value of different groups which represent the capitalized future earnings of the concern as a whole.

$$V_r = I(t)/(1 + r)^{t-r}$$

Where, V_r = the value of an individual r years old

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

t = retirement age

r = discount rate specific to the cost of capital to the company

The Lev and Schwartz Model suffers from the following limitations:

1. This model ascertained the earnings on the basis of skills but ignores the concepts of productivity of employees. Skills can not be in directly proportional to earnings unless the skills are properly utilized for productivity.
2. This model ignores the productivity of promotion of employees except retirement or death.
3. Expenses of 'training and development' incurred by the company are not considered.

Sveiby's (1997) Intangible Asset Monitor

Companies use frameworks such as the Lev Schwartz Model (Lev & Schwartz, 1974), Baruch Lev's Value Chain Scoreboard, Sveiby's Intangible Asset Monitor (1997) and the Balanced Scorecard (Kaplan & Norton, 1996) models to measure non-financial metrics.

Baruch Lev developed the Value Chain Scoreboard which combines non-financial metrics that are quantitative, standardized and measurable supported by empirical evidence. Lev categorizes these non-financial metrics into three sections; Discovery Learning; Implementation; Commercialization (Financial Accounting Series, 2001). The Discovery Learning section contains into Internal Renewal, Acquired Capability, and Networking variables. The Implementation section contains intellectual property, technological feasibility, and Internet-related variables. The Commercialization category is contains Customer, Performance, and Growth Prospect variables.

Sveiby's (1997) Intangible Asset Monitor non-financial metrics into three sections: external structure, internal structure, and competence indicators. External Structure focuses upon customer's relationship with the organization while internal Structure focuses on activities that develop system processes. Competence Indicators focus upon training and development, maturity, and contributions of the employees. The drawback of this model is the inconsistency in metric disclosure compromises the reliability of the data which causes some investors concern in analyzing trends (Financial Accounting Series, 2001). Another concern is that non-financial metric descriptions vary by organization and by industry which

makes comparisons difficult. Hence, many organizations find it too costly to calculate non-financial metrics. Still these models remain best guides on valuing non-financial metrics.

Culpepper & Smith (2009) in their study chose ,InfoSys, , Bahrat Heavy Electronics Lmt(BHEL), SAIL (Steel Authority of India), as they are listed on the BSE 100 and used the annual reports of the organizations listed in the BSE 100 as the source of data as per Chandran (2003). Culpepper& Smith, (2009) have used Sveiby's (1997) Intangible Asset Monitor to analyze the balance sheets of these companies. As, firstly, the Internal Asset Monitor (IAM) appears to be well substantiated by research and used in industry and secondly, while Infosys employs both the Lev(2001) model and the Sveiby (1997) models, it explicitly uses Sveiby's (1997) model as its basis for non financial metric disclosure as shown in **Exhibit 1**.

HRA in India

The concept of human resource accounting was first incorporated by Bharat Heavy Electrical Ltd. (BHEL), a leading public enterprise, during the financial year 1973-74. Later, it was adopted by other leading public and private sector organization in the subsequent years. Some of these organizations are Oil and Natural Gas Commission (ONGC),Minerals and Metal Trading Corporation of India (MMTC), Steel Authority of India Ltd(SAIL),National Thermal Power Corporation (NTPC),Engineers India Ltd. (EIL), Hindustan Machine Tools Ltd. (HMTL), Cochin Refineries Ltd. (CRL), Madras Refineries Ltd. (MRL), Associated Cement Company Ltd. (ACC) and Infosys Technologies Ltd. (ITL) and many more as seen in **Exhibit 2**.

Infosys leads all companies in thorough disclosure of non-financial metrics. Explicitly adopting and combining the Lev & Schwartz (1974), Lev (2001) and Sveiby (1997) models as their bases for disclosure, Infosys provides a prototype for non-financial metric disclosure. Infosys provide additional information of the firm from intangible assets score sheet, Human Resource Accounting and Value-Added statement. Infosys provides the information regarding particular of employees under the provision of section 21 7(2A) of the Companies Rules 1975. Infosys used the Lev & Schwartz model to compute the value of human resources. The evaluation is based on the present value of future earnings of employees and on the following assumptions:

(a) Employee compensation includes all direct and indirect benefits earned both in India and overseas (b) The incremental earnings based on group/age have been considered (c) The future earnings have been discounted at the cost of capital of 11.21% (previous year 10.60%).

Infosys provide the information like No of Employee, Age wise Distribution and Category wise Distribution of Employee, Net Worth, Value Added, Value of Human Resource and also present the ratio like Value of Human Resource/Employee, Total income/Human Resource Value, Employee Cost/human Resources Value, Value Added/Human Resource Value, Return on Human Resource Value. The number of employees have increased to 1,30,820 from 1,13,796 and value of human resources increase to 1,35,105 Cr from 1,13,287Cr in year 2011 from 2010. This gives increase in value of human resource per employee to 1,03 Cr in year 2011 from 1.00 Cr in 2010 as given in **Exhibit 3**.

Mahalingam(2001) notes that each person has a set of competencies and a value is assigned to each, with the sum total of these values making up the value of the employee and the value of all the employees making up the human capital of the organization—which together with the customer and structural capital produces the revenue. In a case study conducted in India, Patra, Khatik & Kolhe (2003) studied a profit making heavy engineering public sector company which used the Lev & Schwartz (1971) model to evaluate HRA measures. They examined the correlation between the total human resources and personnel expenses for their fitness and impact on production and found that HRA valuation was important for decision-making in order to achieve the organization's objectives and improve output.

Bhat (2000) provides a definition of "Human Resources Accounting" as depicting the human resources potential in money terms while casting the organization's financial statements. Bhat (2000) notes that with global trade and foreign exchange transactions becoming more complex with innovations in derivatives, more uniformity in accounting practices and transparency will emerge. He further suggests that accounting and financial management issues will soon be integrated in accounting statements facilitating more meaningful use of accounts, as opposed to history and book keeping.

Following companies annual reports were studied and data were collected from their website between 30th August 2011 to 30th January 2012. These case analyses help us to understand how Human Resource Accounting Practices are followed in some of the leading PSUs in India.

1. Bharat Heavy Electricals Limited (BHEL)

BHEL is the largest engineering and manufacturing enterprise in India in the energy-related/infrastructure sector, today. BHEL was established more than 40 years ago, ushering in the indigenous Heavy Electrical Equipment industry in India with a dream to become self sufficient. The company has been earning profits continuously since 1971-72 and paying dividends since 1976-77. BHEL caters to the core sectors of the Indian Economy, viz. Power, Transmission, Industry, Transportation, Renewable Energy, Oil & Gas and Defence. The wide network of BHEL's 15 Manufacturing Divisions, 4 Power Sector Regional Centres, 8 Service Centres, 15 Regional Offices, 4 Overseas Offices, 2 Subsidiaries and over 150 project sites spread all over India enables the Company to promptly serve its customers and provide them with suitable products, systems and services -- efficiently and at competitive prices.

BHEL had started providing information related to Human Resource Accounting (HRA) in its annual report from the financial year 1974-75 by using Lev and Schwartz model. It is the first company in India who provided HRA. BHEL also started considering efficiency factor for the purpose of Human Resource Valuation from the year 1980-81.

BHEL divides total employees of the organization according to group wise, category wise and also as per physically challenged employee. The company followed the 12% as discount rate. Company provide the information regarding particular of employee under section 217(2A) of the companies Act, 1956 with companies rules 1975. BHEL was reporting information like total No of Employee, Value Added, Employee Remuneration and Benefit, Value Added per Employee, Turnover per Employee. It also calculated the different ratio related to Human Resource. The company has classified its employees into six categories based on skill, type of work, experience and qualifications. In each category 10 to 15 salary grades have been identified to facilitate the valuation of human resources.

The company has shown an increase in turnover from 14,525 Cr in 2005-06 to 34,154 Cr in 2009-10. The number of employees has increased from 42,601 to 46,274 in five years. BHEL has declared Value per employee for 2009-10 as 27.70 L, which has doubled from 13.34 L as declared for 2005-06. Turnover per employee has also increased from 0.34 Cr in 2005-06 to 0.74 Cr in 2009-10. This has shown an increase of 2.2 times. BHEL has declared 38,000 Cr expected Turnover for the year 2010-11 as shown in **Exhibit 4**.

2. National Thermal Power Corporation (NTPC)

India's largest power company, NTPC was set up in 1975 to accelerate power development in India. NTPC is emerging as a diversified power major with presence in the entire value chain of the power generation business. Apart from power generation, which is the mainstay of the company, NTPC has ventured into consultancy, power trading, ash utilization and coal mining. NTPC ranked 341st in the '2010, Forbes Global 2000' ranking of the World's biggest companies. NTPC became a Maharatna company in May, 2010, one of the only four companies to be awarded this status. In NTPC, *People before Plant Load Factor* is the mantra that guides all HR related policies. NTPC has been awarded No.1, Best Workplace in India among large organizations and the best PSU for the year 2010, by the Great Places to Work Institute, India Chapter in collaboration with The Economic Times. NTPC declares generation per employee which has increased from 7.81 in 2005-06 to 9.27 in 2010-11. They also declare value added per employee which was 4.44 in 2005-06 and increased to 7.30 in 2009-10 in Millions. The number of employees have increased in last five years from 21,870 to 25,144. The value added in millions was 97,206 in 2005-06 and increased to 1,73,313 millions in 2009-2010, which shows an increase of 1.8 times. The Man-MW ratio has increased from 0.77 in 2009-10 to 0.80 in year 2010-11 as depicted in **Exhibit 5**.

3. Steel Authority of India Limited (SAIL)

SAIL is India's largest steel producing company. With a turnover of Rs. 47,041 Cr, the company is among the five Maharatnas of the country's Central Public Sector Enterprises. SAIL has five integrated steel plants, three special plants, and one subsidiary in different parts of the country. The company has the distinction of being India's second largest producer of iron ore and of having the country's second largest mines network. This gives

SAIL a competitive edge in terms of captive availability of iron ore, limestone, and dolomite which are inputs for steel making.

SAIL started valuation and reporting of its human resource from the financial year 1983-84. SAIL follows the human resource valuation model suggested by Lev and Schwartz by accommodating some adjustments suggested by Flamholtz and Jaggi and Lou. SAIL uses the constant rate of discounting the future expected return at 15%. Company provide the information regarding employee under section 217(2A) of the Companies Act 1956 with Companies Rules 1975. SAIL provides the information regarding No of Employee, as well as Category wise Distribution of Employee. Company also provides the information about Turnover, Value Added, and Capital Employed, EPS, Net worth per Share, Employee Remuneration and Benefit. The Net worth has increased from 12,386 Cr in 2005-06 to 37,069 Cr in 2010-11. It also communicates different ratio like crude tone steel/man/year which has increased from 214 in 2007-08 to 241 in 2010-11 as shown in **Exhibit 6**. The balance sheet includes other current assets as part of current assets. Other current assets include employees, which is put as 14.87 Cr for March 2011 as compared to 18.95 Cr for March 2010, as shown in **Exhibit 7**.

4. Oil and Natural Gas Corporation (ONGC)

ONGC is the only fully-integrated petroleum company in India, operating along the entire hydrocarbon value chain. It holds largest share of hydrocarbon aggregates in India and contributes over 79 per cent of Indian's oil and gas production. It has refining capacity of about 12 MMTPA and created a record by turning Mangalore Refinery and Petrochemicals Limited around from being a stretcher case for referral to BIFR to the BSE Top 30, within a year. ONGC posted a net profit of Rs. 167.68 billion despite volatile oil markets and crude prices. It has net worth Rs. 864 billion, practically zero debt corporate and contributed over Rs. 281 billion to the exchequer.

ONGC ranked at 2nd position in FE 500 list 2010 in net worth and composite ranking. ONGC & MRPL won 6 Oil Industry Safety Awards for 2008-09 instituted by OISD, MOP&NG. It was ranked at top of the Best companies to work for in Core Sector by Business Today in Feb 2010 edition and Golden Peacock Global Award 2007 for Excellence in Corporate

Governance 2009”, conferred by World Council of Corporate Governance, London. It bagged “BML Munjal Award” for Excellence in Learning & Development in Public Sector category. It was bestowed with “Leadership for Business Excellence Award” for leveraging IT in Oil & Gas Sector by Amity University. ONGC was awarded with Gold Trophy for SCOPE Meritorious Award for Corporate Social Responsibility & Responsiveness for the year 2007-08 and for R&D, Technology Development & Innovation for the year 2008-09.

ONGC was given best Overall Performance Award amongst the upstream Sector Oil Companies for Oil and Gas conservation programme for 2009 by PCRA. It received Dalal Street investment Journal PSU awards 2010 for Excellent Overall Performance in the category of heavy weights and Highest Market Capitalisation in the category of wealth Builders. It was rated ‘Very Good’ in MOU Performance Rating for 2008-09 by the Department of Public Enterprises, Ministry of Heavy Industries in Public Enterprises, GOI.

ONGC declares value per employee and calculate with help of Lev and Schwartz model taking discounting rate at 8%. The value per employee has increased to 14.71 million in 2010-11 from 13.10 million in 2009-10 as seen in **Exhibit 9**. The expenditure on employee increased from 30,147 million to 60,484 in 2007-08 and was 47,396 million in 2008-09. The net profit of ONGC has increased from 144,308 million in 2005-06 to 168,676 million and ROCE (PBIT/capital employed) has increase to 50.9 in year 2010-11 as depicted in **Exhibit 8**.

Thus in all total 12 disclosure variable for human resource information are identified. The **Exhibit 10** gives comparable table for disclosure and non –disclosure of these variables in selected leading PSUs. Average 8 disclosure variables are disclosed for these companies which shows good HR practices followed in leading PSUs.

Conclusion:

The Indian firms are way behind other firms in European and American continents in terms of the extent and quality of intellectual capital(IC) measurement, reporting and disclosures. The significance of disclosure on the firm's performance and market valuation needs to be highlighted and focused to turn their attention towards voluntary disclosures. Thus, it can be said that though many firms accept that IC is a very useful part of their asset and appreciate its role and know that it surely enhances the firms valuation in the market, few firms actually understand its meaning, use any specific management and measurement tools, and adopt uniform reporting and voluntary disclosure practices. Many Indian companies have understood the importance of measuring human capital and disclosing its value in their balance sheet. This is seen as the major practices of successful public sector companies. This practice not only helps them to identify their total worth in terms of tangible asset and intangible asset, but also project themselves as employee friendly companies who value their employee and are proud to say so. It enhances their employer brand in terms of good place to work or valued human resources.

Exhibit 1 - Sweiby's Intangible Asset Monitor, Culpepper & Smith (2009)

| Company Name | Industry | Country of Origin | Founded | External Structure - clients | Internal Structure - Org |
|-------------------------------------|-------------------------------|-------------------|---------|--|--|
| PLS – Consult A/S | Mgmt & I.T Consulting | Denmark | 1968 | | Intangible Assets Software Licenses and Good\ |
| Bharat Heavy Electronics Ltd (BHEL) | Engr & Mfg | India | 1954 | Repeat Orders | Value Added Economic Value Added |
| Steel Authority of India Ltd (SAIL) | Steel mfg. | India | 1954 | | Value Added Products |
| Infosys Technologies Ltd | IT Consulting | India | 1981 | Clients Added Marquee Clients Sales per client Client Concentration Client Distribution Repeat Business Exports/Total Revenue Revenue derived by country Sales & Mktg Expenses/ revenue Days Sales Outstanding Brand Evaluation | Research and Development Technology Investment Sales per support staff General and Administration e: percentage of revenue Support staff as a percentage employees Average age of support staff |
| Skandia AFS | Financial consulting/ SvcS | Sweden | 1855 | Number of contracts Savings/Contracts Surrender Ratio Points of Sales | Number of contracts/employee administration expenses/gross information Technology expenses premiums Value Added for Employee |
| WM-Data AB/LogicaGM | I.T. Consulting | Sweden | 1969 | Revenue by market sector Revenue from Outsourcing Brand Names Customer Contracts & Relationships | Process Improvement Internally Generated Assets (I costs) Value Added growth by empl |

Exhibit 2 – Human Resource Accounting in India

Table: Chronological Order of Human Resources Accounting Introduction in India

| Sl. No | Name of the Organization | HRA introduced in Year | Model |
|--------|--------------------------|------------------------|---|
| 1 | BHEL | 1973-74 | Lev and Schwartz Model |
| 2 | ONGC | 1981-82 | Lev and Schwartz Model |
| 3 | MMTC | 1982-83 | Lev and Schwartz Model |
| 4 | SAIL | 1983-84 | Lev and Schwartz Model with some refinements as suggested by Eric.G |
| 5 | NTPC | 1984-85 | Lev and Schwartz Model |
| 6 | INFOSYA | 1995-96 | Lev and Schwartz Model |

Source: A Report on HRA from <http://www.indiamba.com>

Exhibit 3 – Human Resource Accounting Valuation of Infosys

in ₹ Crores

| | 2011 | 2010 |
|--|----------|----------|
| Employees (no.) | | |
| Software professionals | 1,23,811 | 1,06,864 |
| Support | 7,009 | 6,932 |
| Total | 1,30,820 | 1,13,796 |
| Value of human resources | | |
| Software professionals | 1,22,539 | 1,06,173 |
| Support | 12,566 | 7,114 |
| Total | 1,35,105 | 1,13,287 |
| Total income ⁽¹⁾ | 27,501 | 22,742 |
| Total employee cost ⁽¹⁾ | 14,856 | 12,093 |
| Value-added | 25,031 | 20,935 |
| Net profit ⁽¹⁾ | 6,823 | 6,219 |
| Ratios | | |
| Value of human resources per employee | 1.03 | 1.00 |
| Total income / human resources value (ratio) | 0.20 | 0.20 |
| Employee cost / human resources value (%) | 11.0 | 10.7 |
| Value-added / human resources value (ratio) | 0.19 | 0.18 |
| Return on human resources value (%) | 5.1 | 5.5 |

Exhibit 4 - Human Asset Value Analysis in BHEL

| Year | Turnover (Crore) | Value added (Millions) | Manpower (Number) | Value per employee(Lakhs) | Turnover per employee(Crore) |
|-----------|------------------|------------------------|-------------------|---------------------------|------------------------------|
| 2005-06 | 14,525 | 5,682 | 42,601 | 13.34 | 0.34 |
| 2006-07 | 18,739 | 7,182 | 42,124 | 17.35 | 0.44 |
| 2007-08 | 21,401 | 8,323 | 43,636 | 19.00 | 0.49 |
| 2008-09 | 28,033 | 98,940 | 45,666 | 21.67 | 0.61 |
| 2009-2010 | 34,154 | 1,31,710 | 46,274 | 27.70 | 0.74 |
| 2010-2011 | 43,337 | 1,84,760 | 46,748 | | 0.93 |

Source: www.bhel.com (extracted on 31st August 2011)

Exhibit 5 - Human Asset Value Analysis in NTPC

| Year | Revenue (Millions) | Employee strength | Commercial Generation | Generation per employee MU | Value add (Millions) | Value add per employee (Millions) | Man: MW Ratio |
|---------|--------------------|-------------------|-----------------------|----------------------------|----------------------|-----------------------------------|---------------|
| 2005-06 | 188674 | 21,870 | 169789 | 7.81 | 97,206 | 4.44 | 0.91 |
| 2006-07 | 170880 | 23,602 | 188140 | 7.99 | 111012 | 4.70 | 0.91 |
| 2007-08 | 188670 | 23,674 | 200280 | 8.48 | 127538 | 5.39 | 0.87 |
| 2008-09 | 200280 | 23,639 | 206156 | 8.76 | 140548 | 5.95 | 0.85 |
| 2009-10 | 206939 | 23,743 | 218439 | 9.22 | 173313 | 7.30 | 0.82 |
| 2010-11 | 218840 | 25,144 | - | 9.27 | - | - | 0.77 |

Exhibit 6 - Human Asset Value Analysis in SAIL

| Year | Net sales (Crore) | Net worth (Crore) | Tonne crude steel/man/year | Production in 000, tones | Manpower |
|-----------|----------------------|----------------------|-------------------------------|-----------------------------|----------|
| 2005-06 | 27,860 | 12,386 | - | 13470 | 138211 |
| 2006-07 | 33,923 | 17,184 | - | 13506 | 132973 |
| 2007-08 | 39,508 | 23,004 | 214 | 13962 | 128804 |
| 2008-09 | 43,204 | 28,148 | 215 | 13411 | 121295 |
| 2009-10 | 40,551 | 33,317 | 226 | 13506 | 116950 |
| 2010-2011 | 42,719 | 37,069 | 241 | 13506 | 114160 |

Source: www.sail.co.in (extracted on 30th January 2012)

Exhibit 7 - Current Assets including Employees for SAIL

| | As at 31st March 2011 | | As at 31 st March 2010 |
|--|-----------------------------|---------------|---|
| | | | (₹ in crore) |
| Gold Coins on Hand | 0.40 | | 2.63 |
| Interest Receivable / Accrued | | | |
| Loans to other companies | 1.70 | 0.00 | |
| Deposits | 466.24 | 755.00 | |
| Employees | 14.87 | 18.95 | |
| Others | 13.92 | 12.13 | 786.08 |
| | | 497.13 | 788.71 |
| Less Provision for Doubtful interest | | 2.64 | 2.39 |
| | | 494.49 | 786.32 |
| Particulars | | | |
| Secured, considered good | 9.67 | | 11.74 |
| Unsecured, Considered good | 484.82 | | 774.58 |
| Unsecured, considered doubtful | 2.64 | | 2.39 |
| | | 497.13 | 788.71 |

Source: www.sail.co.in (extracted on 30th January 2012)

Exhibit 8 - Human Asset Value Analysis ONGC

| Year | Net Profit (Millions) | Turnover (Millions) | Value per employee (Millions) | Number of employees | Expenditure on employee (Millions) | ROCE PBIT/capital employed % |
|---------|-----------------------|---------------------|-------------------------------|---------------------|------------------------------------|------------------------------|
| 2005-06 | 144,308 | 428,009 | 7.9 | 34,722 | 30,147 | 57.5 |
| 2006-07 | 156,429 | 569,037 | 8.4 | 33,810 | 48,833 | 56.7 |
| 2007-08 | 167,016 | 601,373 | 8.8 | 32,996 | 60,484 | 52.0 |
| 2008-09 | 161,263 | 639,493 | 11.7 | 33,035 | 47,396 | 49.9 |
| 2009-10 | 168,676 | 602,062 | 13.1 | 32,826 | - | 50.9 |

Source: www.ongcindia.com (extracted on 10th September 2011)

Exhibit 9 - Human Resource valuation for ONGC

| Employee Group | Age Distribution | | | | Total | |
|--------------------------|------------------|--------------|---------------|---------------|---------------|---------------|
| | <31 | 31-40 | 41-50 | 51-60 | 2010-2011 | 2009-2010 |
| A. Technical | | | | | | |
| Executive | 1,694 | 1,211 | 7,396 | 9,653 | 19,954 | 19,542 |
| Non-Executive | 689 | 670 | 1,093 | 928 | 3,380 | 3,066 |
| Total (A) | 2,383 | 1,881 | 8,489 | 10,581 | 23,334 | 22,608 |
| B. Non - Technical | | | | | | |
| Executive | 182 | 477 | 1,472 | 2,910 | 5,041 | 4,942 |
| Non-Executive | 40 | 546 | 1,815 | 2,497 | 4,898 | 5,276 |
| Total (B) | 222 | 1,023 | 3,287 | 5,407 | 9,939 | 10,218 |
| Grand Total (A+B) | 2,605 | 2,904 | 11,776 | 15,998 | 33,273 | 32,826 |

Note: Whole time Directors excluded

Valuation as on 31st March, 2011

(₹ in million)

| Employee Group | Age Distribution | | | | Total | | |
|--------------------------|------------------|---------------|----------------|----------------|----------------|--------------|--------------|
| | <31 | 31-40 | 41-50 | 51-60 | 2010-2011 | 2009-2010 | |
| A. Technical | | | | | | | |
| Executive | 38,415 | 32,424 | 153,834 | 111,480 | 336,153 | 16.85 | 15.41 |
| Non-Executive | 7,992 | 7,904 | 15,141 | 8,105 | 39,142 | 11.58 | 9.31 |
| Total (A) | 46,407 | 40,328 | 168,975 | 119,585 | 375,295 | 16.08 | 14.58 |
| B. Non - Technical | | | | | | | |
| Executive | 4,039 | 11,749 | 26,154 | 28,179 | 70,121 | 13.91 | 13.55 |
| Non-Executive | 493 | 6,396 | 20,073 | 17,177 | 44,139 | 9.01 | 6.60 |
| Total (B) | 4,532 | 18,145 | 46,227 | 45,356 | 114,260 | 11.50 | 10.02 |
| Grand Total (A+B) | 50,939 | 58,473 | 215,202 | 164,941 | 489,555 | 14.71 | 13.10 |

Based on “Lev & Schwartz” model which is a cost based valuation of employee expenditure

Aggregate future earnings (with annual increment) during remaining employment period of employees, discounted @8% p.a. provided the present valuation

Source: www.ongcindia.com (extracted on 30th January20

Exhibit 10 - Disclosure of Selected Variables for HR related information for given PSUs.

D=Disclosure & ND=Non Disclosure

| | Disclosure of variable | BHEL | SAIL | ONGC | NTPC | Total |
|----|--------------------------------|------|------|------------------------|----------------------------|-------|
| 1 | Value add | D | D | ND | D | 3 |
| 2 | EVA | D | ND | ND | ND | 1 |
| 3 | Value add per employee | D | ND | D | D | 3 |
| 4 | Valuation model used | D | D | D | D | 4 |
| 5 | Discount rate | D | D | D | D | 4 |
| 6 | Value of HR | ND | ND | D | ND | 1 |
| 7 | Value of HR per employee | ND | ND | D | ND | 1 |
| 8 | Number of employee | D | D | D | D | 4 |
| 9 | Age wise distribution | ND | ND | D | ND | 1 |
| 10 | Group wise distribution | D | D | D | D | 4 |
| 11 | Turnover per employee | D | ND | ND | D(Generation per employee) | 2 |
| 12 | Employee Remuneration &Benefit | D | D | D (Expend on employee) | D | 4 |
| | Total | 9 | 6 | 9 | 8 | 32 |

References

- Bhat, V.P. (2000, January 13). India: Towards transparency and uniformity. Business line. Chennai, I.
- Bhattacharyya, D.K. (2007). Human Resource Research Methods. Oxford University Press.
- Bullen, M.L. & Novin, A.M. (2000). Human Resource Accounting and the Balanced Scorecard. <http://www.clayton.edu>, November 09, 2009
- Bullen, M.L. (2007). Human resource accounting: A useful tool for measurement and management in organizations. *Leadership and Organizational Management Journal* .85-103.
- Bontis, N. (2003), "Intellectual capital disclosure in Canadian corporations", *Journal of Human Resource Costing & Accounting*, Vol. 7 Nos 1/2, pp. 9-20.
- Chhabra, T.N. (2006). Text and Cases in Human Resource Management. New Delhi: Dhanpat Rai and Company Limited.
- Culpepper, Anthony J., and Smith, J.G.(2007), "To Tell or Not to Tell ? How does culture impact corporate disclosure of non-financial metrics?", *Graziadio Business Report*, 10(3).
- Culpepper, A.(2005) The Effect of Disclosure of Human Assets on Publicly Traded Companies in India (Doctoral dissertation, Pepperdine University).
- DeCenzo, D.A. & Robbins, S.P. (2007). Fundamentals of Human Resource Management. New Delhi: Wiley India(P) Publication.
- Falmholtz, Eric G. & Main, Erica D. (1999). Current Issues, Recent Advancements, and Future Directions in Human Resource Accounting. *Journal of human Costing and Accounting*.4(1), 1-20
- Falmholtz, E.G., Bullen, M.L., & Hua, W. (2002). Human Resource Accounting: A historical perspective and future implications. *Management Decision*, 40 (10),947-54.
- Falmholtz, E.G., Bullen, M.L., & Hua, W. (2003). Measuring the ROI of management development: An application of the stochastic rewards valuation model. *Journal of Human Resource Costing and Accounting*, 7 (1-2), 21-40.
- Falmholtz, E. O, Kannan-Narasimhan, R., & Bullen, M.L.(2004). Human Resource Accounting today: Contributions, controversies and conclusions. *Journal of Human Resource Costing & Accounting*, 8 (2), 23-37
- Gupta, R.K. (2003). Human Resource Accounting. New Delhi: Anmol Publication Pvt. Ltd.
- Gupta, S.C. (2009). Advance Human Resource Management: Strategic Perspective. New Delhi: Ane Books Pvt. Ltd.
- Mahalingam, S. (2001), Of human capital. *Praxis, Business Line*. Meeting, D.T., Luecke, R.W. & Garceau, L.(2001). Future cash flow measurements. *Journal of Accountancy*, 192(4), 57-67.
- Moore, R. (2007). Measuring how 'human capital' appreciates in value over time. *Plant Engineering* 61(4), 29.
- Malik, R.K. (1997). Human Resource Accounting and Decision Making. New Delhi: Anmol Publication Pvt. Ltd.

- Mirza, S. (2003). Human Resource Management. New Delhi: Tata McGrawHill Publishing Company Limited.
- Parameswaran, R. & Jothi, K. (2005). Human Resource Accounting. The Chartered Accountant. January, 867-874
- Rahman, A. (2005). Human Resource Accounting and Its Reporting Practices. Pakistan Journal of Social Science. 3(6):889-891
- Jaggi, B., and S. Lau (1974). Toward a Model for Human Resource Valuation. The Accounting Review, 321-29
- Lev, Baruch., & Schwartz, A. (1974). On the Use of Economic Concepts of Human Capital in Financial Statements. Accounting Review, 71.
- Lev, B., & Schwartz, A. (1971, January). On the Use of the Economic Concept of Human Capital in Financial Statements. Accounting Review, 103-112.
- Sveiby, Karl E. (1989). The Invisible Balance Sheet. Stockholm: Affarfgarblen. 1989.
- Sveiby, Karl E. (1997). The New Organizational Wealth. San Francisco: Berrett-Koehler. 1997.
- Sveiby, Karl B. The Intangible Assets Monitor, Journal of HRCA, 20), Spring 1997.
- Patra R., Khatik, SK., & Kolhe, M. (2003). Human resource accounting policies and practices: A case study of Bharat Heavy Electricals Limited, Bhopal, India. International Journal of Human Resources Development and Management, 3 (4), 285.

Case Review Questions

1. Is it necessary for Indian companies to follow Human Resources accounting practices? If so under what section such disclosures are needed?
2. What are intangible assets and why are they so much talked about? Discuss the role of Human Capital as intangible asset?
3. Why are leading PSUs in India following Human Resource Accounting practices from so many years? What are the major benefits in terms of building employer reputation or brand?
4. What are the implications for Human Resource valuation for different companies? Discuss the tradeoff between cost and benefits.