



## Relationship between the Average Disclosure of Human Resource Accounting Information and Firm Value

Khodabakhshi Parijan Khadijeh

DOS, B.N. Bahadur Institute of Management Sciences, Manasagangotri, University of Mysore, Mysore, Karnataka, INDIA

Available online at: [www.isca.in](http://www.isca.in), [www.isca.me](http://www.isca.me)

Received 24<sup>th</sup> February 2014, revised 27<sup>th</sup> May 2014, accepted 28<sup>th</sup> September 2014

### Abstract

*The purpose of this study is to find out the relationship between the average disclosure of Human Resource Accounting Information and Firm Value. The sample companies which have chosen by researcher in this study are 10 listed companies in India. The researcher has found out ONGC, NTPC, BHEL, IOC, SAIL, HPCL, BPCL, HCL, INFOSYS Ltd, and ROLTA INDIA Ltd are TEN listed organizations on the BSE-500 Index which are practicing HRA. The study takes into consider 7 financial reporting years; 2005-2006 to 2011-12. Descriptive statistical analysis using correlation, simple linear regression, and Adjusted R<sup>2</sup> were provided in charts and graphs for each and all human resource accounting information disclosed in the financial reports and firm value data extracted from the financial reports. This study indicates that the firm value is positively affected by the average disclosure of human resource accounting information at selected companies listed in Bombay Stock Exchange.*

**Keywords:** Human Resource Accounting, Disclosure, Human Resource Accounting Disclosure Index (HRADI), Human Value, Firm Value.

### Introduction

In the developed countries, it is very common phenomenon that companies have formal HRA reporting aspect in their annual report. But, the concept of Human Resource Accounting is in the early stage of development in developing countries like India. However, "Human Resource Value" is often considered as a useful component of an enterprise, especially in service industries, where manpower is the single largest input for generating income. In recent years, a number of companies in the information technology field have included such valuation in their annual reports, although a number of public sector and private sector units in the manufacturing have been reporting these numbers for long<sup>1</sup>. A growing trend towards the measurement and reporting of human assets, particularly in the public sector is noticeable during the past years in India. Most of these companies which publish Human Resource Accounting (HRA) information have adopted the Lev and Schwartz Model<sup>2</sup> of economic value, and use an employee's anticipated future earnings as a surrogate of its value.

#### Do we want to reflect the full value our human assets?:

Some organizations have already answered this question by moving from theory to application. In India, Infosys, a technology organization, capitalized its human assets using the Lev and Schwartz model as a foundation. The chairman and managing director N.R. Narayana Murthy stated, "The secret of cashing in on human capital is to know how appropriate it is to your business ultimately businesses can only sustain a competitive advantage through continual investment in their human capital"<sup>3</sup>.

In the new global service economy fueled by knowledge, experience, and education, it is evident that the FASB and SEC accounting regulating bodies need to rethink the human assets valuation issue. Going forward, objective methods should be tested to move towards application and implementation. Research should be continually focused on identifying objective, definitive variables that can be quantified to better disclosed human assets<sup>4</sup>.

Throughout the literature the terms human assets, human capital, and human resource are used synonymously; this proposal will likewise use these terms interchangeably. In addition, for the purpose of this research, the term "Firm Value": is being defined as the market value of the organization's stock.

**Literature Review:** Olsson<sup>5</sup> emphasized that an organization would disclose its employee 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 merits for organizations are that reporting their human capital not only communicate the company's advantages, but could also attract valued resources<sup>6</sup>.

Skoog<sup>7</sup> 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<sup>8</sup>, a top nonfinancial performance driver for financial services is HC. Wright and Snell<sup>9</sup> discussed that in a knowledge-based industry, value

creation could be achieved by giving attention to the skills, knowledge, capability and commitment of workforce.

Some organizations have used various methods to quantify their human assets, but do not disclose these values in their financial statements. The international community has taken steps to move closer to disclosure than domestic organizations. As an example, Swedish organizations have disclosed information in their annual reports as an addition to the conventional financial statements<sup>10</sup>. However, several organizations in India have taken the lead in this area by disclosing the value of their human capital as assets on their financial statements submitted for investor use<sup>11</sup>.

Hossain, Khan, and Yasmin<sup>12</sup> identified in their paper the nature of voluntary human resource disclosure by Bangladeshi companies. The study concludes that Bangladeshi companies are making some disclosures on human resource even though this kind of disclosure is not mandatory from any regulatory authority. A questionnaire survey was also done to find out users' perception on this issue and most of the respondents in this survey said that this kind of disclosure is important for decision making.

Alam, and Kanti Deb<sup>13</sup> investigated corporate attitudes that influence human resource accounting disclosure within 58 sample companies listed either with Dahaka stock exchange or Chittagong stock exchange in 2009. This paper revealed that none of the companies disclose all the human resource accounting information items. From the study it has been found that the level of human resource reporting of listed companies of Bangladesh is very poor.

Petkov<sup>14</sup> examined perspectives on disclosing human capital into the notes of the financial statements. This study showed that the current accounting framework under IFRS, specifically IAS1, could accustom the disclosure of human capital into the notes of the financial statements. In addition, research identify the key compulsory indicators include the short and long term strategies related to human capital. In addition, organizations need to provide details on the effectiveness and performance of their human capital management policies and practices. The reporting is to be accomplished with the use of a mix of quantitative and qualitative data.

Cesyniene and Stankeviciene<sup>15</sup> conducted a study on the economic perspective of human capital in titled "the role of human capital in value creation: theoretical insight". According to the finding and the purpose of this study the growth of the modern knowledge – base economy is becoming less dependent on tangible assets and, respectively, hinges more on the intangibles which are defined as human capital (HC). While in the earlier years the concept of human capital used to be only an object of discussions, along with knowledge-based economy the interest in intellectual capital rose greatly, and in the late 20<sup>th</sup> and early 21<sup>st</sup> century social capital came into view. Each type

of capital is related to knowledge which can be exchanged for value. The latest research, carried out by authors from different countries, revealed the following fact that views on human capital contribution to added value creation went through gradual transformations, stepping over the limits of financial accountability and the traditional indicators, supplementing them with new indicators, mainly the non-financial ones. The current stage is characterized by experiments made to offer different methods of measuring not only human capital itself, but also its created value. Within the scope of this article, none of the authors in their research denied the positive role of human capital in value creation.

**Hypothesis: H<sub>1</sub>:** There is a significant relationship between HRADI and Firm Value.

## Research Methodology

The descriptive research method will be followed in the present research to describe and analyze the data concerning human assets and Firm Value. A purposive sampling technique is used for the selection of sample units. Samples are taken from listed companies in India (BSE-500 Index). The sample companies which have chosen by researcher in this study are 10 listed companies in India. The researcher has found out ONGC, NTPC, BHEL, IOC, SAIL, HPCL, BPCL, HCL, INFOSYS Ltd, and ROLTA INDIA Ltd are TEN listed organizations on the BSE-500 Index which are practicing HRA. The study takes into consider 7 financial reporting years; 2005-2006 to 2011-12. The quantification must have been disclosed in their financial reports for the 7 consecutive years. The dependent variable, firm value, is the market value of the organization's stock at the end of each of the respective sample years 2006-2012. The primary sources for the data collection are the organizations' Web sites on the internet. However, if the data is not available on the internet, the organizations would be contacted directly. The annual reports are the primary documents that shall be analyzed to identify the disclosure of the value of human assets. The annual report and other supporting financial documentation would be used to determine the market value of the organizations' stocks.

**Human resource accounting disclosure index:** In the study a Human Resource Accounting Disclosure Index (HRADI) comprising of 23 Human Resource Accounting Reporting variables (table 1) was constructed by reviewing of relevant literature and what Disclosure items the sample companies are reporting. In examining each of these HRAD items, a dichotomous procedure was followed where each company was awarded a score of "1" if the company appears to have disclosed the concerned reporting variable for each year and "0" otherwise. The score of each company was totaled find the net score of the company.

An HRADI was then computed by using the following formula:  
$$\text{HRADI} = \frac{\text{total score of individual company} \times 100}{\text{maximum possible score obtainable}}$$

## Results and Discussion

**Results:** Tables 3 and 4 show the Pearson product moment-correlation and Linear Regression analyses for testing of hypotheses of the study.

The Pearson’s product-moment correlation coefficients for the variables HRADI and Firm Value are shown in table-3. The results of the analysis in table 3 indicate that the correlation between HRADI and Firm Value has turned out to be highly significant as shown in table below. Firm Value is positively and significantly related to HRADI.

The significant/probability value (PV) = 0.024 < 0.05 level of significance, therefore the researcher accept the alternate hypothesis formulated as “There is a significant relationship between HRADI and Firm Value”. The analysis in table 3 indicates a positive and high correlation around 0.702\*, implying that a strong relationship exist between HRADI and Firm Value. This analysis indicates that increase in the average disclosure of Human Resource Accounting information of the organizations result in increase the value of the firm’s stock.

**Table-1**

	Measurement of HRAD Variables
1	Value Added
2	Average Age of Employee
3	No Of Employee
4	EVA
5	Value of HR
6	Value of HR per Employee
7	Value Added per Employee
8	Valuation Model Used
9	Discount Rate Applied
10	Age Wise Distribution
11	Group Wise Distribution
12	Gender Wise Distribution
13	Profits/Human Resources
14	Employee Cost/ HR
15	HR’s/Total Resources
16	Turnover per Employee
17	Human Resource Development Fund
18	Brand Valuation
19	Separate HRA Statement
20	Training and Development Expenses
21	Employee Remuneration Benefits
22	Education Index
23	Employee Cost

The following inferences may be derived from the below regression result: The regression result with respect to HRADI

is statistically significant. The value of regression coefficient with respect to HRADI [25.851] is positive. The increase in the value of this variable would enhance the Firm Value at the selected companies. It implies that a one unit change in HRADI would lead to 25.851 unit change in Firm Value in selected companies, assuming other factors to be constant. Adjusted R<sup>2</sup> analysis of the HRADI versus Firm Value indicates that the correlation determination is 43 % (see table 4). This indicates that 57% of Firm Value is a result of other factors when the HRADI is the only independent variable under consideration.

**Discussion: Major Finding:** Major finding is discussed with reference to the objective presented in the study which is as follow:

Based on, the empirical analysis it can be proved that HRADI positively related with firm value (significant at 5%) (tables-3,4)

**Hypothesis Testing:** H<sub>1</sub>: “There is a significant relationship between HRADI and Firm Value.”

The results of Pearson Product-Moment correlation and Univariate regression analysis reveal that there is significant relationship between HRADI and firm value (5% level of significance) within selected Indian companies of the study. Increase in the average disclosure of Human Resource Accounting information of the organizations result in increase the value of the firm’s stock. So, this study is supported by several studies like Skoog, Olsson, and Mouritsen et al.. Skoog found a positive correlation between the reported HC and profitability in the long run. Olsson study emphasized that an organization would disclose its employee 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. Mouritsen et al. explained the potential merits for organizations are that reporting their human capital not only communicate the company’s advantages, but could also attract valued resources. Thus, H<sub>1</sub> has been accepted at 5% level of significant.

## Conclusion

One of the important functions of financial reports prepared by the companies at the year-end is to acquaint the shareholders and others concerned with the working of the company. Such information is used for a variety of purposes. Notably among these is the use for investment purposes. Nowadays no economic growth can be made without giving importance to the human resources and without pondering them as an asset. Result support hypothesis, and concluding that there is a statistically significant relationship between Human Resource Accounting Disclosure Index and firm value. This study indicates that the firm value is positively affected by the average disclosure of human resource accounting information at selected companies listed in Bombay Stock Exchange.

**Table-2**  
**Disclosure of Selected Variable for HR Related Information by Selected Companies**

Disclosure Of Variables	BHEL	BPCL	HPCL	HCL	NTPC	ONGC	SAIL	IOC	INFOSYS	ROLT A
Value added	7	7	7	7	7	0	7	7	7	0
Average age of employee	0	0	7	0	0	0	0	0	0	0
No of Employee	7	7	7	7	7	7	7	7	7	0
EVA	7	0	0	0	0	0	0	0	7	7
Value of HR	7	7	7	7	7	7	7	7	7	7
Value of HR per employee	0	0	7	0	0	7	0	0	7	7
Value added per employee	7	0	0	0	7	0	0	0	0	0
Valuation model used	7	0	7	0	0	7	5	0	7	7
Discount rate applied	7	5	7	1	7	7	5	5	7	7
Age wise distribution	0	0	7	0	0	7	0	0	7	0
Group wise distribution	7	7	7	7	0	7	7	7	7	0
Gender wise distribution	0	0	0	7	0	0	0	7	7	0
Profits/human resources	0	0	7	0	0	0	0	0	6	7
Employee cost/ HR	0	0	7	0	0	0	0	0	6	0
HR's/total resources	0	0	7	0	0	0	0	0	0	0
Turnover per employee	7	0	0	0	7	0	0	0	0	7
Human resource development fund	7	0	0	0	0	0	0	0	0	0
Brand valuation	0	0	0	0	0	0	0	0	7	7
Separate HRA statement	7	0	7	0	0	7	7	0	7	7
Training and development expenses	0	0	0	0	0	0	7	0	7	0
Employee remuneration benefits	7	7	0	0	7	7	7	7	7	7
Education Index	0	0	0	0	0	0	0	0	7	0
Employee cost	0	0	7	0	7	0	0	0	7	7
Total Score	84	40	98	36	56	63	59	47	124	77
Mean Scores = Total Scores/ Total no. of years i.e. 7	12.00	5.71	14.00	5.14	8.00	9.00	8.42	6.71	17.71	11.00
Ranks	3	9	2	10	7	5	6	8	1	4
Hradi=Total Score Of Individual Copany*100/Maximum Possible Score Obtainable	52.17	24.84	60.87	22.36	34.78	39.13	36.64	29.19	77.01	47.82

Source: annual reports of selected companies

**Table-3**  
**Correlation between HRADI and Firm Value**

Variable 1	Variable 2	Pearson Correlation	Sig.	N
HRADI	Firm Value	0.702*	0.024	10

\*. Correlation is significant at the 0.05 level ; df=8

**Table-4**  
**Regression Coefficients for HRADI**  
**Dependent variable: Firm Value**

Independent variable	Constant	Beta	t-value	Sig.	R Square	Adjusted R Square	F
HRADI	-675.466	26.875	2.789*	0.024	0.493	0.430	7.779*

\*. Significant at 5%

## References

1. Global Data Services of India, L. *Accounting and analysis: the Indian experience: Gdsil*, (2004)
2. Lev B. and Schwartz A., On the use of the economic concept of human capital in financial statements, *The Accounting Review*, **46(1)**, 103-112 (1971)
3. Krishnakumar B., You could be worth millions! *The Week*, 1-6 (1998)
4. Flamholtz E., Human resource accounting: Advances in concepts, methods, and applications: Springer, (1999)
5. Olsson B., Annual Reporting Practices: Information about Human Resources in Corporate Annual Reports in major Swedish Companies, *Journal of Human resources and Accounting*, **6(1)**, 39-52 (2001)
6. Mouritsen J., Bukh P.N. and Marr B., Reporting on intellectual capital: why, what and how?, *Measuring Business Excellence*, **8(1)**, 46-54 (2004)
7. Skoog M., Visualizing value creation through the management control of intangibles, *Journal of intellectual capital*, **4(4)**, 487-504, (2003)
8. Low J., The value creation index, *Journal of Intellectual Capital*, **1(3)**, 252-263 (2000)
9. Wright P.M. and Snell S.A., Partner or guardian? HR's Challenge in balancing value and values, *Human Resource Management*, **44(2)**, 177-182 (2005)
10. Toulson P.K. and Dewe P., HR Accounting as a Measurement Tool, *Human Resource Management Journal*, **14 (2)**, 75-90 (2004)
11. Krishna Kumar B., You could be worth millions!, *The Week*, 1-6 (1998)
12. Hossain D.M., Khan A. and Yasmin I., The nature of voluntary disclosures on human resource in the annual reports of Bangladeshi companies. *Dhaka University Journal of Business Studies*, **25(1)**, (2004)
13. Alam I. and Deb S.K., Human resource accounting disclosure (HRAD) in Bangladesh: multifactor regression analysis—a decisive tool of quality assessment, *The Cost and Management*, **38(3)**, 9-13 (2010)
14. Petkov R., Perspectives On Disclosing Human Capital Into The Notes Of The Financial Statements, *Analele Stiintifice ale Universitatii "Alexandru Ioan Cuza" din Iasi-Stiinte Economice*, **57**, 29-40 (2010)
15. Cesyniene R. and Stankeviciene A., The role of human capital in value creation: theoretical insights, *EKONONIKA*, **90(4)**, 49-62 (2011)