CHAPTER VII

ANALYSIS OF CONTRIBUTION OF HUMAN RESOURCE ACCOUNTING AND PROFITABILITY OF A COMPANY WITH HRAD
SECTION A

This chapter deals with two sections; Section A analyses the contribution of HRA on the Financial Statement of Indian companies and the Profitability of the company with HRAD, Section B suggests a new model for calculating the value for human resources.

7.1 ANALYSIS OF CONTRIBUTION OF HUMAN RESOURCE ACCOUNTING ON FINANCIAL STATEMENTS OF INDIAN COMPANIES

This chapter is an endeavour to ascertain the contribution of human resource accounting on financial statements of Indian companies. To analyse the contribution of HRA on Financial Statements of Indian Companies, Mantel test is conducted. It is conducted to find whether HRA improves the financial position of Public sector and Private sector companies in India. Factors related to the contribution of HRA on financial statements of Public sector and Private sector is taken as “Items” for the analysis.

7.1.1 MANTEL TEST ANALYSIS

On analyzing the data, where Item 1A to Item 8A are the objects of matrix A; which is obtained from Public Sector Companies, while Item 1B to Item 8B are responses obtained from Private sector companies in India.

\[ R > A \leftarrow \text{matrix}(c(87, 49, 28, 107, 47, 12, 8, 1, 13, 44, 6, 11, 66, 35, 25, 47, 107, 52, 10, 8, 97, 45, 25, 7, 86, 60, 17, 11, 76, 34, 20, 44), \text{nrow}= 8, \text{by row}= \text{TRUE}) \]
```r
R > B <- matrix(c(56, 34, 15, 21, 79, 30, 7, 10, 83, 32, 8, 3, 36, 61, 17, 12, 84, 15, 12, 15, 88, 14, 14, 10, 45, 35, 16, 30, 56, 42, 11, 11), nrow = 8, byrow = TRUE)

R > DA <- dist.quant(A, method = 1)
R > DB <- dist.quant(B, method = 1)
```

The elements of distance matrices DA contain objects of matrix A on a class distances based on the canonical measure (method = 1) are shown below, Where the result is displayed by DA expressed that the distance between Item 1A and Item 1A; Item 2A and Item 2A; Item 3A and Item 3A; Item 4A and Item 4A; Item 5A and Item 5A; Item 6A and Item 6A; Item 7A and Item 7A; Item 8A and Item 8A, is 1, distance between Item 1A and Item 2A is 7.9826, Item 1A and Item 3A is 5.95958, Item 2A and 3A is 8.99652, Item 1A and Item 4A is 3.62952, Item 2A and Item 4A is 5.76625, Item 3A and Item 4A is 8.82356………..; Item 7A and Item 8A is 9.71726.

```r
R > DA
```
Matrix A

<table>
<thead>
<tr>
<th></th>
<th>Item 1A</th>
<th>Item 2A</th>
<th>Item 3A</th>
<th>Item 4A</th>
<th>Item 5A</th>
<th>Item 6A</th>
<th>Item 7A</th>
<th>Item 8A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 1A</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 2A</td>
<td>7.98326</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 3A</td>
<td>5.95958</td>
<td>8.99652</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 4A</td>
<td>3.62952</td>
<td>5.76625</td>
<td>8.82356</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 5A</td>
<td>9.97935</td>
<td>7.99775</td>
<td>7.99125</td>
<td>11.7475</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 6A</td>
<td>6.99652</td>
<td>4.98842</td>
<td>5.97385</td>
<td>16.6836</td>
<td>18.9873</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 7A</td>
<td>4.96998</td>
<td>3.96525</td>
<td>4.94796</td>
<td>7.76325</td>
<td>11.9811</td>
<td>9.95265</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Item 8A</td>
<td>2.72365</td>
<td>7.84278</td>
<td>7.88639</td>
<td>8.99225</td>
<td>4.82425</td>
<td>11.7715</td>
<td>9.71726</td>
<td>1</td>
</tr>
</tbody>
</table>
Similarly, the elements of distance matrices DB contain objects of matrix B on a class distances based on the canonical measures (method =1) are shown below. Where the result displayed by DB expressed that the distance between Item 1B and Item 1B, Item 2B and Item 2B, Item 3B and Item 3B, Item 4B and Item 4B, Item 5B and Item 5B, Item 6B and Item 6B, Item 7B and Item 7B, Item 8B and Item 8B, is 1, distance between n Item 1B and Item 2B is 9.98812, Item 1B and 3B is 7.97839, Item 2B and 3B is 14.9951, Item 1B and Item 4B is 11.5195, Item 2B and Item 4B is 11.4264, Item 3B and Item 4B 9.46996;……; Item 7B and Item 8B is 14.8724.
Matrix B

<table>
<thead>
<tr>
<th>Item 1B</th>
<th>Item2B</th>
<th>Item3B</th>
<th>Item4B</th>
<th>Item5B</th>
<th>Item6B</th>
<th>Item7B</th>
<th>Item8B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 1B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Item 2B</td>
<td>9.98812</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Item 3B</td>
<td>7.97839</td>
<td>14.9951</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 4B</td>
<td>11.5195</td>
<td>11.4264</td>
<td>9.46996</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Item 5B</td>
<td>14.9125</td>
<td>9.95835</td>
<td>19.9427</td>
<td>11.1525</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 6B</td>
<td>3.90325</td>
<td>7.95257</td>
<td>15.9485</td>
<td>15.1632</td>
<td>11.9926</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Item 7B</td>
<td>7.92972</td>
<td>7.87525</td>
<td>9.83325</td>
<td>13.5231</td>
<td>15.7713</td>
<td>9.73625</td>
<td>1</td>
</tr>
<tr>
<td>Item 8B</td>
<td>5.95623</td>
<td>18.9243</td>
<td>8.93734</td>
<td>8.73925</td>
<td>7.77741</td>
<td>7.78957</td>
<td>14.8724</td>
</tr>
</tbody>
</table>
The mantel r test function has been applied to perform the mantel test for 10000 permutations, where “nrept” represents the number of permutations;

\[ R > \text{mantel r test (DA, DB, nrepet = 10000)} \]

Monte-Carlo test

**Observation: 0.7465252**

Call: mantel r test (m1 = DA, m2 = DB, nrepet = 10000)

Based on 10000 replicates

Simulated p-value: 9.999e-05

From the result it is found that there exists a strong positive resemblance between the responses of employees from Public and Private Companies with an association of 74.65% which on the mantel r test function result is indicated as observation = 0.7465 (75%) and a P-value of 0.00 which falls on the rejection region of the hypothesis assuming a significance level of 5% (\(\alpha = 0.05\)); The null hypothesis i.e. accounting for human resources does not improve the financial position of Public and Private Sector companies in India has been rejected, since p-value = 0.00 is lesser than \(\alpha=0.05\) assuming 95% confidence interval level. It implies that accounting for human resources can improve the financial position of both Public and Private companies in India.
7.2 PROFITABILITY OF A COMPANY WITH HUMAN RESOURCE ACCOUNTING DISCLOSURES (HRAD)

Profitability is the prime goal of all business ventures. Without profit the business will not survive in the long run. So measuring current and past profitability and projecting future profitability is very important. Profitability is a measure with income and expenses. A business that is highly profitable has the ability to reward its owners with a large return on their investment.

Therefore, here an attempt is taken to evaluate empirically that to what extent the human resource accounting disclosures has an impact on the profitability of Indian Companies.

7.2.1 PROFITABILITY RATIOS AND HRAD

The profitability of a company is determined through profitability ratios calculated from the Income statement and Balance sheet. Profitability ratios are the most powerful analytical tool that can be used to determine how well a business is performing. Business management, owners and investors also utilize profitability ratios to compare a business performance against other similarly situated business. Profitability ratios are the most popular metrics used in financial analysis. The profitability ratios which are used to find the profitability of a company include Return on asset, Return on equity and Return on Investment, and these ratios are analysed with Human Resource Accounting Disclosures of selected Indian Companies. The following are the formula to find out the profitability ratios and Human Resource Accounting Disclosures of selected Indian Companies.
1. **Return on Assets (ROA)**

   The company applies this metric measure effectively to produce income from its assets.

   The formula to find ROA is

   \[
   \text{Return on Assets (ROA)} = \frac{\text{Net income}}{\text{Total Assets}} \times 100
   \]

2. **Return on Equity (ROE)**

   ROE evaluate both the investment and the gain. The formula to find ROE is

   \[
   \text{Return of Equity(ROE)} = \frac{\text{Net income}}{\text{Shareholders Investment}} \times 100
   \]

3. **Return on Investment (ROI)**

   This is a metric that is important for stock investors as it measures the earnings by the company for each dollar invested in the company. The formula to find ROI is

   \[
   \text{Return on Investment(ROI)} = \frac{\text{Net Profit}}{\text{Total Investment}} \times 100
   \]

4. **Human Resource Accounting Disclosures (HRAD)**

   In the present study a Human Resource Accounting Disclosures comprise of selected twenty human resource disclosure items have been constructed by reviewing relevant sources. In examining each of these HRAD items, a dichotomous procedure has been followed where each company is awarded a score of ‘1’ if the company appears to have disclosed the concerned reporting variable and ‘0’ otherwise. The score of each company has been totaled to find the net score of the company. The formula to find HRAD is given below:

   \[
   \frac{\text{Total Score of Individual Company}}{\text{Maximum Possible Score Obtainable}} \times 100
   \]
Table 7.1 represents twenty Human Resource Disclosure items

**Table-7.1**

**Human Resource Accounting Disclosure Items**

<table>
<thead>
<tr>
<th>S.NO</th>
<th>Disclosure Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Value Added</td>
</tr>
<tr>
<td>2</td>
<td>Qualification of the employees</td>
</tr>
<tr>
<td>3</td>
<td>Manpower in numbers</td>
</tr>
<tr>
<td>4</td>
<td>Economic Value Added (EVA)</td>
</tr>
<tr>
<td>5</td>
<td>Performance at a glance</td>
</tr>
<tr>
<td>6</td>
<td>Value of Human Resources</td>
</tr>
<tr>
<td>7</td>
<td>Value Added per employee</td>
</tr>
<tr>
<td>8</td>
<td>Valuation Model used</td>
</tr>
<tr>
<td>9</td>
<td>Discount rate used</td>
</tr>
<tr>
<td>10</td>
<td>Retirement Benefit</td>
</tr>
<tr>
<td>11</td>
<td>Awards and Rewards given for good performance</td>
</tr>
<tr>
<td>12</td>
<td>Separate HRA statement</td>
</tr>
<tr>
<td>13</td>
<td>Human Resource Development Fund</td>
</tr>
<tr>
<td>14</td>
<td>Employee Cost</td>
</tr>
<tr>
<td>15</td>
<td>GroupWise distribution</td>
</tr>
<tr>
<td>16</td>
<td>Training and development expenses</td>
</tr>
<tr>
<td>17</td>
<td>Capital Employed</td>
</tr>
<tr>
<td>18</td>
<td>Employee Remuneration Benefits</td>
</tr>
<tr>
<td>19</td>
<td>Brand Valuation</td>
</tr>
<tr>
<td>20</td>
<td>Turnover per employee</td>
</tr>
</tbody>
</table>

**Source:** From Annual Report of respective companies
7.2.2 REGRESSION MODEL

In order to derive the existing relationship between dependent and independent variables taken in the study a typical procedure of Ordinary Least Square (OLS) regressions is undertaken. Human Resource Accounting Disclosure is independent variable and is associated with number of dependent variables to study what actually determines the Profitability of a company. The following equation is formulated for the study.

The regression models are as follows

\[ \text{ROA} = \alpha + \beta \text{ HRAD} + \epsilon \] ................. (1)
\[ \text{ROE} = \alpha + \beta \text{ HRAD} + \epsilon \] ................. (2)
\[ \text{ROI} = \alpha + \beta \text{ HRAD} + \epsilon \] ................. (3)

Where,

ROA  = Natural log of Return on Assets of the company
ROE  = Natural log of Return on Equity of the company
ROI  = Natural log of Return on Investment of the company
\( \alpha \)  = Inception of the regression line
\( \beta \)  = Coefficient (Slope of regression line)
HRAD = Human Resource Accounting Disclosures
\( \epsilon \) = Standard sample error

**Dependent Variables:**

ROA          - Return on Assets
ROE          - Return on Equity
ROI          - Return on Investment
Independent Variables:

HRAD - Human Resource Accounting Disclosures

7.3 ANALYSIS AND INTERPRETATION

To examine the profitability of a company with human resource accounting disclosures, Descriptive statistics, Correlation and Regression analysis have been applied. But before the analyses the data should be tested for normality i.e. to test whether the data is normally distributed or not. For this one sample Kolmogorov Smirnov test is conducted. The following table reports the result of one sample Kolmogorov Smirnov test.

7.3.1 ONE SAMPLE KOLMOGOROV SMIRNOV TEST

The table 7.2 presents the One Sample Kolmogorov Smirnov test which is conducted among HRAD, ROA, ROE and ROI.
Table 7.2

One-Sample Kolmogorov-Smirnov Test

<table>
<thead>
<tr>
<th></th>
<th>HRAD</th>
<th>ROA</th>
<th>ROE</th>
<th>ROI</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Normal Parameters(^{a,b})</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>44.333</td>
<td>9.223</td>
<td>15.184</td>
<td>19.806</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>18.370</td>
<td>7.981</td>
<td>10.964</td>
<td>14.988</td>
</tr>
<tr>
<td>Most Extreme Differences</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absolute</td>
<td>0.121</td>
<td>0.193</td>
<td>0.124</td>
<td>0.097</td>
</tr>
<tr>
<td>Positive</td>
<td>0.087</td>
<td>0.193</td>
<td>0.124</td>
<td>0.097</td>
</tr>
<tr>
<td>Negative</td>
<td>-0.121</td>
<td>-0.126</td>
<td>-0.084</td>
<td>-0.095</td>
</tr>
<tr>
<td>Kolmogorov-Smirnov Z</td>
<td>0.663</td>
<td>1.056</td>
<td>0.681</td>
<td>0.532</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>0.771</td>
<td>0.214</td>
<td>0.742</td>
<td>0.940</td>
</tr>
</tbody>
</table>

Source: Annual Reports of respective companies

- Test distribution is Normal.
- Calculated from data.

The Kolmogorov –Smirnov test for the above table 7.2 reports the significant value of 0.771 for HRAD, 0.214 for ROA, 0.742 for ROE and 0.940 for ROI which allows accepting that sample data are normally distributed.

### 7.3.2 DESCRIPTIVE STATISTICS AND CORRELATION ANALYSIS

After the normal distribution the data is analysed through descriptive statistics and correlation analysis. Table 7.3 reflects the descriptive statistics and correlation analysis.
Table 7.3

Descriptive statistics and Correlation Analysis

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std Dev</th>
<th>HRAD</th>
<th>ROA</th>
<th>ROE</th>
<th>ROI</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRAD</td>
<td>44.33</td>
<td>18.37</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>9.22</td>
<td>7.98</td>
<td>.754</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROE</td>
<td>15.18</td>
<td>10.96</td>
<td>.638</td>
<td>.734</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROI</td>
<td>19.81</td>
<td>14.99</td>
<td>.705</td>
<td>.660</td>
<td>.747</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Annual Reports of respective companies

**, Correlation is significant at the 0.01 level (2-tailed).

Pearson’s correlation analysis is used to study the relationship between HRAD and ROA, ROE and ROI. The relationship between ROA and HRAD is highly significant at 1% (0.754); ROE and HRAD (0.638); ROE and ROA (0.734) is highly significant positively at 1% level; the relationship between ROI and HRAD (0.705); ROI and ROA(0.660) is significant positively at 1% level and the relationship between ROI and ROE is also highly significant (0.747) at 1% level. Overall from the correlation table it is inferred that there is highly strong and positive correlation exists between Human resource accounting disclosure (HRAD) and Return on assets (ROA), Return on equity (ROE) and Return on Investment (ROI). Hence the null hypothesis is rejected at 1% level.
7.3.3 REGRESSION ANALYSIS

For the purpose of identifying the important variables influencing the dependent variables the results of regression model are shown below:

Table 7.4
Regression Estimates of Profitability of the concern and HRAD

<table>
<thead>
<tr>
<th>Dependent</th>
<th>Independent</th>
<th>Constant (α)</th>
<th>Beta (β)</th>
<th>R-square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>HRAD</td>
<td>0.688*</td>
<td>-0.0116**</td>
<td>42%</td>
<td>5.739**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(5.817)</td>
<td>(-2.396)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROE</td>
<td>HRAD</td>
<td>0.675*</td>
<td>-0.066</td>
<td>23%</td>
<td>2.060</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(3.525)</td>
<td>(-1.435)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROI</td>
<td>HRAD</td>
<td>0.702*</td>
<td>-0.0216</td>
<td>43%</td>
<td>6.136**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(5.858)</td>
<td>(-2.477)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Annual Reports of respective companies

* 1% level of significance; ** 5% level of significance

To find out the association of HRAD with Profitability (ROA, ROE and ROI) a regression model is used. The regression coefficient ($R^2 = 0.43$) indicates that 43% of the variation in Human Resource Disclosure can be predicted from the selected dependent variable. The regression results have showed that the ROI has highly positive relationship with HRAD at 5% level and ROA has also positive relationship with HRAD at 5% level and hence the null hypothesis is rejected.

The higher F value (6.136) shows that there is a highly strong and positive relationship between the profitability of the company and HRAD. It indicates that the companies which disclose more human resource accounting information acquire more profit when compared to the companies which are disclosing less human
resource accounting information. ROA and ROI support more to the hypothesis when compared to ROE.

7.4 SUMMARY

On analyzing the contribution of human resource accounting on financial statements of Indian companies, it is evident that there exists a strong and positive impact of response from both Public and Private Sectors. It is suggested that human resource accounting can improve the financial position of both Public and Private Ltd companies in India. Further, on analyzing the profitability of a company with human resource accounting disclosures, it is inferred from the correlation analysis that there is highly strong and positive correlation exists between HRAD and ROA, ROE and ROI.

The regression results show that the ROI has highly positive relationship with HRAD when compare to ROA and ROE. It implies that the company will get high return on investment if the company discloses more HRA information. Even ROA shows positive sign towards the more disclosure of HRA information. Finally it is vivid that high priority and constant appraisal of human resources will increase their morale, so HRAD should be included in Indian Companies; in turn there will be a higher reflection of profit. Thereby company’s profitability positively influences companies to report the information in their Annual reports and it is hoped that the profitability of the company increases with more HRAD.

The study finds that there is highly strong and positive relationship between the profitability of the company and Human resource accounting disclosures (HRAD). It is consistent with Filomena Antunes Bra’s and Lu’cia Lima
Rodrigues(2007), Syed Abdulla Al Mamun (2009), Alam & Kanti Deb (2009),
Imtiaz Alam and Suman Kanti Deb (2010), Naveed Iqbal Chaudhry and Muhammad
Obara, Lawyer Chukwuma (2013), Ijeoma.N. et al (2013). The result is also
consistent with the findings of many Indian researchers like Aruna Saini and
Ramdhan Saini (2011), Dr.A.O.Enofe colin al (2013). The result is contrary with the
result of Nabil Elias (1972), James A. Hendriks (1976). The analysis related to
profitability of a company with human resource accounting disclosures (HRAD)
reveal that profitable company disclose more human resource accounting
information and the company also includes more human resource accounting
information gives more profit to the company.

Further a new model is suggested by rectifying all the drawbacks related to
other models or method for the valuation of human resource accounting. In order to
have more profit there are more models in HRA in which this part of the study is an
attempt to find a new model so as to give more profit to the company. The following
is the new model suggested for human resource accounting valuation:
SECTION B
NEW MODEL FOR HUMAN RESOURCE VALUATION

7.5 INTRODUCTION

There are many models related to Human resource valuation, such as Lev and Schwartz model, Jaggi and Lau method, Economic Value model, Dr.S.K. Chakarabarty model, Historical cost method, Opportunity cost method, Replacement cost method, and Standard cost method and Net present value method, many more methods which have already been explained in the first chapter. On reviewing all these models, the research discloses that there are many drawbacks related to the application of these models in Indian Companies. Each model has taken some particular cost for human resource valuation but eliminating all other cost. For example Lev and Schwartz model have taken only the salary cost, other cost have been neglected for the calculation of value of human resource, and Economic value model focuses on many assumptions but considers only the Annual earnings of an employee.

On the whole in all these models they have two limitations 1) They concentrate only on taking one cost or the other, all the cost related to human resource accounting are not taken for the calculation, 2) Most of the models which are presently used by many of the companies are not taking the performance index of an employee for the calculation of human resource value. This is the major factor for the calculation of present value of an employee, without this value the real value of the human resource may not be reflected in the balance sheet. To overcome all these deficiencies a new model has been suggested and it is as follows:
7.6 PERFORMANCE INDEX MODEL

Performance Appraisal is the assessment of an individual’s performance in a systematic way. It is a developmental tool used for all round development of the employee and the company. The performance is measured against factors such as job knowledge, quality and quantity of output, initiative, leadership abilities, supervision, dependability, co-operation, judgment, versatility and health. Assessment should be confined to past as well as potential performance also. The second definition is more focused on behaviours as a part of assessment because behaviours do affect job results. Through performance Index the true value of the human resource is found. The human resource value calculation should be divided for two years. The following is the formula to find out the value of human resource:

**First Year**

\[
V_{(HR)} = \frac{\sum RC + SC + OC + TC + DC + SAC + MC + OBC + P(Le + Og + De)}{ESP} + PI_{(VE)}
\]

**Second and Subsequent years**

\[
V_{(HR)} = \frac{\sum TC + DC + SAC + MC + OBC + P(Le + Og + De)}{ESP} + PI_{(VE)}
\]

\[
PI_{(VE)} = PAC_e + SH_e
\]

Where,

\[
V_{(HR)} = \text{Value of Human resource}
\]

\[
RC = \text{Recruitment cost}
\]

\[
SC = \text{Selection cost}
\]

\[
OC = \text{Orientation cost}
\]
TC = Training cost
DC = Development cost
SAC = Salary cost
MC = Maintenance cost
OBC = Other benefits cost

\[ P(Le+Og+De) = \text{Probability for loss of efficiency of human resources, for outgoing of the employees and for death of an employee.} \]

ESP = Employees service period

\[ P_{ve} = \text{Performance Index value of an employee} \]

\[ PAC_e = \text{Performance Appraisal cost per employee} \]

\[ SH_e = \text{Salary hike of an employee per year} \]

The human resource value is thus calculated, and it will be posted in the asset side of the balance sheet. The value will be increased or decreased year by year. This value should be discounted at an appropriate discount rate per annum. Due to performance index only the value of an employee may be found in every year, through this the real value of an employee is reflected in the Investment side of the balance sheet which will give merit to an employee.

**Recruitment cost**

The process of finding and hiring the best qualified candidate for a job on time and in cost effective manner is known as recruitment cost. The recruitment process includes analyzing the requirements of a job, attracting employees to that job, screening and selecting applicants, hiring and integrating the new employee to the company, for example advertisement cost. Recruitment cost includes all the cost related to the recruitment of an employee.
Selection cost

The cost incurred for the selection of an employee is known as selection cost, for example the cost incurred for conducting an interview.

Orientation cost

Employee orientation is the part of a long term investment in a new employee. It is an initial process that provides easy access to basic information, programs and services, gives clarification and allows new employees to take an active role in their company. An orientation program helps the employee to understand their assigned duties, terms and conditions of employment as well as the organisational culture. The cost incurred for all these activities are included in orientation cost.

Training cost

Training is the process of learning the skills required for a particular job or activity. It is an organized activity aimed at imparting information or instruction to improve the recipient’s performance or to help him or her to attain a required level of knowledge or skill. All the cost which is incurred for training an employee on the job training and off the job training is also included in the training cost.

Development cost

The total of all costs incurred from initiation to implementation of a project. Subsequent costs are called operational costs. All the costs incurred for the self development of an employee is included in the development cost.

Salary cost

Salary is a fixed regular payment, typically paid on a monthly basis but often expressed as an Annual sum, it is a compensation paid to an employee by an
employer in return for work performed by an employee. The salary cost includes any annuity or pension or any gratuity, any fees, commissions, perquisites or profits in lieu of or in addition to any salary or wages.

**Maintenance cost**

The cost which is possessed for the maintenance of an employee is known as maintenance cost. It includes welfare cost, retirement benefits, pension schemes etc.

**Other benefits cost**

All other costs which are left by all the above cost are included in the other benefits cost. Other benefits include various types of non wage compensation offered to employees in addition to their normal wages or salaries. Examples of these benefits include housing, group insurance, disability income protection, retirement benefits, day care, tuition reimbursement, sick leave, vacation, social security, profit sharing and funding of education.