HUMAN RESOURCE REPORTING

LEARNING OUTCOMES

After studying this chapter, you would be able to

- Discuss the significance of human resource reporting (HRR)
- Appreciate the various models of HRR
- Prepare human resource reports
- Examine the limitations of human resource reporting
The non-accounting of human resources and the change occurring therein, of an organisation may provide a poor picture of the profits and profitability of the organisation. Human Resource Reporting will provide to the entity as well as the users, an insight about the value of the human employed in an organisation.

1. INTRODUCTION

Human beings are considered central to achievement of productivity, well above equipment, technology and money. Human Resource Reporting is an attempt to identify, quantify and report investments made in human resources of an organisation that are not presently accounted for under conventional accounting practice.

The necessity of human resource reporting arose primarily as a result of the growing concern for human relations management in industry since the sixties of the nineteenth century. Behavioural scientists (like R Likert, 1960), concerned with the management of organisations, pointed out that the failure of accountants to value human resources was a serious handicap for effective management.

Mr. Woodruff Jr. Vice President of R. G. Batty Corporation defines it as follows:

“Human Resource Reporting is an attempt to identify and report investments made in human
resources of an organization that are presently not accounted for in conventional accounting practice. Basically it is an information system that tells the management what changes over time are occurring to the human resources of the business.”

Many people pointed out that it is very difficult to value human resources. Some others have cautioned that people are sensitive to the value others place on them. A machine never reacts to an over or under-valuation of its capacity, but an employee will certainly react to such distortion. Conventionally human resources are treated just as any other services purchased from outside the business unit. As a result, conventional balance sheets fail to reflect the value of human assets and hence distort the value of the business. The treatment of human resources as assets is desirable with a view to ensuring comparability and completeness of financial statements and more efficient allocation of funds as well as providing more useful information to management for decision-making purposes.

The committee on Human Resource Reporting (HRR) of the American Accounting Association defined HRR as “the process of identifying and measuring data about human resources and communicating this information to interested parties”. However, “Human Resources” are not yet recognised as ‘assets’ in the Balance Sheet. The measures of net income which are provided in the conventional financial statement do not accurately reflect the level of business performance. Expenses relating to the human organisation are charged to current revenue instead of being treated as investments to be amortised over the economic service life, with the result that the magnitude of net income is significantly distorted.

However, HRR involves reporting for the company’s management and employees as human capital that provides future benefits. In the HRR 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.

2. MODELS OF HRR

Quite a few models have been suggested from time to time for the measurement and valuation of human assets.
Some of these models are briefly discussed below:

(A) Cost Based Models

(1) Capitalisation of historical costs

Developed by

R. Likert and his associates at R.G. Barry Corporation in Ohio, Columbia (USA) developed this model in 1967.

Procedure involves

- Capitalising of all costs related with making an employee ready for providing service – recruitment, training, development etc.
- The sum of such costs for all the employees of the enterprise is taken to represent the total value of human resources.
- The value is amortised annually over the expected length of service of individual employees.
- The unamortised cost is shown as investment in human assets.
- If an employee leaves the firm (i.e. human assets expire) before the expected service life period, the net asset value to that extent is charged to current revenue.
Merits
This model is simple and easy to understand and satisfies the basic principle of matching cost and revenues.

Demerits
• This model was severely criticised because it failed to provide a reasonable value to human assets.
• Historical costs are sunk costs and are irrelevant for decision-making.
• It capitalises only training and development costs incurred on employees and ignores the future expected cost to be incurred for their maintenance.
• The value of human asset according to this method goes on decreasing every year due to amortization. However, in reality the value of human asset increases over time on account of people gaining experience.
• This model distorts the value of highly skilled human resources because skilled employees require less training and therefore, according to this model, will be valued at a lesser cost.

For all these reasons, this model has now been totally rejected.

(2) Replacement Cost

Developed by Likert (1985)

This approach measures the cost of replacing an employee. According to Likert (1985) replacement cost include recruitment, selection, compensation, and training cost. The human resources of a company are to be valued on the assumption as to what it will cost the concern if existing human resources are required to be replaced with other persons of equivalent experience and talent.

Procedure involves

Such costs have two dimensions-

1. ‘Individual Replacement Cost’

   The ‘individual replacement cost’ refers to the cost that would have to be incurred to replace an individual by a substitute who can provide the same set of services as that of the individual being replaced.

2. ‘Positional Replacement Cost’

   The ‘positional replacement cost’ refers to the cost of replacing the set of services required of any incumbent in a defined position. Thus the positional replacement cost
takess into account the position in the organisation currently held by an employee and also future positions expected to be held by him.

Merits

- Incorporates the current value of the firm’s human resources which is more realistic as compared to historical cost approach.
- Takes into account individual skills of each employee which results in more accurate valuation.

Demerits

- Determination of replacement cost of an employee is highly subjective and often impossible. Particularly at the management cadre, finding out an exact replacement is very difficult.
- The exit of a top management person may substantially change the human asset value.
(B) Economic Value Models

(1) Opportunity Cost

Developed by Hekimian and Jones

Hekimian and Jones first advocated this approach and the model was known as Hekimian and Jones Model (1967). This is also known as ‘Market Value’ method.

Procedure involves

- This model uses the opportunity cost that is the value of an employee in his alternative use, as a basis for estimating the value of human resources.
- The opportunity cost value may be established by competitive bidding within the firm, so that in effect, managers must bid for any scarce employee.
- A human asset, therefore, will have a value only if it is a scarce resource, that is, when its employment in one division denies it to another division.

Merits

- Bidding process gives more optimal allocation of human resource of the organisation.
- Quantitative base for planning, evaluating and developing human assets of the firm.

Demerits

- Firstly, it excludes employees of the type which can be ‘hired’ readily from outside the firm, so that the approach seems to be concerned with only one section of a firm’s human resources, having special skills within the firm or in the labour market.
- Secondly, circumstances in which managers may like to bid for an employee would be rare, in any case, not very numerous.

(2) Discounted wages and salaries

Developed by

Lev and Schwartz and the model was known as Lev and Schwartz Model (1971)

Procedure involves

This model involves determining the value of human resources as the present value of estimated future earnings of employees (in the form of wages, salaries etc.) discounted by the rate of return on investment (cost of capital).

According to this model, the value of human resources is ascertained as follows –

1. All employees are classified in specific groups according to their age and skill.
2. Average annual earnings are determined for various ranges of age.
3. The total earnings which each group will get up to retirement age are calculated.
4. The total earnings calculated as above are discounted at the rate of cost of capital. The value thus arrived at will be the value of human resources/assets.

The following formula has been suggested for calculating the value of an employee according to this model –

\[
V_{\tau} = \sum_{t=\tau}^{T} \frac{l(t)}{(1+r)^{t-\tau}}
\]

Where,

\( V_{\tau} \) = the human capital value of a person \( \tau \) years old.
\( l(t) \) = the person’s annual earnings up to retirement.
\( r \) = a discount rate specific to the person.
\( T \) = retirement age.

However, the above expression is an ex-post computation of human capital value at any age of the person, since only after retirement can the series \( l(t) \) be known. Lev and Schwartz, therefore, converted their ex-post valuation model to an ex-ante model by replacing the observed (historical) values of \( l(t) \) with estimates of future annual earnings denoted by \( l^*(t) \). Accordingly, the estimated value of human capital of a person years old is given by:

\[
V_{\tau}^* = \sum_{t=\tau}^{T} \frac{l^*(t)}{(1+r)^{t-\tau}}
\]

Lev and Schwartz again pointed out the limitation of the above formulation in the sense that the above model ignored the possibility of death occurring prior to retirement age. They suggested that the death factor can be incorporated into the above model with some modification and accordingly they recommended the following expression for calculating the expected value of a person’s human capital:

\[
E(V_{\tau}^*) = \sum_{t=\tau}^{T} P(t+1) \sum_{t=\tau}^{T} \frac{l^*_i}{(1+r)^{t-\tau}}
\]

Where, \( P(t) \) is the probability of a person dying at age ‘\( t \)’.

**Steps for valuation of Human Resources**

Lev and Schwartz have shown in the form of a hypothetical example the method of computing the firm’s value of human capital.

- Employees of the hypothetical firm have been decomposed by
age groups and
- degrees of skill and
- the average annual earnings for each age and skill group have been ascertained.

Finally, the present values of future earnings for each group of employees have been calculated on the basis of a capitalisation rate.

The sum of all such present value of future earnings was taken as the firm’s value of human capital.

**Merits**

In this model, wages and salaries are taken as surrogate for the value of human assets and therefore it provides a measure of ‘future estimated cost’. Although according to economic theory, the value of an asset to a firm lies in the rate of return to be derived by the firm from its employment, Lev and Schwartz model surrogated wages and salaries of the employees for the income to be derived from their employment. They felt that income generated by the workforce is very difficult to measure because income is the result of group effort of all factors of production.

**Demerits**

This model is subject to the following criticisms:

(a) A person’s value to an organisation is determined not only by the characteristics of the person himself (as suggested by Lev and Schwartz) but also by the organisational role in which the individual is utilised. An individual’s knowledge and skill is valuable only if these are expected to serve as a means to given organisational ends.

(b) The model ignores the possibility and probability that the individual may leave an organisation for reasons other than death or retirement. The model’s expected value of human capital is actually a measure of the expected ‘conditional value’ of a person’s human capital – the implicit condition is that the person will remain in an organisation until death or retirement. This assumption is not practically social.

(c) It ignores the probability that people may make role changes during their careers. For example, an Assistant Engineer will not remain in the same position throughout his expected service life in an organisation.

In spite of the above limitations, this model is the most popular measure of human capital both in India and abroad.
(3) **Stochastic process with service rewards**

**Developed by**

Flamholtz in 1971 and the model was known as Flamholtz Model:

**Procedure involves**

Flamholtz (1971) advocated that an individual’s value to an organisation is determined by the services he is expected to render. An individual move through a set of mutually exclusive organisational roles or service states during a time interval. Such movement can be estimated probabilistically. The expected service to be derived from an individual is given by:

$$E(S) = \sum_{i=1}^{n} S_i P(S_i)$$

Where $S_i$ represent the quantity of services expected to be derived in each state and $P(S_i)$ is the probability that they will be obtained.

However, economic valuation requires that the services of the individuals are to be presented in terms of a monetary equivalent. This monetary representation can be derived in one of the two ways:

(a) by determining the product of their quantity and price, and

(b) by calculating the income expected to be derived from their use.

The present worth of human capital may be derived by discounting the monetary equivalent of expected future services at a specified rate (e.g. interest rate).

**Merits**

- It considers the change in the position and roles of the employees that may occur during their service life.
- It considers future benefits to be derived from human asset rather than considering sunk historical costs.

**Demerits**

- The major drawback of this model is that it is difficult to estimate the probabilities of likely service states of each employee.
- Determining monetary equivalent of service states is also very difficult and costly affair.
- Another limitation of this model arises from the narrow view taken of an organisation. Since the analysis is restricted to individuals, it ignores the added value element of individuals operating as groups.
(4) Valuation on group basis

Developed by

Jaggi and Lau and the model was known as Jaggi and Lau Model.

Procedure involves

Jaggi and Lau realised that proper valuation of human resources is not possible unless the contributions of individuals as a group are taken into consideration.

A group refers to homogeneous employees whether working in the same department or division of the organisation or not. An individual's expected service tenure in the organisation is difficult to predict but on a group basis it is relatively easy to estimate the percentage of people in a group likely to leave the organisation in future.

This model attempted to calculate the present value of all existing employees in each rank. Such present value is measured with the help of the following steps:

(i) Ascertain the number of employees in each rank.

(ii) Estimate the probability that an employee will be in his rank within the organisation or terminated/promoted in the next period. This probability will be estimated for a specified time period.

(iii) Ascertain the economic value of an employee in a specified rank during each time period.

(iv) The present value of existing employees in each rank is obtained by multiplying the above three factors and applying an appropriate discount rate.

Jaggi and Lau tried to simplify the process of measuring the value of human resources by considering a group of employees as valuation base.

Merits

- Difficult to predict an individual's expected service tenure in the organization but on a group basis it is relatively easy to estimate the percentage of people in a group likely to leave the organization in future.

- Considers the added value element of an individual operating as a group.

Demerits

- This model ignored the exceptional qualities of certain skilled employees.

- The performance of a group may be seriously affected in the event of exit of a single individual.
3. IMPLICATIONS OF HUMAN CAPITAL REPORTING

The relevance of the human resource information lies in the fact that it concerns organisational changes in the firm's human resources. The ratio of human to non-human capital indicates the degree of labour intensity of the enterprise. Reported human capital values provide information about changes in the structure of labour force. Difference between general and specific values of human capital is another source for management analysis – the specific value of human capital is based on firm’s wage scale while the general value is based on industry-wise wage scale. The difference between the two is an indicator of the level of the firm's wage scale as compared to the industry.

4. LIMITATIONS OF HUMAN RESOURCE REPORTING (HRR)

The central problem in HRR is not what kind of resources should be treated, but rather when the resources should be recognised. This timing issue is particularly important because human resources are not owned by the firm, while many physical resources are. However, the firm also uses many services from physical resources which it does not own. The accounting treatment for such services should, therefore, be the same as the treatment used for human resources.

Traditional accounting involves treatment of human capital and non-human capital differently. While non-human capital is represented by the recorded value of assets, the only reference to be found in financial statement about human resources are entries in the income statement in respect of wages and salaries, directors' fees etc. But it should be kept in mind that measuring and reporting the value of human assets in financial statements would prevent management from liquidating human resources or overlooking profitable investments in human resources in a period of profit squeeze. But while valuing human assets one should not lose sight of the fact that human beings are highly sensitive to external forces and human skills in an organisation do not remain static. Skill formation, skill obsolescence or utilisation may take a continuous process. Besides, employee attitude, loyalty, commitment, job satisfaction etc. may also influence the way in which human resource skills are utilised. Therefore, human resources should be valued in such a way so as to cover the qualitative aspects of human beings. As human beings are highly susceptible to certain behavioural factors (unlike physical assets), any human resource valuation model without behavioural features can hardly present the value of human assets in an objective manner. However, while attaching respective weightage to behavioural factors, care should be taken to avoid excessive subjectiveness.

5. HRR IN INDIA

Leading public sector units like OIL, BHEL, NTPC, MMTC, SAIL etc. have reported ‘Human Resources’ in their Annual Reports as additional information from late seventies or early eighties. The Indian companies basically adopted the model of human resource valuation advocated by Lev
and Schwartz (1971). This is because the Indian companies focused their attention on the present value of employee earnings as a measure of their human capital. However, the Indian companies have suitably modified the Lev and Schwartz model to suit their individual circumstances.

For example, BHEL applied Lev and Schwartz model with the following assumptions:

(i) Present pattern of employee compensation including direct and indirect benefits;
(ii) Normal career growth as per the present policies, with vacancies filled from the levels immediately below;
(iii) Weightage for changes in efficiency due to age, experience and skills;
(iv) Application of a discount factor of 12% per annum on the future earnings to arrive at the present value.

However, the application of Lev and Schwartz model by the public sector companies has in many cases, led to over ambitious and arbitrary value of the human assets without giving any scope for interpreting along with the financial results of the corporation. In the Indian context, more particularly in the Public Sector, the payments made to the employees are not directly linked to productivity. The fluctuations in the value of employees' contributions to the organisation are seldom proportional to the changes in the payments to employees. All qualitative factors like the attitude and morale of the employees are out of the purview of Lev and Schwartz model of human resource valuation.

**Illustration 1**

*From the following information in respect of Exe Ltd., calculate the total value of human capital by following Lev and Schwartz model:*

<table>
<thead>
<tr>
<th>Age</th>
<th>Unskilled</th>
<th></th>
<th>Semi-skilled</th>
<th></th>
<th>Skilled</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Av. Annual earnings (₹ '000)</td>
<td>No.</td>
<td>Av. Annual earnings (₹ '000)</td>
<td>No.</td>
<td>Av. annual earnings (₹'000)</td>
</tr>
<tr>
<td>30-39</td>
<td>70</td>
<td>3</td>
<td>50</td>
<td>3.5</td>
<td>30</td>
<td>5</td>
</tr>
<tr>
<td>40-49</td>
<td>20</td>
<td>4</td>
<td>15</td>
<td>5</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>50-54</td>
<td>10</td>
<td>5</td>
<td>10</td>
<td>6</td>
<td>5</td>
<td>7</td>
</tr>
</tbody>
</table>

*Apply 15% discount factor.*
Solution

The present value of earnings of each category of employees by applying 15% discount factor is ascertained as below:

(A) Unskilled employees:

*Age group 30-39.* Assume that all 70 employees are just 30 years old:

<table>
<thead>
<tr>
<th>Earnings</th>
<th>Present Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>₹ 3,000 p.a. for next 10 years</td>
<td>₹15,057</td>
</tr>
<tr>
<td>₹ 4,000 p.a. for years 11 to 20</td>
<td>₹4,960</td>
</tr>
<tr>
<td>₹ 5,000 p.a. for years 21 to 25</td>
<td>₹1,025</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>₹21,042</strong></td>
</tr>
</tbody>
</table>

*Age group 40-49.* Assume that all 20 employees are just 40 years old:

<table>
<thead>
<tr>
<th>Earnings</th>
<th>Present Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>₹ 4,000 p.a. for next 10 years</td>
<td>₹20,076</td>
</tr>
<tr>
<td>₹ 5,000 p.a. for years 11 to 15</td>
<td>₹4,140</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>₹24,216</strong></td>
</tr>
</tbody>
</table>

*Age group 50-54:* Assume that all 10 employees are just 50 years old:

<table>
<thead>
<tr>
<th>Earnings</th>
<th>Present Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>₹ 5,000 p.a. for next 5 years</td>
<td>₹16,760</td>
</tr>
</tbody>
</table>

Similarly, present value of each employee under other categories will be calculated.

(B) Semi-skilled employees:

*Age group 30-39*

<table>
<thead>
<tr>
<th>Earnings</th>
<th>Present Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>₹ 3,500 p.a. for next 10 years</td>
<td>₹17,567</td>
</tr>
<tr>
<td>₹ 5,000 p.a. for years 11 to 20</td>
<td>₹6,200</td>
</tr>
<tr>
<td>₹ 6,000 p.a. for years 21 to 25</td>
<td>₹1,230</td>
</tr>
</tbody>
</table>
### Age group 40-49

<table>
<thead>
<tr>
<th>Amount</th>
<th>Present value</th>
</tr>
</thead>
<tbody>
<tr>
<td>₹ 5,000 p.a. for next 10 years</td>
<td>₹ 25,095</td>
</tr>
<tr>
<td>₹ 6,000 p.a. for years 11 to 15</td>
<td>₹ 4,968</td>
</tr>
<tr>
<td></td>
<td>₹ 30,063</td>
</tr>
</tbody>
</table>

### Age group 50-54

<table>
<thead>
<tr>
<th>Amount</th>
<th>Present value</th>
</tr>
</thead>
<tbody>
<tr>
<td>₹ 6,000 p.a. for next 5 years</td>
<td>₹ 20,112</td>
</tr>
</tbody>
</table>

### (C) Skilled employees:

#### Age group 30-39

<table>
<thead>
<tr>
<th>Amount</th>
<th>Present value</th>
</tr>
</thead>
<tbody>
<tr>
<td>₹ 5,000 p.a. for next 10 years</td>
<td>₹ 25,095</td>
</tr>
<tr>
<td>₹ 6,000 p.a. for years 11 to 20</td>
<td>₹ 7,440</td>
</tr>
<tr>
<td>₹ 7,000 p.a. for years 21 to 25</td>
<td>₹ 1,435</td>
</tr>
<tr>
<td></td>
<td>₹ 33,970</td>
</tr>
</tbody>
</table>

#### Age group 40-49

<table>
<thead>
<tr>
<th>Amount</th>
<th>Present value</th>
</tr>
</thead>
<tbody>
<tr>
<td>₹ 6,000 p.a. for next 10 years</td>
<td>₹ 30,114</td>
</tr>
<tr>
<td>₹ 7,000 p.a. for years 11 to 15</td>
<td>₹ 5,796</td>
</tr>
<tr>
<td></td>
<td>₹ 35,910</td>
</tr>
</tbody>
</table>

#### Age group 50-54

<table>
<thead>
<tr>
<th>Amount</th>
<th>Present value</th>
</tr>
</thead>
<tbody>
<tr>
<td>₹ 7,000 p.a. for next 5 years</td>
<td>₹ 23,464</td>
</tr>
</tbody>
</table>
Illustration 2

From the following details, compute the total value of human resources of skilled and unskilled group of employees according to Lev and Schwartz (1971) model:

<table>
<thead>
<tr>
<th>Age</th>
<th>Unskilled</th>
<th>Semi-skilled</th>
<th>Skilled</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$(\text{`000})$</td>
<td>$(\text{`000})$</td>
<td>$(\text{`000})$</td>
<td>$(\text{`000})$</td>
</tr>
<tr>
<td>30-39</td>
<td>70</td>
<td>14,72,940</td>
<td>50</td>
<td>12,49,850</td>
</tr>
<tr>
<td>40-49</td>
<td>20</td>
<td>4,84,320</td>
<td>15</td>
<td>4,50,945</td>
</tr>
<tr>
<td>50-54</td>
<td>10</td>
<td>1,67,600</td>
<td>10</td>
<td>2,01,120</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>21,24,860</td>
<td>75</td>
<td>19,01,915</td>
</tr>
</tbody>
</table>

Solution

Value of Employees as per Lev and Schwartz method:

\[ V = \sum_{t=r}^{T} \frac{I(t)}{(1+r)^{t-r}} \]

Where,

\[ V \] = the human capital value of a person.

\[ I(t) \] = the person’s annual earnings up to retirement.
r = a discount rate specific to the person.

t = retirement age.

Value of Skilled Employees:

\[
\frac{60,000}{(1 + 0.15)^{65-62}} + \frac{60,000}{(1 + 0.15)^{65-63}} + \frac{60,000}{(1 + 0.15)^{65-64}}
\]

\[
= \frac{60,000}{(1 + 0.15)^3} + \frac{60,000}{(1 + 0.15)^2} + \frac{60,000}{(1 + 0.15)^1}
\]

\[
= \text{₹} 39,450.97 + \text{₹} 45,368.62 + \text{₹} 52,173.91 = \text{₹} 1,36,993.50
\]

Total value of skilled employees is \text{₹} 1,36,993.50 x 30 employees = \text{₹} 41,09,805

Value of Unskilled Employees:

\[
\frac{40,000}{(1 + 0.15)^{62-60}} + \frac{40,000}{(1 + 0.15)^{62-61}}
\]

\[
= \frac{40,000}{(1 + 0.15)^2} + \frac{40,000}{(1 + 0.15)^1}
\]

\[
= \text{₹} 30,245.74 + \text{₹} 34,782.60 = \text{₹} 65,028.34
\]

Total value of unskilled employees = \text{₹} 65,028.34 x 40 employees = \text{₹} 26,01,133.60

Total value of human resources (skilled and unskilled)

\[
= \text{₹} 41,09,805 + \text{₹} 26,01,133.60 = \text{₹} 67,10,938.60
\]

### Illustration 3

The following information is supplied to you about Lookdown Ltd.

<table>
<thead>
<tr>
<th>Capital &amp; Reserves</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity Shares of ₹ 100 each of which ₹ 75 has been called up</td>
<td>5,00,000</td>
</tr>
<tr>
<td>Equity Shares in respect of which calls are in arrear @ 25 per share</td>
<td>₹ 1,00,000</td>
</tr>
<tr>
<td>General Reserve</td>
<td>₹ 10,00,000</td>
</tr>
<tr>
<td>Profit &amp; Loss account (balance at beginning of the year)</td>
<td>(₹ 25,00,000)</td>
</tr>
<tr>
<td>Profit/(loss) for the year</td>
<td>(₹ 1,80,000)</td>
</tr>
</tbody>
</table>
Industry Average Profitability | 12.50%
---|---
8% Debentures of ₹10 each | ₹8,00,000

Lookdown Ltd. is proposing to hire the services of Mr. X to turn the company around.

Minimum take home salary per month demanded by Mr. X | ₹4,00,000

Average Income tax rate on salaries after considering the impact of ₹3 lakhs p.a. i.e., the exemption amount | 25%

Provident Fund contribution by Employer per month | ₹50,000

Profits over and above target expected by hiring Mr. X | 10%

**Required**

You are required to analyze the proposal and see whether it is worthwhile to employ Mr. X and also suggest the maximum emoluments that could be paid to him.

**Note:**

(i) PF contributions are tax exempt.

(ii) Take home salary is that remaining after employee’s contribution to PF @ ₹50,000 per month and after deduction of Income-tax on salary.

**Solution**

**Cost to Company in employing Mr. X**

<table>
<thead>
<tr>
<th></th>
<th>₹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salary before tax ₹4,00,000 x 12 =</td>
<td>64,00,000*</td>
</tr>
<tr>
<td>Add: Employee’s PF contribution (50,000 x 12)</td>
<td>6,00,000</td>
</tr>
<tr>
<td></td>
<td>70,00,000</td>
</tr>
<tr>
<td>Add: Employer’s PF contribution (50,000 x 12)</td>
<td>6,00,000</td>
</tr>
<tr>
<td></td>
<td>76,00,000</td>
</tr>
</tbody>
</table>
### Capital base

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity Share Capital paid up (5,00,000 shares of ₹ 75 each)</td>
<td>₹3,75,00,000</td>
</tr>
<tr>
<td><strong>Less:</strong> Calls in arrears</td>
<td>(₹1,00,000)</td>
</tr>
<tr>
<td></td>
<td>₹3,74,00,000</td>
</tr>
<tr>
<td>General Reserve</td>
<td>₹10,00,000</td>
</tr>
<tr>
<td>Profit &amp; Loss A/c (balance) at the beginning of the year</td>
<td>(₹25,00,000)</td>
</tr>
<tr>
<td>Loss for the year</td>
<td>(₹1,80,000)</td>
</tr>
<tr>
<td>8% Debentures</td>
<td>₹80,00,000</td>
</tr>
<tr>
<td><strong>Capital base</strong></td>
<td>₹4,37,20,000</td>
</tr>
<tr>
<td>Target Profit 12.5% of capital base (4,37,20,000)</td>
<td>₹54,65,000</td>
</tr>
<tr>
<td>Profits achieved due to Mr. X 54,65,000 + 10% (54,65,000)</td>
<td>₹60,11,500</td>
</tr>
</tbody>
</table>

Maximum emoluments that can be paid to Mr. X = ₹60,11,500

Thus, the company is advised not to hire him as his CTC ₹76,00,000 is more than ₹60,11,500.

### Illustration 4

*Rose Limited provides you the following information on 31st March, 20X1:*

<table>
<thead>
<tr>
<th>Capital and Reserves</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity share capital of ₹10 each of which ₹8 has been called up</td>
<td>8,00,000 shares</td>
</tr>
<tr>
<td>Calls in arrears</td>
<td>₹1,00,000</td>
</tr>
<tr>
<td>General Reserve</td>
<td>₹7,50,000</td>
</tr>
<tr>
<td>50,000, 9% Debentures of ₹100 each</td>
<td>₹50,00,000</td>
</tr>
<tr>
<td>Profit/(loss) for the year</td>
<td>(₹2,50,000)</td>
</tr>
<tr>
<td>Industry Average Profitability rate</td>
<td>12.5%</td>
</tr>
</tbody>
</table>
The company is proposing to hire the service of Mr. Raman to turn around the company.

Required

You are required to determine the maximum salary that could be offered to him if it is expected that after his appointment, the profits of the company will increase by 10% over and above the target profit.

Solution

Calculation of Capital base

<table>
<thead>
<tr>
<th>Description</th>
<th>₹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity Share Capital paid up (8,00,000 shares of ₹ 8 each)</td>
<td>64,00,000</td>
</tr>
<tr>
<td>Less: Calls in arrears</td>
<td>(1,00,000)</td>
</tr>
<tr>
<td></td>
<td>63,00,000</td>
</tr>
<tr>
<td>General Reserve</td>
<td>7,50,000</td>
</tr>
<tr>
<td>Loss for the year</td>
<td>(2,50,000)</td>
</tr>
<tr>
<td>9% Debentures</td>
<td>50,00,000</td>
</tr>
<tr>
<td>Capital base</td>
<td>1,18,00,000</td>
</tr>
<tr>
<td>Target Profit 12.5% of capital base</td>
<td>14,75,000</td>
</tr>
</tbody>
</table>

Expected profits to be achieved by taking the services of Mr. Raman is ₹ 16,22,500 (i.e. 14,75,000 + 10% of 14,75,000). Therefore, the maximum salary that can be paid to Mr. Raman will be ₹ 16,22,500 p.a.
TEST YOUR KNOWLEDGE

Theoretical Questions

1. Write short notes on:
   (a) Jaggi and Lau model on valuation on group basis of Human Resources.
   (b) Opportunity cost.
   (c) Human Resource Reporting.

2. Briefly describe the method of valuation of human resources as suggested by Jaggi and Lau. Also point out the merits and demerits of this method.

Practical Questions

1. A company has a capital base of ₹ 1 crore and has earned profits to the tune of ₹ 11 lakhs. The Return on Investment (ROI) of the particular industry to which the company belongs is 12.5%. If the services of a particular executive are acquired by the company, it is expected that the profits will increase by ₹ 2.5 lakhs over and above the target profit.

   Determine the amount of maximum bid price for that particular executive and the maximum salary that could be offered to him.

2. From the following details, compute according to Lev and Schwartz (1971) model, the total value of human resources of the employee groups skilled and unskilled.

<table>
<thead>
<tr>
<th></th>
<th>Skilled</th>
<th>Unskilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i)</td>
<td>₹ 50,000</td>
<td>₹ 30,000</td>
</tr>
<tr>
<td>Annual average earning of an employee till the retirement age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii)</td>
<td>65 years</td>
<td>62 years</td>
</tr>
<tr>
<td>Age of retirement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(iii)</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>Discount rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(iv)</td>
<td>20</td>
<td>25</td>
</tr>
<tr>
<td>No. of employees in the group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(v)</td>
<td>62 years</td>
<td>60 years</td>
</tr>
<tr>
<td>Average age</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. From the following details, compute the total value of human resources of skilled and unskilled group of employees according to Lev and Schwartz (1971) model:
### Answer to Theoretical Questions

1. (a) According to Jaggi and Lau Model, proper valuation of human resources is not possible unless the contributions of individuals as a group are taken into consideration. A group refers to homogeneous employees whether working in the same department or division of the organisation or not. An individual’s expected service tenure in the organisation is difficult to predict but on a group basis it is relatively easy to estimate the percentage of people in a group likely to leave the organisation in future. This model attempted to calculate the present value of all existing employees in each rank. Such present value is measured with the help of the following steps:

   (i) Ascertain the number of employees in each rank.

   (ii) Estimate the probability that an employee will be in his rank within the organisation or terminated/promoted in the next period. This probability will be estimated for a specified time period.

   (iii) Ascertain the economic value of an employee in a specified rank during each time period.

   (iv) The present value of existing employees in each rank is obtained by multiplying the above three factors and applying an appropriate discount rate.

Jaggi and Lau simplified the process of measuring the value of human resources by considering a group of employees as valuation base. But in the process, they ignored the exceptional qualities of certain skilled employees. The performance of a group may be seriously affected in the event of exit of a single individual.

(b) **Opportunity Cost**: It is one of the Economic value models used for measurement and valuation of Human assets. As per this model, opportunity cost is the value of an employee in his alternative use. This opportunity cost is used as a basis for estimating the value of Human resources. Opportunity cost value may be established by competitive bidding within the firm so that in effect, Managers must bid for any scarce employee. A Human asset will have a value only if it is a scarce resource, that is, when its employment in one
division denies it to another division. This method excludes employees of the type of which can be readily hired from outside the firm. Also, it is in very rare cases that managers would like to bid for an employee.

(c) Human Resource Reporting (HRR) is an attempt to identify, quantify and report investments made in human resources of an organization. Leading public sector units like OIL, BHEL, NTPC and SAIL etc. have started reporting human resources in their annual reports as additional information. Although human beings are considered as the prime mover for achieving productivity, and are placed above technology, equipment and money, the conventional accounting practice does not assign significance to the human resource. Human resources are not thus recognized as ‘assets’ in the Balance Sheet. While investments in human resources are not considered as assets and not amortised over the economic service life, the result is that the income and expenditure statement comprising current revenue and expenditure gives a distorted picture of the real affairs of the organization.

Accountants have been severely criticized by the Behavioural Scientists for their failure to value human resources, as this has come out as a handicap for effective management.

Human resource reporting provides scope for planning and decision making in relation to proper manpower planning. Also, such reporting can bring out the effect of various new rules, procedures and incentives relating to work force, and in turn, can act as an eye opener for modifications of existing statutes and laws.

2. Jaggi and Lau suggested a model for valuation of human resources. According to them, proper valuation of human resources is not possible unless the contributions of individuals as a group are taken into consideration. A group refers to homogeneous employees whether working in the same department or division of the organization or not. An individual’s expected service tenure in an organization is difficult to predict, but on a group basis, it is relatively easy to estimate the percentage of people in a group likely to leave the organization in future. This model attempts to calculate the present value of all existing employees in each rank. Such present value is measured with the help of the following steps:

(i) Ascertain the number of employees in each rank.

(ii) Estimate the probability that an employee will be in his rank within the organization or terminated/promoted in the next period. This probability will be estimated for a specified time-period.

(iii) Ascertain the economic value of an employee in a specified rank during each time period.

(iv) The present value of existing employees in each rank is obtained by multiplying the above three factors and applying an appropriate discount rate.

Jaggi and Lau tried to simplify the process of measuring the value of human resources by considering a group of employees as basis of valuation. But in the process they ignored the
exceptional qualities of certain skilled employees. The performance of a group may be seriously affected in the event of exit of a single individual.

**Merits**
Jaggi and Lau model approached the valuation of human resources on the basis of grouping of employees. Under this method, calculations get simplified and the chances of errors get reduced.

**Demerits**
This model ignores individual skills of the employees. The varied skills of the employees are not recognized in the valuation process under this model.

**Answers to Practical Questions**

1.  

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Base</td>
<td>= ₹ 1,00,00,000</td>
<td></td>
</tr>
<tr>
<td>Actual Profit</td>
<td>= ₹ 11,00,000</td>
<td></td>
</tr>
<tr>
<td>Target Profit @ 12.5%</td>
<td>= ₹ 12,50,000</td>
<td></td>
</tr>
</tbody>
</table>

Expected Profit on employing the particular executive

\[ \text{Expected Profit} = ₹ 12,50,000 + ₹ 2,50,000 = ₹ 15,00,000 \]

Additional Profit = Expected Profit – Actual Profit

\[ \text{Additional Profit} = ₹ 15,00,000 – ₹ 11,00,000 = ₹ 4,00,000 \]

Maximum bid price = \( \frac{\text{Additional Profit}}{\text{Rate of Return on Investment}} \) = \( \frac{4,00,000}{12.5\times100} = ₹ 32,00,000 \)

Maximum salary that can be offered = 12.5% of ₹ 32,00,000 i.e., ₹ 4,00,000

Maximum salary can be offered to that particular executive upto the amount of additional profit i.e., ₹ 4,00,000.

2.  

According to Lev and Schwartz, the value of human capital embodied in a person of age is the present value of his remaining future earnings from employment. Their valuation model for a discrete income stream is given by the following formula:

\[ V = \sum_{t=\tau}^{\tau} \frac{I(t)}{(1+r)^{t-\tau}} \]

Where,

V = the human capital value of a person for …… years old

I(t) = the person’s annual earnings up to retirement
\[ r = \text{a discount rate specific to the person} \]
\[ t = \text{retirement age} \]

**Value of skilled employees:**

\[
= \frac{50,000}{(1 + 0.15)^{(65-62)}} + \frac{50,000}{(1 + 0.15)^{(65-63)}} + \frac{50,000}{(1 + 0.15)^{(65-64)}}
\]

\[
= \text{₹ 32,875.81 + ₹ 37,807.18 + ₹ 43,478.26 = ₹ 1,14,161.25}
\]

Total value of skilled employees is ₹ 1,14,161.25 \times 20 = ₹ 22,83,225.

**Value of unskilled employees**

\[
= \frac{30,000}{(1 + 0.15)^{(62-60)}} + \frac{30,000}{(1 + 0.15)^{(62-61)}} + \frac{30,000}{(1 + 0.15)^{(62-61)}} + \frac{30,000}{(1 + 0.15)^{(62-61)}}
\]

\[
= \text{₹ 22,684.31 + ₹ 26,086.96 = ₹ 48,771.27}
\]

Total value of the unskilled employees = ₹ 48,771.27 \times 25 = ₹ 12,19,282

Total value of human resources (skilled and unskilled) = ₹ 22,83,225 + ₹ 12,19,282 = ₹ 35,02,507.

**Total value of skilled employees**

= ₹ 1,36,993.50 \times 30 \text{ employees} = ₹ 41,09,805

**Total value of unskilled employees**

= ₹ 65,028.34 \times 40 \text{ employees} = ₹ 26,01,133.60

**Total value of human resources (skilled and unskilled)**

= ₹ 41,09,805 + ₹ 26,01,133.60 = ₹ 67,10,938.60.