

HUMAN EXPENDITURES CAPITALIZATION: A HUMAN ASSETS VALUATION MODEL

Rajib Kanti Das*

Abstract

Human resources are the most important assets of any organization which keep all other assets operatives. Human Assets Accounting (HAA) helps to measure the value of employees which helps management take the vital decisions related to human resources in order to increase productivity. Like other assets, valuation of Human Assets is not easy. A number of complexities arise in its valuation from different aspects. One shortcoming is availability of good valuation model. This paper tries to suggest a valuation model. For this, all the available models are evaluated and a new model prescribed including its application in the book of accounts. It examines and gives an overview of the HAA models and provides requisite to develop a new model of valuing human assets. The model considers all recruiting, and training costs along with present value of future benefits awarded to the employees. Accounting application of this model is also prescribed at the end of discussion. Finally, some recommendations are suggested to implement the Human Assets Accounting in organizations' financial reporting. Human Assets valuation plays the role of motivational tools, efficiency measure stick, cost clarification related to human resource of the company.

Key Words: (HRA Model, Intangible Capital, Human Assets valuation)

INTRODUCTION

Interest in HRA related reporting has grown in a number of countries across continents. In discussing "HR metrics," Hansen (2007) notes that two thirds of the 250 largest companies in the world now issue sustainability reports along with their financial reports in order to capture the full value of the organization. Human assets are one of the most important competitive

advantages a company can have (e.g., Scholz, 1982; Huselid, Jackson, and Schuler, 1997; Bartlett and Ghoshal, 2002; Scholz, 2007; Boxall and Purcell, 2008). The Availability of dedicated, skilled, efficient and productive human asset to an organization is indeed a valuable asset but this is not properly reflected on the balance sheet. There is an agreement among the authors and scholars that nearly 75% of the resources of value in a company are never reported; yet an accounting system is needed to record it all (Rana and Maheshwari 2005). But Roslender & Dyson (1992) maintain that HAA has largely failed to develop in the way of practical applications and Turner (1996, p. 65) holds that considering the generally positive views, HAA "has progressed at something less than a snail's pace in the past two decades." Human Assets Accounting involves accounting for investment in people and their replacement costs as well as accounting for economic value of people to an organization. An employee himself has no value to the organization unless he has some sort of skill according to which he is paid. So the valuation of Human Assets is not the valuation of human figure according height, width and weight; rather it is the valuation of integrated skill, knowledge, and experience that are invested into and paid for. It means that employment and payment to unskilled employees will not be subject to human assets unless they are trained up.

Human assets (HA) serve the organization for a long period of time and a good human team is the most valuable asset to it that is highly difficult to be valued in monetary term. Many models have been developed by this time to evaluate HA in monetary term. Some of them are being employed by different business concerns. Most of them, however, have many limitations. An employee working in the organization is a separate entity. Though the employee himself is not owned by the organization, yet his skill, an asset, is owned by the organization for the contracted period of time.

The basic question that has been raised in human assets accounting (HAA) researches is

*Corresponding author. Contact rajibkantis@gmail.com. The author is assistant Professor at BGC Trust university Bangladesh, Chittagong, Bangladesh

whether human is an asset or merely an expense to the firm. Starting out from this question, HAA researches are classified into two basic approaches. The historical cost approach values humans through the costs incurred by the firm in recruiting, selecting, training and separating the human resources. Time related issues pertaining to an individual's tenure in the firm and mobility of human resources that establish the system dynamics have to be taken into account. The economic theory approach aims at estimating the firm's future earnings, account for discounting and present value to human resources.

In determining the payoff schedule to the firm, one has to decide about either the appreciation or depreciation of human resources over time.

RATIONALE OF THE STUDY

Human asset (HA) involves a substantial amount of investment to the organization. But it represents no asset value in balance sheet rather generating mere operating expenses as per conventional accounting system. Abeysekera and Guthrie (2004) opine that in recent years, a trend in management has been the introduction of human capital (HC) management and accounting. As a result of this trend, there has been a demand from external stakeholders for a different sort of information, and many firms have, in an attempt to meet this demand, become more involved in the creation, measurement and reporting of information other than 'financial' data. With the passage of time and development of accountancy, the importance of reporting of HA is now unavoidable. When an enterprise is investing in human capabilities and values, conventional accounting practices involves writing of the cost through operating expenses. This actually understates profit as well as balance sheet values. Fair reflection of organization's financial position is quite impossible, if it can not afford to estimate true value of its human assets. Moreover, the employees may be deprived of being treated as valuable resources without getting a monetary position in balance sheet. Today's knowledge-based world insists on valuation of HA through the development of human assts accounting.

Human Assets is very valuable assets being excluded from financial reporting because of limitations and difficulties in their valuation. But Bullen and Eyler (2010) argues that The strong growth of international financial reporting standards (IFRS) is an indication that the environment for international financial accounting is one that potentially encourages the consideration of alternative measurement and reporting standards and lends support to the possibility that future financial reports may include nontraditional measurements such as the value of human resources using HRA methods. Many models have been developed for valuation of human assets but still the assets could not take place in financial statement due to some complexities and for not having any easy-to-use and understandable model thereon. Good databases on human assets as well as their payroll are kept by each organization which can often be used as the basis of human assets valuation.

OBJECTIVES

HA valuation is under development. Many researches have been undertaken from time to time to fulfill various objectives relating to human assets reporting in financial statements. This paper is a contributory one. Some specific objectives are set for this paper. These objectives are:

- i) To assess the existing models for valuation of Human Assets;
- ii) To depict the drawbacks of existing models;
- iii) To develop a comprehensive and easy-to-use model for human asset valuation;
- iv) To record the valuation in the books of accounts.

SCOPE AND METHOD OF THE STUDY

This paper is prepared by using both primary and secondary data. The collected data have been analyzed both through qualitative and quantitative data analysis using simple statistical method. The primary data have been collected by interviewing the Company Accountants, selected on random basis; to get idea about present status of Human Assets Accounting specially practices in Chittagong and Dhaka city in Bangladesh. More specifically

No organization, no matter the industry in which they would operate, is found using human recourse accounting at present in Bangladesh due to complexity of valuation and huge cost involvement of a strong database management related to human assets. Many interviewees gave some valuable suggestion related to human assets. Both the suggestion collected from primary data analysis and the presentation of appropriate secondary sources (statistical indexes, graphs, Tables) are used also in order to support the personal assumptions on the particular subject. Next the models suggested by different scholars from time to time are studied very intensely. Pitfalls in those models are studied and blending the useful features of those, a new model is developed.

KEY CONCEPTS

Human Assets Accounting

Human Assets Accounting (HAA) means accounting for people as the organizational resources. It is the measurement of the cost and value of people to organizations. HAA is used in knowing the potential of human assets in monetary terms. Until a few years back no importance was given to these human assets and it was also assumed that valuing these human assets was difficult and sometimes impossible as they had no specific metrics to measure. But now thoughts have been changed. A company's human capital asset is the collective sum of the attributes, life experience, knowledge, inventiveness, energy, and enthusiasm that its people choose to invest in their work. Basically Human Assets Accounting is simply a way of estimating an economic value of that asset. It also ensures further accounting treatment of estimated monetary value of the assets.

The concept of value has essentially two different meanings. 'Value' expresses the utility or service of a particular resource viz. the future use of a capital asset and the purchasing power of the resource viz. money, securities (Navin Bhutoria n.d.). If an object is not capable of rendering future economic services in the form of utility to the possessor, no value can be attached to it. Human assets accounting must insist on the monetary valuation of utility or

services provided by the all classes of employees throughout their service life to the organization. Thus, humans have been shifted from being a cost to becoming a resource; and today they are considered to be an asset or a capital. Any careful management must take care of its assets and try to maximize the return on them. So now the question is how to maximize the human capital in an enterprise.

History of human Assets Accounting

The development of Human Assets Accounting (HAA) as a systematic and detailed academic activity, according to Eric G Falmholtz (1999) began in sixties. He divides the development into five stages. These stages are delineated below.

First stage (1960-66): This marks the beginning of academic interest in the area of HRA. However, the focus was primarily on deriving HRA concepts from other studies like the economic theory of capital, psychological theories of leadership- effectiveness, the emerging concepts of human resource as different from personnel or human relations; as well as the measurement of corporate goodwill.

Second stage (1966-71): The focus here was more on developing and validating different models for HRA. These models covered both costs and the monetary and non-monetary value of HR. The aim was to develop some tools that would help the organizations in assessing and managing their human resource/asset in a more realistic manner. One of the earliest studies here was that of Roger Hermanson, who, as part of his PhD work, examined the problem of measuring the value of human assets as an element of goodwill. Inspired by his work, a number of research projects were undertaken by the researchers to develop the concepts and methods of accounting for human resource.

Third Stage (1971-76): This period was marked by a widespread interest in the field of HRA leading to a rapid growth of research in the area. The focus in most cases was on the issues of application of HRA in business organizations. R.G. Barry experiments contributed substantially during this stage (Barry Corporation 1971).

Fourth Stage (1976-1980): This was a period of decline in the area of HRA primarily because the

complex issues that needed to be explored required much deeper empirical research than was needed for the earlier simple models. The organizations, however, were not prepared to sponsor such research. They found the idea of HRA interesting but did not find much use in pumping in large sums or investing lot of time and energy in supporting the research.

Stage Five (1980 onwards) : There was a sudden renewal of interest in the field of HRA partly because most of the developed economies had shifted from manufacturing to service economies and realized the criticality of human asset for their organizations. Since the survival, growth and profits of the organizations were perceived to be dependent more on the intellectual assets of the companies than on the physical assets, the need was felt to have more accurate measures for HR costs, investments and value.

IAS and IFRS related to Human Assets Accounting

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 assets. Current financial accounting standards do not recognize the investments made by companies on their human resources either as assets or equity. While intangible items such as good will and the value of trademarks are recorded as sets, there is no asset category to reflect the benefits of a well-trained, highly educated and content work force. Liabilities such as accrued vacation, deferred compensation and retirement plans

may reflect the necessity of providing benefits to attract and keep valuable employees.

The strong growth of international financial reporting standards (IFRS) is another indication that the environment for financial accounting reporting is one that potentially encourages the consideration of alternative measurement and reporting standards. Accountants and others in the financial reporting environment have become accustomed to using more complex measurement approaches to the financial statement reported amounts. This would lend support to the possibility that future financial reports may include nontraditional measurements such as the value of human resources using HRA methods.

Intangibility and Human Assets Accounting

Unlike all other intangible assets like goodwill, human assets valuation can be differentiated. Human Asset is intangible in the sense that the organization is entitled to receive services from the employees but she is not the owner of physical human being though they are the employee if that particular concern. Though the HA asset is intangible assets like goodwill, it is a little bit hard to understand and calculate. The concern has the possession on the service that are being provided by the HA. As service is not visible it can be said that HA is invisible and intangible which is supported by some other authors. Companies consist of a variety of components such as machinery, real estate, financial resources, and other such "tangible assets." According to researchers Dave Ulrich and Norm Smallwood (2004), companies also possess other abilities, beyond these tangible assets, to create, innovate, and persuade consumers to buy from them instead of a competitor in the same industry. These "organizational capabilities," Ulrich and Smallwood clarify, are frequently labeled as *intangible asset*. Intangible assets are frequently overlooked by management and its shareholders. According to Baruch Lev (2004), author of *Intangibles: Management, Measurement, and Reporting*, over half the market capitalization of public companies are attributable to these intangible assets. In his research Lev points out "investors systematically misprice the shares of intangible-intensive companies."

EXISTING HUMAN ASSETS VALUATION MODELS AND THEIR APPRAISALS

Many models have been developed for valuation of individuals. These models are broadly classified as cost based model, opportunity cost based model, economic model and behavioral model etc.

Insert table-1(a) here

There are some models for valuation of human assets developed from time to time which have used cost principles, see table:1a, table:1b. Table:1a depicts model proposed by Brummet, Flamholtz & Pyle which is based on historical cost.

The other model prescribed by Flamholtz is also based on cost principles. But it insists on replacement cost and the differences between these two models are very clear from Table: 1(a) and Table: 1(b).

Insert table-1 (b) here

Table-2 depicts the model proposed by Hekimian & Jones. His model is based opportunity cost concentrating on comparative bidding price to employ an individual in a particular position of an organization.

Insert table-2 here

Furthermore, some scholars prescribed some models which can be classified as economic model because of having some special features. Table:3(a) shows that Hermanson's Goodwill based model. It considers goodwill for estimation of value of human assets.

Insert table-3 (a) here

The other method of Hermanson (Table:3b) is adjusted discounted future wages method which values human assets based on present value of wage benefit they would likely to receive till next five years of their service life.

Insert table-3 (b) here

Flamholtz prescribed another model (Table:3c) which is considered as economic model. The model considers the role they play along with movement of employees during their service life and present value of likely service from an individual.

Insert table-3 (c) here

Giles and Robinson prescribed another interesting model (Table-3d) for valuation of human assets. He considers supernormal rate of

earning and Wages multiplied by the HAM relevant to individuals or group of individuals based on relative job grading, tenure, employee dimensions etc.

Insert table-3 (d) here

Table-3(e) displays proposed by Jaggi & Lau. He considers service state dependent, likely movement of employees and Present value of likely services from employees relevant to different service states etc.

Insert table-3 (e) here

Myers and Flowers (Table-3f) developed another economic model. It has been considered that the employee attitude index multiplied by the wages payable should reflect the likely benefits as against wages payable as the cost and the gap between the benefits and the cost should reflect an individual's value.

Insert table-3 (f) here

Likert develops (Table-4) a model based behavior aiming to establish through psychosocial test results how a set of causal variables. It uses investments in HR as the basis of HR value which has to be amortized over the years in tune with the condition of human organization.

Insert table-4 here

Another model (Table-5) has been developed by Powell & Wilkens Gambling Mahoney, Milkovich & Weiner LaPointe. It takes Evaluation of subordinate's attributes and performance through ranking, rating, scaling or scoring in consideration for valuing individuals.

Insert table-5 here

ANALYSIS OF MODELS

From the observance of Accounts of some organizations it is found that no one is now reporting human assets in their financial statement in Bangladesh except some information about number of employees in related notes of the statements. Some accountants of different organizations are questioned regarding the status of valuation of human assets. They answer regarding applicability of previous models. Hundred accountants of different organizations are asked questions on application of human assets accounting. They identified some reasons (Figure-1) for not applying human assets

accounting. The newly suggested model tries to overcome all the limitations thereon. All the limitations obtained from the respondents are graphed. They identify six basic reasons (Figure-1) for not practicing human assets. Of these, difficulties of estimation of value of individual are so tough. Around 24% respondents agree that difficulties are one of the major reasons for not reporting human assets. Again, some say that lack of good model for valuation of assets is responsible. About 21% of interviewee agrees with it.

Insert figure-1 here

Other respondents identify high cost of account maintenance, lack of good employee data base for individual valuation and unconsciousness of the interest group are responsible for not applying human assets accounting in organizations. But around 4% of interviewee keeps them away from making any opinion.

SUGGESTED MODEL: DOWN VALUE APPROACH

This model considers the value of Human Assets from the view point of investment for it to make it usable effectively and efficiently. Like other assets, human assets will also not guaranty according to its acquisition cost. Expected performance from an assets compare to cost of it is perception. The same is applicable for human assets valuation. Srinivasan (2009) identifies expenditure on advertisement for recruitment; Cost of selection; Training cost; On the job training cost; Subsistence allowance; Contribution to provident Fund; Educational tour expenses; Medical expenses; Ex-gratia payments and Employee’s Welfare Fund are the components of The human resource investment. All these items influence directly or indirectly the human resources and the productivity of the organization.

Step-1: First of all the Human Assets have to be classified on the basis of involvement in operation of the business and then reclassified according to age. Unskilled workers will not be considered as Human Assets.

Step-2: In this step, the number of persons involved in operations of business according to aforesaid categories would be accounted for. All types of termination, job switching, and retirement are to be adjusted by changing prescribed procedure accordingly.

Insert figure-2 here

Step-3: Different categories of cost involved in making human asset into usable state are to be considered. These may include acquisition cost, internal learning, and external training-up costs etc. Moreover all future payments like salaries, gratuities, bonus, allowances and retirement benefits are to be estimated.

Step-4: Service life of individual employee, probability of turnover, and death compensation are to be considered. Each situation will raise skill-loss problems, which cannot be measured in term of monetary value. But a probability or weight factor can be used for the estimation of lost efficiencies.

Step-5: Last stage is the valuation of HA by using the following model:

AH_v = Acquisition Costs + Learning Costs + Present Value of Future Costs

$$HA_v = C_A + C_L + nS_1 \left\{ \frac{1 - \frac{1}{(1+k)^{Y_1}}}{k} \right\} + \frac{nS_2 \left\{ \frac{1 - \frac{1}{(1+k)^{Y_2}}}{k} \right\}}{(1+k)^{Y_1}} + \frac{nS_3 \left\{ \frac{1 - \frac{1}{(1+k)^{Y_3}}}{k} \right\}}{(1+k)^{Y_1+Y_2}} + \dots + \frac{nS_n \left\{ \frac{1 - \frac{1}{(1+k)^{Y_n}}}{k} \right\}}{(1+k)^{Y_1+Y_2+\dots+Y_{n-1}}} + \frac{X}{(1+k)^{Y_1+Y_2+\dots+Y_n}}$$

Where,

C_A = Cost of Acquisition of total employee in a particular recruitment

C_L = Cost of Learning of total employee in a particular recruitment

S₁ = Monthly Salaries per employee at the beginning

S₂ = Monthly Salaries per employee after first increment according to scale.

S₃ = Monthly Salaries per employee after second increment

S_n = Monthly Salaries per employee after nth increment

Y₁ = Number of months during which employees get beginning salaries

Y₂ = Number of months during which employees getting first increment salaries

Y₃ = Number of months during which employees getting second increment salaries

Y_n = Number of months during which employees getting maximum increment salaries

Y_m = Month of retirement, termination or turnover

n = Total number of employees of a particular status

1, 2, 3,.....k = Different stages of salaries increment

X = Payment at pension or termination

k = Discounting factor per month

APPLICATION OF THE DOWN VALUE APPROACH

Keeping record for human assets is quite difficult because of its some special characteristics. Often HA is called intangible assets, but actually it has some very different characteristics which are not usually common in intangible assets. This is why IAS-38 for recording intangible assets is not sufficient for recording HA. Emerging growth of HA is demanding new AIS for its financial reporting. The special characteristics of which have made the recording difficult. Overcoming the difficulties, an easy model can be applied for valuation of Human Assets.

According to this model all the cost related to recruitment, learning and present value of the future benefits to the employee together will be considered as human assets. For recording the assets in books of accounts the journal 1 will be passing in the books of accounts.

Insert table-6 here

Assumptions

1. The total learning plan of the employees will be known at the time of their recruitment.
2. It is assumed that all the employees will spend their total Service life in the same organization i. e. there is zero turnover.
3. Only the skilled and semi-skilled employees will be recruited.
4. Unskilled worker will not be treated as human assets until they are trained up.
5. Presumed promotion to upper position to employees will be applied.
6. No depreciation is to be charged on HA. As the Human Assets become more skillful with the passage of time.

REMARKS AND RECOMMECDATIONS

International contributions made to the field of Human Assets Accounting (HAA) have resulted in growth of both the field HAA and the wider study of human capital, human resource metrics, intellectual capital, and organizational management. Along with advances in HRA theory, it is encouraging to note that some studies have been based on empirical research, case and field studies. But whatever the case is, it is not very easy to value Human Assets. In paper works, it may seem to be applicable but in practice it might require good effort and

continuous database maintenance for employees. The Down Value Approach model may make the task valuation of human assets easier.

Depicting the value of human resource in the balance sheet and other reports can achieve a high level of motivation in the personnel and can thereby communicate to them that the management perceives them as assets and not merely expenses.

A Human Assets valuation report helps immensely in monitoring efficiency of personnel and in designing the HR strategy. The company can analyze if its investment in human capital has paid off. Such a valuation tabulates a database on personnel details, which serves as a basis of MIS reports on returns on personnel cost, return on human capital.

An HR valuation report helps the management to make a conscious move to capture its costs related to HR department by developing a human resource accounting system, which compliments the HR valuation exercise. The system can provide cost clarity in all relevant areas related to the human resources of the company.

REFERENCES

- Amir, E. and Lev, B. (1996). Value-relevance of non financial information: The wireless Communications industry, *Journal of Accounting and Economics*.
- Abeysekera, I and Guthrie, J (2004). Human Capital Reporting in a Developing Nation, *Faculty of Commerce – Papers*, Retrieved from <http://ssrn.com/abstract=1362110>
- Bullen, M. L. and Eyler, K.A. (2009). Human resource accounting and international developments: implications for measurement of human capital, *Journal of International Business and Cultural Studies*.
- Barry, R.G. Corporation (1971). *Annual Report*, (Details in Flamholtz 1999)
- Bartlett CA, Ghoshal S. 2002. Building competitive advantage through people. *MIT Sloan Management Review* **43** (2): 34-41.
- Bullen, M.L. and Eyler K.A. (2010). Human resource accounting and international developments: implications for measurement of human capital, *Journal of*

- International Business and Cultural Studie*, Retrieved from www.aabri.com/jibcs.html
- Boxall PF, Purcell J. 2008. *Strategy and human resource management*. 2. ed. Palgrave Macmillan: Basingstoke.
- Dawson, C. (n.d.). Human Resource Accounting: From Prescription to Description?, *Management Decision*, Vol. 32, No. 6.
- Eric, G. Flamholtz (1999). *Human Resource Accounting: Advances in Concepts, Methods and Applications*, 3ed, Kulwer Academic Publishers.
- Hansen, F. (2007). A home for HR metrics. *Workforce Management* 86 (2), 10-11.
- Huselid MA, Jackson SE, Schuler RS. 1997. Technical and strategic human resource management effectiveness as determinants of firm performance. *Academy of Management Journal* 40 (1): 171-188.
- Jain, S.P. & Narag, K.L. (1991). *Advanced Financial Accountancy (8E)*, Kalyani Publishers, Lubhiana.
- Porwal, L. S. (2001). *Accounting Theory: An Introduction (3E)*, Tata McGraw-Hill, New Delhi, India.
- Liebowitz, J. and Wright, K. (1998). Valuation of Human Capital as a Component of Knowledge Assets *Association for Information Systems AIS Electronic Library (AISeL) proceedings*.
- Lev, Baruch. (June 2004). Sharpening the Intangibles Edge [Electronic version]. *Harvard Business Review*.
- Miguel Angel Axtle Ortiz (September- 2006). Intellectual Capital (Intangible Assets) Valuation Considering The Context, *Journal of Business & Economics Research*, Vol.-4.
- Navin Bhutoria (n.d.). Valuation of Human Capital Research, Retrieved from <http://www.hrfolks.com/articles/intellectual%20capital/valuation%20of%20human%20capital.pdf>
- Rana, K. and Maheshwari, S. K. (2005). A Marginal Monetary Worth (MMA): Human Valuation Model, *Scientific Journal of Administrative Development*, Vol. 3.
- Roslender, R. and Dyson, J.R. (1992) Accounting for the worth of employees: A new look at an old problem. *British Accounting Review*, 24, pp 311-329.
- Shah, T. and Khedkar, A. (2006). Measuring Intangible Assets – Indian Experience, *Indian Institute of Planning and Management (IIPM) Ahmedabad*
- Scholz C. 1982. Zur Konzeption einer strategischen Personalplanung. *Schmalenbachs Zeitschrift für betriebswirtschaftliche Forschung* 34 (11): 979-994.
- Scholz C. 2007. Editorial: Human Capital Management – a long and winding road. *German Journal of Human Resource Research* 21 (3): 203-205.
- Srinivasan, R (2009). Human Resources Accounting (HRA) Practices in INDIA, Articlebase: Free Online Articles Directory, Retrieved from <http://www.articlesbase.com/human-resources-articles/human-resource-accounting-hra-practices-in-india-1272765.html>
- Turner,G. (1996) Human resource accounting - whim or wisdom? *Journal of Human Resource Costing and Accounting*, Vol 1, No 1, pp 63-73.
- Ulrich, Dave, & Smallwood, Norm. (2004). Capitalizing on Capabilities [Electronic version]. *Harvard Business Review*, June.

Table 1(a). Cost Based Approaches: Historical Cost based approach

| Proponents of the model | Model in brief | Model appraised |
|---------------------------|--|--|
| Brummet, Flamholtz & Pyle | It considers Cost of Acquisition, training and development of personnel and organizational Development is capitalized at the time of incurrence subsequently amortizes over the years to reflect the value of i. Personnel ii. The organization. | Assessment of historical cost relevant from accounting point only. |
| | | Tracing of costs to individuals may facilitate control but may not be pragmatic or desirable. |
| | | Capitalization of cost contrary to its expense nature in traditional accounting practices is not acceptable as it is not linked with assessment of its relevant future benefit potentials. |
| | | Amortization of cost no appropriate due to Performance evaluation individuals or condition measure of organization are lightly subjective in nature. |
| | | Capitalized cost fails to take care of employees leaving the organization. |

Source: Adapted from Jain & Narang, *Advanced Accounting, Accounting Theory: An Introduction (3E)*, L. S. Porwal.

Table 1(b). Cost Based Approaches: Replacement Cost based approach

| Proponents of the model | Model in brief | Model appraised |
|-------------------------|--|--|
| Flamholtz | Assessment of a) Replacement cost of personnel b) Rebuilding cost of human organization to reflect asset value of HR | Assessment of replacement cost may be relevant for planning purposes only for those who are likely to leave the organization or for the key individuals who with then presence impact the functioning of the organization otherwise, such hypothetical cost of replacement /rebuilding may be unwarranted. |
| | | Human resources are unique and not traded in the market, as such, replacement cost may not exist unlike in the case of physical assets. |
| | | Replacement alternatives may be many and assessment of cost of such alternatives may be highly subjective in nature. |
| | | Replacement is based on need and timing of acquisition. The overall state of Economy does alter the cost of individuals. All this affect the true replacement cost. |

Source: Adapted from *Advanced Financial Accounting*, Jain S. P. & Narang K.L., *Accounting Theory*, Porwal L. S.

Table 2. Opportunity Cost Based Approaches: Comparative Bidding Model

| Proponents of the model | Model in brief | Model appraised |
|-------------------------|--|--|
| Hekimian & Jones | It envisages competitive bidding amongst the investment centre managers to win the individual employees for use based on the highest bid price to be included as the value of the human asset along with investment in physical assets while assessing the return on investment achieved by the investment centers, with an objective to recover such cost along with the recovery of the physical asset cost from investment. | The technological obsolescence may render erstwhile valuable person absolutely useless. |
| | | The concept of competitive bidding may facilitate optimal allocation of HR in principle; but with increased specialization, more and more individuals in the general category may be out of the bidding process and consequently have no value in the organization. |
| | | To quote a bid price, the first step would be to assess the likely contribution from each individual by the different managers. Assessing contribution of individuals from the present job itself is difficult in a man-machine interactive situation; as such assessment of the contribution from all possible future assignments is meaningless. |
| | | After the first bidding, no rules are suggested by the model for subsequent bidding. Accordingly the relevant contribution will vary. |
| | | For want of a method to estimate the contribution of an individual, the bid price according to the whims and fancies of the managers may not be considered as HR value surrogate and may not be of any use to improve ROI of the investment centers, as envisaged. |

Adapted from Jain & Narang, Advanced Accounting, Accounting Theory: An Introduction (3E), Porwal L. S.

Table 3(a). Economic Model: Goodwill method

| Proponents of the model | Model in brief | Model appraised |
|------------------------------|---|---|
| Goodwill method of Hermanson | Extra profits earned by an organization as compared to the industry average rate i.e. goodwill, credited to organizational HR for its valuation either partly or fully as 1) $HR\ value = goodwill \times \frac{Investment\ in\ HR}{Total\ investments}$ 2) $HR\ value = goodwill / estimated\ contribution\ rate\ of\ HR.$ | Earnings are influenced by various external factors and so goodwill way no belongs to HR alone. |
| | | When the industry as a whole is declining the valuation of goodwill based on HR as suggested by the model does not explain the valuation. |
| | | Goodwill may be attributed to HR but that may be the returns during the current year. The model does not suggest how to estimate the contribution rate of HR to determine the HR value. |
| | | In case the organizational rate or earning is less than that of the market average, the model is silent of the issue of HR valuation. |

Source: Adapted from Jain S. P. & Narang K.L, Advanced Financial Accounting, Accounting Theory, Porwal L. S.

Table 3(b). Economic Model: Adjusted discounted future wages method

| Proponents of the model | Model in brief | Model appraised |
|-------------------------|--|---|
| Hermanson | Present value of future wages payable for the next five years discounted at the adjusted rate of return considered as the value of the organizational HR. The adjusted rate of return refers to average rate of return on owned assets of all firms in the economy multiplied by the efficiency ratio of the organization defined as: organization specific rate of return on owned assets during the past five years on an weighted average basis in relation to the average rate of return on owned assets for all firms in the economy during the past five years on an weighted average basis, with comparatively lower weightings as we move to the previous years. | <p>The credit for the differential adjusted rate of return goes rightly to HR as they only manage all other physical and financial resources of an organization to achieve such results.</p> <p>Of course, rate of return of an organization may not be comparable with that of all other firms in the economy; or even with the firms in the same sector, the adjusted rate of return may not be fully due to HR alone.</p> <p>Besides, the model is subjective for</p> <ol style="list-style-type: none"> The present value of future wages restricted to next five years only. What happens after 5 years? Efficiency ratio calculation based on last five years rate of return Assignments of weightage to the past rate of return for weighted average calculation. |

Source: Adapted from Jain S. P. & Narang K.L., *Advanced Financial Accounting, Accounting Theory,* Porwal L. S.

Table 3(c). Economic Model: Model proposed by Flamholtz

| Proponents of the model | Model in brief | Model appraised |
|-------------------------|--|--|
| Flamholtz | <p>HR value considered as per the roles they play that is dependent on the service state they occupy (i.e. rank and performance rating)</p> <p>Likely movement of employees on different service states (including exit due to retirement and likely death/resignation before retirement) over the years on an individual basis estimated probabilistically.</p> <p>Present value of likely services from an individual relevant to different service states, the individuals occupied, considered as his/her value.</p> | <p>The estimation of likely future movement of employees on to various service states may be subjective and unpredictable. In addition, the performance ratio as one of the service state parameter itself is based on subjective judgment.</p> <p>The present value of service relevant to each service state to be available from individuals as the HR value may be sound in principle, however,</p> <ol style="list-style-type: none"> Acquisition cost in the absence of availability of service may be relevant as a part of the cost input. Replacement cost without considering performance may be hypothetical even |

| | | |
|--|---|--|
| | <p>Four possible surrogate measures of contribution relevant to each service state proposed:</p> <ul style="list-style-type: none"> a. Acquisition cost b. Replacement cost c. Wages d. Performance measure | <p>to reflect part of the actual cost likely to be incurred.</p> <ul style="list-style-type: none"> c. Wages can be taken as an input cost but it has no linkage with the performance of an individual. d. Performance measuring also not explained. In the absence of uniformity it will produce wrong results. |
|--|---|--|

Source: Adapted from Jain S. P. & Narang, Advanced Financial Accounting, K.L., Accounting Theory, Porwal L. S.

Table 3(d). Economic Model: Human asset multiplier method (HAM)

| Proponents of the model | Model in brief | Model appraised |
|-------------------------|--|---|
| Giles and Robinson | Supernormal rate of earning reflects the value of the organizational HR as a whole. | Supernormal rate of earning in the short term may be influenced by the uncontrollable external environment. But, in the long run, it may be credited to HR. |
| | Wages multiplied by the HAM relevant to individuals or group of individuals based on relative job grading, tenure, employee dimensions etc. reflect the value of the individual or of the group subject to the values on aggregation being equal to the value of organizational HR as a whole as assessed. | Aggregation of values of individuals or groups is not simple additive as a synergistic effect has a role to play. |
| | | Employee wages may not be a true reflects their value. More importantly, the values of the HAM, the relative weightings to wages may be too subjective to reflect their comparative values. |
| | | In case, the organizational performance is suboptimal the model is silent on the issue of HR valuation. |

Source: Adapted from Jain S. P. & Narang K.L., Advanced Financial Accounting, Accounting Theory, Porwal L. S.

Table 3(e). Economic Model: Model proposed by Jaggi & Lau

| Proponents of the model | Model in brief | Model appraised |
|-------------------------|---|---|
| Jaggi & Lau | HR value considered to be service state dependent i.e., rank and performance rating. | Past pattern of employee movement on to different service states may not continue in the future. However, it is the movement on a group basis, as proposed, which is more reliable than on an individual basis. However, subjectivity associated with performance ration still continues. |
| | Likely movement of employees (on a group basis) on to different service states including exit due to retirement and likely death/resignation before retirement, estimated over the years, assuming the past trend of employee movement to continue in future. | |
| | Present value of likely services from employees relevant to different service states, they would occupy, considered as HR value. | Present values of likely benefits (net of cost) associated with different service states as HR value may be sound in principle. But the model does not recommend any method to evaluate the period of services that may be available from the employees. |

Source: Adapted from Jain S. P. & Narang K.L., Advanced Financial Accounting, Accounting Theory, Porwal L. S.

Table 3(f). Economic Model: Model proposed by Myers and Flowers

| Proponents of the model | Model in brief | Model appraised |
|-------------------------|--|--|
| Myers and Flowers | Based on the premise that employee attitude is the most important factor that governs the productive behavior of employees on the job, it has been considered that the employee attitude index multiplied by the wages payable should reflect the likely benefits as against wages payable as the cost and the gap between the benefits and the cost should reflect an individual's value. | Attitude index as proposed may suffer from following limitations: a. Individuals attitude measure may not be reliable when the employees know the effect of displaying a positive attitude. b. Synergistic impact of the groups attitude is not considered. c. Weightings based on the grade, level and year of service may not be appropriate. |
| | | Attitude though important, may not be the only influencing factor. In the final analysis it is the interplay of various other factors that propels performance. |
| | | The model needs to be firmly established. In absence of an acceptable measure of benefits against the cost of wages, the gain concept as hypothesized may not reflect HR value. |

Source: Adapted from Advanced Financial Accounting, Jain S. P. & Narang K.L., Accounting Theory, Porwal L. S.

Table 4. Behavioral Model: Model proposed by Likert

| Proponents of the model | Model in brief | Model appraised |
|-------------------------|--|---|
| Likert | The model aims to establish through psychosocial test results how a set of causal variables reflecting the management system adopted by an organization determine the appreciating or depreciating condition of the human organization, as reflected by a set of intervening variables, which in turn are likely to result in the achievement of end result variables over time. Investments in HR as the basis of HR value have been proposed, to be amortized over the years in tune with the condition of human organization. | <p>The effect of management strategies on organizational health and performance would be greatly beneficial to managers. But to establish it would be time consuming and difficult.</p> <p>In absence of a valid relationship between the variables, the condition of the human organization may not be accepted as a reflector of HR performance and hence its amortization.</p> |

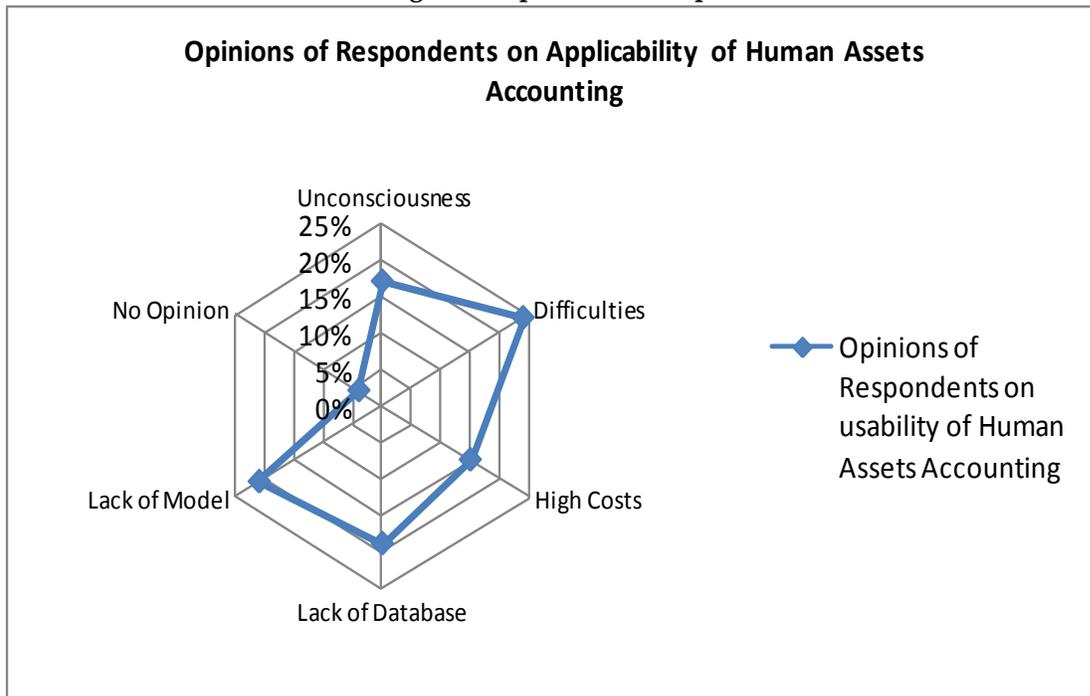
Source: Adapted from Jain S. P. & Narang K.L., Advanced Financial Accounting, Accounting Theory, Porwal L. S.

Table 5. Other Model: Other surrogate measures

| Proponents of the model | Model in brief | Model appraised |
|--|--|---|
| Powell & Wilkens Gambling Mahoney, Milkovich & Weiner LaPointe | Different surrogate measures reflect in general: i. Evaluation of subordinate's attributes and performance through ranking, rating, scaling or scoring. | Evaluation becomes highly subjective |
| | ii. Suitable Information system on HR including certain control ratios on a periodic basis as decision support systems to management or for incorporation in annual reports. | Performance measure based on a single factors whereas value measures multi-factors |
| | | Relationship between individuals' attributes and performance may not exist or are difficult to establish. |

Source: Adapted from Jain S. P. & Narang K.L., Advanced Financial Accounting, Accounting Theory, Porwal L. S.

Figure 1. Opinions of Respondents



Source:

worked out
 Figure 2. Classified Human Assets

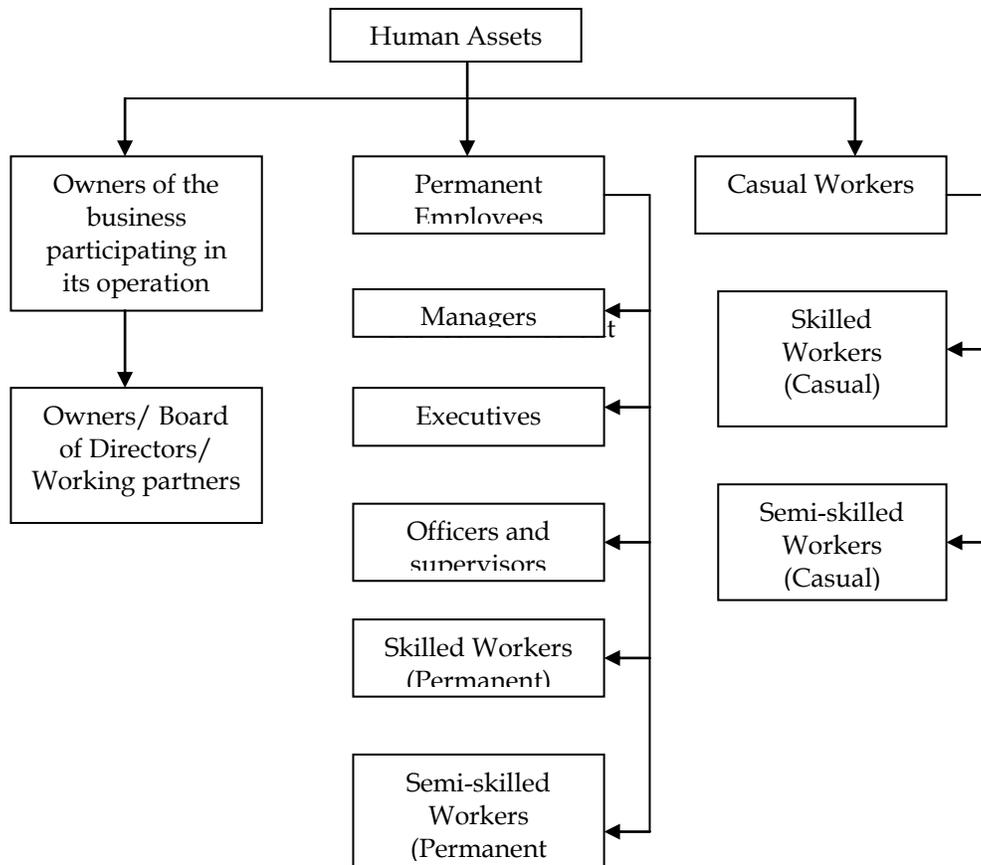


Table 6. Journal entry to record Human Assets

| | |
|----|---|
| 1. | At the time of recruitment the following transaction will be recorded in the books of accounts. |
| | Human Assets.....Dr. |
| | Cash (For Recruitment and learning costs)Cr. |
| | Obligation for HA (For the amount PV of future benefits to the employee).....Cr. |
| 2. | At the time of retirement and turnover of an Employee: |
| | Obligation for HA.....Dr. |
| | Human Assets.....Cr. |

Source: Worked out