

# HISTORICAL COST VERSUS REPLACEMENT COST ACCOUNTING FOR HUMAN POTENTIAL

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## ABSTRACT

*Accounting for Human Potential (Resources) has been in the research domain since long rather more during last three decades. The debate on an appropriate model for valuing the potential is still on and the very concept of treating it as an asset and putting it on the balance sheet has been under lot of questions. Basically two approaches viz., Valuation approach and Cost approach are appropriately discussed and applied to develop a relevant model for the valuation of the human potential. Present paper discusses the Cost Approach and concentrates on Historical Cost and Replacement Cost to justify their relevance and the distinctiveness of their nature. The relevant literature available has been browsed through to relate these costs to the human potential. Human Potential is used as a synonym to Human Resource as the author here feels Human Potential to be more relevant to be considered as asset.*

## Introduction

Human Potential is one of the most important resources for an organization. The employees or people in the organizations have been considered as resource and at times as assets for all theoretical purposes. There is enough literature available where the researchers have talked about Accounting for Human Resources (HRA) or Human Asset Accounting (HAA). In this paper human resource has been termed as human potential as the author feels that it is the potential of the beings which makes them a resource and then after a valuable asset. This is the basic premise on which Accounting for Human Potential or Human Potential Accounting is based.

Human Potential Accounting should be considered as a branch of Management

Accounting which deals with the valuation of the potential of the human resource or human potential in an organization and further it is so because it helps in the decision making process for the management. The potential of the people in organization needs to be valued. It is important here that the human resource deserves to be treated as an asset and proper disclosure of its valuation should be depicted in the Annual Financial Accounts. The concept of human resource (potential) values can be extended to individuals, groups and the total Human Organization. Thus an individual's value to an organization can be defined as the present worth of the set of future services he is expected to provide during the period he is anticipated to remain in the organization. Similarly, a group's value to an

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organization may be defined as the present value of its expected future services. Finally, the value of the human organization as a whole is the present worth of its expected future services to an enterprise. (Flamholtz, 1974)

The commentary on HRA (HPA) has focused on two basic issues:

How human resource assets should be valued, i.e., should historical cost or replacement or present value method be used.

The implications of capitalized human resource, once they are recorded, i.e., how should human resource be amortized?, what are tax implications of its amortization?, and what are the implications of HRA on internal and external auditing? (Stephen Knauf, 1983)

To answer these basic questions, accounting academicians have been working to arrive at a satisfying model. The importance of the human potential in an organization can not be given second thought. Therefore, before developing a model one should keep in mind the theoretical accounting approaches to this new branch of accounting.

## Approaches

Physical assets are valued following cost approach; whereas, goodwill is valued by taking into account past year's profit or future expected profit. For the case of HRA both of these approaches can be studied. HRA proponents have basically used costing approach and/or valuation approach for valuation and depiction of the worth of human potential. There are seven methods (Fig. 1) followed under costing approach viz. Historical Cost Method, Replacement Cost Method, Opportunity Cost Method, Standard Cost Method, Total Cost Method, Current Purchasing Power Method.

The costing approach deals with accounting

for investments made by organizations in acquiring and developing the human potential. It also deals with replacement and opportunity cost of the people presently working with organization. Primarily it deals with two types of cost concern with the functions of personnel management process i.e., acquiring and developing as human resource and cost of people as human resource. The cost under first refers to cost of personnel activities and functions such as recruitment, selection, hiring, replacement and training. The cost of all these activities is cost of acquiring and developing human assets. Accounting for cost of personnel function is also termed as personnel cost accounting. The second category refers to accounting for the cost of people as human assets. Human potential cost may be defined as the sacrifice incurred to acquire or replace people. It involves measuring the cost of acquiring and developing different classes of personnel and may be termed as Human Asset Accounting (HAA).

In this paper Historical cost method and Replacement cost method are discussed and the literature is reviewed. The discussion on these methods opens new doors to the thinking of human potential accounting. The possibilities for HRA may be dichotomized into historical cost-based approaches and replacement or value-based methods. While historical cost-based method remains dominant in extent accounting, the current interest in value-based accounting provides a receptive setting for consideration of both of these aspects of HRA. Cost-based HRA or HR cost-accounting (HRCA) fits more naturally into long standing conventional accounting practices. While this setting brings with it, significant constraints and vulnerability, it provides a familiar backdrop for considering the commonalities of HRA and other resources and a basis for examining the fundamental concept of HRA. (Davidson and Weil, 1977).

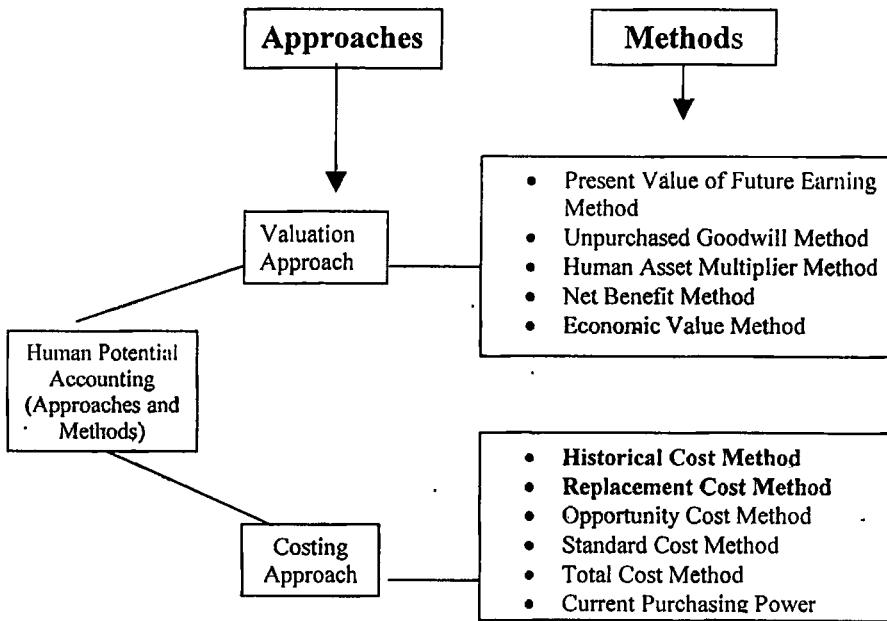


Figure - 1

Scarpelo and Harman (1989) felt that while designing a model for valuation of human potential its practicability has to be studied and experimented; otherwise, it would be a futile exercise. They criticized the works of Gambling (1974), Friedman and Lev (1974), Jaggi and Lau (1974), Sadan and Aurbach (1974), Ogan (1976) and Lau and Lau (1978) and mentioned in their paper that 'HR value is construct for which they are, at best, weak empirical measures. Good science requires that any surrogate measures proposed for a construct be tested to demonstrate for both that they are proper substitutes and that they can be reliable measure. Unless the construct, HR value, is associated with measurable empirical referents (i.e., real world measures), and unless these measures are tested, all attempts to model HRA conceptual framework

simply deteriorate into mathematical exercises.'

**Historical/Original Cost Method**

Historical cost has been defined as - 'The original cost of an asset as opposed to its saleable value, replacement value, value in present or alternative views.'(The Penguin Dictionary of Commerce 1982, Greener & Micheal (ed.) 1980). Further, this dictionary explains HC Accounting as - 'The traditional method of Book-keeping whereby all values whether attributable to asset and liabilities or income and expenditure are expressed in terms of the original amount spent. This means that the monetary amounts featured in published accounts are of historical relevance only and do not represent the real cost in terms of contemporary value of money or level of prices.'

**Flamholtz (1974)** states that – 'Original cost refers to the sacrifice that was actually incurred to acquire or obtain a resource. This is typically termed as Historical Cost. In this method the actual cost incurred on recruitment, selection, hiring and development of people in an organization are capitalized and amortized over the expected useful life of human resource. If the human assets are liquidated before completion of expected useful life, the whole of the amount, not written off, is charged to the incomes of the year in which such liquidation takes place. When the expected useful life is recognized to be longer, amortization schedule and pattern is revised. The accounting treatment as regards to human potential is same as that of any physical asset. When a physical asset is acquired, the net cost added with freight inward, installation charges (if any) etc., is shown in the financial statement, whereas, in case of human potential, the amount incurred in placing the advertisement, calling the candidates, conducting interviews, payment to interviewees and interviewers (if any) etc. may be capitalized and may be shown as one item i.e., Human Potential. The expenses incurred from placing the advertisement till the joining of the organization by the employee is treated as capital expenditure, keeping the basic concept in mind i.e., the employees will repay back these expenses in a way of their work to the organization. After giving joining to the employee, if the organization thinks that he needs to be oriented or trained, he/she is given training etc., and further such expenses may be capitalized and it may be considered an increase in the value of HR just like an increase is recorded in case of a physical asset.

There are quite a good number of proponents, who have considered historical cost or original cost as a base for showing the worth of human potential in the financial statement. They have taken almost all types of costs incurred on employees as a base to value the worth

of human resource (human potential). **Brummet, Flamholtz and Pyle (1968)** were of the view that recruitment outlay cost, acquisition cost, aormal training cost, informal training cost, familiarization cost, investment building experience cost and development cost should be included in the calculation of human assets in an organization because these cost helps to locate and select new personnel, to bring a new employee on board, to orient formally immediately after appointment or transfer, to teach a new person to adapt to existing skill to the specific job requirement, to integrate a new person into the organization, to develop individual capability through on-the-job training after initial familiarization, and to increase individual's capability in areas other than required by the present position respectively. This view of theirs was duly followed by **RG Barry Corporation**, at managerial level. On the other hand, at clerical level, the organization agreed with the view of **Woodruff Jr (1970)** who proposed only three types of costs to be considered viz., acquisition cost, orientation cost, training cost, because these costs helps to select and acquire an individual, to orient an individual on the job, and to train an individual for further development respectively.

In **A T & T**, the opinion of **Gustafson (1974)** was followed at operator level, who considered four types of cost to be recorded for capitalization, which were employment cost, initial training cost, efficiency recovery cost, and extra supervision cost which helps to recruit and select individuals, to provide initial training to attain expected normal level of productivity, to provide an adjustment for loss equivalent, due to non-attainment of expected level of productivity after the initial training, and to provide extra supervision to enable to attain normal level of productivity, respectively.

Further, **Flamholtz (1974)** suggested that recruitment cost, selection cost, hiring and

placement cost, orientation cost, on-the-job training cost, trainer's time cost and cost of lost productivity of other workers during training periods of new recruits, should be considered for capitalization because these costs helps in locating and selecting new personnel, bringing individuals into the organization and place them on the job, familiarizing the new recruits with the organization, providing on the job training and additional supervisions during training, and to provide an adjustment for the loss equivalent due to fall-off in productivity level of neighboring workers. This suggestion was also followed by RG Barry Corporation at managerial level.

**McRae (1978)** proposed that employment cost, training cost (direct and indirect), efficiency recovery cost and other costs should also be included in the HC for depiction of human worth. First three types of costs were more or less same as given by other proponents but 'other costs' included the cost of to maintain the personnel in a state of readiness to perform their imbibed functions, whether assigned or not. All these methods were used or suggested to be used at an individual level in an organization. So far, as organizational level is concerned, **Brummet, Flamholtz and Pyle (1969)** suggested start-up cost, organizational planning cost, organizational development cost, periodic measurement cost and other investments to be considered to capitalization. By start up cost he meant the cost incurred to build and develop group interaction amongst the employees for the first time. This cost was earlier conceptualized by **Rensis Likert** in 1967.

The cost incurred to plan organizational human potential as a whole and to develop it in general was included in organizational planning and organizational development cost. Periodic measurement cost included in the cost incurred on assessing the organizational health through

periodic measurement of casual and intervening variables (also conceptualized by Likert). And other investment included the amount invested in providing development opportunities and welfare measures to try employees in general. This suggestion was duly followed by R.G. Barry Corporation.

All these types of costs are capitalized and amortized in the financial statement. Interestingly it has also been suggested by the proponents to assess the extent of losses on account of short tenure of employees, abnormal level of labor turnover (cost of normal level of turnover may be allocated to the remaining employees as it may be necessary a desirable to provide a health environment tot new growth), obsolescence due to change of technology and change of systems, and procedures, so also losses on account of health deterioration of individuals. (**Kolay and Sahu, 1992**) Different proponents of cost based accounting for human resources (potential) are of different opinion so far as the approach, starting point, period, and method of amortization is concerned. **Pyle (1970), Woodruff Jr. (1970), Peterson (1972), McRae (1978)** and **Mee (1982)** say that accumulated human resource (potential) cost should be amortized on a total costs basis, whereas, **Brummet (1970)** and **Woodruff Jr. (1970)** further advocates that it should be amortized element wise where amortization starts the moment employee is acquired and training & developments starts, whereas, **Brummet** argues that it should begin from the day the individual starts contributing for the organization. It is important to note here that joining the organization starting contribution for the organization are two different things. When an individual is appointed and he joins the organization, generally he does not start contributing for the organization even when he has joined the organization. He needs training and after the completion of training he starts performing for the organization

therefore, Brummet's view that amortization process should begin when an individual starts contributing, seems more logical.

Brummet, Flamholtz, Pyle (1968) and McRae (1978) suggested maximum service life and expected service life (based on multi-factored attributes like age, marital status, tenure, organizational level, job satisfaction and other related factors with weighted probability) to the period of amortization. But later Brummet (1970), Pyle (1970) Likert (1971), and Flamholtz (1974) proposed that relevant benefit period should be considered for the period of amortization. This period was based on total cost amortization. When human resource (potential) cost is amortized element-wise, Brummet (1970) and Woodruff Jr. (1970) were of the view that expected service life should be considered for acquisition cost and expected benefit period should be considered for the training and development cost element. Brummet (1970), Pyle (1970), and Flamholtz (1974) and Gustafson (1974) advocated straight line method of amortization; whereas, Weiss (1972) was of the view that reverse sum of the digit method should be followed. Further Pyle (1970) and Sinclair (1978) propounded that the method of amortization would vary depending on the human resource condition (including physical) as assessed from periodic review. Kolay and Sahu (1992) reflected their opinion by saying that amortization of human resource expenditure both at an individual as well as an organizational level as proposed, has been subjective to reflect the human resource condition and its associated value overtime. However, the recognition of future benefit potentials of human resource expenditures through amortization in a formal way in the books of accounts, though subjective, may channelize greater efforts towards the development of human resource of an organization.

## Replacement Cost Method

The replacement cost of human potential refers to the sacrifice that would have to be incurred today to replace people, employed at present in the organization. Suppose Mr. X is an employee of the organization wants to leave the organization, the cost to be incurred on recruiting, selecting and training of Mr. Y a new employee, will be called replacement cost. These costs include acquisition cost, development cost and separation cost etc., costs associated with a vacant position consequent upon its holder resigning or being terminated is known as separation costs. Loss of productivity before an employee concern, either because of loss of interests, or his absence due to interviews elsewhere, lower productivity, increased cost of other departments (the employees of which are asked temporarily fill in the vacant position), money compensation (if any) payable to the employee being retrenched etc., are included in the definition of separation cost.

This method aims at adjusting historical cost to current cost. The report of the committee on the Human Resource Accounting under American Accounting Association published its report in *The Accounting Review* (1973) which defined replacement cost for its use for human resource accounting as 'This is a measure of the cost to replace a firm's existing human resources including the cost to the firm to recruit, hire, train and develop replacements to the level of proficiency and familiarity with the organization and its operations presently experienced with existing employees. An employee's value is the estimated cost that an organization would incur, if it were to replace the present employee with a person of equal ability (Flamholtz, 1971). Rensis Likert (1967) was one among the initial contributors to the concept of replacement cost, on the basis of which Flamholtz (1971)

developed his model incorporating this type of cost. Likert and Pyle (1971) have talked about the replacement cost of an organization as a whole by determining the value of human organization if it is started afresh. 'Suppose that tomorrow your firm had all of its present facilities- everything but not personnel except the President and he had to rebuild the human organization back to its present effectiveness. How much would that cost? All costs would be included which are involved in recruiting, hiring, training and developing the replacement to the present level of proficiency and familiarity with the organization. This should serve as the basis of valuation of human resources of the organization from time to time.' (Likert and Pyle, 1971)

Flamholtz's (1971) study was basically based on the value of the individual and his angle was a bit different from Likert (1971). He classified replacement cost into two categories as positional replacement cost and personal replacement cost. Positional Replacement Cost (PRC) refers to the sacrifice that would have to be incurred today to replace a person presently employed in a specified position with a substitute capable of providing an equivalent set of services in that given position. It relates to the cost incurred by the management for replacing one employee by a new employee with equivalent skill, ability and knowledge for better result. In other words, the costs incurred represent the individual's value to the firm (Saha, 1997). PRC refers to the current cost of replacing the series of services expected from an employee during his total stay at different positions in the firm. It is the cost of replacing the set of services provided by one person with an equivalent set to be provided by another (Flamholtz, 1974).

These replacement costs are supposed to affect the worth of human potential shown in the financial statement depending on the

changes in the quality of employees leaving the organization and joining the organization. This method is very much subjective in nature and this is one of the major reasons, which puts some inflationary impact on the valuation of human potential worth.

Brummet, Flamholtz and Pyle developed replacement cost method in 1968 for RG Barry Corporation to incorporate relevant additional information along with historical human resource cost data to bring improvements in the human resource management process. In 1973 Flamholtz used this method in Mid Western Insurance Co. and in 1974 Gustafson used this method in a AT & T at operators level to improve various personnel procedures and programs by highlighting their impact on employees values and future earnings. Flamholtz and Kamuyer (1980) used this method in an international bank of USA for tellers and management associates. Further in 1983-84, Flamholtz used this method in Touché & Co and US Navy respectively. There follow ups were an end in itself.

The replacement cost method opened another window towards reaching to a more appropriate model for valuation of the worth of human potential. It is evident that this method was given less importance than historical cost method because of its own limitations. Even then while preparing an appropriate model for human potential valuation this method should be kept in mind.

## Discussion

Though human potential may be considered at par with other physical assets, there may be difficulties in implementation of this method. It meets the test of traditional principles of accounting which is a proper match of cost and revenue, but even then there are problems before it such as-

- The estimation of the number of years over which the capitalized expenditure is to be amortized is likely to be largely subjective. (Porwal, 1992)
- It only takes into account the acquisition cost of employees ignoring altogether the aggregate value of their potential services. (Malik)
- Unlike fixed assets the economic value of human assets increased over time with training and experience but as a result of conventional accounting treatment the capital cost decrease through amortization. (Porwal, 1992)
- The value of human resources computed under this model can hardly project the real value of services potentials of human resources. (Saha, 1997)
- Since these costs are historical in nature and such assets cannot be disposed of information on them are not of much significance for investment decisions. (Saha, 1997)

These problems have certainly questioned the feasibility of historical cost method but, this method cannot be ruled out blindly. It has provided a base for innovative thinking to the researchers in the area of human potential accounting. 'Historical cost as a basis of human resource valuation may not be acceptable to the traditional accountants. Value tag to individual based on the cost incurred on them rather than on their contributions may not be welcomed by the employees as well. However, recording of human resource costs and its analysis with respect to different functions with as much details as viable may be necessary for cost control. The extent of fulfillment of corporate objectives in relation to the infrastructural asset base as the return to be weighed against the long term organizational

HR investment to reflect the value of such an important resource (Kolay & Sahu, 1992). 'On practical consideration of course accumulation of cost of HR investment in individual is easier than attempts to measure the value of these individuals' (Porwal, 1992).

Though replacement cost methods were designed to overcome the difficulties of historical cost methods they seem to have failed in satisfying the practitioners and academicians.

Kolay and Sahu (1992) felt that the estimation of the replacement cost of individuals or the rebuilding cost human organization would be based on the best judgment of their managers rather than facts and figures. This, being subjective in nature, may not be acceptable to the traditional accountants. Such estimated cost may not be verifiable in absence of a market for human resource unlike the case of physical asset. Further, they concluded that the concept of replacement cost of the individual and the building cost of human organization may not be the appropriate surrogate for the valuation of HR of an organization. It may not be in conformity with the traditional accounting practices either. Such cost may not be an answer towards accounting for human asset. However, the assessment of such cost elements on an ongoing basis is an effective aid for managing the HR of an organization.

Hekimian and Jones (1967) are of the view that though current replacement cost comes close to being an ideal method of asset valuation, it suffers from two deficiencies: First, the management may have some particular asset which it is unwilling to replace at current cost, but which it wants to keep using because the asset has a value greater than to scrap value. There must be some method of valuing an asset. Secondly, there may be no similar replacement for a certain existing asset. This



situation is caused either by a changing technology, where an asset has to be replaced by a new model or by the simple fact that the asset is custom made. They feel that a proper system of asset valuation must include a methodology for valuing assets in these circumstances.

It is very difficult sometimes rather impossible for getting a replacement for a person. This method may not provide proper valuation for the potential of such people. The replacement cost method is based on probability estimates, which may not be accepted universally (Saha, 1997).

It can be concluded here that though both the methods (based on historical/original cost and/or replacement cost) of valuing human potential in an organization suffer from deficiencies, however, it helps in designing the basic framework for the model for accounting of human potential.

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