Human resources represent the greatest assets which any business organization can ever possess, as every business is driven by human beings. However, unlike other assets, human resource is not reflected in the traditional statement of financial position. Instead, expenditure incurred on human resources is being expensed in the income statement. Accordingly, the written down values of businesses which have substantial amounts of investments in human capital are different from the current values. This practice can be misleading for the users of the financial statements, thus the call for human resource accounting. Literature reveals that only limited studies have been conducted on human resource valuation and that there is need for further investigation on it. Therefore, this study examines human resource as a concept. It also presents the reasons for human resource accounting and the various assumptions underlying it. The study provides a conceptual model of human resource accounting valuation which comprises cost based and value based approaches respectively. The study indicates that it is possible to value human resources in monetary terms, using any approach appropriate to the organization. The study recommends that accounting standards setting bodies such as the Financial Reporting Council of Nigeria, the Financial Reporting Standard Council of South Africa, and the International Accounting Standard Board should issue a unique accounting standard that will address human resource accounting being incorporated in the statement of financial position.

Keywords: Human resource accounting, Valuation, Cost approach, Value perspective.

Background

Human resources represent the greatest assets which any organization possesses (Haslinda, 2009). This is due to the fact that no day to day business activities, be it manufacturing or rendering of services could be carried out without the input of human resources. Human resource accounting represents a recent subdivision of accounting (Amirul, Kamruzzaman & Redwanuzzaman, 2013; Ramana, 2013; UKessay, 2013). Human resource accounting anchors on the conventional accounting principle in which all expenses relating to a period are debited to the income statement for the period under review.

However, in recent times, this method of treatment has been faulted, thus expenses incurred on human resources are supposed to be capitalized since they provide financial cash inflows for a period exceeding one financial year. Oluwatoyin (2014) describes human resource accounting as accounting for individuals who are engaged in the services of an organization as
these individuals are seen as part of the resources of such businesses. This means that one needs to ascertain the cost and value of individuals who are employees of the business. It entails obtaining the total expenditure incurred by businesses in employing or appointing employees, including staff development costs; and then evaluates their monetary value to the business. Similarly, Flamholtz (2012) considers human resource accounting as the procedure of recording and reporting on human beings who are employees as business resources. It endeavours to set a monetary worth on the employees of the business since they represent assets to the business. This approach reveals the financial resources which a business invests in its employees and the way in which the financial worth of the employees vary from one period to the other.

Advancement in information technology and the ever changing customers’ tastes and preferences have compelled business organizations to ensure that they have ability to identify, recruit, compensate and maintain human capital in form of capable personnel needed to drive their organizations (Armstrong, 2006). As a result of these, many organizations have accepted the concept of human capital as a good competitive advantage which could facilitate better performance. Furthermore, it is recognized that the financial worth of individuals can increase, decrease or remain unchanged due to the manner in which these individuals are dealt with. Even though the monetary significance of human capital is documented in the literature, only a small number of businesses endeavour to account for their human assets. The common approach in treating investment in human capital in the annual reports is to charge it to the income statement as an expense rather than treating it like other assets. Based on this treatment, human capital is not accounted for in the statement of financial position (Bill, 2013). Accordingly, the written down values of businesses that have substantial number of human resources investments are different from the real market worth.

This practice can be misleading for the users of the financial statement of such organizations, as the annual reports do not actually represents a correct financial state at any given period. Literature reveals that several studies have been conducted on human resource accounting with emphasis on a broad areas, such as studies that linked human resource accounting measures with business performance (Cherian & Farouq, 2013; Afifiouni, 2007; Johansson, 2007; Martin-de-Castro, Navas-Lopez, Lopez-Saez & Alama-Salazar, 2006; Youndt & Snell, 2004; Roos & Pike, 2004; Perez & Ordonez de Pablos, 2003). Never the less, only few studies have concentrated on the estimation of human resources accounting (Carrell, 2007; Catasus & Grojer, 2006). Specifically, Cherian and Farouq (2013) observe that studies on valuation of human resource accounting remain inconclusive; consequently Ezeagba (2014) called for further investigation. As a result, the current study seeks to conduct a review on human resource accounting valuation approaches.

**Extant Literature**

Human resource accounting is a concept which has received different definitions from several authors. The American Accounting Associations Committee (1973) cited in Akintoye (2012) describes human resource accounting as that procedure which involves recognizing and evaluating information on human assets, and making such information available to users.
Similarly, Flamholtz (1971) cited in Akintoye (2012) describes it as the quantifying and treatment of the expenditure incurred and revenue derivable from the employees of any business, similar to the practice with other assets. In the same way, it has been described as the procedure for cost assignment, financial planning and provision of information on human resources in a business enterprise, together with remuneration, salaries and manpower development costs. Woodruff (1973) cited in Enyi and Adebawojo (2014) defines it as an effort made towards recognizing and providing information on money spent on human assets of any business which at the moment is not being reported. Fundamentally, human resource accounting is an accounting system which provides management with relevant information on the variation with respect to human assets in the organization (Flamholtz, 2012).

In the view of Kodwani and Tiwani (2007) it is an effort geared towards the identification, quantification and provision of investment information associated with the employees of a business enterprise; which is not currently the practice under the traditional accounting system. Meanwhile, Bullen and Eyler (2010) opine that human resource accounting entails recording and reporting in financial terms, expenses incurred in respect of employees of a business enterprise in the same manner with other asset. This represents a change from the conventional accounting in which such transactions are simply debited to the income statement. Similarly, Amirul et al., (2013) define it as the procedure of identification, data measurement with respect to the employees of a business enterprise and making such information available to various users. In general, it involves the following:

(i) Capitalizing the human assets by recognizing them as ventures.
(ii) Documentation of the regular cessation of the assets on amortization basis.
(iii) Documentation of the loss of the assets as a result of employees’ turnover.
(iv) Evaluation of monetary value of the employees after making necessary modification.

According to Mahmudul (2010), the following represent some of the reasons for human resource accounting:

i) It helps in assessing the proficiency of the employees and leadership of the enterprise.
ii) It assists in the discovery of the proper worth of the valuables or possessions and the indebtedness of the business at any given time. The proficiency of the employees is regarded as valuables while the payments to be made to the employees are considered as indebtedness.
iii) It helps in establishing a sustainable and feasible control procedure on the employees of the enterprise.
iv) It helps in providing an improved yardstick for ascertaining business objectives and how to accomplish these objectives.
v) It helps in providing the owners of the business, debenture holders, and other parties with precise information useful in making informed economic decisions.
vi) It facilitates the ascertaining of the accurate representation of the potentials of the business, since the use of other assets is completely reliant on human beings.
vii) It helps in providing relevant information to the business owners especially on the contribution of the business to development of the economy in form of social responsibility.
Assumptions of Human Resource Accounting

Vaghela (2013) highlighted six foremost supposition of human resource accounting as follow:

a). It makes revenue available to a business enterprise just like other physical assets do generate revenue.
b). The benefits associated with the traditional assets and human assets of any business enterprise represent value-addition to the business.
c). Hiring of employees usually entails cost-benefits in which the benefits are usually more than the cost involved, thus, arriving at net benefits for the business.
d). In view of the fact that the traditional accounting characterization of an asset entails the right to obtain financial inflow in the future, employees are suitably categorized as assets.
e). In theory, the identification and measurement of human asset expenditure and revenue is feasible in the enterprise.
f). Information on human assets expenditure and revenue ought to be valuable in the course of budget preparation, monitoring, assessment and forecasting of business productivity.

Human Resource Valuation

The various methods of human resource valuation can be broadly grouped into two classes: the cost based and value based approaches. Each of these categories can be further classified into several other measures which have been synthesized into a model as shown in Figure 1 below.

Historical Cost Approach

Sahaf (2009) reports that the historical cost approach computes exact expenditure sustained on recruitment, selection, and staff development; the result of which represents the economic worth of the total employees. In other words, this approach involves accumulating and amortizing over the estimated duration in which the employees would be involved in active service, the costs the business incurred by way of recruiting, selecting and training of the workforce (Ezeagba, 2014). This means that a similar treatment given to other assets of the organization is given to human resources. Under this approach, the monetary value of human resource increases over time as they gain experience. On the other hand, the capital cost of human resource decreases through amortization. This approach has a demerit in that the capitalization of expenditure does not reveal its accurate monetary worth. The summation of performance needs to be evaluated in association with the total expenses incurred on human resource so as to represent its monetary worth. UKessay (2013) identifies the following among others as the limitations of historical cost approach:

1. Intricacies involved in ascertaining the utilization of employees. It may be difficult to know exactly when an employee may possibly leave an employment.
2. The financial worth of human assets could rise with increase in skill, but amortization decreases the net written down worth. It may be complicated reconciling these aspects.
3. Employees may acquire additional skills from other places outside the particular business enterprise which could be applicable in the current employment; nevertheless, these probably may not be taken into consideration in the valuation of the employee.
4. Staff development costs which are capitalized may not necessarily promise employee better productivity.

Replacement Cost Approach

Under this approach, the costs of replacing employees and the expenses on business restructuring would be evaluated to reveal the economic worth of employees and the business enterprise (Ezeagba, 2014). Replacement cost approach involves the estimated cost of replacing the entire existing human resources in an organisation. Likert (1967) cited in Ezeagba (2014) suggested that the valuation should be based on the supposition that a comparable business enterprise is to be formed from the beginning, and then estimate how much cost in terms of human resources it would require for this purpose. Nevertheless this approach possibly will not reveal the authentic expenses or cash inflows connected with human resource. Unlike in the situation under the historical cost approach where only previous expenses are considered; using this method, the expenditure required in order to replace an enterprise’s workforce is what matters, this makes the approach to reflect present value.

Opportunity Cost Approach

This approach imagines the calculation of economic worth and the deployment of employees to mainly very productive business duty and by this means evaluates the alternative forgone of the workforce by competitive bidding among the various competing sections or departments of the business (Saka, 1997). Under this approach, opportunity cost can be described as the best substitute income which could have been earned should the employees redeployed to other competing sections of the business. Valuation using this approach could be complicated if alternative departments or sections do not exist in the enterprise.

Standard Cost Approach

This method encompasses all expenditure incurred in order to employ, engage, and train employees of the business enterprise. With respect to these activities, the principles normally adopted under standard costing are then employed. This means expected outcomes for the different aspects of human resources are specified, and then at the end of the period, actual outcomes are compared with the expected. Any deviation from the target is analyzed using variance analysis, and then corrective actions are taken (Maheshwari & Maheshwari, 2009).
Figure 1: Conceptual Model Showing Approaches to Human Resource Valuation


Present Value of Future Earnings Approach
This approach is suggested by Lev and Schwartz (1971), it is commonly used in India. This approach is commonly referred to as capitalization of salary approach. Using this approach, expected future remuneration of the workforce is determined from the present time to the likely retirement age. Then this value arrived at is discounted using relevant discount factor which is appropriate to individual employee so as to establish the present value (Dutta, 2008). The following formula is used in determining the economic worth of individual employee.
$V_k = \sum \frac{l(t)}{(1 + r)^{t-k}}$

Where:
$V_k$ = The value of an individual $r$ years old
$l(t)$ = The individual’s annual earnings up to retirement
$t$ = Retirement age
$r$ = A discount rate specific to a person.

Dutta (2008) outlined the limitations of this model to include:

i. It fundamentally represents an input appraisal; it neglects the performance of the workforce which represents the output;

ii. The condition of work of each of the workforce is also ignored;

iii. Staff development cost expended on the workforce is ignored;

iv. The rate of wear and tear in the business is not put into consideration;

v. Variables which could facilitate increase remuneration of the workforce such as negotiation ability, expertise and knowledge are not put into consideration.

Certainty Equivalent Model Approach
This model was recommended by Ogan in 1976. Using this approach, the value of employees in the organization is ascertained by taking into consideration together, the expenditure and income features of the worth of employees to the business (Chand, 2015). The approach entails the following processes:

i) Determine the net cash inflow from every member of staff

ii) Ascertain the certainty factor at which the cash inflow will be obtainable in future

iii) The certainty equivalent cash inflows would be computed by multiplying the certainty factor with the net cash inflows from the workforce. The value obtained would represent the economic worth of the workforce of the business.

Chand (2015) observed that when income to be generated by the workforce can be easily ascertained, then this approach could be successfully employed. Nevertheless, utilizing this approach could present severe difficulties in a number of circumstances where cash flows associated with specific member of the workforce are not easy to ascertain and measure. Additionally, this method fails to incorporate any clear acknowledgment of the significance of relationships among members of the workforce.

Stochastic Reward Valuation Model Approach
This approach was suggested by Flamholtz (1972), it states that the economic worth of each employee in any business enterprise can be ascertained by the services which the employee is likely going to provide to the organization during the time he is expected to stay with the organization in various position or service states (Mohatan, 2014). This approach recommends five steps in determining the economic worth of each employee to the enterprise. The five steps according to Mohatan (2014), include the following:

(a) Forecast the duration an employee may likely remain in the workforce of a business enterprise (likely service duration).
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(b) Ascertain the positions which the individual may likely occupy and the period in which he might likely exit the business enterprise.

(c) Establish the financial worth which the business would generate as a result of the individual occupying a specific position for particular time duration.

(d) Determine the possibility of occupying every probable mutually exclusive position at specific period in the future.

(e) Determine the present value of the likely remuneration by applying a particular discount rate.

On the basis of this approach, the final appraisal of the economic worth of each employee in any business enterprise is its likely economic worth of his accomplishment. The economic worth of each employee in a business enterprise can be described as the present value of all potential productivity which is likely to be rendered while the employee remains with the enterprise. However, one cannot forecast with accuracy the level of productivity likely to be produced by an employee at a specific period. This is why this approach resorts to the use of probability estimates.

Unpurchased Goodwill Model Approach

Hermanson’s unpurchased goodwill approach to human resource valuation suggests that super normal profits in a business are the signs of the existence of human assets (Inekwe, 2014). Consequently, the value of human resource in any organization is measured through the capitalization of portion of income which exceeds the normal income for the business (Mohanta, 2014). One most important drawback of this approach is that since this approach restricts recognition of worth of employees to the amount by which total income exceeds the normal, the human capital base which is necessary to conduct normal business activities is completely neglected (Inekwe, 2014). The implication of this is that the economic worth of employees will be underestimated.

Causal, Intervening and End Result Model Approach

Likert’s causal, intervening and end result approach is anchored on established associations among three categories of variables commonly referred to as causal, intervening and end-result variables (Chand, 2015). These concepts mean longitudinal cause-and-effect interaction which has scientifically been recognized by virtue of Likert’s study. While, the end-result measures are principally ‘hard measures’ which can be evaluated using the traditional accounting procedure. The approach anchors on the fact that as long as it is possible to establish significant associations among causal, intervening, and end-result variables; assessment of variations in these factors for a specified period of time is possible. It is also possible to forecast the likely future effects on the ‘hard measured’ future outcomes, and discount this forecast to establish the variation in the worth of the employees. This approach can only be used in evaluating variations but does not consider the existing value. This approach only considers the interactive circumstances but does not include each employee’s potentials and the skill base personified in the individuals (Chand, 2015).

Five Dimensional Model Approach

Myers and Flowers developed a system for evaluating the employees of a business enterprise and ascertaining expenditure incurred on different inputs which were put in place so
as to boost the efficiency of the business. Chand (2015) identified this as a five dimensional model of Myers and Flowers which include the following: (i) knowledge (ii) expertise (iii) physical condition (iv) accessibility and (v) attitude. Attitude values are weighted based on post held and duration to establish the attitude. These five aspects are seen to be factorial instead of being additive. These factors are mutually dependent; one cannot exist without the others. While trying to make decision on enhancing any one of these aspects, the other aspects must equally be considered.

**Aggregate Payment Model Approach**

The method is formulated by Chakraborty (1976) in India. Based on this approach, the economic worth of employees is evaluated on a group basis and not on the basis of each employee. Afolabi (2014) identified the steps necessary for human resource valuation using this approach to include the procedures listed below:

(i) The workforce of the business enterprise is categorized into two segments of managerial and non-managerial.

(ii) The average remuneration of each category of employees is ascertained based on the salary scale established in the business enterprise.

(iii) Tenure of each of the staff members in each category is ascertained using previous experience.

(iv) The remuneration of each category is the product of the average remuneration and average period of time which members would stay in the enterprise.

(v) Then a discount factor is applied to the amount arrived at in (iv) above using a likely return on capital employed average over the average service period to determine the present value of the estimated future payment.

**Human Asset Multiplier Model Approach**

Robinson’s human asset multiplier model of human resource valuation has its foundation on the supposition that a direct association does not exist between expenditures incurred on an employee and his economic worth to the business enterprise at any time (Kumar & Lama, 2014). This is because motivation, attitude and working environment affect the value of an individual. Under this approach, organizational employees are divided into four categories: top management, middle management, supervisory management, and operative employees. According to Kumar and Lama (2014) wages and salary bill for each category is multiplied with an appropriate multiplier to calculate the total value for each. Multiplier is a means for relating the personal values of the employees to the total assets value of the organization (Cscorner, 2015). Higher multiplier should be checked for consistency with the total economic worth of the business as a whole. If the economic worth of employees is greater or less than the goodwill, multiplier is inaccurate and should be adjusted.

**Criticism against Human Resource Accounting**

Despite the benefits of human resource accounting, the Generally Accepted Accounting Principles (GAAP) has refused to account for expenditure on employees as capital investment for some reasons. They are:

i) Violation of the accounting concept of prudence.

ii) Uncertainty about the future benefits.
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i) Violation of the accounting concept of prudence.

ii) Uncertainty about the future benefits.
iii) Absence of initial investment in the acquisition of human assets.
iv) The fact that the employer does not have the real ownership of the workforce.
v) Absence of any specific accounting standard addressing human resource accounting
vi) Lack of recognition by tax authorities
vii) Trade union opposition
viii) Lack of awareness and adequate research

Conclusion and Recommendations
This study examines the concept of human resource accounting and its valuation. It also presents the reasons for human resource accounting and the various assumptions underlying it. The study further provides a conceptual model of human resource accounting valuation which comprises cost based and value based approaches respectively. Based on the review of literature, it is apparent that it is possible to value human resources in monetary terms, using any approach appropriate to the organization. It is also evident that inclusion of human resource value in the statement of financial position of any enterprise would provide better information for the users of such annual reports in making informed economic decisions. Thus, it is recommended for accounting standards setting bodies such as the Financial Reporting Council of Nigeria, the Financial Reporting Standard Council of South Africa, the International Accounting Standard Board and similar bodies, to issue a new and unique accounting standard that will address human resource accounting being incorporated in the statement of financial position, similar to other assets.

References


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