PULMONARY LESIONS WITH ASSOCIATION AND HAEMOLOGICAL DATA OF SLAUGHTERED ADULT CEMEL CAMLUS DROMEDARIUS IN KANO AND SOKOTO STATE OF NIGERIA

BY

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DECLARATION

I hereby declare that this thesis is a product of my research effort. To the best of my knowledge, it has not been published in any form or presented in any where for the award of any degree. However, materials consulted for the research work have been adequately and duly acknowledged by way of reference.

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ABUBAKAR, Salisu

CERTIFICATION

This thesis entitled ***"An Assessment of Human Resource Accounting Measures and Application Possibilities in Nigeria"*** by **ABUBAKAR, Salisu** meets the regulations governing the award of the degree of Master of Science in Accounting and Finance of Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literacy presentation.

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DEDICATION

To the recent crowned most beautiful women in the world: Miss Universe (**My mother**) and Miss World (**My Wife**). I love you soooo much!

ACKNOWLEDGEMENT

All praises be to Allah, the First, the Last, the Seeing and the Hidden.

For one to succeed in any human endeavour, association with the right personalities is the key. I'm proud to be associated with an achiever and a paragon of excellence, Dr. M.A. Mainoma. Having him as a head of Department was superb, working with and under him was marvellous, and having him as a supervisor is an opportunity to tap from his knowledge and experience. I'm much grateful for your contribution, SIR, not only on the Thesis work but on all and sundry.

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ABSTRACT

The recent developments in the business world have shown that service-oriented businesses are fast growing and overtaking their manufacturing counterpart. This development brings about other issues that need to be considered as the pivot upon which the success of the service-oriented businesses rotates. The most important is the human resource/capital, which is considered as the major asset the service organisations have and the key to their success and future survival. The human assets could still have the same rating in the manufacturing outfits nowadays. This study looked at the issue of accounting for the human resources with emphasis on assessing the measures proffered for measuring the monetary value of the human resource, and also studied their application possibilities in Nigeria. The study, however, aims at uncovering the stumbling blocks relative to the wide acceptance and application of the HRA thereby examining the techniques/models suggested for arriving at a reasonable value of the human resource assets. Data for the study were gathered through the use of interviews, questionnaires, and the amount invested on the human assets as contained in the annual reports and accounts of the selected companies. The data were analysed using the chi-square, correlation and regression analyses, and the use of theory/model validation technique. The study found out that some of the measures proffered have tentative assumptions and used some uncertain estimations. Moreover, the study found that although some of the techniques/models proffered for measuring the value of human resources in monetary terms are complex, such complexities can be solved using application softwares and packages that could be developed once a particular measure(s) is universally accepted. As soon as a standard is set for the HRA application, it would become very applicable in Nigeria and in other countries. In addition, it was also established in the study that there is a positive correlation between the amounts invested/expended on human resources and the value of organisations measured in market capitalisation terms; and the degree of the relationship is very significant. The study, amongst others, recommends that the Nigerian Accounting Standards Board (NASB) should bring out an acceptable measure(s) in computing the monetary value of the human resource asset, which should be arrived at via organising series of public awareness programmes and conducting series of researches by the Board and by other bodies such as the ICAN, ANAN, NSE, etc. This will assist the reporting organisations in accounting and reporting the necessary details on their human resources.

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CHAPTER ONE

INTRODUCTION

1.1 GENERAL OVERVIEW

Accounting is a profession that is very responsive to the needs of the society. As the society keeps on growing so also is accounting. Scholars always engage in researches that add value to the field of accounting as a service to mankind. This is the reason why the profession usually experiences emerging issues through good thinking and logical reasoning of scholars. Presently, emerging or current issues in accounting include human resources accounting and social responsibility accounting, to mention but few.

The success of organisations largely depends on the quality of their human resources. The characteristic that differentiate successful organisations from their less successful counterparts in almost every industry is the quality of the people they are able to get and keep. These successful organisations do invest heavily in employee training to make sure that their employees' skill levels are kept current (Robbins, 2001). Thus, money spent on improving employees is one of the best investments that business executives could make (Owen, 1825).

The current accounting is not able to place value on such intangible assets as employee capabilities and knowledge. Newman (1999) stated that traditional accounting views virtually every expenditure related to the improvement and intellectual development of an organisation's human

resources as an expense. The implication of this system of recognition is that such expenditures are unimportant beyond the current period. This is totally untrue because it cannot be said that the employee's knowledge and development are unimportant to the future of the organisation. For this reason, the recognition of human resource as an asset becomes inevitable provided that the true picture of the organisation needs to be revealed.

The fast growth of service organisations in the United States, United Kingdom, other developed economies, and even in Nigeria recently (such as in communication industry and other service oriented companies) shift the focus of management towards skill empowerment of their employees. This is due to the fact that employees are much more important in these organisations compared with the other assets. Thus, Parton (1962) opined that in the business enterprise a well-organised and loyal personnel may be a much more important asset than a stock of merchandise.

Though the idea of accounting for human resources started many years back, the concept still lacks general acceptability. This is because there are only few evidences of its application worldwide. Many authors and scholars conducted researches on how humans within an organisation can be valued and reported in the financial statements of such organisation. Valuable suggestions were made but still under criticism. These contributions increase the number of applications of the

concept but largely voluntary. An evidence of mandatory accounting and reporting of human resources by organisations was pronounced recently in Denmark commencing from the year 2005. Some of the companies that applied human resources accounting in one way or the other include the R. G. Barry Corporation, BHEL, Infosys and Reliance Industries in India and other companies in the United States, Canada and Australia.

Human being constitutes a valuable resource to every organisation whether manufacturing – oriented or service oriented. They are as important as the machines, materials and money without whom other resources cannot be blended and coordinated for the purpose of achieving profitability. Characteristics such as experience, skill, knowledge, age, etc affect the productivity of human. Reporting this kind of information via the use of a standard, easy and more realistic measure can add value to the information content of financial reports of organisations and hence assist users in making informed decisions. In addition, experts like Jasrotia (2004), pointed out that the information generated by human resource accounting systems can be put to use for taking a variety of managerial decisions like recruitment planning, turnover analysis, personnel advancement analysis and capital budgeting, which can help organisations save a lot of trouble in the future.

This study is primarily aimed at assessing the measures proffered for measuring the value of human resources in monetary terms and, to consider how possible can the concept be applied in Nigeria.

1.2 STATEMENT OF THE PROBLEM

Human resources are now widely accepted as one of the most important assets possessed by organisations. The initial obstacles encountered in the recognition of human resources as an asset rest largely on its characteristics, quantification in monetary terms and the mode of reporting. Prior researches were conducted towards finding solutions to these obstacles but the concept still remains unapplied by many organisations around the globe. What is making the application of human resource accounting by organisations impossible? This is the question that this research work intends to find solution to.

Despite the fact that service firms are fast growing in the 21st century universally where intellectual capital is the most important asset, the system of human resource accounting has few evidences of its application. This clearly shows that problems still exist. Measures, models, techniques are suggested for valuing human resources and importance of the resulting data to the users of organisations' financial statements emphasized, but application still remain few. These problems of wide acceptance and application majorly rest on the valuation models/techniques, which are referred to as unrealistic, unreliable, complex, and theorized under hypothetical assumptions.

The study, therefore, attempts to find out the factors that hinder the acceptance and application of human resource accounting. This will be done by carrying out an assessment of the measures proffered for

valuing human resources with a view to suggesting the best measure for adoption and application by the Nigerian organisations.

1.3 OBJECTIVES OF THE STUDY

This study is conducted for the purpose of:

i. Studying in-depth the suggestions made by scholars and theoreticians as to how human resources can be valued in monetary terms for inclusion in the financial reports of organisations.

ii. Assessing the adequacy of the human resources accounting measures and techniques in providing a monetary value for human resources.

iii. Determining whether or not the inclusion and report of human resource values by firms can affect the various stakeholders' decision-making abilities.

iv. Assessing the application possibilities of human resources accounting in Nigeria.

1.4 RESEARCH QUESTIONS

This study is tailored towards finding answers to the following questions:

(i) What is the rational for human resources accounting?

(ii) How can human resources be measured for accounting and reporting purpose?

(iii) Which technique/measure can provide a best measure for human resources accounting purposes?

(iv) To what extent is human resources accounting application possible in Nigeria?

(v) What will be the effect of reporting human resources in the financial statements of organisations on the decision of users?

(vi) Are the human resources accounting measures unrealistic, unreliable, complex, and theorized under many hypothetical assumptions?

1.5 RESEARCH HYPOTHESES

The following hypotheses are developed and will be tested on the process of arriving at a dependable solution to the stated research problem:

1. H_o: The procedures upon which various measures for valuing human resources are based do not conform to the standard procedure for theory formulation.

   H_1: The procedures upon which various measures for valuing human resources are based conform to the standard procedures for theory formulation.

2. H_0: The investments in human resources do not have a significant effect on the value of firms.

H_1: The investments in human resources have a significant effect on the value of firms.

3. H_o: The peculiarities of the Nigerian economy and human resources may hinder the application of human resources accounting.

   H_1: The peculiarities of the Nigerian economy and human resources cannot affect the application of human resources accounting.

4. H_o: Reporting human resources in the balance sheet of organisations may not have a significant effect on the decisions of the financial statements users.

   H_1: Reporting human resources in the balance sheet of organisations may have a significant effect on the decisions of financial statements users.

1.6 SIGNIFICANCE OF THE STUDY

The wide increase in service firms where personnel knowledge, skills, expertise and experience are the key to their success makes the human resource accounting a necessity. Organisations do report on capital and other assets in their financial reports but reporting nothing regarding human resources except as a charge in their income statements. Money spent on hiring, recruiting, training and developing human resources are expensed rather than capitalized. Nowadays, the

amount invested by organisations on human resources is very huge and calls for a better way of reporting. Through the capitalisation of all expenditures incurred on human resources, other than salaries and wages, the quality and quantity of the information contents of financial statements would be enhanced thereby aiding better decisions by the various stakeholders.

This research study is expected to assist the accounting standards setting body in Nigeria (NASB) to adopt a standard measure for valuing human resources for inclusion in the financial statements of organisations. Adoption of a standard way of accounting human resources will increase the acceptance and application of the system by reporting organisations. Secondly, it is expected that the study will assist the various users of financial statements such as investors (both current and prospective), creditors, employees, etc, in making their respective decisions since they have access to more useful information than before. Lastly, the study can assist the management of the reporting organisation to take more scientific approaches toward the development of their human resources.

1.7 SCOPE OF THE STUDY

This study is limited to the human resources found in the profit-making organisations. As such, personnel working with government, at any level, and its agencies are excluded. The reason behind this

delimitation is because of the sensitivity of human resources in the success of profit motive organisations and the attention that such organisations usually give to their employees or human resources. The study employed a survey findings approach from the population divided into five strata namely: Accounting theoreticians, accountants in practice, students of accounting at post-graduate level, regulatory bodies of accountancy in Nigeria, and the target service and manufacturing organisations. The study was conducted within Kaduna State.

1.8 OUTLINE OF THE STUDY

This research study is presented in chapters and arranged in chronological order starting from chapter one and ending with chapter five. Chapter one contains the general background information on the human resource accounting (HRA) and the details of the problem under study. Other aspects dealt in chapter one include the objectives of the study, the statement of the research hypotheses, the significance, scope and limitations of the study and some definitions of key terms.

Past and recent write-ups and documents in form of text books, journal articles, seminar and conference papers relevant and related to the concept of human resource accounting and its application were extensively reviewed and presented in chapter two. Here, discussions covering the areas such as the historical development of HRA, measures/techniques/models for measuring the value of human

resources, approaches for amortising the capitalised human asset, evidence of HRA application and problems associated with HRA were comprehensively provided.

The methodology adopted in the research study is provided in chapter three and captioned accordingly. In this chapter, the type of research adopted for this study is clearly stated. The population and the sample size through which the relevant data were collected and the procedures for their collection are adequately elaborated. The techniques applied in converting the data so collected to information in order to be able to draw relevant conclusions and to achieve the research objectives are also highlighted in this chapter.

The detailed analysis and interpretations of the data so collected is provided in chapter four. Thus, the chapter presents the data collected in such areas as the peculiarities of HRA, the assessment of HRA measures and models, and the applicability of the concept in the financial reports of organisations. The tests of the research hypotheses and the research findings are also provided in this chapter.

Finally, chapter five tagged summary, conclusion and recommendations summarises the entire findings of the study thereby making conclusion based on the findings and relevant recommendations offered based on the conclusion.

1.9 GLOSSARY OF TERMS

The following terms are defined based on the way they are used and referred to in the research study.

(i) Asset:	Any item acquired for the purpose of production of goods and/or services and whose contribution can go beyond the accounting period.
(ii) Contribution:	Value added by an employee to the organisation's profitability and performance.
(iii) Conventional Assets:	Assets other than human resources especially the fixed assets.
(iv) HR:	This is the short for Human Resources, and is also used interchangeably with Human Assets.
(v) HRA:	This is short for Human Resource Accounting.
(vi) Intellectual Capital:	The technical know how and the abilities and capabilities of employees of an organisation. It is used interchangeably with Human Capital.
(vii) Measure:	A method, technique, theory or model.
(viii) Organisation:	A group of persons and facilities carrying out activities with a common profit aim/objective. it is also used interchangeably with company, business or firm.

(ix) Recruitment cost: Aggregate of the amounts expended for the purpose of bringing in an employee prior to the actual commencement of the employee's work.

(x) Service Life: The period which an employee is expected to be rendering services to an organisation.

(xi) Service state: Refers to the job position/level of an employee within an organisation.

(xii) Skill level: The movement of an employee on a job performance and productivity levels.

(xiii) Training: Involves activities organized to improve the productivity of an employee.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 INTRODUCTION

This chapter contains the theoretical framework for the research work. It set the state of the art as far as the field or concept of Human Resource Accounting (HRA) is concerned. Literatures relevant and related to the field of HRA are reviewed for the purpose of bringing the research into a proper perspective and focus. Thus, the ideas and ideologies of human resource accountants and theoreticians are brought into focus and adequately reviewed. Areas that are covered in this chapter include the concept and definition of HRA and its historical developments, measures proffered for valuing human assets, the approaches in amortising the capitalised human assets, and the evidence of and problems associated with HRA application.

2.2 THE CONCEPT OF HUMAN RESOURCE ACCOUNTING (HRA)

Accounting is viewed as a child of production. Production can be either the creation of tangible goods or the provision of services to satisfy human wants. The major factors of production are the land, labour, capital and entrepreneur. While every organisation reports on and includes land and capital in its financial statements, labour and entrepreneur are not given much attention and hence, they only represent

a charge to the profit made by the organisation. The two factors, labour and entrepreneur, are the human assets or resources organisations have.

HRA considers human resources as equivalent to other assets in the organisation. They require investment over time to make them productive. Such investment relates to the hiring, training, and development costs, which are capitalised and amortised over an assumed probably productive life for the human resource, taking into account attrition and eventual deterioration (Myers, 1976). The concept of HRA has been defined in so many ways but the basic feature of the system remains the same in every definition.

The American Accounting Association (1973) defined HRA as the process of identifying, measuring and communicating information about human resources in order to facilitate effective management within an organisation. This definition considers HRA as the process involving recognition and the quantification of human resources for the purpose of assisting the effective management of an organisation. The definition is some how crude as it is not specific as to what constitute the human resources expenditure and how it is to be recognised.

A more specific definition of HRA is the one given by Flamholtz (1974), which refers HRA as the process, which involves measuring the cost incurred by business firms and other organisations to recruit, select, hire, train and develop human asset. This gives a view as to what expenditure on the human resources should be recognised for valuation

and reporting purposes. This definition, in other words, regards HRA as involving the measurement of economic value of people to organisations.

Whereas the above definition of HRA centred on the cost incurred in improving and developing human resources, another definition considers the contribution aspect of human resources. Thus, Friedman and Lev (1974) and Lau and Lau (1978) consider HRA as a method for systematically measuring both the asset value of labour and the amount of asset creation that can be attributed to personnel activities. This definition incorporates the economic benefit attributable to the human resources in addition to recognising their cost implication.

HRA is also seen as an important aspect of management information system. In this view, Gupta (1991) defines the concept as basically an information system that tells management what changes are occurring overtime to the human resources of the business. It involves accounting for investment in people and their replacement costs, and also the economic value of people in an organisation. This definition regards HRA as an information system capable of assisting the management in effective decision-making relative to the hiring and retention of employees. Therefore, HRA provides a comprehensive look at one method of using human resource cost and value information in the decision-making process.

According to Newman (1999), HRA refers to the measurement of the abilities of all employees of a company, at every level – management,

supervisory and ordinary employees – to produce value from their knowledge and the capabilities of their minds. This definition considers the current growth in the service industry where the knowledge and intellectual capabilities of employees are the key for success. As such, HRA is seen as the wealth of the employees knowledge and intellectual capabilities added to the organisation thereby making it to earn profit and to succeed.

Jasrotia (2004) also views HRA as a measurement and reporting of the cost and value of people as organisational resources. The uniqueness of this definition is on the reporting aspect of the HRA. This definition rests on the premise that knowledge and intellectual capabilities of employees are becoming more and more important in corporate investment decision-making. This is due to the fact that service industries are now overtaking the manufacturing industries and in service delivery business, the knowledge and intellectual capabilities of employees matter more than any other tangible asset.

Looking at the trend of definitions in the field of HRA, as highlighted above, we therefore define the concept as the measurement process which recognises cost and value of employees in the financial statements of an organisation, as an intangible asset, so that the true value of the organisation can be established thereby assisting the various users of the financial statements in making their respective decisions.

2.3 HISTORICAL DEVELOPMENT OF HUMAN RESOURCE ACCOUNTING

For more than half of a century, accounting for human resources continued to appear in the accounting literature. Since the idea or approach was first conceived, it continues to be debated upon by both accounting scholars and practitioners. The interest shown by scholars led to many researches been conducted, which open the way to the development of the concept. HRA passes through many developmental stages before reaching its current status; and this trend is expected to continue until the approach or concept is universally accepted and applied as wide as possible.

Initially, the idea of recognising human resources as assets was regarded as impossible. This is due to the fact that human beings are only hired for production purpose and paid accordingly without much consideration on improvement and development of the workforce. The notion of hiring, training and retaining employees was not favoured. Entrepreneurs and proprietors of businesses hire and fire at will. For these reasons, it was difficult to convince people that human resources or employees are assets to organisations since ownership cannot be established. An item or thing can only become an asset if the organisation has ownership of the asset and the item has value to that organisation. But, later on, there was a tremendous change as organisations discovered that the human resources could be more

valuable than those assets. Researches proved that the success of any organisation is tied, to the larger extent, to the quality of its human resource. This triggered the introduction/invention of Human Resource Accounting (HRA) in order to fully report on all the necessary items that contribute to the success and survival of organisations.

More of recent, the concept of HRA experienced several developmental processes, which aided the transformation of the concept to a more realistic one. These developmental stages, as captured by Carper (2002), rested on the factors or events that gave impetus to the development of HRA. In a more concise way, the development stages and their underlying events are presented and discussed below:

a) Stage I - Derivation of the Concept: This is referred to as the initial stage of accounting for human resources. The concept human resources accounting derive its substances from the theory of human capital and the organization psychology. This stage covers the period prior to 1960 and up to the early 1960s.
b) Stage II - Development and Validation Period: This is the period where scholars tried to develop and validate the concept of human resources accounting. The period covered took effect from the mid 1960s up till the beginning of 1970. The researches conducted in this period were centred on developing approaches on the basis of historical cost and replacement cost as well as monetary and non-monetary values.

c) Stage III - Organization Application Period: This stage started from the early 1970s through to the middle of the decade. This period was characterized by broad attempts to bring the developed approaches into operation. Most of the organizations that attempted its practice were mostly service oriented and information technology oriented organizations.

d) Stage IV - The Empirical Research Investigation Period: This stage witnessed the empirical investigation of the concept of human resources accounting. This was triggered by the complexity associated with the methods of quantifying human resources in monetary terms, which led to few organizations attempted its practice. This period extended to the present day where researches and investigation are carried out in order to make the concept more practicable and less complex.

e) Stage V - The Growth of Service Organizations: In recent years, service organizations and their activities continue to grow at a faster rate. Knowledge and skill of employees are the distinctive features of these organizations. “It is no longer the sheer size or the number of tangible assets these organizations control that matter most but their intellectual capital” (Harari, 1994).

2.4 SOME CONTRIBUTIONS IN THE AREA OF HUMAN RESOURCE ACCOUNTING

In this section, we bring into focus some remarkable contributors in the area of HRA and their contributions. Our review covers from the point when the idea was first conceived to the present day.

Likert (1967) stressed that short-term company profits are too often obtained through automatic “system I” methods, which result in the wastage of human resources through neglect of training and development, turnover, reduced co-operation, etc. His argument was that conventional accounting procedures ignore human assets, even though their depletion almost inevitably leads to reductions in profit over the long run. He challenged the accountants to develop measures for valuing the human resources so that changes could be recorded on the scorecard that counts, the profit and loss statement. The changes that could be recorded means depreciation or amortization.

In response to Likert challenges, many accountants conducted researches on how best to measure human resources in monetary terms. Prominent among them are Flamholtz (1974 and 1985), Lev and Schwartz (1974), Sadan and Auerbach (1974), Schmidt et al (1982). Their contributions led to the suggestion of various methods of valuing human resources such as replacement cost model, stochastic rewards valuation model, historical cost model, competitive bidding method, and capitalization of future benefit. Strauss (1976) cautioned that numerous

conceptual and practical problems must be solved before human resource accounting is widely accepted. These problems, according to him, relate particularly to the method of calculating human resource values and to the use to which the resulting data will be put such as its impact on managerial or investor behaviour.

Lau and Lau (1978) identified two major unresolved problems in accounting for human resource. They are:

1. Whether and how human resource assets should be recorded in the accounting system, and
2. Once they are recorded, how they should be written off.

They based their research on the second problem thereby concentrating on the approaches for writing off capitalized human resource assets. That is, how should the capitalized human resource assets be amortized assuming that the appropriate capitalization values have been determined and recorded in the first place? In conclusion, the researchers made a brilliant attempt in developing human resource amortization procedures that are economically and statistically justifiable. Also, they re-affirm the Jaggi and Lau's (J – L's) (1974) implication that human resource capitalization is statistically meaningful only if the employees are located in large homogeneous groups.

Dawson (1992 & 1994) conducted a rather similar research on the more scientific method of valuing human resources. He used the simulation methodology to explore human resource accounting. The aim

of his research basically centred on the exploration of the relationship between the measures of the value of employees obtained from the application of the replacement cost model and the stochastic rewards valuation model. The scope of Dawson's research did not focus on the two models only but also on the reasoning used by managers in determining or arriving at these data.

A year after Dawson's research, Mainona (1995) conducted a research on whether or not reporting human resources by organisation can have a significant effect on the investors' decision. This research was tailored toward solving the second problem of human resource accounting wide acceptance as pointed out by Strauss (1976). The researcher assumed that human resources are adequately measured and hence concentrated on its report and how it affects investors' decision making. The conclusion of the research was that appropriate reporting of human resources by organisations could have a significant effect on the investors' decision-making. His findings and conclusion improves on the conclusion made by Craft and Birnberg (in Strauss, 1976) that human resource accounting may eventually prove to be useful internally, as a means of evaluating the effectiveness of personnel and managerial programs; and they are less optimistic as to its value for external reports for use by shareholders and the public.

Jasrotia (2004) stressed the need for human resource accounting with particular emphasis on India. The researcher concentrated on the

dramatic shift from manufacturing to service rendering in the Indian economy where success of organisations depends on the knowledge and intellectual capabilities of personnel. The recommendation from the research was that Indian government should make the accounting and reporting of human resources mandatory for every organisation just like as it is adopted in Denmark from the year 2005.

2.5 MEASURES/TECHNIQUES FOR VALUING HUMAN RESOURCES

Many measures have been put forward through which human resources can be valued for inclusion in the financial reports/statements of organisations. These measures came into being as a result of careful and cautious studies conducted by both early and recent human resource accounting advocates.

The human resource accountants argue, as do the economists, that the level of asset creation that can be attributed to a personnel investment ideally is measured according to ex ante concepts. Human Resource Accounting, however, recognising that ex ante valuation may not be feasible, suggests that ex post concepts may be employed as surrogate measures (Steffy and Maurer, 1988). The measures/techniques suggested in the valuation of human resources include:

a) Balanced Score Card (BSC) Method:

This method is suggested by Kaplan and Norton in 1992. The method is built on such leading indicators as turnover and employee

productivity, which affect the general performance of employees within an organisation. Becker et al (2001) argue that human resource/capital is the foundation of value creation in new economy businesses since up to 85% of a corporation's value is based on intangibles. They propose an adoption of the Balanced Score Card Method that concentrates on human resource/capital called the "Human Resource Score Card".

(b) Brown's Index (BI):

Brown Mark Graham in 1999 conducted yet another study aimed at finding a better way of measuring human resources in monetary terms. His research/study suggested that a simple human capital index made up of four sub-metrics is better than crude measures like turnover, education level, training attended and developmental plan objectives that most companies use. Brown included in his index the four submetrics as level in the company, performance rating, positions and year in field/business.

The Brown's Index works by attaching weights to the four sub-metrics. Thus, the metrics are weighted so that the index will produce a score out of 100. The weighting will depend on the company's specific situation, and the importance of skill/competencies versus experience/performance. The benefit of such a measure is that it is simple (Brown, 1999). However, the shortcoming identified with the use of Brown's Index is that it is not an all-encompassing measure, and ignores other possible inputs that might be important to particular companies or industries. Nevertheless, this study is hailed for it has led to the

popularisation of the thought that human resources should be recognised as a line item in financial statements.

(c) Competitive Bidding Method (CBM):

This method of valuing human resources employs the idea of opportunity cost to value human asset. It entails the value of an employee in his/her alternative use as a basis for estimating his/her value to an organisation. CBM is based on the assumption that human asset/resource is a scarce resource so that its employment in one division/department denies it working in another division/department. The division/department with the highest bid wins the particular human resource and would include its price in its investment base.

Arguments in favour of this method include the provision of optimal allocation of personnel within an organisation and can give a basis for quantitative planning and development of human resources of an organisation. Its major weakness is that it failed to consider employees of the same type which can be readily available for hiring from outside.

(d) Discounted Future Salaries (DFS):

This method uses the present value of future salaries or earnings profile of homogeneous group of employees. DFS was pioneered by Hermanson and Flamholtz. Hermanson (1964) suggested the use of compensation/salary as surrogate to quantify the value of human resources as the sum total of the present value of future salaries/benefits accruable to them. He stated further that the amount of future wages

payable represents a liability while human resources an asset in the balance sheet.

Flamholtz (1974) also looked at the valuation of human resources in terms of earnings profile of employees by aggregating and averaging the earnings profile of homogeneous group of employees over the range of their effective service period. The productivity of employees is assumed to diminish as their ages continue to increase. This is due to health deterioration, physical fitness, brain drain, and technological obsolescence. The value is measured by the use of the following formula:

$$Vr = \sum_{t=r}^{t} \frac{I(t)}{(1 + r)^{t - r}}$$

where: Vr = The human asset value of a person 'r' years old

I(t) = The person's annual earnings up to retirement.

r = A discount rate specific to a person.

t = Retirement age.

The major strength of this measure is that, it can facilitate the use of new set of financial ratios such as the ratio of human to non-human capital values to indicate the degree of labour intensiveness. It can also

provide information about changes in the structure of the labour force. The major set-back of this method is determining the accurate discount rate specific to a person. Though the cost of capital of the organisation used in capital budgeting decision is suggested as the discount factor, the variation of this rate to suit the individual status is difficult if not impossible. Another problem of DFS is the effect on the earnings stream by the actions of labour unions and non-governmental organisations (e.g. strikes or industrial actions), the actions of the labourer or employee (e.g. job-quitting) and other natural causes (e.g. death of an employee, sickness, etc).

(e) Economic Value Method (EVM):

Flamholtz (1971) also pioneered and proposed a normative human resource valuation model, which would trace the movement of an employee through the organisational position or “service state” where he/she is expected to render a specified quantity of service to the organisation during a specified time period. The probability of the individual occupying these service statuses is needed so that the expected services from the individual can be derived. Thus, EVM quantifies the present worth of the set of future services an employee is expected to render/provide during the period he is expected to remain with the organisation.

The EVM uses the following formula:

$$\sum_{i=1}^{n} Si\ P(Si)$$

Where : Si = Services expected from the individual on each service state.

p(Si) = The probability that the individual will occupy a particular service state.

The economic services that the individual will render determined his/her value. The service is quantified in monetary terms by finding the product of the price of the service and the services expected to be rendered. The strengths of this method include its focus on the value or worth of an individual to an organisation. EVM is weakened by many assumptions which are hypothetical and make its practice difficult and, it also focuses on individuals rather than group.

(f) Historical Cost Method (HCM):

This method is pioneered by Brummet, et al in 1968. It involves the capitalisation of the organisation's expenditure on selection, recruitment, orientation, training and development of employees. The amount capitalised is to be shown on the balance sheet under the heading. 'Human Assets' as distinguished from other physical or tangible assets. The amount so capitalised can then be amortised and written off in the

profit and loss appropriation account over the expected service period of the employees.

This method is criticised on the premise that it lacks the precision on how to determine the exact service period of an employee for amortisation purposes. It also fail to consider the effect of inflation on the cost so capitalised. Finally, it is not clear as to whether employees are to be aggregated or reported separately on the balance sheet.

(g) Knowledge-Value-Indicator Matrix (KVIM):

This approach value human resources based on the knowledge-value of an individual employee of which an indicator is applied in accordance with organisation's mission and strategic objective. According to George (2005), the human resources value is equal to the sum of an individual current salary(s) times number of years until retirement age (y) times present value factor (pv) plus the total of value indicator applicable to the specific individual being valued. The model is shown below:

$$V = \sum(sy)\ (pv) + \Sigma i$$

Where:

V = Value of human resources; and

Σi = The value of indicator percentage

Common value indicators can be related to:

a. Formal education above minimum education requirement for the job.

b. Continuing education course that relates to the job.

c. Industry experience above minimum experience requirement for the job.

d. Position advancement above normal time frames for the job.

e. Scope of organisational authority and responsibility above minimum requirement for the job.

f. Life time achievement of an individual other than work related.

(h) Replacement Cost Method (RCM):

This model is pioneered by Flamholtz in 1985. It involves the collection of cost associated with hiring and training of human resources at a particular period of time. It is the measurement approach which suggests that human resources are valued at the replacement cost, that is, the monetary implications of replacing existing personnel. Flamholtz (1985) stated that replacement or substitution costs could be positional (replacing personnel for particular positions) or personal (replacing specific talent or ability of particular persons).

The major advantage of this model is that human value can be adjusted to price level changes (i.e. inflation) and can assist in the process of manpower planning by providing estimates of the cost involved in obtaining labour for different positions. The model may not be

practicable where there is no similar replacement for certain assets. In addition, the model is also weakened by whether to use entry cost or exit cost as the replacement cost. Finally, the management might be unwilling to replace some particular assets at current cost.

(i) Return on Effort Employed Method (REEM):

This method stresses on measurement effort employed on various functions within an organisation such as buying, manufacturing and selling. This kind of information may lead to a more efficient allocation and use of human resources. Factors which distinguish the quantity and quality of effort expanded may be used to value the contribution made by individuals such as level or grade of work done, effectiveness with which the individual performs his job and experience and efficiency of the job performance.

Advocates of this method opined that the REEM can lead to a more effective allocation of human resources within an organisation. They also added that it is possible, with REEM, to consider the ratio of profit to the effort employed in each of the three separate functions i.e. buying, manufacturing and selling. However, the method is underscored as it does not provide information about the effectiveness with which an organisation maintains the conditions of its human resources. Another demerit of REEM is that it can encourage managers to dissipate valuable human assets and this can become a great problem to the organisation in the long-run.

(j) Value-Addition Method (VAM):

The VAM method of quantifying and reporting human resources was proffered by Monti-Belkaoui and Riahi-Belkaoui, (1995). The researchers opined that human resources valuation should be based on value-addition, as it is a measure of wealth. Value-addition, as they defined, refers to the increase in wealth generated by the productive use of the firm's resources before its allocation among shareholders, creditors (bondholders), workers and the government. This type of reporting the worth of human resources became popular in the United Kingdom with the publication of the "Corporate Report" in 1975. The "Corporate Report" is a discussion paper published by the Accounting Standards Committee, which recommended, amongst other things, that a statement of value added showing how the benefits of the efforts of an enterprise are shared by employees, providers of capital, the government and reinvestment, be included in the external reporting (Monti-Belkaoui and Riahi-Belkaoui, 1995).

The statement of Value Added of employees reported by organisations could provide a useful measure to help in gauging performance and activity. By relating key figures such as capital employed and employee costs, the value added can be a significant indicator of performance. One important consideration when using the Value-Added Statement is that the objective of the firm is not necessarily to maximise value added, Monti-Belkaoui and Riahi-Belkaoui, (1995)

added. For example, management can make a wrong decision of spending money on internal labour to produce a product that could be outsourced more economically. This would increase the company's Value-Added but not the profits. Therefore, the Value-Added is seen as a useful information tool to reporting performance, but not efficiency of the Value-Added.

Finally, the trend study of the measures/techniques proffered for quantifying human resources in monetary terms revealed that the most recent measures incorporate more realistic ways and ideologies in the valuation processes and procedures. Thus, majority of the hypothetical assumptions associated with the earlier measures were simplified leading to the suggestion of more empirically proven methods that portray facts rather than fiction.

2.6 APPROACHES FOR WRITING OFF CAPITALISED HUMAN RESOURCE ASSETS

This section concentrates on the issue of amortising the capitalised human resource assets through the spread of the cost over the useful and economic life of the resource. In other words, the section reviews the procedures/approaches proffered on how the capitalised human resource assets can be depreciated or amortised. The writing off of the capitalised cost comes after the determination and recording of the human resource value. The formulae and approaches were developed in consistent with

the principle of conservatism for assets valuation in financial accounting. It could be noted that whereas assets depreciation in financial accounting uses useful life in number of years among other things, human resource accounting depreciation approaches attempt to match depreciation amounts with the expected human resources contributions. The following approaches/methods were suggested in writing off capitalised human resource assets.

(a) Straight-Line Method of Amortisation

This was the first method to be applied in amortising human resources. The method was applied by R. G. Barry Corporation and was reported in the Company's Annual Reports since 1969. According to Woodruff and Whitman (1970), R. G. Barry Corporation amortised its human resource outlay costs of an individual manager on a straight-line basis over the expected working life of that manager. This method could be stated thus:

$$HRAV = \frac{CHROC}{EWLM}$$

Where HRAV = Human Resource Amortisation Value

CHROC = Capitalised Human Resource Outlay Costs

EWLM = Expected Working Life of a Manager

This method of amortisation uses assumptions, which could be deduced as under:

(i) Human resources data for valuation are treated on an individual basis.

(ii) An individual manager's working life can be determined with certain degree of accuracy.

(iii) All factors and conditions that can affect the work and duration of an individual manager are held constant.

In practical circumstances, these assumptions might not hold at all. The individual manager can leave for another job somewhere without necessarily spending much time with the organisation in question. Also, he may be injured or incapacitated. This basis of amortisation is inherently unreliable thereby resulting in frequent adjustments and write offs (Jaggi and Lau, 1974). When adjustments of a considerable magnitude have to be made often, it may become difficult for the accounting system to gain acceptance by the managerial and decision-making personnel. Additionally, the treatment of human resource data on an individual basis may produce disturbing human problems (Lau and Lau, 1978). Consider also the statement made by Woodruff, Whitman and Brummet (1970) that "if you consider a man a human resource and depreciate him on a straight-line basis, do you switch to an acceleration basis if he has a heart attack?".

The use of the straight-line method of amortisation of human resource assets may be inappropriate. Though Thomas (1969) and Hendriksen (1970) suggested that a meaningful allocation method should

be based upon some concept of a distribution of benefits expected to be received by the asset over time, consider the case of HRA.

In many professional-managerial staff recruitment programs, very large expenses are incurred in the selection-recruitment process and subsequent training programs. In the words of Lau and Lau (1978):

> "Generally, it is difficult to justify these large expenses by the type of work these recruits do in the first one or two years, therefore, one may reasonably assume that the employers are at least as interested in the recruits' future contribution potentials as in their immediate contribution capabilities, and that the large initial expenses are incurred with the hope that some of these recruits will turn out to be top executive material five, ten, or even twenty years later."

Therefore, these and other situations make the use of straight-line basis of amortisation of HRA inappropriate and unrealistic.

(b) Amortisation Procedure Using Jaggi and Lau (1974) Human Resource Valuation Model:

Due to the inherent complications and contradictions of the matching human resource contribution with its cost on a straight-line basis, a more scientific and realistic approach to the writing off of capitalised human resource assets was proposed. The approach has its basis on the famous Markovian Model and it was proposed by Jaggi and Lau in 1974. The proposed procedure satisfied the three basic

requirements as identified by Lau and Lau in 1978. According to Lau and Lau (1978), an economically sound and managerially meaningful depreciating procedure for human resource assets should satisfy the following requirements:

(i) It should take into account that, for a professional or managerial employee, the values of his later-years services may be much higher than the values of his earlier-years services.

(ii) At the same time, it should also take into account the fact that the probability of obtaining the employees' earlier-years services is usually much higher than the probability of obtaining his later-years services.

(iii) It should be reliable and meaningful, and therefore should be based on an objective procedure that does not require frequent and large adjustments.

Therefore, incorporating the Jaggi and Lau (1974) Markovian human resource valuation model with the proposed depreciation or amortisation procedure "based on a constant cost to net revenue contribution ratio (Hendriksen, 1970)", the requirements listed above will be satisfied.

How the proposed procedure works?

Step 1 – Compute the value of 'm' for the asset in question:

The value of 'm' is given as the ratio of:

$$M = \frac{\text{Historical Outlay Cost}}{\text{Total Expected Economic (or Revenue) Contribution}}$$

Step 2 - Calculate the depreciation for each years:

This is calculated as follows:

Expected Economic (or Revenue) Contribution for that year X the ratio of m

The depreciation that could be arrived here represents an allocation of the original cost to each year in such a way that it is matched with the associated net revenue contribution of each year on the basis of a constant ratio.

It is worthy to mention here that two important characteristics of this procedure can be identified. They are:

(i) The procedure uses the Jaggi and Lau (1974) human resource valuation model to determine expected contribution values. It also specifically attempts to match contribution with cost. Both of these factors contribute to the economic soundness of the procedure (Lau and Lau, 1974).

(ii) Instead of looking at individuals, the procedure treats human resources in forms of homogenous groups. By recording human resources in groups, the disturbing human problems mentioned under the straight-line basis of depreciation can be largely avoided.

These two important characteristics make this proposed procedure superior compared to the former and is statistically more reliable.

(c) Probabilistic and Conservative Human Resource Depreciation Procedure:

This depreciation procedure/method addresses the issue of uncertainty attached to the service life of an asset. It is affirmative that even conventional assets legally owned, such as motor vehicles, machineries, etc have some elements of uncertainty relative to their service life. Looking at the concept of HRA, the uncertainties tend to be more compared to the conventional assets legally owned by an organisation. Staff or employee mobility and the absence of guarantee that employees or recruits will remain in the organisation for the predicted number of years are very high with the human resources. According to Jaggi and Lau (1974), there are two dimensions to the uncertainties of human resource asset namely: the duration of employment (i.e. the service life) and the skill levels reached during the various stages of its service life. Therefore, any amortisation or depreciation procedure/method for writing off the capitalised human resource assets should incorporate and address the concept or idea of uncertainty relative to the service life of employees within an organisation. The depreciation or amortisation procedure presented hereunder will explicitly address the question of uncertainty in human resource assets (Lau and Lau, 1978).

Conservative Approach to Human Resource Depreciation with Probabilistic Total Future Contributions

Though the probabilistic approach to the depreciation of conventional assets has its emphasis on the stochastic service life of the assets, the probabilistic approach to human resource assets depreciation emphasises on the stochastic nature of total contribution of the human assets. Thus, the total contribution of the human assets. Thus, the total contribution of an employee or group of homogenous employees varies with the dimensions of time, skill level and promotion gained. For example, three employees X, Y and Z, recruited into a company at the same time and at the same rank (skill level or service state), their actual observed contribution profits after some years could be:

Employee X – He improved his skill level and was promoted very rapidly in the initial years, but left the company after a relatively short period of stay.

Employee Y – He stayed with the company for a long time, but he did not improve very much his skill or contribution level over the years.

Employee Z – He did not achieve an initial growth as rapidly as employee X, but he stayed much longer and eventually attained a very high contribution level.

According to Lau and Lau (1978), a probabilistic depreciation procedure that could be applied to the above illustrated employees

should incorporate the capitalised cost of recruitment and training, the mean of the estimated normally distributed random contribution, the standard deviation of the estimated future contribution, and the actual contribution obtained from the employees during the period under consideration. Geometrically, these could be written as:

$$CC \quad \frac{AC}{AC + xFC}$$

Where CC = Capitalised Cost/Value

AC = Actual Contribution of employee

xFC = Mean of estimated future contribution

If, for example, the AC of a given employee in year 1 is 200 units, the xFC is 1800 units, and standard deviation is 100 units, then the depreciation for year 1 would be:

$$\text{Year 1 Depreciation} = CC \quad \frac{200}{200 + 1800}$$

= 0.1CC i.e. 10% of CC

Also, if the CC is given as N100,000, the total depreciation for year 1 would be: 0.1 x N100,000 = N10,000.

Assuming for year 2, AC of an employee is given at 240 units, xFC is 1500 units and standard deviation of estimated future contribution is 90 units, then the depreciation at year 2 would be:

$$\text{Year 2 Depreciation} = CC \quad \frac{AC1 + AC2}{AC1 + AC2 + xFC}$$

$$= CC \quad \frac{200 + 240}{200 + 240 + 1500}$$

$$= \quad CC \quad \frac{440}{1940}$$

$$= \quad 0.2268041CC \text{ or } 22.68\% \text{ of } CC$$

Year 2 Depreciation = 0.2268041CC – 0.1CC

= 0.1268041CC 0r 12.68% of CC

So, using the value of CC as above, the depreciation for Year 2 would be:

0.1268 x N100,000 = N12,680

It should be noted that CC could be changed as at year 2 if other costs incurred on the employee are capitalised.

To guard against underdepreciation of the human resource for a particular year, the standard deviation is used at a certain confidence level to test whether the under depreciation value of the human asset is significant or ignorable. To apply this idea to our already illustrated question, let us have it in mind that we can be 99% certain about the actual future contribution stream of the employee. Then the depreciation of the employee for year 1 would be:

$$CC \quad \frac{200}{200 + (1800 - 2.33 \times 100)}$$

Where 2.33 is the value at 99% confidence level.

$$= \quad CC \quad \frac{200}{200 + 1567}$$

$$= \quad CC \quad \frac{200}{1567}$$

$$= \quad 0.1131862CC$$

The probability that the human asset is under depreciated in year 1 would be

0.1131862 - 0.1 = 0.0131862

From the above figure, the probability that the human asset is under depreciated is only about 0.01, which is insignificant and ignorable.

Though this procedure of writing off capitalised human resource asset looks superior than the other two mentioned in this section, it also has some weaknesses. Some of these weaknesses include:

(i) The uncertainty of estimating the accurate future contribution stream of an employee or group of homogenous employees is not totally avoided.

(ii) There is danger of under depreciating a human asset.

(iii) It is very complex in application

(iv) It requires a large amount of personnel data required in the computations.

(v) It is more useful and statistically justifiable only when employees are treated in large homogenous groupings.

2.7 EVIDENCE OF HUMAN RESOURCES ACCOUNTING APPLICATION

In the 1960s, companies in the United States found themselves in a fierce competition with the Japanese companies. The competitive edge in productivity of the Japanese companies was seen in the protection of the

human capital (Gebauer, 2002). This incidence arose multiple interests in the United States relative to the human resources accounting. The Americans policy of hire and fire philosophy affects their productivity negatively compared to the policy of the Japanese of long-life engagement in one enterprise.

A celebrated example of applying human resources accounting by an organisation is the one applied by R. G. Barry Corporation. This R. G. Barry Corporation is referred to as the pioneer in human resources accounting. R. G. Barry Corporation's approach was to capitalise the outlay costs of recruitment, acquisition, training, familiarisation and development of management personnel only. With reference to the accounting conventions relating to asset accounting and reporting only outlays having an expected value beyond the current accounting period were treated as investments. These investments in human resources were amortised over the expected useful life of the investments.

The objectives of R. G. Barry Corporation in developing a human resource accounting system were to find answers to the following questions:

a. What is the quality of profit performance?
b. Are sufficient human capabilities being acquired to achieve the objective of the corporation?
c. To what degree are they being maintained?
d. Is the corporation properly utilising these capabilities?

After the successful implementation of human resources accounting system by R. G. Barry Corporation many organisations in the United States, Canada and Mexico follow suit. Organisations like Milwakee Braves Inc., USA (1963), Touche Ross and Co; Montreal (1971), Texas Instruments (1971), Witte and Co (1975), the U. S. Navy (1984) all have experimented the concept using either historical cost, replacement cost or other valuation models. The information generated by the human resources accounting systems of these organisations has been put to use to take a variety of major decisions such as recruitment planning, turnover analysis, personnel advancement analysis and capital budgeting.

Other evidences revealed that a number of companies adopted the concept of human resources accounting in India for external reporting. The nature of human resources accounting system in India included the profile of human assets, the compensation pattern, training and development, human asset productivity, human asset value and the total wealth of the organisation. Thus, Bharat Heavy Electrical Limited (BHEL), Infosys and Reliance Industries (all Indian companies) were the pioneer in publishing human resources in the annual reports.

The National Indian Information Technology (NIIT) had followed a similar method as Bharat but with a different model called Economic Value Addition (EVA). This model assisted NIIT in assessing the real value that an employee can fetch for the company. Other companies that

adopted one method or another in accounting for human resources included Steel Authority of India Limited, the Minerals and Metals Trading Company of India, the Southern Petrochemicals Industries Corporation of India and the Infosys and Reliance Industries.

Furthermore, football clubs in Europe and Latin America have since adopted the idea of human resource accounting. This is because they keep record for each player relative to his signing fees and transfer fees. Each player has a target or expectation of his performance set by the club managers. At any point in time, the records reveal the amount a player cost the club.

Moreover, realising the immense benefits associated with HRA many companies world-over are making the concept a necessary element in their balance sheet (Jasrotia, 2004). Also, governments of many nations are reacting positively towards accounting and reporting of human assets. One of the best examples is of the Denmark Government. The Danish Ministry of Business and Industry has issued a directive that with effect from the trading year 2005, all companies registered in Denmark are required to include in their annual reports information on human capital, among others. Thus, a minimum of five measures is required for the inclusion of the human capital or asset in the annual reports, and comparison with the previous two years must be shown. This means that figures for investment in intellectual capital must be shown and compared with the previous two years (Jasrotia, 2004). Moreso, a

narrative statement should accompany each set of figures thereby giving additional information and explanations on the movements on the value of the human capital. In addition, the Danish Government required that at least one-third of the report should be occupied by the information for investors about intellectual capital, both current and future.

In addition to the Danish Government, other countries like the United Kingdom, Australia and the Netherlands have taken very significant steps towards a wider application of HRA.

2.8 PROBLEMS ASSOCIATED WITH HUMAN RESOURCE ACCOUNTING

Many factors serve as deterrents to the application of HRA. According to Gates (2002), the problems of HRA rest majorly on the reporting companies themselves. In other words, the writer concentrated on the reporting entities in pin-pointing the problems of HRA. Based on his research, the following are the obstacles that make it difficult to report human capital values by companies.

(a) Not something that can be shared externally:

The main obstacle for reporting human capital externally is that the information reported could be sensitive to the reporting companies and regarded as something that should not be shared externally. While many companies measure their Human Capital to some extent, not many are willing to report it company-wide and very few will be willing to report

externally through annual reports or other publications. The reason for this could be because the information may give important insight to competitors or could lead to a negative interpretation on the part of the various stakeholders. Therefore, competitive advantage and the sensitivity of such report commercially accounted for the non-report of the Human Capital value by companies.

(b) Measurement Not First Priority for the Company:

Companies do not attach first priority to the measurement of human assets; rather they face more urgent issues like human resource requirement and allocation. It is well known, according to Gates (2002), that most Human Resources Departments deal mostly with administrative issues regarding personnel. Thus, companies do believe that other more important human resources activities are more important or critical than their measurement.

(c) Not Enough Time and Resources:

This is closely related to the hitherto problem of not attaching priority to the measurement aspect of the Human Capital. Where the Human Resource Manager do not give enough importance to the concept of HRA, the senior management will give it even less importance and resources, leaving no time for measurement.

(d) Human Resource Professionals Unaware of Value/No clear Return on Investment:

According to the Gates research, managers do think that the formal establishment of indicators of performance would not add any value to the external stakeholders. In other words, there is no return seen by many managers on the investment and effort required in reporting. The managers interviewed by Gates mentioned that there would not be value in the reporting of Human Capital Value until a standard definition for measurement is established.

(e) Lack of Clear Guidance and Universal Practice:

Another deterrent to the application of HRA is the lack of universal approach to its reporting thereby defining the standards that would allow for valuable and meaningful comparisons. Because there is a current absence of universal definition, the companies that are proactive enough to measure, do it 'their way' (Gates 2002). Although it is recognised that there has to be room and freedom for companies to take their own initiatives and adapt their metrics to their industry, there are some standards that could be put in place to help "kick-off" the practice.

(f) Global and Group Issues:

The issue of autonomy in global and group companies pose another problem in the application of HRA. While some of the Group companies do not have a Human Resource function in their headquarters and leave the Human Resource Management to each subsidiary, the

global companies has offices in different countries, with some degree of autonomy in their Human Resource Management. In both Cases there are issues with integrating the information in the Head Office because of differences in requirements either across countries or businesses.

From another perspective, Jasrotia (2004) looked at the trends in the field of HRA and came up with some factors that deter the progress in the area and the application of the concept. The following are some of the problems the researcher uncovered.

(a) Awareness and Acceptance:

The level of awareness and acceptance of HRA is still low as many companies take little initiative to make the information available to the shareholders despite having the data.

(b) Lack of an Industry Standard:

The absence of an industry standard means that every company has to evolve its own standard, which can become a tedious process, considering that most of them are still involved in improving their business.

(c) Extensiveness of the Research Involved:

Another aspect working against the acceptance of HRA is the need for extensive research that it entails. Many companies do not want to go into the intricacies of finding the value of their human resources. While it may be affordable for most big companies to dwell into such best

practices, it is likely not going to be an economically viable option for small and medium size companies.

(d) Dynamism of Some Industries:

Certain industries, like the information technology, are very dynamic due to frequent discoveries and technological advancement. In these types of industries, it is very difficult to predict as to what is going to be the future requirements and how technology is going to shape in the near future.

It is important to note also that the complexity of most of the measures proffered and the hypothetical nature of some of the assumptions underlying such measures limit, to some extent, the level at which the HRA is accepted and applied.

2.9 SUMMARY

It has been established here that the concept of HRA existed for about half a century. The concept witnessed many break-through in terms of recognition, measurement and depreciating the cost capitalised as human resource assets. Various measures/techniques proffered for the valuation of human resources were adequately discussed, thereby revealing their strengths and weaknesses. The few experiences regarding the application of the concept were unveiled. Thus, R. G. Barry Corporation and the BHEL Company were the first to apply the concept and report same in their annual reports and accounts. Though lack of a

universal standard as to the measurement and reporting format hinder the recognition and application of the concept, companies that did apply the concept did it in such a way that it is more appropriate taking into consideration their mode of business and the operating environment.

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CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

Man is naturally an inquisitive being. He raises questions on virtually everyday occurrence and expects answers to be provided. This inquisitive behaviour makes him to trace back and dig into the past occurrences for the purpose of finding out what led to the happenings of the past and how does that affect the present, so that the future could be planned. Also, he raises questions as to what ought to be happening relative to what is happening. This curiosity of man has been continuously adding value to the body of knowledge.

In our day-to-day endeavours, we do come across assertions, statements, opinions, and positions made by other people. We mostly find ourselves using these statements but because of our inquisitive nature we try to find how accurate and true these statements and assertions are. This led to the undertaken of studies, which verify the accuracy and applicability of these assertions through systematic and objective verification process. This process is called “Research”.

There have been various definitions of research giving by many scholars. In the words of Osuala (2001) research is “simply the process of arriving at dependable solutions to problems through the planned and systematic collection, analysis and interpretation of data. In a more captivating manner, Ayagi (1998) sees research as “a designed plan of

study to discover facts and relationship that makes knowledge more effective and promote the progress and development of man in his environment". According to Oloyo (2001), research is an "enquiry into a problem, and the intent is to find a solution through a formalized and systematic approach involving collection, analysis and interpretation of pertinent data". Looking at these definitions of research, one thing that is certain about research is that it is a searching process aimed at finding solutions to certain phenomena that will make a positive impact on man and his environment.

This chapter, therefore, deals with the design and methodology applied in this research study. It discusses on all the methods adopted in carrying out research works and the one chosen as the most appropriate for this research study. It provides discussions on the various sources and methods through which the data for this research study are acquired, the techniques used in the analysis of such data, and the justification for the selection of the methods and techniques.

3.2 RESEARCH DESIGN

In order to achieve the objectives of any research undertaking, a proper plan, structure and strategy of the work become inevitable. A research study can only be acceptable where its procedures and methodology are clearly stated and justified. For these reasons, research design become very important in research because it states the method

employed in the study and the reasons why such method is considered the most appropriate.

Many definitions have been forwarded by several scholars/researchers for research design. According to Kerlinger (1977), research design is “the plan, structure and strategy of investigation conceived sas to obtain answers to research questions and to control variances”. From these definitions, the following could be deduced relative to the research design:

(i) That research design is a plan i.e. it is like a diagram exhibiting the relative positions of the parts of the research which is thought out in advance.

(ii) That research design is a structure i.e a way this organized from the initial point to the end point.

(iii) That research design implies strategy of investigation i.e. the systematic approaches employed to find out solutions to the problems of the research/ study

(iv) That research design aimed at building answers to research questions and to control variances. This means that the research design also aimed at finding solutions to the research questions raised from the research problems and to provide a framework for the control of researcher variances.

For the purpose of this study, a survey research design is adopted and applied for the purpose of collecting enough quantity of qualitative

data, so that dependable solutions could be obtained for the problem under study. The reasons behind the selection of this type of research design (i.e. survey research design) rest on the importance of side coverage and on the discovery of our different classes of respondents' opinion and feelings about the, measures proffers for valuing human resources in monetary terms and the concepts application by Nigerian organizations.

3.3 POPULATION AND SAMPLING

This section gives a clear definition of the population of the study and the procedure adopted for sampling.

3.3.1 POPULATION OF THE STUDY

Population in a research refers to the entire group which the researcher wants to study their characteristics and/or behaviour. A population can either be finite or infinite. It is finite where the exact number in the group can be determined or defined while it is infinite where the exact number in the group cannot be determined.

The population of this study is considered to be finite because its number can be obtained with a very high degree of accuracy. The population, however, is divided into five major groups and in each case the number is determined accordingly. Thus, the groups or strata of the population include accounting scholars/theoreticians, accounting practitioners/accountants in practice, regulators of accounting practice in Nigeria, post-graduate accounting students and the target

companies/organisations. In a more comprehensive manner, the population is defined in the table below.

Table 3.1 Definition of the Research population Strata

Stratum	No. details	No. total
1. Accounting scholars/theoreticians: This consists of full and part-time academic staff of the following institutions: (a) Ahmadu Bello University, Zaria (b) Kaduna state polytechnic, Zaria (c) Kaduna (Federal) Polytechnic, Kaduna	31 20 25	**76**
2. Accounting Practitioners/Accountants in practice: There are thirty-three (33) registered practising accountants in Kaduna state with an average office and field staff of 11 each	11 x 33 =	**363**
3. Regulators of accounting practice in Nigerian: These comprise of:		

(a) The office staff of the Nigerian Accounting Standards Board (NASB), Kaduna office	30	
(b) The staff and members of the Institute of Chartered Accountants of Nigeria (ICAN), Zaria District Society Office and Kaduna Liaison office and district society office.	23	
(c) The staff of the Association of National Accountants of Nigeria (ANAN), Kaduna area office.	14	**67**
4. Post-graduate Accounting students in Ahmadu Bello University, Zaria excluding members of academic staff already considered under Stratum 1 above.		**71**
5. Target Companies: This consists of all the officers in the Kaduna state area/Branch offices of the ten selected companies (see Appendix A (3))		**147**
Total		**724**

From the table, it is glaring that the total numbers of the population considered under study is 724.

3.3.2 SAMPLING

The objective of conducting any research is to reach conclusion about a given phenomenon and make generalization there from. In most cases, the population which the researcher is studying might be very or relatively large and hence to conduct research on such population as a whole may almost be an impossible task given the time frame and other resources constraints associated with the research. For these reasons, sample study was introduced and generally supported.

From the finite population of this study, we drew a sample, which we considered a representation of the population in terms of characteristics and other attributes of the population. The sample comprises the whole population of stratum1 and 3. This 100% sampling was as a result of accessibility, size and connection. The procedure for arriving at the sample sizes of population stratum 2, 4 and 5 is given below:

i) Sampling of Stratum 2:

Here, we used judgmental sampling technique to draw our sample. This is because most of the staff of registered accounting firms in Kaduna state were engaged in the field work, which made them unavailable to the researcher. The staff that usually stayed in the

office, our investigation revealed, lack the necessary knowledge and exposure as far as the research topic is concerned. Therefore, we decided to deposit two questionnaires for each audit firm, which was filled by the principal owners and/or other key officers working with the firms. In total the sample drawn is 66 (i.e. 2 x 33 firms). This gives a percentage as follows:

66/363 x 100/1 = 18.18%

ii) Sampling of Stratum 4:

Under this stratum we used convenient sampling technique to draw our sample. This is because some of the post-graduate accounting students have finished their course-work but yet to defend their thesis. This reduced the number and accessibility and hence, only 42 were able to be contacted during the conduct of this study. Therefore, we used the 42 students as our sample size here. This gives a percentage of:

42/71 x 100/1 = 59.15%

iii) Sampling of stratum 5:

We use the proportional sampling technique to select 100 respondents for questionnaire distribution under this stratum. The respondents come from the companies selected from the first-tier securities market and using the NSE's criterion of regrouping the 23 sectors for award purposes. From each of the ten regroup sectors we selected one company at random and issued ten

questionnaires to the officers of each of the companies' Kaduna area/branch offices.

Furthermore the sample size of the study is shown in the table below:

Table 3.2 Exhibiting the population and sample size.

S/No	Stratum	population	sample
1	Accounting scholars/theoreticians	76	76
2	Accounting Practitioners /Accountants in practice	363	66
3	Regulators of accounting practice in Nigeria	67	67
4	Post-graduate accounting students	71	42
5	Target Companies	147	100
	Total	**724**	**351**

It could be deduced here that the sample size was generally obtained through the use of stratified sampling technique. The population of the study was divided into strata and in each case another sampling technique is used to distribute the questionnaires (as mentioned above).

3.4 METHODS OF DATA COLLECTION ADOPTED

This section reveals the methods and procedures via which the data for this research study were collected. The data used for this study are both primarily and secondarily sourced. Primary data are sourced primarily for this research study through administration of questionnaires and the conduct of some interviews. The secondary data used are the information relative to human assets expenditures contained in the annual reports and accounts of the selected organizations and the market capitalization information for the organizations as released by the Nigerian Stock Exchange.

a. QUESTIONNAIRE ADMINISTRATION:

Questionnaire was structured and designed in such a way that the problem under study and the objectives of the study would be achieved. Thus, twenty questions were raised and formatted into a combination of both open and closed questions. The decision to adopt the combination of the two was done purposely to give the respondents opportunities to say their minds in form of writing their views and feeling or opinions as the case may be. A total of 351 questionnaires were administered and this constitutes the sample of the study.

b. CONDUCT OF INTERVIEW:

The second method used to collect data for this research study was the conduct of some interviews with some designated individuals. The interviews were adopted in order to ask some questions that were not

included in the questionnaire and also, to confirm the accuracy of some of the responses to the questionnaire questions. Thus, face–to-face interview method was applied. Though the interview was well structured, some rooms were given for unstructured questions depending on the friendliness of the interviewee. A total of ten questions were drawn for the interview.

c. COMPANIES ANNUAL REPORTS AND ACCOUNTS:

This secondary method of data collection was used for the purpose of establishing the relationship between the amounts expended on human resource assets and the value of an organisation. Therefore, information on human asset expenditure contained in the reports was used pari passu with the market capitalisation of the organisations.

3.5 TECHNIQUES USED FOR DATA ANALYSIS

There are many techniques for analyzing the data collected for a research. These techniques range from the simple descriptive method to the highly sophisticated statistical techniques/models. In this research study, the data collected are analyzed using the appropriate techniques of data analysis depending on the nature of the data collected and the objective to be achieved from such analysis. The analysis techniques used in this study vary directly with the objectives of the study outlined in chapter one. They are: -

i. Chi – square (X^2) Technique:

This technique is used in order to test hypotheses 1 and 4. It is a non – parametric method that makes no assumptions about the population being sampled for study. The formula for computing Chi – square is given below:

$$X^2 = \Sigma \frac{(O - E)^2}{E}$$

Where O = Observed frequency

E = Expected or theoretical Frequency

The final interpretation of Chi–square value is done via comparison with the table value of X^2 for given degrees of freedom at specified level of significance. If the calculated value of x^2 is greater than the table value, the relationship between the observed and expected frequency is significance. Where the calculated value of x^2 is less than its table value, the difference between the theory and observation is considered not significant.

This technique of data analysis assist us in achieving dependable solutions to the research objectives number (iii) and (iv) and in answering research questions number (iv) and (v); as outlined in section 1.3 and 1.4 of chapter one.

ii. Theory/Model Validation Technique:

One of the paramount objectives of this research study is to assess the various HRA measures/techniques/models with the aim of finding their validity and practical feasibility. To this end, various

models/measures are assessed for the purpose of testing their validity. The validity profile is emphasized on the procedures upon which the measures were formulated, tested and generalized. This technique is used in order to answer research question (vi) and objective of the study number (ii) outlined in section 1.3 and 1.4 of chapter one. The procedure, however, for testing the measures validity is strictly based on scientific procedure for theory/model formulation and validation. To achieve this, the numerous hypothesis and assumptions used in the formulae were revisited and some interview and questionnaire questions assisted in achieving the desired objective.

iii. Use of Tables and Simple Percentages:

Some of the questionnaire questions were analyzed using tables and simple percentages. Thus, the options given to the respondent are entered and their respective percentages on the total responses, received. The issue/option that has the highest percentage is favoured and conclusion passed to its advantage.

iv. Use of Descriptive Method of Analysis:

The data mostly collected from interviews conducted are analyzed using the descriptive method of data analysis. In this regard, the data are analyzed qualitatively as against quantitatively. The explanations and discussions given by the interviewees are brought into the study and analyzed descriptively.

v. Use of Correlation and Regression Analyses:

In order to find the relationship between the investment or amount expended on human resource assets and the value of an organisation measured in market capitalisation terms, correlation and regression analyses are used. In measuring the correlation coefficient, the Pearsonian Coefficient of Correlation is adopted. The correlation co-efficient indicates the degree and direction of relationship between the human assets expenditure, in this case, and the value of organisations. The formulae used in the computation of Pearsonian Correlation Co-efficient are given below:

$$\mathbf{r} = \frac{N\Sigma XY - \Sigma X\Sigma Y}{N\Sigma X^2 - (\Sigma X)^2 \; N\Sigma Y^2 - (\Sigma Y)^2}$$

or Using deviations from the assumed mean as follows:

$$\mathbf{r} = \frac{N\Sigma dxdy - \Sigma dx\Sigma dy}{N\Sigma dx^2 - (\Sigma dx)^2 \; N\Sigma dy^2 - (\Sigma dy)^2}$$

Where: r = Correlation Coefficient

N = Number of objects/items/companies under consideration.

X = One of the variables under consideration

Y = The other variable under consideration

dx = Deviations of x series from an assumed mean

dy = Deviations of y series from an assumed mean

In addition, the regression analysis is used to further study the nature of the relationship that exists between the human asset expenditure and the value of organisations. This analysis is also applied in order to assist in finding the cause and effect relation of the variables under consideration. The regression formulae used are given below:

Regression Coefficient of X on Y i.e. bxy or b1:

$$Bxy(b1) = \frac{N\Sigma dxdy - \Sigma dx\Sigma dy}{N\Sigma dx^2 - (\Sigma dx)^2 \; N\Sigma dy^2 - (\Sigma y)^2}$$

The former formula measures the change in X (human asset expenditure in this case) corresponding to a unit change in Y (market capitalisation value of the organisations in this case); while the latter measures the change in Y corresponding to unit change in X.

Correlation and regression analyses are used in this study to test hypothesis three. Ten quoted companies were selected from the different sectors of the economy and the selection criterion was random. The Nigerian Stock Exchange classifies quoted companies under twenty three (23) sectors. For simplicity we regroup the sectors into ten using the NSE regrouping for award purposes as a criterion and randomly pick one company form each regrouped sectors.

3.6 JUSTIFICATION FOR THE METHODS AND TECHNIQUES USED

The concept HRA is an issue that is on deliberation as far as its application is concerned. People now understood its necessity but its

measurement in monetary terms is still in a dilemma. This study assesses the various measurement techniques/models proffered with the aim of discovering their strengths, weaknesses, and application possibilities. To effectively achieve this aim, the opinions and feelings of the various stakeholders that could be affected by the acceptance and application of the concept need to be sourced. Also, considering the population size, it is more convenient, economical and time effective to study a representative sample rather than the whole population. For these reasons, a survey method of research is adopted for this study.

The combination of both primary and secondary sources of data collection is adopted in order to have a greater view and understanding about the problem under study. Thus, the use of questionnaires was chosen so that enough quantity of data/information could be obtained. Interviews were conducted in order to obtain more clarification on certain issues considered critical in the study and also to validate some of the responses given by the respondents in the questionnaires filled.

The techniques used in the data analysis are justified for and linked to their basis of application in each case. Techniques for data analysis, for the purpose of this study, are chosen based on the peculiarities and the nature of the data used as the input for accurate and more clear analysis and interpretation. Thus, the selection of the techniques was done with the objectives of the study and their achievement at the

forefront; and the nature and aim of the various hypotheses formulated for the study.

3.7 SUMMARY

Research can only earn credibility and general acceptance when it is scientifically done. This chapter has discussed the various methods upon which researches can be conducted or undertaken thereby stating the type of the research method applied in this study. It is also captured in the chapter that both primary and secondary data were used in the study. The primary data were sourced via the administration of questionnaires and the conduct of interviews while the secondary data were sourced from the annual reports and accounts of the selected companies and the market capitalization report released from time to time by the Nigerian Stock Exchange. The population of the study was also stated and the strata of the population. The population of the study comprises of five strata namely accounting theoreticians, accountants in practice, regulators of accounting practice in Nigeria, post graduate students of accounting, and the target companies. The techniques used in this study were also highlighted and they include the chi-square (X^2), theory/model validation technique, correlation and regression analyses and the use of tables and simple percentages. Finally, the justification for the adoption of the various methods and techniques was also provided.

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CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

No matter the quantity and quality of the data collected for a particular study, no much meaningful results can be obtained unless proper and adequate analysis and processing were carried out. In this section, the various analysis tools mentioned in chapter three are adequately applied in order to obtain the necessary information required to achieve the set objectives of the study. The data collected for this study through the administration of questionnaire, conduct of the interview and annual financial reports of organisations, are elaborately analysed using the appropriate techniques of analysis. A total of 295 questionnaires were administered out of which 256 were received from the respondents. The analysis, therefore, is done on the questionnaires received in all cases and it centred on such issues as the volume of expenditure on human assets, basis and particularities of human resource valuation, and the possibility of its application in Nigeria to mention but few.

4.2 BASIS OF ASSET VALUATION AND THE PECULIARITIES OF HUMAN RESOURCE VALUATION

In this section we looked at the basis of conventional asset valuation in order to bring into focus the peculiarities of human resource

valuation. Conventional assets are generally valued on the basis of their historical cost. Historical cost of an asset refers to the purchase price of the asset plus incidental costs of purchase, transportation and installation. Thus, an asset value recorded on the balance sheet of an organisation is an aggregate of all costs incurred from the initial buying decision to the point when the asset is fully and adequately installed for the purpose of generating more wealth for the organisation. The asset when appropriately valued is then depreciated based on its useful life, economic life, usage, residual value, and the policies of the organisation. These parameters may sometimes not be estimated with highest degree of accuracy or at best to obtain their probabilistic estimates.

Recently, it is advocated that a certain basis of asset valuation measure can be used in place of the historical cost basis. This asset valuation basis is the current cost basis. This valuation basis measures the conventional assets based on their current values or their current worth to the organisation. The suggestion of this method came as a result of the unrealistic values attached to assets (especially fixed assets) and reported by organisations. It is also credited to the reasons for the current cost basis introduction the frequent changes (mostly increases) in the prices of goods and services.

Confirming the above bases in valuing conventional assets from our respondents (interviewees), we tried to correlate the basis of valuing the human resource assets in line with the identified bases. In achieving

this, we put across questions to our interviewees aimed at obtaining any peculiarity of the human resource asset as far as its valuation is concerned. The responses we have received showed that some peculiarities do exist in human resource, which force some considerations and adjustments in their valuation. The peculiarities we have identified from the responses of our respondents are:

(i) Uncertainty of the service period:

Whereas the service period of the conventional assets like fixed assets can be estimated with some degree of certainty, the human assets service period is too uncertain. This is because of the free mobility of recruits/employees whenever they so desire. An employee can leave a job for another one at anytime without notice; since he knows the usual thing is just to return some few months' basic salary to his employer.

(ii) Uncertainty of the Contribution Level of Recruits:

A machine installed by a company can have a definite production capacity level, which makes estimation and forecast very easy and reliable. On the other hand, an employee's contribution level is too difficult to be estimated and forecasted with much reliability. His/her productivity fluctuates and depends on many other factors. This makes the estimation of an employee's contribution level to the organisation very uncertain.

(iii) External Factors Influence on the Employee Future Reward:

In valuing human resources, the payments in terms of salaries and/or wages count a lot. An employee that is valued in terms of the future salaries and wages determined today would have his value affected whenever the government changes policy affecting his reward system or whenever there is an action from the workers union regarding the reward system.

From the above discussions, it is very glaring that human resource assets have peculiarities relative to the criteria for their valuation. These peculiarities pose a lot of challenges in choosing the basis to apply in their valuation. Thus, the use of historical cost basis or current cost basis would be better adopted when those peculiarities are adequately taking into consideration. A more suitable basis of valuation is the one that will constantly reflect the uncertainties and peculiarities of the human resource.

4.3 DISCLOSURE REQUIREMENTS FOR REPORTING CONVENTIONAL ASSETS AS A BASIS FOR HUMAN ASSET REPORTING

Reporting an asset by a particular organisation implies the inclusion of the value of that asset in the financial reports or financial statements of the organisation. It is understood that assets (especially fixed assets) are reported by organisations in the balance sheet and in the notes on the

accounts called fixed assets schedule. In order for fixed assets to be reported by an organisation, certain disclosure requirements need to be satisfied. These disclosure requirements, as provided in Schedule 2 (Part II) of the Companies and Allied Matters Act (CAMA), 1990 and the Statements of Accounting Standards (SAS2) are summarised below:

(i) An item of fixed asset shall be reported at its purchase price or production cost subject to any provision made for depreciation or diminution in value.

(ii) Where any fixed asset has a limited useful economic life, it may be reported at its purchase price or production cost less any estimated residual value.

(iii) The fixed asset so reported shall be reduced by provisions for depreciation calculated to write off the amount of the asset systematically over the period of the assets useful economic life.

(iv) A note shall be provided on the fixed assets showing the opening balances, additions during the year, disposal (if any) and closing balances after charging depreciation.

(v) Intangible fixed assets, other than goodwill, may be included at their current cost.

(vi) Tangible fixed assets may be included at a market value determined as at the date of the last valuation or at their current cost.

In line with the above disclosure requirements for fixed assets, we sourced our respondents' opinion as to the human asset reporting via interviews. Their views are presented below:

(a) To some of the interview respondents, the disclosure requirements for human assets can follow suit the disclosure for the conventional fixed assets. They added that the only thing/item that needs to be added in the series of fixed assets is the human assets, whose depreciation should be accorded to the existing policy for fixed assets adopted by the organisation.

(b) To some others, the human resource assets should be separated from the fixed assets of the organisation and headed separately. The heading could be, as they forwarded, Special Asset, Human Capital, Intellectual Capital or Intellectual Assets. Also, they added, the human assets could be grouped such as managers, supervisors, etc and depreciated accordingly using the most appropriate policy.

(c) To few others, reporting human assets like other conventional assets might not be sufficient. They, therefore, suggested that in addition to its report in the balance sheet, a statement should also be prepared which should be an integral part of the whole financial reports/statements. The statement could be called 'Human Assets Value-Added Statement', which should incorporates the value added on the worth of the human resources thereby computing the

actual worth created on the human resources during a particular accounting year.

4.4 VOLUME OF EXPENDITURE ON HUMAN RESOURCE AND THE NECESSITIES FOR CAPITALISATION

From the point of advertisement for a particular post to the point when an employee leaves an organisation, organisations do commit some financial resources to the employee. Many reasons culminated into the spending nature of organisations on their human resources. Our interview reveals the following as some of the reasons why organisations do commit a lot of financial resources on their human capital.

(i) To get the best human brain:

Organisations spent a lot of money on advertisement, recruitment and selection processes for the purpose of hiring the best. Procedures are set, processes are followed and methods are adopted, which are directed towards determining the intellectual capabilities of a human resource and to be convinced whether he/she can fit the vacant position. The intellectual capabilities of an employee determine his/her future productivity and the amount and nature training he/she requires.

(ii) To achieve the pre-determined objectives of the organisation:

Organisations usually have their objectives in achieving a certain level of productivity and profitability thereby ensuring the achievement of shareholders' wealth maximisation. The combination of men, money,

machines and materials at the most effective and efficient way assist in achieving the set objectives. For this reason, organisations spend much money in hiring the best men to oversee the efficiency and effectiveness in all the activities within the organisation.

(iii) To Command Respect in the Eyes of Stakeholders:

An organisation that has the best in terms of its personnel usually achieves a lot and the potential of success and future survival are very high. These factors would gain the organisation a very significant reputation and attract the investments and support of various stakeholders. For these reasons, organisations commit a lot of finances to ensure that they have capable and able personnel handling the various operations within and outside the organisation.

(iv) To gain Competitive Advantage:

Organisations succeed more with uniqueness rather than uniformity. Uniqueness entails doing things completely different from the usual way adopted by competitors and other organisations. To have uniqueness in methods, procedures, processes and systems, organisations need to have the right calibre of people to bring about these changes, to stimulate them and to live with them for the purpose of gaining a competitive edge and competitive advantage over the competitors. To achieve these, organisations must spend a lot on human resources to achieve uniqueness in doing things whether in form of service delivery or manufacturing of tangible goods.

(v) To Become the Pace Setter and Market Leader:

Most organisations regarded as pace setters or market leaders in their various markets achieve so through their human resources. Organisations like Microsoft, NIIT, Samsung, LG, Coca-Cola, etc achieve a good brand name and a higher market share because of the capabilities of their human resources. These organisations spend a lot of money to hire people capable of reading and predicting the market, and taking good decisions relative to product building and uniqueness.

Our discussions with the interviewees also revealed areas through which organisations commit money relative to their human resources. The following are the identified areas:

(i) Advertisement: Although the cost associated with advertisement relative to human resource might not be significantly high, we gathered from our interviews that organisations must still spend some money in letting the public know what they want and to widen up their chances of getting the best especially in external recruitment. In this respect advertisement cost of human resource is identified as one area of financial commitment on human resource asset.

(ii) Recruitment and Selection: The cost of recruitment and selection could be significantly high. The exercise could be tedious and time-consuming involving the commitment of human, material and financial resources. It is the process of

actually selecting the best man or men for the advertised posts/jobs.

(iii) Familiarisation and Training: Another area that organisations do spend money on their human resource is familiarisation and training. This involves exposing the recruits to the way of doing things within an organisation through an in-house or a formal training exercise. The main aim is to introduce and acquaint the recruits with the tradition, core values, mission and vision of the organisation.

(iv) Training and Development: In order to catch up with the current movement in technological advancement, organisations organise seminars, workshops and conferences for the purpose of improving and updating their personnel abilities and capabilities. This will go a long way in developing the personnel and improve their productivity levels.

(v) Medical and Entertainment: Proper medical arrangement is always put in place by organisations in order to keep the personnel healthy. A healthy employee has the tendency of becoming a very productive employee. On the other hand, organisations do set aside some money to entertain the employees. A well-entertained employee could be a very motivated employee and hence a very productive employee.

Both on medical and entertainment, organisations do spend money to ensure that things go well within their organisations.

Looking at the above discussions on the volume of human resource expenditures, it become imperative for some of them to be capitalised rather than expensed in the year they occur. From the responses of our interviewees, we establish that money spent on advertisement and medical and entertainment are not necessarily to be capitalised. The reason being their insignificant value, in most of the occasions, infrequent occurrences and supportive nature. This point was buttressed by comparison with the supportive nature of fuelling and servicing expenses on machinery which are not capitalised but expensed due to their function. However, majority of our interviewees give their support toward the necessities for capitalising the recruitment and selection cost, familiarisation and training cost and training and development cost due to their more direct impact on the capability and productivity of an individual employee.

4.5 ASSESSING THE MEASURES FOR HUMAN RESOURCE VALUATION/MEASUREMENT

As mentioned earlier, one of the objectives of this study is to assess the measures proffered/suggested for attaching monetary values to human resources. In this section, various questions raised in order to carry out the assessment are analysed and the hypothesis formulated tested.

4.5.1 ANALYSIS OF RESPONSES

The following analyses tend towards assessing the measures used in measuring the monetary values of human resources.

Table 4.5.1 Respondents Awareness of Human Resource Valuation Measures

Measure/Technique/Model	Number/Frequency	Percentage on the Total Number
Replacement Cost	166	64.84
Historical Cost	187	73.05
Competitive Bidding	137	53.52
Discounted Future Salaries	212	82.81
Value-Adding	108	42.19
Brown's Index	36	14.06
Economic Value	43	16.80
Balanced Score Card	21	8.20
Others	0	0

Source: Questionnaire Administered and Received, 2005

The percentages in table 4.5.1 above were obtained using the total number of questionnaires received as the denominator. The results showed that majority of our respondents are conversant with the first four methods while the other methods are not well known to them. It could be deduced here that the concept of human resources measurement is relatively known to our respondents.

Moreover, we tried to survey our respondents' opinion relative to the complexity and hypothetical nature of the assumptions underlying the

measures/models in order to provide us with some useful information as to their application. The following results were obtained.

Table 4.5.2 Respondents Opinion as to whether the measures/models are complex and have hypothetical assumptions.

Response	Number of Responses	Percentage (%)
Strongly Agree	102	39.85
Relatively Agree	116	45.31
Disagree	35	13.67
Strongly Disagree	3	1.17
Total	256	100.00

Source: Questionnaire Administered and Received, 2005

A total of 85.16% of the respondents agree either strongly or relatively that the measures/models proffered/suggested for measuring the values of human resources are complex and theorized using hypothetical assumptions. On the other hand, only a total of 14.84% disagree in one way or the other relative to the complexity of the measures and the hypothetical nature of their assumptions. From these results, therefore, it could be said that measures proffered for valuing human resource assets are complex and have hypothetical assumptions.

A further question was openly included in the questionnaire requesting the respondents to state the specific measures/models they think/believe as complex and having hypothetical assumptions. Their responses revealed that discounted future salaries, balanced scorecard, Brown's index and economic value methods are more complex and include some hypothetical assumptions. Our interviews also showed that

almost all the methods/techniques are complex but some are more complex than the other. Secondly, our interviewees responded that it is mostly the tentative nature of their assumptions that make them not having a wider application. The reason, as we gathered, being that no matter how complex the methods or measures are, they could be simplified and programmed using application software devices in order to ease their applications since the world now is a global village.

For a model/technique to have general application, that model should satisfy and comply with the standard scientific procedures from conception to theorising. Due to this reason, we forwarded a question to our respondents regarding the standard scientific procedures followed in theorising the measures/techniques proffered for measuring the monetary values of human resource assets. The responses of the respondents are analysed here under:

Table 4.5.3 Responses on the Inconsistency of Human Resource Measurement Techniques/Models with the Standard Scientific Procedures

Response	Number of Response	Percentage (%)
Yes	75	29.30
No	60	23.44
Not sure	121	47.26
Total	256	100.00

Source: Questionnaire Administered and Received, 2005

The analysis above showed that a total of 47.26% are not sure about the inconsistency while 29.30% agree that the models/techniques for valuing human resource values are inconsistent with the standard scientific procedures for theory/model formulation, validation and generalisation. Only 23.44% think that there is no inconsistency at all. By and large, the results revealed that the proportion for the inconsistency outweigh that of the consistency, though a higher proportion of the respondents are not sure about the inconsistency.

In order to gather more information about the inconsistency, we forwarded a question containing the detailed steps in scientific theory formulation, validation and generalisation to our respondents. The following table gives their responses relative to the scientific procedures considered more significant.

Table 4.5.4 Responses on the procedure(s) considered significant in theorizing

Procedures/Steps	Number/Frequency	Percentage on the Grand Total
Terms/concepts definitions	247	96.48
The Underlying assumptions	243	94.92
A process of logical deduction	204	79.69
Predictions/implications	177	69.14
A process of empirical observation and testing	251	98.05
Comparison with observed facts and existing theories for possible conflict and superiority	198	77.34

The analysis of the responses above showed that all the steps itemized above are very significant to the formulation, validation and generalisation of a theory or model. This is due to the higher proportions of the respondents (out of the total of 256) in each case supporting the listed steps/procedures for scientific theorising.

To obtain specific information on those measures/models that have hypothetical assumptions or are inconsistent with the scientific procedures for theorising, an open question was asked in the questionnaire requiring the respondents to state those procedures/steps they think are not fully satisfied. Their responses revealed that almost all the procedures/steps are not fully met by the techniques/models thereby making their applications practically impossible. Those we interviewed added that though there are some evidences showing application of HRA, and its measurement, the organisations that did apply the concept had to do some adjustments to the underlying assumptions of the method(s) they applied. Some of these organisations include R. G. Barry Corporation and BHEL. Therefore, when a theory/model is being adjusted so often before its adoption to satisfy the requirements/needs of the applying entity, that model/theory lacks generalisation.

4.5.2 TESTING OF HYPOTHESIS ONE (1)

We formulated a hypothesis in chapter one, section 1.5 to enable us to test and conclude on the conformity/consistency of human resource

measures formulation procedures with the standard scientific procedures for theorising or modelling. The hypothesis is formulated thus:

H_o: The procedures for human resources measures/techniques do not conform to the procedures for theory formulation and validation.

H_1: The procedures for human resources measures/techniques conform to the procedures for theory formulation and validation.

As mentioned in chapter three, section 3.4, this hypothesis is tested using the theory/model validation technique.

In Table 4.5.4 above, all the procedures involved in confirming and validating a theory/model were listed. From the analysis in that table using simple percentages, we confirmed that the models/techniques lack generalisation because of the tentativeness of their assumptions. This means that it is very difficult for the process of empirical observation/testing to be satisfied, which is another very significant step/procedure in theory/model validation and generalisation. Therefore, our position here is that the procedures for human resources measures/techniques do not conform to the procedures for theory formulation, validation and generalisation. Thus, we accepted the null hypothesis and rejected the alternate hypothesis which says the procedures do conform to the standard procedures for theory/model validation.

4.6 INVESTMENTS IN HUMAN RESOURCES AND THE VALUE OF AN ORGANISATION

Since organisations do invest in their human resources, we try to carry out a survey on the possible relationship and effect of such investments on the value of the organisation. In achieving this, we include certain questions in the questionnaire, which are towards finding the relationship and effect. In this section, analysis was done on the responses from the respondents and using the market capitalisation value of ten companies operating in Nigeria and quoted on the Nigerian Stock Exchange (NSE), selected from the re-grouped sectors of the economy.

4.6.1 ANALYSIS OF RESPONSES

The following are the analyses of respondents' responses on the investment in human resources.

Table 4.6.1 Responses on the Degree of Significance of Amount Invested in Human Resources by Nigerian Organisations

Response	Number of Response	Percentage(%)
Yes	164	64.06
No	72	28.13
Not Sure	20	7.81
Total	256	100.00

Source: Questionnaire Administered and Received, 2005

The table above shows that majority of the respondents totalling 64.06% agree that the amount expended by Nigerian organisations on human resources is significantly high. Although 7.81% of the respondents are not sure whether the amount expended is significant and 28.13%

expressed their disagreement, we can deduce that organisations operating in Nigeria do spend a lot on their human resources.

We proceeded by asking the respondents to state some of the expenditures on human resources that could be significantly high. Their responses are analysed in the following table.

Table 4.6.2 Human Resource Expenditures that could be significantly high

Type of Expenditure	Number/Frequency	Percentage on the Total number
Recruitment & Selection	214	83.59
Training & Development	236	92.19
Medical & Entertainment	43	16.80
Others	25	9.77

Source: Questionnaire Administered and Received, 2005

Out of the total number of 256 questionnaires administered, recruitment & selection and Training & Development have 214 and 236 ticks representing 83.59% and 92.19% respectively. The respondents were given the option to tick those expenditures that could be significantly high among Nigerian companies. This reveals that organisations committed more financial resources in the recruitment, selection, training and development exercises and spending fewer amounts on medical, entertainment and others. Other areas that some of the respondents feel organisations spend money include familiarisation exercises organised for new employees, bonuses and other reward schemes for high productivity personnel.

To really establish the significant effect of the investment in human resources on the value of organisations, we forwarded a question to our respondents and their responses are analysed below:

Table 4.6.3 Effect of Human Resources Expenditure on Organisations' Value as Measured by Market Capitalisation

Response	Number of Responses	Percentage (%)
Yes	189	73.83
No	31	12.11
Not Sure	36	14.06
Total	256	100.00

Source: Questionnaire Administered and Received, 2005

From the table above, majority of our respondents representing 73.83% feel that the investment on human resources in terms of recruitment, selection, training and development affect the value of organisations when measured relative to market capitalisation. Only a small proportion of our respondents constituting 26.17% responded 'No' or 'Not Sure' to the significant effect of human resources expenditure on the value of the organisations. Therefore, we can rap it up here that as organisations invest in human resources, so the effect would be seen on the value of the organisation.

A further analysis was conducted to confirm the information obtained in Table 4.6.3. The aim of the analysis is to determine, in a more scientific way, the degree of significance of human resources expenditure or investment on the value of an organisation using market capitalisation

as the basis of comparison. The analysis was done using correlation and regression technique.

4.6.2 TESTING HYPOTHESIS TWO (2)

The aim of this test is to confirm in a more scientific way the relationship between the investment in human resources and the value of an organisation using the correlation and regression analyses.

The correlation coefficient shows a positive value of 0.71 indicating a positive relationship between the amounts invested/expended on the human resources and the value of the organisations. Also, looking at the coefficients of regression, it is glaring that the degree of the relationship is significant. This is confirmed by comparing the critical value in the Pearsonian table, which gives 0.63 at 8 degree of freedom.

Therefore, since the calculated value of r (i.e **0.71**) is greater than the critical value (i.e **0.63**), the degree of the relationship between the amount expended on the human resource and the value of organisations measured in market capitalization terms in very significant (see appendix B). From this analysis, we can infer that the investments in human resources do have a significant effect on the value of firms and hence, we reject the null hypothesis and accept the alternative hypothesis.

The following table gives the modalities of selecting the companies used, and the respective human resource expenditures and market capitalisation values used in the correlation and regression coefficient computations.

Table 4.6.4 Regrouping of the NSE 1st Tier Securities Sectors into ten (10) groups.

S/No	Sectors	Company selected at random	Investment in human assets ₦'m	Market capitalisation ₦'m
1	Breweries, packaging, agriculture, food/beverages	Nigeria Breweries Plc.	8,819	323,670
2	Banking, Managed Funds, Real Estate.	First Bank of Nigeria Plc.	11,464	94,430
3	Petroleum (Marketing, Auto-Mobile and Tyre, Maritime, Airlines	Oando Plc	1,832	64,110
4	Conglomerates	Unilever Nigeria Plc.	2,329	46,910
5	Insurance	Unic Insurance Plc.	110	1,081
6	Textiles, Footwear.	United Nigeria Textiles Plc.	3,653	1,838
7	Construction, Building Materials, Engineering Technology.	Ashaka Cement Plc.	671	22,475
8	Health care, chemical and paint	Pharma-Deko Plc.	79	242
9	Industrial and Domestic Products	Vitafoam Plc.	407	3,145
10	Printing and Publishing, Computer and Office Equipment	NCR Nigeria PLc	103	65

Source: The Nigerian Stock Exchange Fact Book, 2004 and amounts distributed to employees in the value added statements of the selected companies for year 2004.

4.7 POSSIBILITY OF HUMAN RESOURCES ACCOUNTING APPLICATION BY NIGERIAN COMPANIES

The significant increase in the number of service companies in Nigeria calls for additional disclosures by such companies so that both the current and prospective investors could assess the present and future performance of the companies. The service companies depend largely on the knowledge, skills and capabilities of the human resources to prosper. For this purpose, we try to survey the opinions of our respondents relative to the accounting and reporting of human resources by the service companies and other manufacturing companies operating in Nigeria.

4.7.1 ANALYSIS OF RESPONSES

To establish whether the accounting and reporting on human resource assets by Nigerian companies are possible, respondents were asked some leading questions toward the achievement of this aim. The responses were analysed, in each case, as follows:

Table 4.7.1 Awareness on the Adoption and Application of Human Resource Accounting by other Countries.

Responses	Number of Response	Percentage (%)
Yes	143	55.86
No	113	44.14
Total	256	100.00

Source: Questionnaire Administered and Received, 2005

From the table above, it could be deduced that 55.86% of our respondents responded positively that they are aware of the adoption of human resource accounting and its report by other countries. 44.14% of the respondents are not aware of any country adopting human resource accounting and its reporting. This shows that human resource accounting is possible to be applied in reporting the financial positions and performance of an organisation. Since some countries already adopt the concept, it is just a matter of time that the concept would be widely applied by organisations globally.

Table 4.7.2 Responses on whether the Respondents have seen a Financial Report of an organisation containing human resource accounting.

Responses	Number of Response	Percentage (%)
Yes	11	4.30
No	245	95.70
Total	256	100.00

Source: Questionnaire Administered and Received, 2005

The table above reveals information on the extent of awareness of human resource accounting by our respondents. Majority of the respondents constituting 95.7% have not seen any organisation's financial report containing human resource accounting. Although in table 4.7.1 a larger proportion of our respondents are aware of adopting the concept by other countries, they are still not yet seen the actual presentation of it in the financial reports of organisations. From this result, it could be said that even those countries that adopt the application of the

concept have just did so and waiting for the companies to start complying with it.

Moreover, a question was asked to the respondents giving them opportunity to mention the name or names of the organisation whose financial reports have contained human resource accounting and which the respondents have seen the reports. This question was asked to confirm positive responses to the seeing of financial reports containing human resource accounting. Based on the results in table 4.7.2, 11 respondents constituting 4.3% have seen financial reports of organisation containing human resource accounting. Their comments revealed the following:

Organisation	**Country**
BHEL	India
R. G. Barry Corporation	India
Infosys	India
Reliance Industries	India
Milwakee Braves Inc.	United States of America
Witte and Co.	United States of America
Touche Ross and Co.	Canada

Source: Questionnaire Administered and Received, 2005

The above organisations have in one way or the other applied the concept of human resource accounting in their financial reports. Whereas some of these organisations base their human resource accounting on management personnel only, others extend the scope to cover every

other employee with a view to finding the real value that an employee can fetch for the organisation.

4.7.2 TESTING HYPOTHESIS THREE (3)

Though we have established the significance of money expended by Nigeria organisations on human resource assets, the effect of such spending on the value of the organisation and the importance of capitalising the spending, a more direct question was adopted to further determine the possibility of reporting human resource assets by Nigerian companies. The question was coined from the hypothesis of the study (iv) in order to make it possible for the hypothesis to be tested. The following section deals with the hypothesis testing.

It would be recalled that we stated some hypotheses in chapter one, section 1.5, which is meant to be tested in this research study. In the test for hypothesis three, we use chi-square to establish whether it is possible for Nigerian companies to report on human resources assets. The hypothesis states thus:

H_o – The peculiarities of the Nigerian economy and human resources may hinder the application of human resources accounting and its reporting by the Nigerian companies.

H_1 – The peculiarities of the Nigerian economy and human resources cannot be a barrier to the application of human resources accounting and its reporting by the Nigerian companies.

After testing the hypothesis using Chi-Square **(X^2)**, the value obtained for the calculated value of **X^2** is **56.3003**, while the critical value at 5% significance/confidence level and a degree of freedom of **12** gives the value of **X^2** as **21.0261** (See appendix B).

DECISION

Since the calculated value of **X^2** is greater than the critical value of **X^2**, we therefore, concluded that the peculiarities of the Nigerian economy and human resources will not be a barrier to the application if HRA. This means that we accepted the alternative hypothesis and rejected the null hypothesis.

4.7.3 TESTING OF HYPOTHESIS ONE (4)

In order to really ascertain the possibility of HRA application in Nigeria, we further formulated a hypothesis on the effect of reporting the human resource value by organisations on the decision-making abilities of financial statements users. This tends to make the application of the concept possible whenever investors understood its relevance and importance. The hypothesis is formulated thus:

Ho – reporting human resource values in the financial statements of organisations may not have a significant effect on the decisions of the financial statements users.

H1 – Reporting human resource values in the financial statements of organisations may have a significant effect on the decisions of financial statements users.

After the hypothesis was tested using chi-square, the computed value of $\mathbf{X^2}$ was obtained as **35.9238** while the critical value of $\mathbf{X^2}$ at **5%** significance/confidence level using the degree of freedom of **8** gives **15.5073** (see Appendix B).

DECISION

Since the computed value of $\mathbf{X^2}$ is greater than the critical value of $\mathbf{X^2}$ at **8** DF, we rejected the null hypothesis and accepted the alternative hypothesis. Hence, the report of human resource value by organisations can significantly affect the decisions of financial statements users.

4.8 DISCUSSION OF FINDINGS

The analyses in this chapter tend towards answering the research questions of the study, which will lead to the achievement of the research objectives. In this section, the findings obtained from such analyses are discussed.

The study found out that human resource valuation has some peculiarities compared to the valuation of conventional assets. These peculiarities are the uncertainties in the estimation of service period for an employee, his/her contribution level during his/her stay in the organisation, and the influence of other external factors such as labour

union actions and government policies relating to the reward system of an employee. These peculiarities made the valuation of the human resource assets almost on mere estimation with less degree of accuracy and reliability.

On reporting the human asset value in the financial reports/statements of organisation, the study found out that the value can be reported just like any other fixed asset or separated from the usual fixed assets and captioned accordingly and supply additional statement containing detailed information on the value/worth created on the human resource during the accounting year. This information would ensure that the various users of the financial statements have access to the adequate information for their decision-making needs. This finding is in agreement with the findings of Mainoma in 1995.

The study also found that organisations do spend huge amount of money on hiring, retaining and developing their human capital. Much of these expenditures are material, improve the productivity of the employees, and their benefit spread to some more years to come. These characteristics of the expenditures on the human resources qualify them to be capitalised rather than expensed. This finding also confirms some of the facts revealed by Jasrotia in 2004.

Another finding of the study is that most of the measures/techniques/models proffered for measuring the value of human resource assets in monetary terms are complex and theorised using

some hypothetical assumptions. Although these might slow the rate at which the models/techniques can be applied, we discovered that their complexity may not pose a problem in their application. This is because programmes and other application softwares could be devised in order to ease their complexity and ensure wide application by organisations.

It was also established in the study that the amount invested on human assets have a positive correlation with the value of organisations when measured in terms of market capitalisations. We have also discovered that there is a significant degree of relationship between the amount invested on human assets and the value of organisations.

In addition to the findings above, the study also discovered that the inclusion of the human resources in the financial statements of organisations have a significant effect on the decisions of financial statements users. This result brings out the importance of reporting human resources by organisations and the value it can create for the various stakeholders.

Furthermore, we also discovered that human resource accounting can be applied in Nigeria going by the evidences of the concept's application in some countries and the recent adoption by other countries. Additionally, as the various stakeholders come to know the immense benefits accruing to them for its inclusion in the financial statements, that will force their organisations to report what they actually want.

4.9 SUMMARY

This chapter has established the necessary findings for appropriate conclusion to be drawn. This was achieved via the analyses of the data collected for the research study. Issues dealt with included the basis of asset valuation and the peculiarities of human resources valuation, which brought out clearly the factors that make the human assets valuation so peculiar compared to the conventional assets valuation. Also, the disclosure requirements for conventional assets were fully and elaborately discussed and used as a basis for human assets reporting. Furthermore, the necessities for capitalizing the numerous expenditures expended on human assets were explicitly brought into focus, while measures proffered for human resources valuation were also adequately assessed. Moreover, the relationship that exists between the money expended (investment) on human resources and the value of an organisation was established and so also the degree of the relationship. Finally, the possibilities of human resource accounting application in Nigeria were discovered and the general findings of the study captured and discussed respectively. In the discussion of the findings, proper references were made to the findings of earlier studies thereby revealing areas of agreement and areas where additional information/discoveries were found.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

In this chapter, we present the summary of the entire research work and of the findings achieved therefrom. From the findings we draw our conclusion as far as the adequacy or otherwise of the measures/techniques proffered for measuring the monetary value of human resources and the possibility of applying the concept in the accounts and reports of Nigerian organisations are concerned. Also, we formulated necessary and proper recommendations based on our findings and conclusion.

5.1 SUMMARY

The necessities for organisations to report both financial and non-financial information to satisfy the growing needs of the various stakeholders and the fast growing services organisations make it very imperative for the organisations to account and report on their human resources. Reporting the value of human resources by organisations face two problems; one relates to its monetary valuation and the other rests on its amortisation or depreciation over its productive service life. This research study concentrated on the monetary valuation of the human resources thereby placing much emphasis on the assessment of the various measures/techniques/models proffered for measuring the monetary value of the human resource. The study aimed at finding the

strengths and weaknesses of the measures and the reasons why the concept does not receive wide acceptance and application.

The study reviewed the relevant and related literatures on the HRA starting from its inception to the present day. Many write-ups in the field of HRA and the various measures proffered for human resource monetary measurement were adequately discussed. From the review, we discussed that the concept of HRA started about half a century ago and up till now the concept has not received an impressive acceptance and application. Some of the reasons for this were attributed to the sensitivity of the information when exposed to the competitors and the time and financial commitments attached to its practice.

The assessment of the measures suggested for the valuation of the human resource in monetary terms revealed that majority of them are complex and theorised using hypothetical assumptions. Some of the assumptions used cannot be empirically tested and proven, and have high degree of uncertainty. For example, there is a very low degree of accuracy in estimating the service life of an employee/recruit, his/her productivity, promotion to be achieved, skills, knowledge and expertise to be gained, e.t.c. These contributed a lot to the slow rate of HRA application. Although evidences have shown that some organisations have attempted its practice and included it in their annual financial reports and accounts, their applications were mostly based on value judgement since there were no applications practices and standards set.

However, the growing body of evidence that the quality of human resources is an important factor in a business' competitive advantage, and its correlation with competitive performance add to the importance of measurement and accounting of human resources by organisations. This effort will assist the various stakeholders in their various decision-making needs relative to the performance and future survival of their organizations. This study has shown the positive correlation between amounts expended on human resources and the value of an organisation, and the degree of the relationship.

Finally, the study was conducted in Kaduna state and the data were collected via questionnaires and personal interviews. The data were analysed using appropriate analysis techniques such as the chi-square, correlation and regression analysis and the theory validation technique. The population of the study comprises of academicians, accounting regulators, postgraduate accounting students, practicing accountants, and the service and manufacturing organisations. A sample was drawn in each stratum, which made up the study sample size of 351.

5.2 LIMITATIONS OF THE STUDY

Usually, any research undertaken is not devoid of some difficulties. The major difficulty of this study was that the research was time consuming. This was because of the fact that the opinions of the various stakeholders of accounting need to be sourced relative to the topic under

study. Though the study was conducted in Kaduna state, going from one tertiary institution to another, going from one audit firm to another, and going from one office to another was very tedious and time consuming. Despite this, we were able to gather enough data upon which our findings and conclusion were made.

Another difficulty encountered was the financial commitment in sourcing the necessary data and information from internet and British council library. We had to spend much money in sourcing the access cards, which enable us download the relevant materials and recent write-ups on the field of HRA from the internet. Sometimes we had to waste so much time before obtaining the necessary details.

5.3 CONCLUSION

More recent studies have established that human resource or human capital is increasingly recognized as a key competitive advantage for organisations as well as a key indicator of an organisation's success. This is attributed partially to the result of the move from a manufacturing to a service economy. For this reason, it became very imperative for organizations to measure and report on the human resources if they really want to control, monitor and better invest in their what is now referred to as the most valuable asset i.e. human asset.

Since a positive relationship exists between the amounts invested on human resources and the value of an organisation as established in

this research study, we can infer that the more an organisation spends on general development of its human resources, the more the organisation achieves high value. This inference could be buttressed by the evidence that effective human resources management is directly correlated to performance, competitiveness and ultimately shareholder value.

The wide application of the concept of HRA is handicapped by the tentativeness of the assumptions underlying some of the measures/techniques proffered for measuring the monetary value of the human resources. Although some of the measures proffered are complex in nature, the complexity would be solved through the advancement in technology using application softwares and packages. By so doing, the application would be much easier, more accurate and faster.

However, the tentative assumptions of some of the measures/techniques proffered slow down their acceptance and application. Though the study found out that the inclusion of the human resource value in the financial statements of organisations would assist the various stakeholders in their decision making, the absence of a universally accepted measure/technique of valuation and an established standard procedure of reporting create difficulties in reporting the human resource value by organisations. By and large, we were able to discover that measuring techniques such as the Balanced Scorecard, Brown's Index, and Value-Addition methods contained more realistic variables in the computation of human resource values and hence, more preferable.

5.4 RECOMMENDATIONS

Based on the findings and conclusion of the study, the following recommendations are proffered:

(i) The Nigerian Accounting Standards Board (NASB) should bring out an acceptable measure(s) through which the human resources could be valued for accounting and reporting purposes. This would lead to the issuance of an accounting standard on human resources measurement and reporting. The standard should address the mode of reporting and the minimum information that should be provided by the reporting organisations regarding their human resources. By so doing, the organisations would be compelled to adopt and abide by the standard just like any other accounting standard.

(ii) Public awareness programmes should be organized by the Nigerian Accounting Standards Board (NASB), the Institute of Chartered Accountants of Nigeria (ICAN), the Association of National Accountants of Nigeria (ANAN), and the Nigerian Stock Exchange (NSE) relative to the relevance and importance of HRA and reporting by organisations. The awareness programmes should reveal the benefits accruable to the reporting organisations and the other stakeholders.

(iii) Researches should be conducted by the people in the academics and by those engaged in practical application of

accounting such as auditors, portfolio managers, investment analysts and advisers, stockbrokers, etc, which would aimed at unveiling the possibilities of the HRA application in Nigeria. This could be done through the organisation of seminars, workshops, conferences, television and radio programmes, etc.

(iv) Application packages and softwares on HRA should be developed by computer manufacturers such as hp-Compaq, IBM, Microsoft, etc in order to ease the complexities of the proffered measures and to ensure wider application by both the service and manufacturing organisations. This should be done by capturing all the variables identified as affecting the value of a human asset in a model and thereafter program it, in a standard way, on a software package.

(v) Although organisations can achieve a very high value by spending more on human resources, such expenditure/investment should be tailored towards improvement of skills, expertise and general productivity of the employees/personnel.

(vi) Some sections of the labour laws should be amended or created relative to the stability of recruitments within an organisation without adversely affecting the rights and privileges of the recruits. This will assist the organisations to plan, manage and measure their employees with a certain degree of accuracy,

most especially the estimation of the employees' service period or expected length of service.

(vii) Organisations should start capitalizing any expenditure they incurred on their human resources relative to their hire, retention and general development. This is due to the necessity and their overlapping impact on the employees/personnel for many years to come and which make them assets rather than expenses.

5.5 AREAS FOR FURTHER RESEARCH

HRA is relatively a new area in the field of accounting as far as its acceptance and application are concerned. This research study concentrated only on the adequacy or otherwise of the measures proffered for measuring the value of human resources in monetary terms and the possibility of its application in Nigeria. Therefore, other areas need to be researched in order to make the concept an acceptable one and to be applied globally. Such areas are summarised below:

(i) Although this study touches the aspect of human resources deprecation a little, a more detailed research need to be carried out in order to bring out a more scientific and realistic depreciation method. The depreciation method should incorporate all the peculiarities of the human resources such as ill-health, insanity, death, disability, old ages (in some cases), and e.t.c. A more scientific and realistic method will ensure that

the value of human resources are adequately depreciated within their period of service and taking into consideration all the necessary factors.

(ii) The aspect of human resources reporting in the financial statements of organisations also needs to be further researched. The research should be tailored towards finding the best way of including the value of the human resources in the balance sheet of organisations. Questions like: Is it to be included as part of and belonging to fixed assets? Is it to be included as an intangible asset? Or Is it to be headed separately and distinct from other assets? In addition, the quantity of the additional information in form of notes to the accounts or other disclosure requirements for reporting human resources needs to be determined. This will bring out whether additional notes are sufficient or a statement of employees' value added is necessary to be supplied as an integral part of the financial statements.

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APPENDIX A

QUESTIONNAIRE

This questionnaire is designed based on the M.Sc. Accounting & Finance Thesis ***"AN ASSESSMENT OF HUMAN RESOURCE ACCOUNTING MEASURES AND APPLICATION POSSIBILITIES IN NIGERIA".*** Your cooperation is, therefore, needed in assisting the researcher with the required information and explanations necessary for the accomplishment of the research. your response would be used exclusively for this research study and be treated with utmost confidentiality, where applicable.

QUESTIONS

Please tick [√] as applicable and comment where necessary.

1. Which category do you belong?

(a) Accounting Theoretician/Academician [ ]

(b) Accounting Practitioner/Accountant in Practice [ ]

(c) Student of Accounting at Postgraduate Level [ ]

(d) Staff of Accounting Regulatory body [ ]

(e) Staff of a service organisation [ ]

(f) Staff of a manufacturing organisation [ ]

2. What is/are your qualification?

(a) Degree/HND [ ](c) Doctorate Degree/Ph.D [ ]

(b) Master Degree [ ](d) Chartered/Professional Accountant [ ]

3. Do you think money expended on human resources by Nigerian organisations is significantly high?

Yes [ ] No [ ] Not Sure [ ]

4. Which one(s) of the following can be significantly high relative to human resources expenditure?

(a) Recruitment and Selection Cost [ ] (c) Medical and Entertainment [ ]

(b) Training and Development Cost [ ] (d) Others (please specify)_____

5. Does the investment in human resources significantly affect the value of an organisation as measured by its market capitalisation?

Yes [ ] No [ ] Not Sure [ ]

6. What other effects could the investment in human resources have on an organisation?

_____

_____

7. Are you aware that other countries have adopted and applied human resources accounting in the financial reports of their organisations?

Yes [ ] No [ ]

8. Have you seen any organisation's financial reports containing human resource accounting whether in Nigeria or elsewhere?

Yes [ ] No [ ]

9. If your response to question (8) above is Yes, could you please state the name(s) and countries of the organisation?-

_____

_____

10. What is your opinion relative to the possibility of reporting human resources by Nigerian organisations?

(a) Absolutely Possible [ ](c) Impossible [ ]

(b) Partially Possible [ ](d) Absolutely Impossible [ ]

11. Do you think the inclusion of human resources accounting in the annual financial reports of Nigerian organisations could enhance the investors' decision-making ability?

Yes [ ] No [ ] Not Sure [ ]

12. What additional comment(s) can you give relative to the possibility of human resources accounting application in Nigeria?

_____

_____

13. Which of the following methods of human resource valuation do you know?

(a) Replacement Cost [ ] (f) Brown's Index [ ]

(b) Historical Cost [ ] (g) Economic Value [ ]

(c) Competitive Bidding [ ] (h) Balanced Score Card [ ]

(d) Discounted Future Salaries [ ] (i) Others (please specify)_____

(e) Value-Addition [ ]

14. Do you agree that the methods/models for human resources valuation are complex and have hypothetical assumptions?

(a) Strongly Agree [ ] (c) Disagree [ ]

(b) Relatively Agree [ ] (d) Strongly disagree [ ]

15. State the method(s) you think is/are very complex and theorised using hypothetical assumptions.

_____

_____

16. Do you think the procedures for arriving at the methods/models are inconsistent with the standard procedures for theory formulation and validation?

Yes [ ] No [ ] Not Sure [ ]

17. In validating a theory/model, which ones of the following procedures are more significant?

(a) Terms/Concepts
(b) The Underlying Assumptions
(c) A Process of Logical Deduction
(d) Predictions/Implications
(e) A Process of empirical observation and testing
(f) Comparison with observed facts and existing theories for possible conflict and superiority.

18. Please state some of the procedures you think the methods/models fail to fully satisfy.

_____
_____

19. Which of the methods/models do you think can best be adopted and applied by the Nigerian organisations in valuing their human resources?

-

_____
_____

20. Could you state other reasons behind your answer to question (19) above?

_____
_____

APPENDIX A (2)
INTERVIEW QUESTIONS

Q1 – What is the concept of human resources accounting?

Q2 – Considering the basis of asset valuation, what can you say about human resource/asset valuation?

Q3 – What are the peculiarities of human resource valuation?

Q4 – How do you foresee the valuation and reporting of human resources by Nigerian organisations?

Q5 – Looking at the disclosure requirements for conventional assets (fixed assets and other assets), how do you think is best to disclose the value of human resources in the financial reports of organisations?

Q6 – Many methods/models are proffered for measuring the value of human resources, do you think the methods/models are adequately theorised?

Q7 – Do the procedures for their generalisation conform with the procedures for theory formulation and validation?

Q8 – Looking at the volume of expenditure on human resources, do you think it is best to capitalise them rather than charge them as merely running expenses?

Q9 – Generally, how do you see the possibility of human resource accounting application by Nigerian organisations?

Q10. – Finally, what other comments can you give relative to the concept of human resource accounting and its application in Nigeria?

APPENDIX B (1)

GUIDELINES ON THE TEST OF HYPOTHESIS 1

In testing hypothesis 1, we use the procedures/stages involved in scientific theorising and generalisation. These stages are identified as:

1. Terms/concepts definitions
2. The underlying assumptions
3. A process of logical deduction
4. Predictions/implications
5. A process of empirical observation and testing
6. Comparison with observed facts and existing theories for possible conflict and superiority.

We forwarded a question to our respondents relative to the above stages and use their responses to confirm our hypothesis.

APPENDIX B (2)

TESTING OF HYPOTHESIS THREE

The computation of Chi-Square value is a follows:

Stage I – The Contingency Table

Responses	Accounting Scholars/ Theoreticians	Accountants in Practice	Regulators of Accounting	Post-Graduate Accounting Students	The Target Companies	Total
Absolutely Possible	09	14	31	13	22	89
Partially Possible	28	24	05	11	41	109
Impossible	10	08	0	05	18	41
Absolutely Impossible	04	02	0	03	08	17
Total	51	48	36	32	89	256

Note: The total number of questionnaires administered is 351 out of which 256 were received, and it represents the total as above.

Stage II

To Compute the Expected Frequency (E) in each case, the following formula is use:

$$E = \frac{\text{Row Total x Column Total}}{\text{Grand Total}}$$

Responses	AST		A in P		ROA		P-GAS		TC		Total
	O	E	O	E	O	E	O	E	O	E	
Absolutely Possible	09	17.73	14	16.69	31	12.51	13	11.125	22	30.94	89
Partially Possible	28	21.71	24	20.44	05	15.33	11	13.625	41	37.90	109
Impossible	10	8.17	08	7.69	0	5.77	05	5.125	18	14.25	41
Absolutely Impossible	04	3.39	02	3.18	0	2.39	03	2.125	08	5.91	17
Total	51	51.00	48	48.00	36	36.00	32	32.000	89	89.00	256

Stage III

To obtain the deviation of the theoretical/observed frequency (O) and their sum i.e. the value of X^2, we use the formula as under:

$$X^2 = \sum \frac{(O - E)^2}{E}$$

Responses	O	E	(O – E)	$(O – E)^2$	$(O-E)^2/E$	
Accounting Scholars						
Absolutely Possible	09	17.73	-8.73	76.2129	4.2985	
Partially Possible	28	21.71	6.29	39.5641	1.8224	
Impossible	10	8.17	1.83	3.3489	0.4099	
Absolutely Impossible	04	3.39	0.61	0.3721	0.1098	
						6.6406
Accountants in Practice						

Absolutely Possible	14	16.69	-2.69	7.2361	0.4336	
Partially Possible	24	20.44	3.56	12.6736	0.6200	
Impossible	08	7.69	0.31	0.0961	0.0125	
Absolutely Impossible	02	3.18	-1.18	1.3924	0.4379	
						1.5040
Regulators of Accounting						
Absolutely Possible	31	12.52	18.48	341.5104	27.2772	
Partially Possible	05	15.33	-10.33	106.7089	6.9608	
Impossible	0	5.78	-5.78	33.4084	5.7800	
Absolutely Impossible	0	2.39	-2.39	5.7121	2.3900	
						42.4080
Postgraduate Accounting Students						
Absolutely Possible	13	11.125	1.875	3.5156	0.3160	
Partially Possible	11	13.625	-2.625	6.8906	0.5057	
Impossible	05	5.125	0.125	0.0156	0.0030	
Absolutely Impossible	03	2.125	0.875	0.7656	0.3603	
						1.1850
Target Companies						
Absolutely Possible	22	30.94	-8.94	79.9236	2.5832	
Partially Possible	41	37.90	3.10	9.6100	0.2536	

Impossible	18	14.25	3.75	14.0625	0.9868	
Absolutely Impossible	08	5.91	2.09	4.3681	0.7391	
						4.5627
Total	X^2				56.3003	

Stage IV

The degree of freedom used in finding the critical value of the X2 at 5% significance level is obtained thus:

DF = (NR – 1) (NC – 1)

Where DF = Degree of Freedom

NR = Number of Rows

NC = Number of columns

NR = 3, NC = 5

DF = (4 – 1) (5 – 1)

= (3) (4)

= 12

APPENDIX B (3)

TESTING OF HYPOTHESIS FOUR

The computation of Chi-Square value is as follows:

Stage I – The Contingency Table

Responses	Accounting Scholars/ Theoreticians	Accountants in Practice	Regulators of Accounting	Post-Graduate Accounting Students	The Target Companies	Total
Yes	19	31	28	15	37	130
No	26	10	04	13	24	77
Not Sure	06	07	04	04	28	49
Total	51	48	36	32	89	256

Stage II

To Compute the Expected Frequency (E) in each case, the following formula is use:

$$E = \frac{\text{Row Total x Column Total}}{\text{Grand Total}}$$

Responses	AST		A in P		ROA		P-GAS		TC		Total
	O	E	O	E	O	E	O	E	O	E	
Yes	19	25.90	31	24.37	28	18.28	15	16.25	37	45.20	130
No	26	15.34	10	14.44	04	10.83	13	9.63	24	26.77	77
Not Sure	06	9.76	07	9.19	04	6.89	04	6.12	28	17.03	49
Total	51	51.00	48	48.00	36	36.00	32	32.000	89	89.00	256

Stage III

To obtain the deviation of the theoretical/observed frequency (O) and their sum i.e. the value of X^2, we use the formula as under:

$$X^2 = \sum \frac{(O - E)^2}{E}$$

Responses	O	E	(O – E)	$(O - E)^2$	$(O-E)^2/E$	
Accounting Scholars						
Yes	19	25.90	-6.90	47.6100	1.8382	
No	26	15.34	10.66	113.6356	7.4078	
Not Sure	06	9.76	-3.76	14.1376	1.4485	
						10.6945
Accountants in Practice						
Yes	31	24.37	6.63	43.9569	1.8037	
No	10	14.44	-4.44	19.7136	1.3652	
Not Sure	07	9.19	-2.19	4.7961	0.5219	
						3.6908
Regulators of Accounting						
Yes	28	18.28	9.72	94.4784	5.1684	
No	04	10.83	-6.83	46.6489	4.3074	
Not Sure	04	6.89	-2.89	8.3521	1.2122	
						10.6880
Postgraduate Accounting Students						

Yes	15	16.25	-1.25	1.5625	0.0962	
No	13	9.63	3.37	11.3569	1.1793	
Not Sure	04	6.12	-2.12	4.4944	0.7344	
						2.0099
Target Companies						
Yes	37	45.20	-8.20	67.2400	1.4876	
No	24	26.77	-2.77	7.6729	0.2866	
Not Sure	28	17.03	10.97	120.3409	7.0664	
						4.5627
Total	X^2				35.9238	

Stage IV

Computation of the degree of freedom and the critical value at 5% significance level is obtained thus:

DF = (NR – 1) (NC – 1)

Where DF = Degree of Freedom

NR = Number of Rows

NC = Number of columns

NR = 3, NC = 5

DF = (3 – 1) (5 – 1)

= (2) (4)

= 8

APPENDIX B (4)
TESTING OF HYPOTHESIS TWO
Computation of the correlation coefficient using the Pearsonian method.

$$r = \frac{N\Sigma dxdy - \Sigma dx\Sigma dy}{\sqrt{N\Sigma dx^2 - \Sigma d(x)^2}\ \sqrt{N\Sigma dy^2 - \Sigma (dy)^2}}$$

Companies	HR Expenditure X	$(x - \bar{x})$ dx	dx^2	Market capitalisation Y	$dy = (y - \bar{y})$	dy^2	dxdy
Nigeria Breweries	8,819	6,490	42,120,100	323,670	276,760	76,596,097,000	1,796,172,400
First Bank of Nig. Plc.	11,464	9,135	83,448,225	94,430	47,520	1,258,150,400	434,095,200
Oando Plc.	1,832	- 497	247,009	64,110	17,200	295,840,000	-8,548,400
Unilever Nig, Plc.	2,329	0	0	46,910	0	0	0
Unic Insurance Plc.	110	-2,219	4,923,961	1,081	-45,829	2,100,297,241	101,694,551
United Nig. Textiles Plc.	3,653	1,324	1,752,976	1,838	-45,072	2,031,485,184	-59,675,328
Ashaka Cement Plc.	671	-1,658	2,748,964	22,475	-24,435	597,069,225	40,513,230
Pharma-Deko Plc.	79	-2,250	5,062,500	242	-46,668	2,177,902,224	105,003,000
Vitaform Plc.	407	-1,922	3,694,084	3,145	-43,765	1,915,375,225	84,116,330
NCR Nig. Plc.	103	-2,226	4,955,076	65	-46,845	2,194,454,025	104,276,970
	$\Sigma x = 29.467$	$\Sigma dx = 6177$	$\Sigma dx^2 = 48,952,895$	$\Sigma y = 557,966$	$\Sigma dy = 88,866$	$\Sigma dy^2 = 90,166,670,524$	$\Sigma dxdy = 2,597,647,953$

Applying the formula we have:

$$\mathbf{r} = \frac{10(2,597,647,953) - (6.177 \times 88,866)}{\sqrt{10\,(148,952,895) - (6177)^2}\ \sqrt{10(90,166,670,524) - (88,866)^2}}$$

$$= \frac{25,976,479,530 - 548,925,282}{\sqrt{1,451,373,621}\ \sqrt{8.9376955 \times 10^{11}}}$$

$$= \frac{25,427,554,248}{38096.90 \times 945,393.86}$$

$$= \frac{2.5427554 \times 10^{10}}{3.6016575 \times 10^{10}}$$

$$= \mathbf{0.71}$$

Computation of Regression Coefficients.

(a) $\mathbf{bxy} = \frac{N\Sigma dxdy - \Sigma dx\Sigma dy}{N\Sigma dy^2 - \Sigma(dy)^2}$

$$= \frac{2.5427554 \times 10^{10}}{8.9376955 \times 10^{11}}$$

$$= \mathbf{0.03}$$

(b) $\mathbf{byx} = \frac{N\Sigma dxdy - \Sigma dx\Sigma dy}{N\Sigma dy^2 - \Sigma(dy)^2}$

$$= \frac{2.542755 \times 10^{10}}{1,451,373,621}$$

$$= \mathbf{17.52}$$

Also, the relationship can be confirmed using the formula:

$$\mathbf{r = \sqrt{bxy} \times byx}$$

therefore $r = \sqrt{0.03} \times 17.52$

$$= \mathbf{0.72}$$

Note that the difference of 0.01 is as a result of rounding up and approximations.

To further confirm whether the degree of the relationship is significant or not, let us find the critical value of the relationship in the Pearsonian table using the N - 2 degree of freedom (DF).

In our computations, N = 10 i.e number of companies considered. So,

$$DF = N - 2$$

$$= 10 - 2$$

$$= \mathbf{8}$$

In the Pearsonian table, the critical value at 8 DF gives **0.63**, which is lower than the calculated value of **0.71**. This shows that the relationship is very significant.