AN ASSESSMENT OF THE IMPACT OF INVESTMENT IN HUMAN CAPITAL ON THE PERFORMANCE OF NIGERIAN BANKS

BY

YUSUF ISMAILA

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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.

YUSUF, Ismaila

CERTIFICATION

This Thesis entitled "An Assessment of the Impact of Human Capital Investment on the Performance of Nigerian Banks" by YUSUF, Ismaila 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.

Chairman, Supervisor Committee	Signature	Date
Member, Supervisor Committee	Signature	Date
Head of Department	Signature	Date
Dean, Post-Graduate School	Signature	Date

DEDICATION

To Allah (SWT) for giving me the strength to start and conclude this research and my family for their support and prayers. Thank you.

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I give thanks to Allah (SWT) for everything in this world and the thereafter depends on His mercy.

A research of this magnitude cannot be successful without the input, criticism and support of others. It is important to recognise the wonderful input of my supervisor Mal. Auwal Haruna, my able and capable guru in human resource accounting Mal. Salisu Abubakar, I want to say a big thank you and all others that have contributed in one way or the other.

My appreciation goes to my immediate and extended family for their continuous prayers, understanding and advise towards the success of the work, particularly my sweet heart who always spur me up when my spirit sags.

Thank you very much.

ABSTRACT

The study is aimed at assessing the impact of human capital investment on the performance of Nigeria banks. The study covers banks quoted on the Nigerian stock exchange as at 2005. A sample size of 6 banks was obtained; 2 from the old generation and 4 from the new generation bank. Secondary source of data was used for the data collection, salaries and allowances was used as the proxy for human capital investment while Market price per share, Earning per share and Book Value per share were used as the proxies of performance. Regression was used to test the impact of human capital investment on performance while Pulic (1997) Human Capital Efficiency Coefficient was used to test the efficiency of human capital in Nigerian banks. The study found that there is significant relationship between MPS and human capital investment; there is a significant relationship between BVS and human while there is no significant relation between EPS and human capital. The study also found that human capital investment has positive impact on the efficiency of banks' employees. The study recommends, among others, that banks should increase human capital investment in order to increase their MPS and BVS. In addition, there is need for Nigerian banks to ascertain the level of human capital that can be seen to be optimal so that redundancy and under utilisation would not be encouraged.

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INTRODUCTION

1.1 BACKGROUND OF THE STUDY

It is being increasingly expressed by professional accountants, institutional investors, and e-accountants, especially of the new knowledge economies, that new financial and management accounting concepts and practices need to be established, to acknowledge the Human Capital of a business enterprise. Whether it is in manufacturing, service or technology, the value vested in human capital cannot be ignored. This concept of measurement and management of human capital costs is also gaining importance in the service industry, amongst which are: insurance companies, banks and high technology-based companies. People from different industries, companies and backgrounds agree that the time to focus on human capital and related issues has come (Chen and Lin 2004).

The main goal for any business is simple: Invest capital so that it maximises shareholder value. However, in modern times, this is a necessary but not sufficient condition because execution of successful strategies depends on access to intellectual and operational know-how, customer and supplier relationships, a committed workforce, and other such intangibles. At the heart of making these intangibles come alive is the firm's investment in human capital. As Carnegie (1919:3) puts it, "The only irreplaceable capital an organization possesses is the knowledge and ability of its people. The productivity of that capital depends on how effectively people share their competence with those who can use it". It is logical therefore that competitive age in the 21st century has shifted from process and technology to quality of human capital. However, relatively little is known about the valuation, measurement and reporting of human capital. This could be explained by the complexity of the issue. For instance, ownership of human capital cannot be enforced because employees are free to leave at will. It is important to note that even as employees can leave at will, their exit will still leave with the organisation the impact of their existence. Also, investment in human capital involves a great degree of uncertainty about the financial and operation success of those activities. Hence, under generally accepted accounting principles, all human-related expenditures are treated as expenses, which are deductions of revenues, thus misleading decision-makers into inappropriate judgments.

For years, companies have rigorously measured key areas of their operations from the success rates of new product introductions and productivity of manufacturing operations, to direct mail conversion rates and customer retention. The reason is obvious: Bringing desirable new products to market, squeezing the most from one's physical assets, and gaining and keeping customers are all critical factors in a company's success. However, without concrete human capital performance measures, effective management of these areas would be impossible.

Thus, while measurement of supply chain, research and development, and sales activities has continued the same for human capital investments has remained comatose. This was not particularly problematic in the days when competitive advantage was defined by one’s physical assets or proprietary products, and people were merely replaceable parts in the organizational machine. In today’s global economy, particularly in the service industry, where knowledge and information are very crucial to their very existence and survival, human capital is gradually assuming the characteristic of “product”. In the process, a company’s workforce has evolved into arguably the biggest competitive differentiator for organizations in virtually all industries especially the service oriented industry which banks fall.

The simple fact is that the most successful organizations today and in the foreseeable future will be those that are able to measure the business impact of their investment in people whether that investment is employee recruiting, performance management, skills development or benefits administration.

Unseen Wealth (2000) asserts that firms with the most highly educated workforce enjoy above average productivity and profitability. No wonder that the issue of human capital investment has continue to be important and how to maintain or enhance its value a topical issue.

In Nigeria, banks are reputed as one of the fastest growing sector in the financial service industry in the country. They have also earned themselves the reputation of the sector with the highest yearly recruitment in the industry if not in the economy at large and also have a good compensation package for its employees. The sector has graduated from semi skilled labour driven, to a more professional and skilled workforce, where people who are highly educated and skilled are considered most appropriate for the sector.

While banks have traditionally emphasized shrewd use of financial assets, the increasingly competitive global marketplace is causing financial institutions to take a fresh look at the way they manage human capital. The goal is to attract, develop, and retain valued people while ensuring efficient use of human capital.

1.2 STATEMENT OF THE PROBLEM

The new knowledge economies have highlighted the importance of human capital and the imperative need to measure and manage their associated costs and benefits. Human capital represents the knowledge, skills, and competencies of employees that allow them to be productive. It contrasts with ordinary physical capital such as buildings and information technology (IT) systems. Banks and financial institutions, which are rich in human capital and face great ‘human capital-walk outs’ should be concerned with measurement of the cost of this unique asset. It has become a common phrase included in banks annual reports and accounts that; “Our employee are our greatest asset”, yet there have not been adequate attention given to the value and contribution of this “great asset” on the overall performance of the banks.

When companies invest in physical capital; they try to select alternatives offering the highest return on their investment. They would also like to invest in human capital offering them the highest return. Traditional accounting methods, which are based on tangible assets and historical, transaction based information are inadequate for valuing intellectual capital of which human capital is one. It has become therefore imperative for firms to development methods of valuing their human capital and its impact on it performance, if it would continue to be relevant in the ever competitive knowledge-based economy.

1.3 OBJECTIVES OF THE STUDY

The broad objective of the study is to assess the impact of the investment in human capital on the performance of Nigerian banks. Specific objectives are:

1. To assess the impact of human capital investment on the Net Book Value of Nigerian banks.

2. To assess the impact of human capital investment on the Earning per Share of Nigerian banks
3. To assess the impact of human capital investment on the Market Price per Share of Nigerian banks.
4. To assess the impact of human capital investment on the efficiency of Nigerian banks’ employees.

1.4 STATEMENT OF HYPOTHESES

H_{o1}: Human capital investment has no significant impact on Net Book Values of Nigerian banks.

H_{o2}: Human capital investment has no significant impact on Earnings per share of Nigerian banks.

H_{o3} Human capital investment has no significant impact Market Price per share of Nigerian banks.

H_{o4} Human capital investment has no positive impact on the efficiency of employees in Nigerian banks.

1.5 SIGNIFICANCE OF THE STUDY

Considering the subject of the study to be a topical issue in the accounting and finance circle, it will have immense benefit to the following:

Banks – who will need this study to understand the nature of their human capital investment and how they contribute to their bottom line.

Shareholders - will use the research to understand how to determine which bank to invest in considering their return on human capital.

Researchers – will find the research very important considering its novelty, and will help in further research.

1. 6 SCOPE OF THE STUDY

The study covers the banks that met the 2005 CBN consolidation and quoted on the Nigerian Stock Exchange. It does not cover community banks, development banks, mortgage banks and the supervisory authorities in the banking industry. The study will cover a five year period between 2005 and 2009 inclusive.

CHAPTER TWO
LITERATURE REVIEW

2.1 INTRODUCTION

This chapter will review the various contributions by scholars, industry watchers, regulators and all other stakeholder in the Nigerian banking industry.

2.2 THE NIGERIAN BANKING INDUSTRY

The Nigerian banking system has gone through process of development from the late 19th century with expatriate banks forming the crop of banks to when indigenous banks started springing up. The deregulation and liberalisation of the licensing of banks by December 1991 opened up the market to private participant.

However, during the period of 1990 to 1994, the upheavals in the system, coupled with low capacity utilisation in the industrial sector and the general economic recession and downturn, led to market and fortunes of banks to be depleted. The macro-economic policy reversal by the Federal Government of Nigeria through the 1994 Fiscal Budget worsened the already weak position of the banks this led to the distressed of about 33% of the banks in 1994.

To save the situation, the CBN brought about a process of financial reform, restructuring and rationalization of banking institution, this brought the number of licensed banks to 111 by the end of 1997. With further amendments to the Central Bank Act and Banks and Other Financial Institutions Act in 1999, the CBN became better positioned to enhance the safety and soundness of the financial sector. The effectiveness of monetary and banking policies which, hitherto, had been constrained by the distress in the system, was assured. In order to ensure an adequate capital base for new banks, the minimum paid-up capital requirement was increased from N500 million to N1 billion.

As a result of the re-capitalisation measures of the CBN most merchant banks converted to commercial banks. However, with the introduction of Universal Banking in 2001 where a single bank becomes a “multiple chain store” for financial services many banks now operates as Universal banks.

The year 2005 became another significant year in the history of the Nigerian banking sector of the economy and the financial industry in particular. This year saw the implementation of yet another recapitalisation of commercial banks from N2b to N25b. The process brought about the reduction in the number of licensed banks to 25 as at January 1, 2006. This is as a result of the mergers and acquisition of some banks by bigger ones or absorption by their parent companies. Licensed banks in the country were later reduced to 24 with the merger of IBTC Chartered and Stanbic to form what is now StanbicIBTC.

In the period before the advent of New Generation banks the then big 3 (Union Bank, First Bank and UBA) sees bank employee as an apprenticeship where people with as low as primary school certificate are employed. This practice was checkmated with the coming of new generation banks that see the business of banking as a professional one, the employment of highly skilled individuals as bankers. Even more is their incentives that have resulted in the marketing of bank product and services which was hitherto not in existence. The drive by this new generation banks brought about aggressive marketing which led to the reduction in market shares of the big three except for First Bank the big three lost their position to the new generation banks.

2.3 THE CONCEPT OF HUMAN CAPITAL INVESTMENT

Wikipedia defines human capital as a way of defining and categorising peoples' skills and abilities as used in employment and as they otherwise contribute to the economy. Schmidt (2004) defines human capital as a form of intangible assets that creates future economic value, which include the competencies of front-line employees and the organisational capabilities.

Human capital is a broad concept encompassing many components but essentially describing the quality of the labour force. While some find the term human capital a limiting one, others such as Davenport (1999) suggest that identifying employees as human capital allows people to be more highly valued. Davenport proposes that this permits the model where employees are “investors in a business, paying in human capital and expecting a return on their investment”.

Simply stated, human capital means people. For the purposes of this study ‘human capital’ refers to the sustainability of people management systems which are likely to have an impact on the performance of a firm. ‘Sustainable’ human resource management systems are those which are internally consistent, consistent with the firm’s corporate strategy and consistent with the broader context in which the firm is operating.

2.3.1 ECONOMIST VIEW OF HUMAN CAPITAL

Undoubtedly, in modern economic theory Human Capital Theory is one of the important theoretical foundations to account for the human capital dimension. However, the extensive definitions of human capital create accounting obstacles. Therefore, it is necessary to categorise the various definitional notions to identify a practical definition for human capital.

Presently, there are three basic views for the notion of human capital. The first is the investing view, which conceives that human capital is the result of investment, and so the human capital value is the expenditure that is invested to enhance personal physical strength and intelligence, and acquire knowledge and skills (Schultz 1961). The second is the view of part outputs, which conceives that human capital is proprietary knowledge, and skill, experience and the relevant workplace competencies of managers and technical innovators (Weijie & Zhao 2001). The third is the holistic output view, which conceives human capital as the total value of personal physical strength, intelligence, and knowledge and skills for utilisation. The total output is the sum of labour abilities of a particular population (Wang, Xu & Zhao 2005). There exist a strong belief and support for the third view, namely, that human capital is the labour ability of any person. Thus, human capital is not limited only to managers or technical personnel. More specifically, human capital is the 'output' formed by the investment, the form is intangible, and its value is not what has been invested, but the worth of 'output'.

As noted by Stacey (2001), intellectual capital can be divided into two main categories, defined as human capital and invisible assets, or 'non-thinking' capital. These can be represented using apparently valid quantitative financial methods. For instance, human capital can be divided into three main areas: competence (e.g. average duration of employment, hours of training per employee, IT literacy), attitude (e.g. a leadership index, a motivation index) and intellectual agility (e.g. savings from employee suggestions, company diversification index).

2.3.2 ACCOUNTANTS VIEW OF HUMAN CAPITAL

The second area of human capital is often seen as invisible assets and processes, ‘non-thinking’ capital, such as relationships (e.g. customer retention, length of supplier relationship); internal efficiency (e.g. revenues from patents, processes completed without error); renewal and development (e.g. percentage of business from new products, new patents filed, training costs per hour per employee). This second area is more aligned to the accountants where they view human capital from the valuation perspective. These types of measures can be combined into a weighted intellectual capital index, which, on the surface, has meaning and rigour.

Royal and Carol (2005), posits that two key principles are central to the human capital idea. First, people are assets whose value can be enhanced through investment. As with any investment, the goal is to maximize value while managing risk. As the value of people increases, so does the performance capacity of the organization, and therefore its value to clients and other stakeholders. Second, an organization’s human capital policies must be aligned to support the organization’s “shared vision”—that is, the mission, vision, the future, core values, goals and objectives, and strategies by which the organization has defined its direction and its expectations for itself and people. All human capital policies and practices should be designed, implemented, and assessed by the standard of how well they help the organization pursue its shared vision.

Royal and Carol (2005) also believes that enhancing the value of employees is a win-win goal for employers and employees alike. The more an organization recognizes the intrinsic value of each employee; the more it recognizes that this value can be enhance with nurturing and investment; the more it recognizes that employees in their talents and motivations, and that a variety of incentive strategies and working arrangements can be created to enhance each employee's contributions to organizational performance, the more likely the organization will be to appreciate the variety of employee needs and circumstances and to act in ways that will make sense in both business and human terms.

2.3.3 EVOLUTION OF THE TERM 'HUMAN CAPITAL'

Over the years, various terms have been used to describe one of the major factors of production in basic economics. It has, at various times, been referred to as labour, other refer to it as personnel. With the growing realisation of the need to emphasize the importance of man in a work setting, the word human resource evolved. In recent times, to further re-emphasize the strategic importance of the role of men in the organisation, the terminology now used is human capital. The term human capital dates back to Jacob Mincer's (1958) pioneering article 'Investment in Human

Capital and Personal Income Distribution'. It implies an investment that can yield a stream of returns.

Petty (1687) the first economist to emphasise labour quality differences and who identified what was later termed human capital which originated from his argument for an inclusion of the "value of workers" in accounting for wealth for actuarial purposes believed that the workers should be valued and their value should be include in actuarial computations. Adam Smith (1776) also wrote intensively about the incidence of workers' and employees' knowledge and skills on the production process and the quality of output. He emphasised that wages should be determined (among other things) by the efforts in time, energy and money spent by workers to gain the skills requited for their working tasks. In analysing the determination of wages, he clearly state that education and learning should be considered as "investments" in human beings.

The work of Irving (1906) became the founding base of modern human capital theory. He stated that, "A stock of wealth existing at an instant of time is called capital. A flow of services through a period of time is called income". His definition of income and capital was "all-inclusive", and thus resolved the controversies among capital theorists on the nature of capital goods as to materiality, monetary aspects, durability or repeatability of use. He emphasised that all types of stocks would be capital when yielding services, and even explicitly includes human beings.

2.3.4 HUMAN CAPITAL AS ASSET

Any asset is a claim to a future benefit, such as rent from owning a commercial property. An intangible asset is, if it is successfully managed — a claim to a future benefit that does not have a physical or financial embodiment. Barunch (2001) defines human capital as that investment made on the human resources of a company. Generally, human capital is represented by human resources (employee competencies), which are broadly related to education and training of professional staff, who are the principal generators of revenue. Non-revenue generators are called support staff. Employees create value by applying their skills, exerting their knowledge and initiating new ideas.

IAS No 38 (IASC 1998) requires that an intangible asset should be recognised if, and only if: (a) it is probable that the future economic benefits that are attributable to the asset will flow to the enterprise; and (b) the cost of the asset can be measured reliably.

Flamholtz (1999) posits that to be recognised as an asset, the cost of investment in human capital has to met the following conditions:(1) an asset must posses a potential for future benefits; (2) benefits must be measured in monetary term; (3) these future benefits are owned or controlled by the reporting entity. The definition of future benefits includes a direct or indirect contribution to future net cash flows, subsequent sales, earnings, or share of industry sales and revenues or cost saving.

Of the few studies that focus on accounting to human capital notables include Lev and Schwartz (1971), Flamholtz (1971), Morse (1973) and Friedman and Lev (1974). While each of these studies proposes a different valuation procedure for human capital, they all agree that the value of human capital should be reflected in the financial statements. These studies also argue that information on human capital could be useful to investors in assessing efficiency and predicting future profitability and productivity. This study however considers the basic problem by investigating whether expenditures on human capital can be viewed as assets. This study is on the premise of Flamholtz (1999:33), who states: “Thus the real issue is: Should investments in people be treated as assets?”

It has been argued over the years that investments in human capital cannot be capitalised because companies cannot force employees to provide services, consistent with the legal notion of free labour mobility. Yet labour mobility may be restricted due to various factors, such as geographical preferences, search and relocation costs, information asymmetry, age and gender. Hall (1982) reported that a typical US worker in the 1980s was in a job about eight years and a large fraction of the work force take on jobs that would last 20 years or more. This implies that while employees have the option to leave at any point in time, they do not exercise this option frequently. When compared to other fixed assets we can therefore say that human capital is expected to stay longer in an organisation than some fixed assets.

2.4 INVESTMENT IN HUMAN CAPITAL

Investment in human is seen as that part of a firm's spending that is dedicated to the employees. It involves the spending that relates to recruiting, training, compensation, retaining and pension incurred on the employees of a particular firm.

Blundell, Dearden, Meghir and Sianesi (1999) describe human capital investment as having three components. This includes early ability (whether acquired or innate); qualifications and knowledge acquired through formal education; and skills, competencies and expertise acquired through training on the job. They went on to state that human capital investment involve an initial cost (tuition and training course fees) which the individual or firm hopes to gain a return on in the future (through increase earnings or higher firm productivity).

2.4.1 COMPONENT INVESTMENT IN HUMAN CAPITAL

Richard, Lorreaine, Costas & Barbara (1999) describe investment in human from two angles, one from the individual and the other from the firm's.

INDIVIDUAL INVESTMENT IN HUMAN CAPITAL

The accumulation of human capital is seen as an investment decision, where the individual gives up some proportion of income during the period of education and training in return for increased future earnings. Individuals will only undergo additional schooling or training (i.e. invest in their human capital) if the costs are compensated by sufficiently higher future earnings. In a competitive labour market where wages reflect the marginal product of workers, to be able to command higher earnings, the better-educated or more-trained workers must be sufficiently more productive in employment than their less-skilled counterparts

FIRM INVESTMENT IN HUMAN CAPITAL

Employers fully or partially fund the training of workers in the hope of gaining a return on this investment in terms of being a more productive, more competitive and consequently more profitable firm in the future. Like other decisions about investment in education, the decision to provide on-the-job training involves a firm considering both the costs of providing training and the expected added revenues generated by training for staff.

These costs and benefits for the firm include both direct (i.e. the costs of instruction) and indirect (i.e. reduced worker output during training). Workers undertaking on-the-job training will also encounter potential costs and benefits from the training, such as the possibility of reduced wages during training periods and higher wages from enhanced productivity.

2.4.2 TYPES OF INVESTMENT IN HUMAN CAPITAL

Gary (1962) considers investment in human capital in different form depending on who is making such investment and where the investment is made. It can take any one or more of the following form.

1. ON THE JOB

Many workers increase their productivity by learning new skills and perfecting old ones while on the job. On-the-job training, therefore is a process that raises the future productivity and differs from school training in that an investment is made on the job rather than in an institution that specialises in teaching. The cost of such investment will be value placed on the time and effort of the trainee, the teaching provided by others, and the equipment and materials used. These are believed to be costs in the sense that they could have been used in producing current output if they were not used in raising future output.

There are basically two types of on the job training; it could either by general or specific on the job training. General training is useful in many firms in addition to the firm providing it, as a doctor trained at one hospital finds his skills useful at other hospitals. Training that increases productivity more in firms providing it will be called specific training. Specific training can be defined as training that has no effect on the productivity of trainees that would be useful in other firms.

Much on the job training cannot be seen as completely specific or completely general but increases productivity more in firms providing it and it is describe as specific. Where it increases productivity by at least as much in other firms it is believed to be general. Firms usually spend a lot of money in familiarising new employees with their organisation, and the knowledge so acquired is a form of specific training because productivity is raised more in the firms acquiring the knowledge than in other firms.

2. SCHOOLING

Schools and firms are often substitute sources of particular skills. The shift that has occurred over time in both law and engineering is a measure of this substitution. In acquiring legal skills for instance there is attachment to a law firms and studying in the law school. Some types of knowledge can be mastered better if simultaneously related to a practical problem; others require prolonged specialisation. That is, there are complimentarity between learning and work and between learning and time. The development of certain skills requires both specialisation and experience and can be had partly from the firms and partly from schools. It worthy of note that training in a new industrial skill is usually first given on the job, since firms tend to be the first to be aware of its value, but as demand develops, some of the training shifts to schools.

3. OTHER KNOWLEDGE SOURCE

On the job training and schooling is not ultimate contributor towards human capital investment of an individual. For instance, information about the prices charged by different sellers would enable a person to buy from the cheapest, hereby raising his command over resources, or information about the wages offered by different firms would enable him to work for the firm paying the highest. Information is critical for employees to take hold of opportunities. For instance, a better job might be found by spending money on employment agencies, adverts, talking to friends and visiting firms. When the new job requires geographical movement, additional time and resources would be spent in moving. These expenditures constitute as investment in information about job opportunities that would yield a return in the form of higher earnings than would otherwise have been received.

4. PRODUCTIVE WAGE INCREASES

One way to invest in human capital is to improve emotional and physical health. In advanced countries of the world today earnings are much more closely geared to knowledge than strength, but in the earlier days and in some countries still developing, strength had a significant influence on earnings. Moreover, emotional health increasingly is considered an important determinant of earnings in all parts of the world.

Firms can invest in the health of employees through medical examination, luncheons, or steering them away from activities with high accident and death rates. It is important to note that the productivity of employees depends not only on their ability and the amount invested in them both on and off the job but also on their motivation, or the intensity of their work. Economists have long recognised that motivation in turn partly depends on earnings because of the effect of an increase in earnings on morale and aspirations.

2.5 VALUING INVESTMENT IN HUMAN CAPITAL

Valuing human capital is obviously important gauge of the impact of human capital on the performance of firms. But how is human capital to be measured?

The process identified by some academics like (Guest et al 2000, Patterson et al 1997) as well as a number of consulting firms, is to specify the key human capital dimensions and assess their characteristics. This characteristic is then measured in terms of outcome. These outcomes can be, (i) financial measures, (ii) measures of output or goods and services – units produced, customers served, number of errors, customer satisfaction or (iii) measures of time – lateness, absence etc. Guest (2000) argues that outcomes, 'should reflect employee attitudes and behaviour, internal performance, such as productivity and quality of goods and services; and external indicators, we need to collect a number of potentially related outcomes that extend beyond a narrow definition of business performance based on just financial indicators'.

Other researchers like Delaney & Huselid (1996) focus on outputs, employee turnover, productivity and financial performance. They opined that there exists difficulty in relying on just firm performance because it will mean ignoring important other measures outlined above. This is because the users of this information have varied focus, some may be focused on the market share, others on profit and the HR practices may not be the same in both.

The 'Balanced Scorecard' concept Kaplan & Norton (1993) is designed with the intent to weigh the interests of various stakeholders. According to Kaplan & Norton (1993) attention should be given not just on traditional financial measures, but to people, processes and customers.

Utility analysis has remains a technique that continues to be advocated (Becker and Huselid 1992, Becker, Huselind and Ulrich 2000). The work of Fitz-Enz (1980, 1984) in creating a database of a wide range of HR practices at the Saratoga Institute provides a benchmark for organisations in terms of industry averages and trends and allows managers to assess their own practices in terms of cost and utility. The results of a Conference Board (2003) survey into human capital measurement showed that many HR professionals were developing human capital metrics but this activity is often conducted in isolations, with organisations choosing not to collaborate with other firms or consultancies.

Methodologies for the valuing of human capital investment have evolved from three of the basic approaches of estimating cost of an investment. Using these three methods various consultants have developed their models which are formulated using one of the methods or a combination. These three approaches were enumerated by Samrat (2006) as follows:

COST BASED APPROACHES

Historical cost method: This method was proposed by Brument to measure a firm's investment in human capital. Brument posits that the human capital costs are current sacrifices for obtaining future benefits and therefore to be treated as assets. The method suggest to capitalise the firm's expenditure on recruitment, selection, training and development of employees and treat them as assets for the purpose of human capital accounting.

Replacement cost method: This method was proposed by Likert it involves assessment of replacement cost of individuals and rebuilding cost of the organisation to reflect human capital value of both the individuals and the organisation. However, the replacement cost may not reflect either the actual cost or the contribution associated with human capital.

Opportunity cost method: This model envisages computation of monetary value and allocation of people to the most promising activity and thereby to assess the opportunity cost of key employees through competitive bidding among investment centres.

BEHAVIOURAL APPROACHES

This model aims to establish a set of casual variables through psycho-social test results reflecting the appreciating or depreciating condition of human organisation as reflected by a set of intervening variables, which in turn, are likely to result in the achievement of end result variables. The investments in human capital have been proposed to be amortised over the years in tune with the condition of human organisation. However, psycho-social measures of the condition of the human organisation may not be reliable towards measure of human capital as an asset in the absence of its established valid relationships with the organisational performance.

ECONOMIC APPROACHES

Lev and Schwartz advocates the estimation of future earnings during the remaining life if the employee and then arriving at the present value by discounting the estimated earnings at the employee's cost of capital. However, the model is very subjective as it considers the present value of future wages only for the next five years, efficiency ratio based on the rate of return of the last five years and the assignment of weights to past rate of return.

In the course of providing solution to their clienteles a number of consulting firms now offer tools designed to assist in the human capital measurement process.

1. Profit-Centre Approach

According to some executives, the ultimate approach for HR is the profit-centre concept: shifting from the traditional view of the HR department as an expense centre where costs are accumulated to a view of HR as an investment, which can achieve a bottom-line contribution and, in some cases, actually operate with a profit. The underlying premise of this approach is that user organizations—such as production, sales and accounting—are charged for the services of the HR department and have the option of using external services in lieu of those offered by the HR department.

2. The Gallup Studies

Over the course of the past 25 years, Gallup researchers have assessed employee perceptions of management practices. Researchers have focused on important human resource issues on which managers can develop specific action plans and the researchers compared the responses to company success. Gallup's "12 questions" about the work environment evolved from a number of qualitative and quantitative studies. Most of the questions are connected to customer satisfaction, profitability or productivity. Examining the linkages between key elements of a healthy business, Gallup developed a model that describes the path between the individual contribution of employees and the ultimate business outcome of any company—an overall increase in value.

3. The Service-Profit Chain

The link between investment in human capital and profitability is most apparent in service organizations. The new economics of service are perhaps most evident in American companies where a radical shift has occurred in the way businesses manage and measure success. In this concept, customers and employees are key. The impact of employee satisfaction, loyalty and productivity is linked to customer satisfaction and growth of customer loyalty.

4. The Human Resource Development Cycle

According to this line of reasoning, a company with strategically focused state-of-the-art processes supporting the HR development life cycle will hire the right employees and put them to work doing the right things. The result will be happy customers (who remain loyal and buy more) and high levels of quality and efficiency. Together these factors will produce the financial performance the firm and its shareholders want.

Human capital valuation will not be complete without the mention of major researches formulated in this area. Notable among them are; Johansson (1996) who developed the Human Resource Costing & Accounting (HRCA 2) which is aimed at calculating the hidden impact of HR related costs, human capital is measured by calculating the contribution of human assets held by the company divided by capitalised salary expenditures. Skandia Navigator developed by Edvinsson and Malone (1997) which was brought to fame by Skandia Insurance company which adopted it for measuring it intellectual capital, the model uses 91 intellectual and 73 traditional based metrics that covers; financial, customer, process, renewal and development and human. However, looking at human capital from the accounting view point one will be moved towards Monti-Belkaoui, et al (1995) suggestion that human resource valuation should be based on value-addition, as it is a measure of wealth. Value-addition is defined as the increase in wealth generated by the productive use of the firm's resources before its allocation among shareholders, bondholders, workers and the government. The models based on value-addition started becoming popular with the development of the Value Added Intellectual Coefficient (VAIC) of Pulic (1997), the model developed an equation that measures how much and how efficiently intellectual capital and capital employed create value, where the value of human capital is the sum of all salaries and allowances associated with the employees. Other models that have bought into this idea includes; Economic Value Added (EVA) by Stern & Sterwart (1997), The Value Explorer developed by Andriessen & Tiessen (2000) which was proposed by KPMG for calculating and allocating intangibles and Milost (2007) Dynamic Monetary Model where an analogy is made between employees and tangible assets; here the value of an employee is the sum the employee's purchase value and the value of investments in an employee, less the value of adjustment of an employee. With the popular use of value added statement by companies in many countries of the world including Nigeria, the statement amongst other things, shows 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. This can be seen as a clear indication of what an organisation expends on it human capital.

2.6 REPORTING INVESTMENT IN HUMAN CAPITAL

The reporting of intangibles such as human capital is difficult. According to Huselid (2003), this is because of two issues: first, there is no common framework for reporting that goes beyond historical measures (e.g. cost of selection, retention or training) to ‘more detailed information on workforce quality’. Second, many firms lack databases and audited information that can give strong and relevant information to investors. Therefore, developing a consistent and coherent internal HR architecture on human capital measurement is a necessary conditions for effective external reporting.

Companies usually do have a wealth of human capital data in some shape or form, and some even have developed systems in place to measure its quality and impact. But most companies do not report their human capital publicly. However, some measures like compensation, training expenditures, average pay, numbers of employees, revenue per employee are reported.

One can conclude that companies do not want to report more on human capital because of (i) the fear of competitors – anxiety over whether human capital information is competitively sensitive; (ii) the fear of unions or employees, that is, concern that providing too much information may restrict the organisation’s flexibility (and worries over legal issues arising); and (iii) a concern for practical difficulties of collecting human capital information to present for reporting and whether investors will understand it anyway.

A lot of researches have been conducted on how best to report human capital in the financial statement, many of these research have made contributions, these contributions according to Salisu (2005) increased the number of applications of the concept but largely voluntary. However, mandatory accounting and reporting of human resources by organisations was introduced in Denmark commencing in 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.

2.7 HUMAN CAPITAL COMPENSATION

Besides characteristics of human resources in terms of diversity, experience and tenure, the level and structure of compensation is relevant to explaining productivity and firm performance among service firms. Firm performance to a very large extent has impacted on the compensation pattern and structure of financial services related firms like banks. This is evident in the continual pay rise in the financial service industry like bank without any adverse effect on the banks' performances. Two interrelated theories are central to explaining pay profiles and show why firms use pay dispersion across experience and tenure, i.e. utilizing rewards for experience gained in the labor market and for tenure within the firm.

Efficiency wages. The first is the theory of efficiency wages Shapiro & Stiglitz, (1984); Yellen, (1995). Efficiency wages can be regarded as a way to “internalize” labor markets. According to Cappelli & Cascio (1991) By paying above market wages, for example to experienced employees, productivity increases, and thus higher pay may be “efficient” in terms of reaching higher profits (e.g. through lower unit labor costs).

Taking the Nigerian banking system as a practical example, before the advent of new generation banks minimum entry requirement in the then old generation banks was school certificate. These school certificate holders are being employed and trained, through experience they rise through the rank to the top. However, the coming of Nigerian generation banks employing graduate even as cashiers or tellers (as they are called in new generation banks) at a higher pay has brought about excellence in service delivery. This has eventually translate into efficient wages, they have succeeded in moving banking beyond the banking hall to the outside markets which has resulted in more business for their employees.

Four different rationales have been proposed: 1) above market wages discourage shirking due to a high loss in case of dismissal; 2) turnover (quits) will be lower and consequently recruitment and training costs will be lower; 3) additional high productivity employees will be attracted; and 4) high wages when perceived as an equity or fair standard, result in increased effort among employees.

Deferred payment. The second theory addresses the pay profile across tenure. The theory of deferred payment states that a steep pay profile motivates and retains employees Salop & Salop, (1976); Lazear, (1991) believes because starting pay is lower, but employees can expect higher pay in the future, provided they stay within the firm. In addition, shirking will be more expensive in view of higher foregone future earnings. Accordingly, higher individual productivity and lower turnover costs will increase average employee productivity (in terms of value added per employee). Leonard, Mulkay, & Van Audenrode (1999) believes that as long as average productivity increases more than average pay there will be a net gain from deferred payment. Consequently, lifetime earnings for employees as well as profits increase, provided that the gain is shared between employer and employees. Deferred payments when looked at from the Nigerian point of view, the old generation banks have used it efficiently and have made success in that. This is because the old generation banks believe in deferred payment through it pension scheme and where able to retain their staff that are looking forward to that payment. This is in contrast with what is obtainable today in the banking industry especially the new generation banks where bank officials move from one bank to another since they do not have to wait for any deferred payment.

Pay dispersion. An additional aspect of firms' pay structure is the pay dispersion in general, i.e. pay differentials beyond dispersion related to experience or tenure. No general conclusion can be drawn on the effect of large versus small wage differentials on productivity. However, among theories of motivation, the equity theory Adams (1963) says that relative pay should be set in accordance with relative productivity (effort). If one for example finds a positive correlation between pay dispersion and productivity, it must be concluded that some firms have smaller pay differentials than what is perceived as fair among employees.

2.8 RISKS IN HUMAN CAPITAL INVESTMENT AND MANAGEMENT

Risk is referred to as the uncertainty about outcomes or events, especially with respect to the future. According to Miller & Bromiley (1990) risks impairs forecasting and planning activities and makes it harder for decision-makers to plan future actions. Therefore it will be proper to acknowledge the existence of risk in a firm's investments in its human capital, this is so because the performance of or the returns from human capital is uncertain and it is affected by time. The risk associated with human capital investment and management can be enumerated as follow:

a. **Uncertainties of Return or Performance:** This usually happens where there is the existence of skill obsolescence, demand for new skills and turnover. As the competitive environment changes, firms must adapt by developing new technologies, products and capabilities. If current employees do not upgrade or adapt their skills and knowledge to the changed circumstances, it represents the risk of obsolescence of skills. On the other hand the new skills might not be readily available in the labour market or there may be high competition for these skills. Uncertainties of return also exist because of possible turnover of employees, which represents capital loss. Which is what is experienced by Nigerian banks, where staff moved from one bank to the other at the slightest opportunities and when they leave they go along with both the general investment the bank have made on them and also the specific investment. This is so because the bank needs to re-investment in another staff specific investment to be able to cover such vacuum created. In other to manage the uncertainties of return as relates to obsolescence skills, firms requiring skills that could become obsolete fast, would have more training programs geared towards new or upgraded skills. This can also be managed through selectivity in recruitments, by selectivity we refer to setting higher standards for choosing the employee to hire. Selectivity should be broad-based instead of specialised skills through this medium growth options are created because such employees are trainable and can upgrade their skills easily.

b. **Uncertainties of Volume**: This arises due to seasonal or cyclical trends in employment, or due to sudden fluctuations of demand and supply of the number of employees. For instance, after the announcement of the consolidation requirement by the CBN a lot of banks started to lay off some of their staff to be able to position themselves for either mergers or take-overs however after the consolidation process banks started to expand their branch network to make them more competitive; in doing that the demand for human capital increased more than ever before. In solving the problem of uncertainties of volume, for firms that face greater fluctuations of volume would employ greater number of contingent/part time/contractual employees.

c. **Uncertainties of costs and combinations**: These are associated with the fixed cost of employees. High employee costs especially when profitability is volatile, represent a severe drag on the cash flow of the firm. Uncertainties of combination on the other hand arise when there is a need for reallocation of employees or their skill within the firm due to qualitative/quantitative variations in demand and supply. For example day to day scheduling may require shifting of employees around different operations as per requirement. This may also be necessary for reducing employee costs or for keeping it under control. If employees do not have the breadth of skills or knowledge, this may not be possible, and gives rise to the risk of combination. For firms to manage the uncertainties that relates to cost, the firms can use a variable compensation plans. The use of highly variable compensation plan is found in the sales profession, where under high uncertainty of performance, sales agents are paid on full commission basis, while under less uncertain conditions, commission is added to base pay. Apart from the extent of variable pay in the total compensation package, variable compensation plans also entails decisions regarding the choice of parameters for measurement of performance, extent of variability of these parameters, and the level of measurement of these parameters. To manage the uncertainties of combination, firms should ensure job rotation, and team based work.

2.9 HUMAN CAPITAL INVESTMENT IN THE BANKING INDUSTRY

The concept of human capital investment will include the cost implication of the recruiting, maintaining and retaining the best calibre of staff. This can also mean the management of a firm human capital. As put by Fola (2001) that management of human capital is the process of ensuring that the organisation strategically manages the effective deployment of its employees, through recruiting, retaining and developing the right calibre of staff in order to attain the overall objective of the organisation.

According to Schmidt (2004), a typical bank has a lot of tangible assets, virtually all of which are financial in nature. From a financial accounting standpoint, these tangible assets account for the bank’s book value. But most banks trade above their book which can be attributed to the fact that the capital markets recognize some future value in these banks beyond what's on their balance sheets. That difference is the value of their intangible assets, which include structural capital, such as the proprietary software a bank uses to manage its back-office operations; external capital, such as brand value or customer relationships; and human capital, or the know-how and creativity of the people who work in the bank. These intangibles are interrelated. For example, a bank's brand promise is conveyed largely by the interaction between retail customers and front-line branch employees.

The banks that have higher-value intangible assets are the ones that create the largest market premium to their book values. The capital markets recognize banks that have the best prospects for achieving the highest future earnings growth and the best returns on investment. So, it becomes imperative in this era when intangible assets are driving market capitalizations that banking companies understand how to create and leverage their intangible assets, especially human capital.

The importance of human capital therefore, cannot be overemphasized. Paul (1992) noted that although ideas are the critical input in the production of more valuable human and non-human capital, human capital is the most important input in the production of new ideas. He went on to argue that physical capital are sometimes used as auxiliary, but a trained persons is still the central input in the process of trail and error, experimentation, guessing, hypothesis formation and articulation that ultimately generates a valuable new idea that can be communicated to and used by others. This new idea is what sustain and keep bank the competitive advantage.

In the words of Ebhohimen (1991) human capital has relevance to the issue of productivity growth and marginal returns, as differences in productivity among workers may reflect different levels of skills acquired through investment in human capital. This investment includes acquisition of knowledge, abilities, attitudes and sensitivities.

Today, banks in Nigeria for instance have problem of having the needed human capital to carry on it work efficiently and effectively. Therefore, they result in pouching from competitor since it will take them a long time to actualise the process of recruiting new staff, training the staff to meet their human capital needs. The human capital in the Nigerian banking industry is also highly mobile; there is room for free entry and exit that explains why bankers moved from one bank to the other.

2.10 THE RELATIONSHIP BETWEEN HUMAN CAPITAL AND PERFORMANCE

Human capital is viewed as an element of intellectual capital like other elements which include innovation capital, process capital and customer capital, these elements on their own cannot solely impact on the performance of a firm. It is believed that casual relationships exist between these elements. However, human capital is the most fundamental elements of intellectual capital. According to van der Meer-Kooistra and Ziljlstra (2001) human capital knowledge and experience is the main element, which is the base of other elements and which will impacts a company's value through affecting other elements. Employees' knowledge and capabilities are the source of innovation. In order to accumulate innovation capital, besides relying on the firm's encouragement and active input, raising employees' capabilities is also an important impact factor.

Consequently, it would be appropriate to infer that human capital is closely linked to innovation capital. Employees must be relied on to carry out the internal processes of a company, while employees also perform all customer services. It is believed that employees provide the quality of service while implementing internal processes, the capability of employees would affect process efficiency, quality, and customer satisfaction. This cause-effect relationship indicates that accumulating human capital would be helpful to improve the other forms of intellectual capital and in effect improve performance.

Fornell et al (1996) propose the American Customer Satisfaction Index and contend that customer expectations, perceived quality, and perceived value could influence customer satisfaction is to increase perceived quality. Zeithaml and Bitner (1996) believed that the higher the perceived quality, the more the customers are satisfied. The internal process of a company provides service quality to its customers. Therefore, process capital is somewhat of a leading intellectual capital element, which affects customer capital element, while the customer element in turn influences financial performance.

According to Philips and Somboon (2006) the link between human capital and performance is based on two theoretical strands. The first is the resource-based view of the firm. The second is the expectancy theory of motivation as stated by Vroom (1964) composed of three elements: the valence or value attached to rewards; the instrumentality, or the belief that the employee will receive the reward upon reaching a certain level of performance; and the expectancy, the belief that the employee can actually achieve the performance level required.

Initial writing on human capital and performance of firms dates as back as 1960 with the works of economists such as Shultz (1969), Mincer (1962), and Becker (1964, 1976). They studied the relationship between education and economic growth, productivity and earning growth which all have empirical support. They all concluded that human capital is the basis in explaining individual earning differences. The further state that employees who invest in education and training will raise their skill level and be more productive than those less skilled, and so can justify higher earnings as a result of their investment in their human capital. In similar line, human resource accountants in a bid to establish valid and reliable techniques for measurement of cost and value of employees to organisations explain how the contributions of employees added to the asset value of the firm. The main issue as seen by human resource accountants is that human assets, unlike capital assets, have a largely uncertain future service life. Therefore, they have been concerned with the nature of the uncertainty and providing estimates of this, with a number of measures used, including the discounted future compensation model proposed by Lev & Schwartz (1974). Flamholtz (1974, 1985), believes that the human resource accounting issue of measuring an individual's value to firm is founded on the notion that it is not the individual per se who is valuable, but the individual in relation to the roles he/she plays that is crucial. However, because of the twin problem of stringent public accounting standards not allowing reporting of human asset value in financial statements and the absence of generally accepted accounting procedures, the concept remained theoretical.

The 1980s rise in human resource management brought managerial scholars to debate on the link between the management of people and performance. A number of attempts towards giving the theoretical view an empirical base were made. Notable among them are the works of Nkomo (1986, 1987) where he examined the link between Human Resource planning and business performance and found no correlation. However, the work of Ulrich, Geller and DeSouza (1984) used the PIMS database and found positive relationships between specific Human Resource practices and business results. A later study by Yeung and Ulrich (1990) found that the manner of alignment between Human Resource and business strategy had an impact on organisational performance. Within the accounting field, utility analysis became a dominant theme. With this, attempts were made to solve the measurement problems that have dogged early human resource accounting formulations by examining alternative means of economic valuation. Steffy & Maurer (1988) believes that Utility analysts measure the economic contribution of personnel activities according to how effective they are in identifying and modifying individual behaviours, hence the future service contributions of employees. Thereby analysing the dollar value of certain human resource programs, particularly selection and training, and comparing them with the expected dollar value return from other investments.

Schuster (1986) also assessed the critical contribution of human capital. He used employee surveys and interviews of 1300 of the largest US industrials and non-industrials to research whether a significant relationship exists between the way in which organisations manage their employees and profitability. His findings included a statistically positive relationship between the use of employee-centred management practices and superior financial performance.

The research approach of focusing on individual human resource and link to performance continued into the early 1990s, some relying on single measures of human resource practice. Studies carried out showed that selectivity in staffing is positively related to organisational performance. Borman (1991) identified performance evaluation and its linkage to compensation schemes have also been identified as contributing to increases in firm profitability. There were different views as relate to human resources practice but the dominant view of human resource efficacy is that individual human resource practices ‘have limited ability to generate competitive advantage.

In a Boston Consulting Group study of 100 companies in Germany, covering ten industrial sectors over the seven-year period 1987–94, Bilmes, Wetzker, and Xhonneux (1997) found that those companies which produced a greater total shareholder return than their competitors also scored highly on such measures as: expenditure per employee, contribution of employees as reflected in mission statements, promotion opportunities and flexible work hours, among other innovative human resource management practices. The emphasis in the more successful companies was on building employee capacity, also noted by Dunphy (2000).

Different studies have been conducted and models created on how to link investment in human capital and firms performance. For instance, human capital research in the investment banking industry by Royal and Althauser (2002), Royal (2001), and another qualitatively based study of US human capital Kalleberg, Knoke, Marsden and Spaeth (1996) found that sustainable people-centred practices that emphasise long-term relationships with their employees, and which view the employment relationship as being more than one party in a straightforward economic exchange and which encourage organisational membership, perform better with regard to product development and innovation, attracting and retaining good staff and ultimately financial performance. These insights, when considered in light of the Watson Wyatt research (2002) create a strong case for human capital analysis in the financial markets.

More evidence of the link between human capital and financial performance is seen in a large-scale research project by Hewitt and Associates (2003) which examined philosophies, policies, programs and practices influencing the management of people. Independent judges conducted a blind assessment of data from three instruments to create a list of Best Employers, 2003. The Hewitt Employee Engagement model survey was completed by 139 private sector companies and 25 public sector organisations, and included 28 000 respondents. Statistical samples of employees were surveyed randomly in each company to gain perspective on commitment. The CEO questionnaire asked each company's CEO about philosophies and approaches to managing people.

Collins (2001) compared companies in the same industry, which sustained success over many years with those that had not. The methodology used by Collins was an innovative combination of traditional financial analysis, complemented by a selection of qualitative approaches. Collins screened companies using Fortune 500 data, then CRSP data, then by industry and was left with 11 companies from which demonstrated long-term sustainability of both financial and human capital.

Also, Gupta, Iyer, and Aronson (2000) have noted that issues of knowledge management can have an impact on the efficiency and the performance of the firm. These individual intellectual property measures are often not a systematic part of financial analysis by securities analysts.

Dunphy (2000) highlights a 1996 study by the American Management Association indicating a strong correlation between increased training budgets and larger profits and productivity flowing from workforce reductions. The study found that organisations performed better when they were strategically well positioned in the changing environment and pushed the pace of internal organisational change fast enough to match the external pace of change.

Eli and Gilad (2001) examines the relations between investments in players' contracts and current and future company performance for a sample of 58 football clubs during 1990 – 2000. They posits that investment in new football players constitute assets, where assets are defined as costs associated with future sales, operating profits and league positions. They focused on UK football clubs because human capital is perhaps the only revenue driver in these companies and because the mobility of labour and inherent talent therein is restricted. The results showed that investing in human capital is capable of increasing future benefits and selling it may reduce them.

However, it is worthy of note that, from a theoretical perspective, human capital analysis needs to be carefully applied. Delery (1998) and Harris and Ogbonna (2001) emphasise the importance of understanding the mediating variables between strategic human resource management and performance. It is therefore important for researchers to be careful in the attempt to define the underlying mechanisms through which human resource systems affect financial performance. This is so because, some human resource practices are addictive i.e. independent, non-overlapping effects on outcomes, some are interactive i.e. depend on other elements in the system, and some may be substitutes for one another.

Over the years, consulting firms have carried out studies on how human capital contributes to performance of a company. These firms have designed and develop models that have been applied in determining the impact of human capital on firm performance. The following are some key models designed and developed. However, different firms looked at performance from their own perspective.

1. Accenture

Accenture is developed a new model that addresses a wide range of factors contributing to shareholder value creation. These factors include human, organizational and relational capital as well as monetary and physical resources already addressed by traditional accounting. To get data for the model, it surveys stakeholders and links their perceptions to measurable company attributes and resources. Using scenario analysis and sensitivity testing, it tries to predict the consequences of different combinations of resources, value drivers, and transformations. It attempts to show “what resources affect what attributes, and what attributes affect what stakeholders, as well as the trade-offs that might improve overall shareholder value performance.”

The HR part of Accenture's model follows the cause-effect chain. Accenture tries to show that sound, strategically aligned, human resource management processes produce desirable human capital capabilities, which, in turn, produce high levels of customer satisfaction and retention plus high levels of quality and productivity; these, in turn, produce desirable financial results. Accenture applied this model initially to 19 global companies. As it applies the model to more and more organizations, it hopes to improve its predictability.

One practical application of the model might be to help a company having problems with profit declines and low levels of customer satisfaction. Accenture could analyze the relationship among a variety of factors affecting customer satisfaction and profitability. These factors might include recruitment, competency management, learning/training, and workforce proficiency. It would then be able to advise the company regarding the most promising methods of boosting customer satisfaction in a manner that also appears likely to boost profits.

2. Watson Wyatt

Watson Wyatt also reports developing a model that can predict the impact of HR activities on a firm's shareholder value. This model, derived from surveys of 750 North American and European companies, is embodied in its human capital index. Watson Wyatt reports that companies with rising shareholder value are more likely than their counterparts to show superior performance in three areas of the HR development life cycle: recruiting, rewards, employee relations (collegial workplace and communications integrity). It verified the predictability of its results by conducting the survey twice, once in 1999 and a second time in 2001. It was able to establish that companies with high scores on its human capital index in 1999 achieved greater improvements in shareholder value by 2001 than companies with low 1999 human capital index scores. Presumably Watson Wyatt can use its index to identify companies likely to enjoy superior growth in future shareholder value.

3. Gallup

The Gallup Organization has developed a model called the Gallup Path that is designed to show how improvements in a company's human capital can improve its financial performance. It uses a cause-effect chain similar to the one described above, but includes 12 steps. It starts with identifying the strengths of a company's employees and ensuring they are in positions that allow them to capitalize on their strengths. Then it tries to show that success in these areas produces great managers, who produce engaged employees, who produce engaged customers. Then it tries to show that engaged customers produce sustainable corporate growth (as measured by such things as revenue per store or per product or number of services used per customer), which leads to real profit increases, which should cause shareholder value to rise.

Gallup provides products that help companies improve their performance on the first five steps along the path. For example, it has a set of 12 questions that measure employee engagement. It reports that its research shows that high scores on these 12 questions are positively associated with five outcome measures: employee retention, productivity, customer satisfaction/engagement, safety, and profitability.

4. HC Bridge

This model, developed by a professor at the University of Southern California and an executive of an HR consulting firm, is designed to improve the quality of corporate decisions regarding human capital. The model requires a company to examine three issues: impact, effectiveness, and efficiency.

The company first identifies the kinds of talent that have the greatest impact on its competitive success. To gauge effectiveness, the company then examines the relationship between its HR practices and the quality of its talent pool—in other words, are the company's HR activities bringing it the kind of talent most necessary to its competitive success? To gauge efficiency, the company then looks at the quality of its HR processes—in other words, is the company receiving the best HR processes possible in light of the money it is spending?

5. Mercer HR Consulting

Mercer's disclosures about its model are sketchy, it uses applied statistical methods and principles traditionally found in economics and organizational psychology to evaluate the internal dynamic of an organization (internal labour market analysis and employee sensing) and the impact of this dynamic on the company's business (business impact modelling). These methods allow a company to link explicitly specific business effects to individual human capital tactics—changing the mix of full-time and part-time workers, adjusting the reward system, or changing spans of control, for example. MercerHRMetrics offers two kinds of tools designed to create measurable links between a company's HR practices and its business performance.

Its market alignment tools allow a company to compare business performance, human capital practices and HR infrastructure to market conditions, performance and practices. These tools allow a firm to understand the effectiveness of its processes supporting parts of the human development life cycle (e.g., compensation, benefits, stock option rewards).

Mercer's organizational alignment tools enable a company to link its people practices to its business performance. These tools allow a company to assess the relationship of its human capital practices and its business design; assesses the human capital implications of its current business design, and to identify financial and operational drivers of shareholder value creation.

6. Hewitt Associates

Hewitt Associates, in collaboration with Michael Treacy, has designed a model that describes the HR activities associated with double-digit corporate growth. It examines the relationship between double-digit growth and the following: broad-based pay, engagement, executive compensation, leadership, sales organization practices, and strategic sourcing. It uses Treacy's definition of growth to compare double-digit growth companies with their counterparts. To qualify as a double-digit growth company, a firm must have a CAGR five-year average growth in profitability (revenue minus cost of goods sold) of 10 percent or more and hit that target at least three of the last five years. The companies used in Hewitt's research come either from its engagement databases or from surveys of businesses. Presumably this information could be used in a model that predicts future corporate growth rates on the basis of a company's practices in the areas of pay, engagement, executive compensation, leadership, sales organization practices, and strategic sourcing.

Just as the quality of marketing decision-making has been boosted by the introduction of target marketing decision sciences tools, the quality of HR decision-making is likely to rise as decision sciences tools are applied to HR decisions. Insurance companies will benefit as a result.

2.11 THEORITICAL FRAMEWORK

Many researches have been conducted in the area of human capital however; there is still the existence of a wide gap between theory and practice. The shift towards value-addition based measurements of investment in human capital has gradually begun to close the gap between theory and practice.

Value Added Intellectual Coefficient (VAIC^{TM}) developed by Pulic (1997) is found most appropriate for the study of human capital and performance. It meets the basic requirements of contemporary economy indicating the real value and performance of a company; this is because value added has been reputed as the preferred measure of the wealth created by activities of a company. Pulic (1997) sees investment in human capital as the sum total of all expenditures incurred on the employees during the period, that is, the salaries and allowances. He also used

Human Capital Efficiency to assess the efficiency achieved the company from the investment in human capital. Human Capital Efficiency coefficient (HCE), is said to be measure by dividing Value Added by investment in human capital, thus

$$HCE = \frac{\text{Value Added}}{\text{Human Capital}}$$

VA = Value Added (calculated as Output less Input i.e. Total revenue less the difference between operating expenses and salaries)

HC = Human Capital (calculated as total salaries and allowances for the company)

Therefore;

VA = Total Revenue – (Operating Expenses – Salaries)

This model meets the demand for giving employees the status of key resource by treating them as investment and not as cost; this because they invest their knowledge and skills which is valued by the market through the company's activities and reflected in the created value added. The model has received wide usage in the area of intellectual capital valuation especially with human capital due to the inadequacies of the other valuation methods and measurement models. VAIC^{TM} provides a standardised and consistent basis of measure that can be used for easily comparison both within sector, industry or internationally. It is also important to state that all the data used is based on audited information from financial reports, therefore results can be said to be objective and verifiable. Also, like other traditional measures of corporate performance, it is easy and straightforward for both internal and external users of the financial statement.

VAIC^{TM} have been used in various study notable among them are; a study conducted on intellectual capital and performance of Austrian banks by (Pulic & Bornemann, 1999) and similar study conducted on Croatian banks by (Pulic, 2001). Mavridis (2004) used the same model to study the performance of Japanese banks. Other researches that have utilised VAIC^{TM} includes; Bharathi (2010) conducted study on the intellectual capital performance of Banking Sector in Pakistan using VAIC^{TM} and found that private sector banks out performs other banks on intellectual efficiency which he said is attributed to efficient usage and management of human capital. In another research conducted by Mohammed, N & Ismail, M (2009) using VAIC^{TM} to test the intellectual capital efficiency and firm's performance in Malaysian financial sectors, they found out that there is a significant and positive relationship between intellectual capital and company's performance.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1INTRODUCTION

This chapter describes how the research was carried out, it covers the methods adopted for the research, how the sample was arrived at, the size of the sample and the variables used for computations. It also covers the tools used for testing the formulated hypotheses.

3.2 RESEARCH DESIGN

The historical research method was adopted to assist the researcher in arriving at an accurate account of the past to gain a clearer perspective of the present situation of the Nigerian Banking System. Descriptive method of research was used to serve as a prerequisite to inferences and generalisation. It also show trends in description from which hypothesis made and later tested.

3.3 POPULATION

The population of the study is the Nigerian banking industry. This includes all the 21 banks registered and quoted in Nigerian as at January, 2006, after the CBN N25Billion recapitalisation requirement.

3.4 SAMPLE SIZE

A sample size of 4 was obtained from the calculation of sample size from sample size calculator as developed by *The Survey System (2009)*. Where, the Population Size is 21, the Confidence Level is at 95% while the Confidence Interval is between 10-50 percent that is, to say between (50-10) and (50+10) percent of the population will behave in the same way. Though the resulting sample size gives us 4 banks, we decided to increase that number to 6. The reason for this increment is to have more variables in the regression equation instead of limiting them to the minimum.

The banks were selected proportionately based on old generation and new generation banks. The details of the calculation are given hereunder:

Old Generation	=	6/21 * 6	=	2 banks selected
New Generation	=	15/21 * 6	=	4 banks selected

The banks were thereafter randomly selected from each stratum, Union Bank and First Bank were randomly selected from the old generation while Fidelity, Diamond, GTB and Zenith were selected from the new generation.

3.5 DATA COLLECTION METHODS

Considering the nature of the research which relied on financial information which are secondary in nature. Data were gathered mainly from secondary sources. This secondary sources of data include; financial reports and accounts, CBN Annual Supervision Report and Nigerian Stock Exchange. Data collected were secondary, major from annual reports and accounts of the banks under study from 2005 – 2009. Other data will be collected from other publications from external sources like financial and investment advisers, credit rating companies, research institution and regulatory bodies.

3.6 VARIABLES DEFINITION

The research has two key variables as it relate to the research. These variables relate to human capital investment and bank performance. From the human capital perspective the variable is denoted by the staff cost STC (salaries and allowances) of the bank staff as adopted from Pulic (1997) while bank performance indices focus Market Price per Share, Net Book Value and Earnings per Share.

Market per Share (MPS) were obtained from the daily official listing of the NSE on or preceding the day of the end of the financial year of each of the banks. Book Value were obtained from the annual report and accounts for the banks that includes such information in their financial statements, for banks that do not have such information in their financial statements BVS is obtained by dividing the Net Assets (Total Assets less

Liabilities) by Numbers of shares in issue. EPS (basic EPS) on other hand were obtained from the annual reports and account of the banks.

Three equations were raised in order to determine the relationship between human capital investment and Market Price per Share (MPS), Book Value per Share (BVS) and Earnings per Share (EPS) used as proxies of performance. Based on the hypotheses formulated in chapter one, the following equations were structured to enable the test of hypotheses.

$$MPS = a + \beta STC + e \quad - \quad - \quad - \quad (1)$$

$$BVS = a + \beta STC + e \quad - \quad - \quad - \quad (2)$$

$$EPS = a + \beta STC + e \quad - \quad - \quad - \quad (3)$$

Pulic (1997) model of Human capital efficiency (HCE) is used to test hypothesis on the human capital investment and efficiency of employees. The model states that;

$$HCE = VA/HC$$

Where

VA = Value Added (Calculated as output less input i.e. Total revenue less the difference between operating expenses and salaries)

Therefore, VA = Total Revenue – (Operating Expenses – Salaries)

HC = Human capital Investment (calculated as total salaries and allowances for the company)

The decision criteria for the model is that, where HCE is positive this means there is efficiency, where HCE is negative this means there is no efficiency and where there is neither positive nor negative that means there is no relationship.

3.7 DATA ANALYSIS AND HYPOTHESIS TESTING

Secondary data obtained were tabulated and simple ratios were used for analysis. The hypotheses formulated were tested using Regression Analysis run with SPSS and Human capital Efficiency using HCE model of Pulic (1997)

3.8 JUSTIFICATION FOR THE METHODS USED

The decision to use Historical and Descriptive methods was borne from the nature of phenomena under study. The historical research method will provide data as it relates to past trends while descriptive research method will provide data relevant to the present and will assist in analysis and interpretation of these data to arrive at generalised results.

Secondary source was used since the research is related to financial analysis and data needed for such analysis can only be source through secondary source. Data, after they have been collected (usually scanty) must be presented in an orderly and easily understandable and comparable manner. Thus, the idea of using table to summarise data collected. The inferential tools of statistics were adopted for hypothesis testing so as to be as objective as possible in reporting results of findings.

CHAPTER FOUR
DATA PRESENTATION AND ANALYSIS

4.1 INTRODUCTION

This chapter presents, interprets and analyses data collected from the various annual reports of selected banks. The aim of this chapter is to provide basis for making conclusion in respect of the impact of human capital investment on the performance of banks in Nigerian and the efficiency of the banks' employees. The chapter also provides details and computations, which are used in rejection or acceptance of hypotheses formulated in this study.

4.2 DATA ANALYSIS AND HYPOTHESES TESTING

Table 4.1 Human Capital Investment and Performance Proxies

Bank	Year	HC Investment ₦'m	MPS	BVS	EPS	ΔEPS
Diamond	2005	3207	6.95	3.41	0.20	-0.02*
	2006	4585	7.75	4.60	0.57	0.37
	2007	6788	10.70	5.73	0.89	0.32
	2008	9767	19.00	8.89	1.10	0.21
	2009	14873	7.35	3.81	0.48	-0.62
First	2005	12757	22.46	11.30	3.35	0.03*
	2006	15348	37.00	11.64	2.56	-0.79
	2007	19908	38.00	7.38	1.56	-1.00
	2008	31305	47.24	17.09	2.23	0.67
	2009	39275	14.05	14.12	1.41	-0.82
Fidelity	2005	928	3.23	1.14	0.14	-0.16*
	2006	3609	2.93	1.55	0.19	0.05
	2007	4478	9.52	1.81	0.25	0.06
	2008	7559	10.25	4.69	0.45	0.20
	2009	14018	3.46	4.47	0.08	-0.37

GTB	2005	2396	10.00	5.38	1.13	-0.22*
	2006	3448	13.70	6.79	1.45	0.33
	2007	5377	29.30	6.25	1.63	0.18
	2008	8026	35.10	11.94	1.73	0.10
	2009	15220	15.50	10.31	1.28	-0.45
Union	2005	12784	21.20	8.75	1.50	-0.23*
	2006	13424	25.89	10.60	1.04	-0.46
	2007	18098	30.00	10.00	1.26	0.22
	2008	21386	43.50	9.61	2.14	0.88
	2009	31101	10.00	3.93	-5.26	-7.40
Zenith	2005	5861	15.20	6.30	1.36	-0.32*
	2006	9224	20.51	10.22	1.03	-0.33
	2007	14651	66.14	12.18	1.59	0.56
	2008	33942	36.66	20.21	3.45	1.86
	2009	41913	13.60	13.07	0.73	-2.72

Source: Annual Reports & Accounts of the Selected Banks and NSE Daily Official Listing.
Note: Figures with * symbol are computed using the 2004 EPS figures.

Table 4.2 Regression Computational Results

Variables	MPS	BVS	EPS	CEPS
R	0.320	0.677	0.003	0.357
R^2	0.102	0.458	0.000	0.128
Adjusted R^2	0.070	0.439	-0.036	0.097
t values	1.784	4.864	0.017	-2.025
F statistics	3.183	23.654	0.000	4.102
significance	0.085	0.000	0.987	0.050

Source: SPSS computational Results using the Data in Table 4.1

There is a positive relationship between MPS and human capital investment of Nigerian banks. The relationship is however not significant because the correlation coefficient is computed as 0.320. The adjusted coefficient of determination (R^2) is computed as 7%. This means that only 7% of the variations in the MPS of Nigerian banks are as a result of human capital investment. The beta (β) value of 32% indicated that for every ₦1 invested in human capital there will be 32k increase in MPS of the banks.

Also, the calculated t-value of 1.784 is less than the table critical t-value (12.706) at 5% level of significance (i.e. $t>t_{0.05}$). The p-value (significance) showed 0.085 or 8.5%, which is greater than the 5% level of significance adopted. Therefore, the null hypothesis one is accepted, which means investment in human capital has no significant impact on the market price per share of Nigerian banks. The regression equation (1) is therefore reproduced as follows:

MPS = 14.7268 + 0.32 STC --------------- (4)

There is a strong positive relationship between BVS and human capital investment of Nigerian banks (R = 0.677). The adjusted coefficient of determination (R^2) is computed as 43.9%. This means that only 43.9% of the variations in the BVS of Nigerian banks are as a result of human capital investment. The beta (β) value of 67.7% indicated that for every ₦1 invested in human capital there will be 67.7k increase in BVS of the banks. Also, the calculated t-value of 4.864 and a p-value (significance) of 0.000 showed significant relationship. Therefore, the null hypothesis two is rejected, which means investment in human capital has significant impact on the book value per share of Nigerian banks. The regression equation (2) is therefore reproduced as follows:

BVS = 4.311 + 0.677 STC --------------- (5)

The analysis also showed that there is a positive relationship between CEPS and human capital investment of Nigerian banks. The relationship is however not significant because the correlation coefficient is computed as 0.357. The adjusted coefficient of determination (R^2) is computed as 9.7%. This means that only 9.7% of the variations in the CEPS of Nigerian banks are as a result of human capital investment. The beta (β) value of 35.7% indicated that for every ₦1 invested in human capital there will be 35.7k increase in CEPS of the banks. The p-value (significance) showed 0.05 or 5%, which equates with the 5% level of significance adopted. Therefore, the null hypothesis three is rejected, which means investment in human capital has significant impact on the change in earnings per share of Nigerian banks. The regression equation (3) is therefore reproduced as follows:

CEPS = 0.362 + 0.357 STC --------------- *(6)*

It is also part of the objectives of this study to find the impact of human capital investment on the efficiency of employees in Nigerian banks. In order to achieve this objective and to test hypothesis four, we used Pulic (1997) Human Capital Efficiency Model. The table below presents the data used in the computation of the efficiency coefficient of the Pulic Human Capital Efficiency Model.

Table 4.3 Human Capital Efficiency

Banks	Years	HC	VA	HCE=VA/HC
Diamond	2005	3207	8579	2.68
	2006	4585	11940	2.60
	2007	6788	19430	2.86
	2008	9767	30079	3.08
	2009	14873	47346	3.18
	MEAN	7844	23475	2.99
First	2005	12757	35204	2.76
	2006	15348	37604	2.45
	2007	19908	43858	2.20
	2008	31305	73644	2.35
	2009	39275	95712	2.44
	MEAN	23719	57204	2.41
Fidelity	2005	928	2752	2.97
	2006	3609	6388	1.77
	2007	4478	9859	2.20
	2008	7559	24678	3.26
	2009	14018	20667	1.47
	MEAN	6118	12869	2.10
GTB	2005	2396	11706	4.89
	2006	3448	16687	4.84
	2007	5377	22385	4.16
	2008	8026	48567	6.05
	2009	15220	46387	3.05
	MEAN	6893	29146	4.23
Union	2005	12784	26686	2.09
	2006	13424	2861	0.21
	2007	18098	36336	2.01
	2008	21386	54750	2.56
	2009	31101	-32304	-1.04
	MEAN	19359	17666	0.91
Zenith	2005	5861	19278	3.29
	2006	9224	28848	3.13
	2007	14651	43288	2.95
	2008	33942	88896	2.62
	2009	41913	86280	2.06
	MEAN	21118	53318	2.52

Source: Annual Reports & Accounts of the Selected Banks

Table 4.3 above showed that all banks recorded efficiency in human capital for all years except Union Bank with a negative (inefficient human capital) in 2009. The table also shows that the banks have maintained consistency in it HCEs over the period. It was also seen from the table that the new generation banks are more efficient in terms of human capital than the old generation banks. It can also been seen that GTB led other banks as the most human capital efficient bank while the least emerged as Union bank. From the foregoing we therefore reject hypothesis four that human capital investment has no positive impact on employee efficiency. Since the Pulic Human Capital Efficiency coefficients for all the selected banks showed positive values, this means that there is sufficient evidence to say that human capital investment impacted positively on the efficiency of employees in Nigerian banks.

4.3 SUMMARY OF RESEARCH FINDINGS

From the analysis and interpretation above, the following are the research findings from this study:

i) Investment on human capital has positive insignificant impact on the market share price of Nigerian banks. This means that as Nigerian banks invest more on their human capital, only a little proportion of this effort translates into increase in market price per share.

ii) Investment on human capital has positive significant impact on the book value per share on Nigerian banks. Therefore, as more money is invested on the human capital of banks in Nigeria, the book value per share will increase significantly.

iii) Investment in human capital impacts positively on the change in earnings per share of Nigerian banks. From the foregoing, it can be said that the more investment in human made by Nigerian banks the more change in it earnings per share.

iv) Investment in human capital impacts positively on the efficiency of bank employees. This means the more investment in human capital a bank makes, the more efficient it employees will be.

4.4 SUMMARY

The chapter covered the analysis and interpretation of data, hypotheses formulated in chapter one were tested using the tools described in the methodology. The chapter was able to bring out clearly the impact of human capital investment on the performance of Nigerian banks and the efficiency of banks' employees.

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 SUMMARY

The study looked at human capital and performance of Nigerian banks. The Nigerian banking industry was x-rayed from the historical development perspective to the human capital development perspective. The importance, types and kinds of investment in human capital were also considered. Various other literatures that relate to human capital investment as it relates to the banking industry were review both from the theoretical and the empirical perspective.

The study adopted the historical and descriptive research method in carrying out the work, it also adopted stratified simple random sampling techniques to determine it sample size. The stratified sampling technique was adopted to accommodate the differences in the period of establishment of the banks in Nigeria. Some banks were established prior to SAP and referred to as Old Generations and those established after SAP and referred to as New Generation. This stratification was done to cater from the differences in the human capital investment culture. Six (6) banks emerged from the population with First Bank and Union Bank from the Old Generation banks, Zenith Bank, GTB, Diamond and Fidelity as New Generation banks.

The hypotheses formulated in chapter one were also tested and decision were made based on the result of the hypothesis testing.

5.2 LIMITATIONS OF THE STUDY

This research work has encountered problems in the course of carrying it out. The topic being relatively new phenomena around the world and Nigeria in particular had made it difficult to obtain enough published materials like textbooks on the subjects. So the researcher has to rely on articles from newspapers, newsletters, magazines, WebPages, papers presented at seminars and conferences and unpublished research work. There is also dearth of enough researches conducted on the area especially as it relates to the empirical research work. Also, most of the research works were conducted in developed economy where all information on staff and cost are properly documented.

There seems to be non existence of research in this area conducted in Nigeria. Another area of difficulty faced by the researcher is the availability of data needed for the analysis and test of hypothesis. Data which are obtainable from the Annual report and Accounts of the banks under study became difficult to access. The researcher has to rely on other sources of audited financial information on the banks other than it annual reports. Worthy of mention is the problem of time and money, even where sources of data are known the time allocated for the research could not permit the researcher to obtain as many data a possible but only limited the work to basic and only very important data, there is also inadequate fund to be used in carrying out the research.

5.3 CONCLUSION

Researches and studies in recent times have shown that the time to focus on human capital is now; many of those researches have also proved that the era of expensing salaries and allowances is gradually coming to an end. That employee should be seen more from the point of investment in asset rather that materials used in the production of services. Notwithstanding the above importance there has been conflict on how best to measure human capital investment.

The research thereafter concluded that Investment in human capital has positive insignificant impact on the market share price of Nigerian banks. This means that as Nigerian banks invest more on their human capital, only a little proportion of this effort translates into increase in market price per share.

Investment on human capital has positive significant impact on the book value per share on Nigerian banks. Therefore, as more money is invested on the human capital of banks in Nigeria, the book value per share will increase significantly. Investment in human capital impacts positively on the change in earnings per share of Nigerian banks. From the foregoing, it can be said that the more investment in human made by Nigerian banks the more change in its earnings per share. Investment in human capital impacts positively on the efficiency of bank employees. This means the more investment in human capital a bank makes, the more efficient its employees will be.

The study therefore conclude that human capital investment has significant positive impact on the performance of Nigerian banks to extent of book value per share and change in earnings per share.

5.4 RECOMMENDATIONS

The following recommendations are proffered based on the findings of the study:

i. Nigerian banks should increase their human capital investment to boost their book value per share. In doing that, basic motivating allowances should be introduced.

ii. Although the study found that no significant relationship exist between market price per share and human capital investment, Nigerian banks should always try to make their human capital more productive. This could be done by improving working condition and introducing non-financial incentives.

iii. Nigerian banks should critically analyse their human capital to identify areas where additional investment is needed.

iv. There is need for Nigerian banks to ascertain the level of human capital that can be seen to be optimal so that redundancy and under utilisation would not be encouraged.

5.5 SUGGESTION FOR FURTHER RESEARCH

Human capital is at present a very topical issue; there exist a lot of areas of human capital that should be studied. However, this study concentrated solely on human capital investment and performance of banks. The following areas are believed to be areas where further research can be undertaken;

i. This study talked briefly on measures and valuation of human

Capital, a detailed research can be carried out on formulating a generally acceptable method of measuring or valuing human capital.

ii. Another area where further research can be undertaken is the

area of reporting human capital investment. Areas to be looked into include reporting human capital as expense or asset in one hand or reporting human capital investment on historical cost, replacement cost, fair value or market value.

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APPENDIX 1 (a)

MPS

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.320	.102	.070	14.687

The independent variable is STC.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	686.638	1	686.638	3.183	.085
Residual	6039.467	28	215.695		
Total	6726.105	29			

The independent variable is STC.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
STC	.000	.000	.320	1.784	.085
(Constant)	14.726	4.366		3.373	.002

APPENDIX 1 (b)

BVS

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.677	.458	.439	3.443

The independent variable is STC.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	280.356	1	280.356	23.654	.000
Residual	331.871	28	11.853		
Total	612.227	29			

The independent variable is STC.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
STC	.000	.000	.677	4.864	.000
(Constant)	4.311	1.023		4.213	.000

APPENDIX 1 (c)

EPS

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.003	.000	-.036	1.496

The independent variable is STC.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	.001	1	.001	.000	.987
Residual	62.686	28	2.239		
Total	62.686	29			

The independent variable is STC.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
STC	4.17E-007	.000	.003	.017	.987
(Constant)	1.045	.445		2.349	.026

APPENDIX 1 (d)

CEPS

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.357	.128	.097	1.456

The independent variable is STC.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	8.690	1	8.690	4.102	.050
Residual	59.318	28	2.119		
Total	68.008	29			

The independent variable is STC.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
STC	-4.88E-005	.000	.357	2.025	.050
(Constant)	.362	.433		.837	.410