THE COMPUTERIZATION OF FINANCIAL STATEMENTS AND THE ANALYSIS

BY

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CERTIFICATION

This project title "**The computerization of Financial Statements and the Analysis**" by MUSTAPHA ADEMOLA MUBASHIR meets the regulations governing the award of Post Graduate Diploma in Maths/Computer Science by the Federal University of Technology, Minna and is approved for its contribution for computer application in other field of study.

DR. YOMI AIYESIMI
Project Supervisor

DATE

DR. S. A. REJU
Head of Department

DATE

EXTERNAL EXAMINER

DATE

DEDICATION

This project is purely and solely dedicated to God, Almighty Allah and my beloved mother, **Mrs. Binta Olaolu Mustapha**. May her soul rest in perfect peace. Amen!

ABSTRACT

Every company tries to know their financial position. This after being known would help them to make policies of how to meet their various obligations arising from their day-to-day transactions. There is no doubt that a firm that fails to know its financial strength has dug its own grave. Such type of firms would not be able to know the position of the firm vis-à-vis liquidity.

In this project work, the importance of knowing the financial position of a firm and how it affects the particular firm and others have been duly studied. For clear understanding, the best method among the tools of financial statement analysis has been chosen to demonstrate how financial statements analysis is effected vis-à-vis ratio analysis.

A basic program has been written. Basic is simple to understand such that a careful study of it even by a layman would be easily understood.

ACKNOWLEDGEMENT

My profound gratitude goes to my lecturers and supervisors, Dr. Yomi Aiyesimi for their support during the course of my study.

I am very appreciate of the fatherly advice and support form my father, Alhaji AbdulRazaq Mustapha and also I must express my deep gratitude to my wife, Mrs. Mustapaha M. Abiola for her support and encouragement when I am studying. So also I appreciate the contribution from my brothers and sisters, Muhammed Kazeem Mustapha, Idayat R. Mustapha and the rest.

Lastly, I must recognize the support I received from AbdulLateef and my friends.

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CHAPTER ONE

1.1   INTRODUCTION

Nowadays computers are becoming essential, most tasks being done manually are now done by the use of computers. It is not a surprise then, when most organisations are now computerizing their operations. This would definitely increase speed, accuracy and lead to efficiency and quick decision being taken at all levels of the organisation. Take for instance, First Bank of Nigeria Plc computerized all their customers' account recently. This would contribute immensely in fasting their daily transactions.

Now let us define what is really mean by computer. A computer is a machine that follows instructions in order to process data, solve a specific problem or accomplish a particular task. The instructions that control the computer when it performs a given task are referred to as a program. A collection of programs that are made to work together for a specific purpose is called software. Problem solved with the help of computer software ranges from assisting in the designing and solving accounting problem. Some computers carryout tasks such as helping to fly airplanes, while others dispense money at automated bank teller stations and others computer perform mundane task.

With a brief explanation at what computer does, we can see how computer is becoming dispensable. Now let us relate how computerization of an organisation financial analysis would be great benefits to the company. By definition, financial analysis involves the analysis of the

historic financial results of a business firm combined with any other publicly available information to assess the current situation as ell as future prospect of the business. The statement is intended to summarize its various financial aspects and its operations. These information that are contained in the statements are examined, analysed and related to other information by the external users. For a variety of reasons. These comprise basically of the balance sheet, the profit and loss account (income statement) and the statement of changes in financial position. The information is used by management, creditors, investors and others to form opinion or judgment about the operating performance and financial position of the firm. Ideally, the process of financial analysis is the assessment of a firms performance vis-à-vis other firms in the same industry and identification of possible reasons for variance and take corrective measures. Ratio analysis is among the tools used in analyzing financial statements. And also among the best method and mostly used tools of financial analysis. Ratio analysis is the application of a complex number of different ratios which focus on the several aspects of firms financial performance and financial status. Ratios fall into too categories, the first category consists of accounting ratios. While the second category consists of the market ratio. In this project, I am making use of the first category of ratios (accounting ratios) which rely upon the information disclosed in the financial statement.

In this project, the benefits that would accrue to organisation that computerizes its financial statement and how the analysis of the statement affect the decision making of the various users would be enumerated. Management users and other participants of the organisation would gain a

lot by computerizing their operations. Take for instance, an organisation that computes their financial statement manually is likely to spend more time on it and the correctness of the data may be ascertained while Organisation that computerizes its financial statements would spent less time and the accuracy of the information is guaranteed. It should be realized that while analyzing the financial statement, ratio analysis is one of the tools being employed. As it has already been made known I the third paragraph of this part of introduction. Specifically, this project would focus on the computerization of ratio analysis. This is because when studying the financial analysis of an organisation it would be more relevant with the ratio analysis. This really help in determining the capacity of the firm to meet their financial obligations.

1.2   OBJECTIVES OF THE STUDY

Liquidity of any organisation is very important for its operation because this means solvency. In other words, this means that the company would be able to meet both present and future payment of its operational expenses. To know whether a company is solvent or not, a company financial statements would have to be studied and the analysis of the ratios would be done. With the advent of computer in our environmental working areas, it would be of great benefits to the management and other users of the financial statements if it were computerized.

The objectives of this study are summarized below.

(i)   One essential things is to be known is that financial analysis provides information to the management and the public that is the users of the information. And based on this information

they would take their decisions. Their decisions may be either to increase their shares or dispose it off that is for the shareholders and for the bankers either to give loan to the organisation or not to. If this is not handle with care, the result of the information may lead to the liquidation of the company. One of the characteristics of computer is accuracy. If an organisation computerized their operations, the result would be accurate without giving wrong impression of the company to the users. Automatically, this would lead to efficiency.

(ii)   It would be known that computer work with great speed. This would definitely lead to quick decision being taken at all levels of the organisation.

1.3   IMPORTANCE OF THE STUDY

It is fact that computer has helped in different spheres of our life, that is in the office s and living environments. Giving, the characteristics, of computer which reliability, memory capability, rapid and accurate calculation, storage of data, continuous operation without getting fatigue, retrieval of data and data analysis. This study directs attention on the importance of computerization of financial statements. The information reported by financial analysis and how this information relate to the organisation. Below are summarized importance of this study.

i.   This study shows how important the financial analysis affect eh users and the workers of the organisation most especially, the management of the organisation in their decision making.

ii.   As stated above, that is in the first paragraph of this part, giving the characteristics of the computer. One would realize that it is essential for any organisation that wants to capture the market to improve on their services. One of the ways which this can be achieved is to computerize their operations.

1.4   SCOPE OF THE STUDY

The aspect that would be covered by this project is analysis of financial statements to aid in evaluating the efficiency of an organisation. Ratio analysis, which is one of the tools used in determining the efficiency Of an organisation would be the area of concentration and programmes would be written on the ratios.

To capture these, the financial statements to be studied include balance sheet and profit and loss account. The balance sheet and profit and loss account of A. G. Leventis (Nigeria) Plc would be examined.

1.3   DEFINITION OF TERMS

For proper comprehensiveness of the reader of this study, effort is made here to explain some of terminologies used in this project both the computer terminologies and financial terminologies.

Hardware: This is the physical component of computer system, which we can see and touch.

Programme: This is a sequence of instructions to solve a particular task.

Packages: These are software packages written by manufacturer to solve a particular task for example payroll packages.

Run: This means to execute a programme.

Software: These are collection of programmes that are made to work together for a specific purpose. For example, system software and application software. System software is written by manufacturer and application software are written software by vendors for specific task.

Current Assets: These means assets that are not fixed in nature, for example goods, cash and debtors.

Current Liabilities: These are liabilities that are not of long term nature, for example overdraft and trade creditors.

Fixed Assets; These are assets that are of permanent in nature, for example building and machineries.

FIFO: This means first in first out.

LIFO: This means easily convertible to cash.

Solvent: That is able to meet their obligations.

1.6 FEATURES

The features of the computer refer to the computer configuration. Normally, processionals in computer are called upon to select, configure and install the hardware associated with mini, mainframe and super computers. This is as a result of the complex nature and special

requirement for operation. But usually individual users typically select, configure and install their own microcomputer for their personal use; therefore, it is necessary to indicate the main components of the system and how they fit together.

It should be known that the personal computer (PC) and its peripheral device is generally referred to as the computer system configuration. Although, the configuration can vary. The most typical of it is listed below, which consists of the following:

a. A computer (CPU) cabinet: This is the central processing unit of the computer.

b. A keyboard for input: This is made use to enter the data into the computer just like the typewriter.

c. A monitor for soft-copy (Temporary) output: This where the information needed are displayed. It is a screen like television.

d. A printer for hard copy (printed) output.

CHAPTER TWO

2.1 RESEARCH METHODOLOGY

In gathering the data collection for this project, secondary type of data collection would be employed. This involves making use of already available data which is confirmed perfect.

The data to be used has to be précised, because the information generated from it ahs a solid effect on the organisation. Therefore, care should be taken in gathering the data. Majorly, I would be making use of annual report of an organisation, in the annual report attention would be concentrated on the profit and loss account, the balance sheet and some other relevant information. So also, other relevant textbooks would be employed.

In analyzing the data, quantitative method would be used.

2.2 LITERATURE REVIEW

Various authors have written and expressed their opinions on this subject matter, financial statement analysis. Effort is gingered here to sample some of these writers and look at their views.

Essential of Managerial Finance: It is aid in essential of management finance that planning is the key to the financial manager's success. Financial plan may take many forms, but any good plan must be related to the firm's existing strengths and weaknesses. The strengths must be

understood if they are to be used to proper advantage and the weaknesses must be recognized if corrective action is to be taken.

Fundamental of Financial Management: It is written in this textbook that financial analysis involves the use of various financial statements. These statements do several things. First, the balance sheet summarise the assets, liabilities and owners' equity of a business at a moment in time, usually the end of a year or a quarter. Next, the income statement summarizes the revenues and the expenses of the firm over a particular period of time, again usually a year or a quarter. While the balance sheet represents a snapshot of the firm's financial position at a moment in time, the income statement depicts a summary of the firm's profitability over time. Form these two statements (plus, in some cases, a little additional information) certain derivative statement can be produced such as a statement of retained earnings, a source and uses of funds statements and a statement of cash flow.

Financial Accounting Forth Edition 3: The author of this book wrote that financial statements of a business are analysed to determine its overall position and to find out about certain aspects of that position, such as earnings prospect and debt paying ability. In making the analysis, individual statement items are in themselves generally not too significant. However, relationship between items and groups of items plus changes have occurred are significant. As a result, financial statement analysis requires that relationship between items and groups of items and changes in items and groups be seen.

FOOTNOTES

1.   J. Pred West Engene F. Brgham (January 1982).
2.   James C. V. and John M. W. (1993).
3.   William N. Pyle and Kermit D. Larsun (1989).

Principles of Account 4: Accounting to these authors, they opined that firm's financial statements are used by various parties to evaluate the firm's financial performance, the firm's statement statements are contained in the annual report are the end products of the accounting process. To report On the progress of a firm during the year, most publicly held firms also issue interim reports each quarter. (Recall that an interim report coves a period of less than 12 months. Interim reports focus primarily on the income statement and contain summary data, rather than a full set of financial statements; still, they provide additional information for evaluating the profitability and financial position of the firm's Operations. Unlike the annual reports, however, interim reports are unaudited report. Annual and interim report, with their accompanying schedules and explanatory notes, are one of the primary means by which management communicates information about he firm to interested parties.

Introduction to Management Accounting 5: In this writer opinion, he pointed out that financial statements should facilitate comparison and prediction, the two major analytical tasks of both internal and external users. He went on further to say that some analysts maintain that financial ratios merely provide causes that necessitate deeper probing to discover underlying causes. However, a growing body of evidence shows that ratios can be directly helpful as a basis for making predictions. He then said that there are two major purposes of financial analysis - (1) Solvency determination (2) profitability evaluation solvency determination is the assessment of the likelihood of a particular future rate of return on a given security.

Basic Financial Accounting 6: The two authors of this book posited that the notion of financial control lies at the root of conventional accounting. It is concerned with the use and allocation of resources with a view to profit. Financial control is emphatically addressed to the problem of profitability, and may be seen as having two dimensions. First, internal financial control may be defined as the process of rationary funds within the firm to projects and activities, which will be most profitable. Thus, a firm is concerned with seeking the most profitable employment of its resources for two reasons:

(a)   To provide a sufficient return on the capital invested by the shareholding to allow the firm to finance its own expenditure pans.

(b)   External financial control may be reviewed as the process which scarce financial resources are rationed between competing firms on the basis of their profitability.

Financial Analysis and Interpretation of Financial Ratios 2: The writer of this book defined financial analysis to involve the analysis of the historic financial results of a business firm, combined with any other publicly available information to assess the current situation as well as future prospects of the business.

FOOTNOTE

4.   J. G. Helmkamp, L. F. Imedieke and R. e. Smith (1986).
5.   Charles T. Horngen (1978).
6.   M. W. E. Glauteir, B. Underwood and A. C. Clarke (1988).
7.   G. A. Lasis Esq. Corporate Client Dept. Afribank (1994).

2.3 DEFINITION OF FINANCIAL STATEMENTS

Financial analysis involves the analysis of the historic financial results of a business firm, combined with any other publicly available information to assess the current situation as well as future prospects of the business. Ideally, the process of financial is the assessment of the firm's performance vis-à-vis other firms in the same industry and identification of possible reasons for variance and taking corrective measures. The process is carried out two ways namely: ratio analysis and trend analysis.

In practice, financial analysis has nowadays gone far perhaps it now include:

a. An assessment of results achieved overtime and trend/growth rates.

b. A comparison with other similar companies in the same industry and elsewhere.

c. A comparison of the actual results or financial position of the company with a set standard that is considered desirable or acceptable.

One must understand the inner workings of the accountings system and the significance of various financial relationships to interpret the data appearing in financial statements. To a person with knowledge of accounting< a set of financial statement tell a great deal about a business enterprises. With the knowledge of accounting, this would enable hm to

read the audited financial statements that show what level of profits is actually made. Moreover, the person would be aware that information in published financial statements of corporations has been audited by chartered public accounting firm and has been reviewed in detail by government agencies, such as securities and exchange commission.

The Uses of Financial Statements: There are two broad groups of decision makers who use financial statements. One group is the management of the business who rely on accounting data to make important management decisions. The second group is external decision maker. This group consists of primarily of the followings:

    a.   Trade creditors

    b.   Bond holders

    c.   Investors (both present and potential investors) and

    d.   Government

The Management: Management of a firm would be interested in every aspect of the financial analysis that outside suppliers of fund use in evaluating the firm so as to be able to bargain for more fund. Management also employs financial analysis for the purpose of internal control.

Essentially, management is concerned with profitability on investment in various assets of the company and In the efficiency of assets.

Trade Creditors: These people are interested primarily in the liquidity of a firm.

Bond Holders; They are interested in the firm's long term solvency and survival, their claims are long term. They are therefore more interested in the cash flow ability of the firm to service debt over the long run.

Investors: Investors are those who have invested their money in the firm's shares. They are concerned principally with the stability and expected future earning and the stability of those earnings about a trend. They restore more confidence in those that show steady growth in earnings.

Government: Government regulatory agencies are concerned with the rate of return a company earns on its assets as well as capital structure of the firm.

2.4   IMPORTANCE OF FINANCIAL STATEMENT

The analysis of financial statements is largely concerned with the efficiency and effectiveness of resources utilization by a company's management and also with the financial stability of the company.

When financial data are considered in conjunction with related figures, they are also significant when current assets are compared with current liabilities, for instance, the ability to pay short-term debts can be defined. This comparison is often accompanied by what is termed ratio. More specifically, a ratio is one amount indirect relationship to another amount. Through the financial statements, the users would be able to predict an improving company and a failing company, this will be done through the liquidity ratio (i.e. the "current" ratio and "quick ratio"). A company with a "current" ratio of current assets to current liabilities well

below 2:1 would be considered "liquid" and in danger of failure. However, research seems to indicate that the current ratio and quick ratio and trends in the variations of these ratios for a company are poor indications of eventual business failure.

It provides information about the operating capability of a firm. Operating capability refers to the ability of a firm to maintain a given physical level of operations. This level of operations may be indicated by the quantity of goods or services (e.g. inventory) of a specified quality produced in a given period or by the physical capacity of the fixed assets (e.g. property, plant and equipment). Information about operating capability is helpful in understanding a company's part performance and in predicting future changes in its volume and activities.

In conclusion, financial analysis pervades both quantitative and qualitative assessment of a business firm. Such qualitative factors, as management quality, quality of products, etc. are also considered in credit analysis. However, analysts depend largely on raw data, which are obtained from the customers' financial and are entirely quantitative.

Limitation of Financial Statements

Although financial statement is essentially very useful in measuring the capability of a firm. It should be borne in our mind that financial statement analysis has some limitations. These are inherent in financial statement data; these are problems of comparability, which are frequently encountered because of a number of factors. Firms otherwise may employ differing accounting method which can cause problem in comparing certain key relationship. For instance, one might expect the inventory turnover to

be different for a company using LIFO when one using FIFO in inventory costing.

Moreover, financial analysis is performed on historical data, primarily for the purpose of forecasting future performance. The historical relationship may not continue because of changes in –

a.   The general state of the economy.

b.   The business environment in which the firm must operate

c.   Management

d.   The policies established by management

Lastly, the measurement base used in computing the analytical measure is historical cast. Failure to adjust for inflation or for changes in fair value may result in some computations providing misleading information on a trend basis and in any comparison between companies. For example, the return on total assets include net income in the numerator, which is affected b the current year's sales and current operating expenses, measured in current naira. However, fixed assets and other non-monetary items are measured in historical naria, which are not adjusted to reflect current price level.

CHAPTER THREE

It has been said in the introduction part of his research work that "ratio analysis" which is among the tools used for the performance judgment of an organisation is going to be the main focus of this work. Moreover, it has been made known also that ratio analyses are of two types that is accounting ratios and market ratio, therefore, accounting ratio would be the interests of this project work.

3.1   DEFINITION OF RATIO ANALYSIS

The object of financial analysis is to establish the pattern of key variable, which are otherwise concealed in the Information aggregated in the profit and loss account and balance sheet.   The usefulness of ratio analysis in this respect is two folds. First, aggregate numbers are reduced into number, which may provide a basis for comparing the results of the current year which those of previous yeas and for comparing results of different companies for the same year second, flexibility is given to financial analysis by allowing information reported in the profit and loss and account to be integrated with information discovered on the balance sheet, thereby giving a broader dimensions to the analysis of results.

Ratio analysis is the application of a complex number of different ratios, which focus on the several aspects of firm's financial performance and financial status.   These ratios fall into two broad categories.   The first group consists of accounting ratios, which rely upon the information disclosed in the financial statements themselves.   The second group consists of market ratios, which integrate the information contained in the

financial statements. Of a company with information relating to the stock exchange valuation of the company's shares. The apply to companies that is quoted in the Stock Exchange Market. A ratio is simply a means of highlighting, in arithmetic terms the relationship between two figures (it is only useful if a significant relationship exist between the two figures). If the first figure (the numerator) is divided by the second (the denominator), a ratio is derived which can be expressed as a number in the mathematical rotation for a ratio or as a percentage. By comparing the ratio with other ratios, or the same ratio at different points in time, useful information about the company can be obtained. A financial ratio can be expressed in one of these forms:

(i)   In relative form, such as 2:1

(ii)   In percentage form, such as 50%

(iii)   In pure number form, such as 0.50 or ½

3.2   PROFITABILITY RATIOS

Profit is the excess of total revenue over total expenses for a period of time. It is thus the ultimate output of a company. Probability ratios are classified into two categories:

(i)   Ratios which express profit as percentage of sales and

(ii)   Ratios which express profit as yield associated with the employment of resources. For the purpose of analysis of profitability a profit is generally expressed as profit before interest and tax (PBIT).

(i) **Profitability in Relations to Sales:** Two important profitability ratios are the gross profit ratio and net profit ratio.

(a) **Gross Profit Ratio:** This ratio is also commonly known as the gross margin ratio. This reflects the efficiency with which management produces each output, it indicates the average spread between the cost of goods sold and the sales revenue. It expresses the profit as a percentage of sales and is calculated as follows:

Gross Profit/sales x 100% or Sales – Cost of Goods sold/sales x 100%

A relative high gross profit margin indicates that the firm is able to produce at relatively lower cost. It is also a signal for good management, while a lower gross profit margin may indicate the firm's inability to purchase at favourable price and inefficiency in the utilization of resources.

(b) **Net Profit Ratio:** This is the excess of gross profit over the operating expenses and income tax:

Net profit margin -> Net Profit before interest & taxes /sales x 100%

The net profit margin established a relationship between net profit and sales and this indicates management efficiency in manufacturing, administering and selling products. Inadequate profit margin will make it impossible for the firm to achieve satisfactory return on owner's equity. A company with high net profit margin ratio would be in advantageous position to survive in the face of falling sales prices.

(ii) **Profitability in Relation to Resources Employer):** The major important of these ratios is to indicate measure of profitability as a return or yield on the resources employed by an enterprise.

(c) **Return on Capital Employed (ROCE):** This ratio interprets the capital employed as being the net asset value which is found by adding the value of fixed assets to that of current assets and deducting the total of current liabilities. In essence, this interprets the resources employed as being equivalent to the shareholders' equity plus long term borrowings. It is calculated as follows:

ROCE → Profit before interest and tax/net assets value or capital employed x 100%

(d) **Return on Total Assets:** The ratio interprets the value of the resources employed as the total assets employed in the business to give a view of the efficiency with which assets are employed by management. It is calculated as follows:

Profit before interest and tax/Fixed + current assets x 100%

(e) **Return on Shareholders' Equity:** The shareholders equity is often referred to as net worth. This will induce common share capital preference share, premium and reserves. It is calculated as follows:

Profit before interest and tax/shareholders funds x 100%

This ratio indicates how well the firm has used the resources of the owners. This ratio is important because the earning of a satisfactory return is the most desirable objective of a firm.

3.3   LIQUIDITY RATIOS

Liquidity ratios are used to judge a firm ability to met short-term obligations. An analysis of liquidity needs the preparation of cash objects and cash flow statement. The ratios, which indicate the extent of liquidity. The most common ratios, which show the liquidity, are:

(i)   Current ratio and

(ii)   Quick or acid test ratio

(i)   **Current Radio:** The current ratio is obtained By dividing the current assets by the current liabilities. It is one of the most frequency used of the ratio. It is calculated as follows:

Current Ratio → Current Assets/Current Liabilities

A relatively high ratio is considered as an indication of liquidity and ability of the firm to pay its bills while a low ratio is an indication that the firm will find it difficult to pay its bills. As a convention rule, a current ratio of 2:1 or more is considered satisfactory.

(ii)   **Acid Test or Quick Ratio:** This is a more refined of the firms liquidity. It established a relationship between liquid assets and current liabilities. A liquid asset is that which can be converted into cash immediately.

Current Assets less Stocks/Current Liabilities

Generally, a quick ratio of 1:1 is considered to represent satisfactory current financial condition. Although, the quick ratio is more penetrating test liquidity than the current ratio, yet it should be used continuously.

3.4 LEVERAGE OR GEARING RATIOS

These ratios are used to judge the long-term financial position of the firm. The firm's current debt-paying ability is of interest to the short term creditors, i.e. supplier of raw materials and bankers while long term creditors are more concerned with the firm's long term financial strength.

The leverage ratios indicate the funds provided by the owners and creditors. An appropriate mix of debts and owners equity is required in the financing of the firm's assets.

The organisation has legal obligation to pay interest to debt holders irrespective of the financial position of the organisation (profit or loss). Affirm who failed to pay interest can thus faced a legal action to pay debt holders as agreed. On the positive side, employment of debt is advantageous to shareholders when the firm earns a rate higher than the interest rate at the invested funds. They can also retain control over the ownership of the company with a united stake. These ratios may be calculated from the balance sheet to determine the proportion at debt in total financing. The most common leverage ratio include:

    i.   Debt equity ratio and

    ii.   Interest coverage ratio

(i)   **Debt Equity Ratio:**   This Measures the relative claims of creditors and owners against the firms assets. This ratio shows the extent to which debt financing has been used in the business. A high ratio is an indication that the claims of creditors are greater than those of owners. This is unfavorable form the firm's point of view. A low debt equity ratio implies a greater claim of owners than creditors.

In general terms, firm endeavour to maintain a debt/equity ratio not exceeding 1:1. Therefore, there is need to strike a proper balance between the use of debt and equity. It can be calculated by dividing the total debt by the shareholders equity.

Debt Equity Ratio → Total Debt/Shareholders Equity/Net worth

(ii)   **Coverage Ratio:** This is used to test the firm's debt servicing capacity. It is divided by dividing the net profit before interest and tax (PBIT) by the interest payable.

Interest Coverage → Net Profit before Interest tax/Interest Payable

The interest coverage ratio shows how many times the interest charges are covered by funds that ordinarily available to pay the interest charges.

3.5   ACTIVITY OR TURNOVER RATIOS

These ratios are employed to evaluate the efficiency with which the firm merges and utilizes its assets. They also represent the speed with which assets are being converted or turnover into sales. The ratios thus

involve a relationship between sales and the various assets of the company. A proper balance between sales and assets is a reflection of good management of assets. Activity ratios include the followings:

(i)   Stock turnover

(ii)   Collection period for debtors

(iii)   Collection period for creditors

(iv)   Fixed asserts turnover

(v)   Total assets turnover

(vi)   Capital employed turnover

(i)   **Stock Turnover:** This shows the rate at which a business coverts stock into sales is a critical indicator of business activity. The stock turnover indicates the number of times the stock is completely sold replaced by purchasing during the accounting period. Given complete data about the cost of sales, the stock turnover maybe calculated as follows:

Cost of Sales/Average Stock

It should be known that a high stock turnover ratio is indication of good stock management and lower stock turnover ratio suggests an inefficient inventory management.

(ii)   **Collection Period for Debtors:** The careful of debtors level is an important aspect of good financial management. The average length of time for the payment of debt owing to the business is an important indicator of the efficiency of

management. It is found by dividing the average daily credit sales in the total debtors outstanding as follows:

Average debtors collection period → Trade debtors/Credit sales x 365.

(iii) **Collection Period for Creditors:** This is vital and important internal measure used in relation with days receivable. It provides information on the past period of credit received or taken from suppliers. It is obtained by dividing the total trade creditors by purchases.

Average Creditors collected period → Trade Creditors/Purchase/Cost of x 365 sales

(iv) **Fixed Assets Turnover:** This ratio measures the efficiency with which the firm is utilizing its investment in fixed assets. The fixed assets turnover ratio is obtained when sales is divided by net fixed assets.

Fixed Assets Turnover → Sales/Net Fixed Assets.

(v) **Total Assets Turnover:** This ratio is also a measure of the efficiency with which a firm utilizes its investment in total assets. This is necessary since other assets in addition to fixed assets also contribute to the production and sales activity of the firm.

Total Asset Turnover → Sales/Total Assets

(vi) **Capital Employed Turnover:** Capital employed is the non-current liabilities plus the owners' equity. It is the permanent capital contributed to the firm by the owners and creditors. The capital employed turnover can be used to examine the effectiveness of those long-term capital. It is obtained as follows:

Capital Employed Turnover → Sales/Capital Employed

3.6 FEASIBILITY STUDY

To determine whether the old system being used is realistic or the new method that wanted to be adopted is rational, cost effectiveness and efficient. The company will have to seek the help of a system analyst.

The system analyst who is a specialist will study the old system and work intimately with the department concerned and also with the manager. The system analyst will then write a report on the old system and the new system that is to be introduced. After careful consideration, the report will be submitted to the organisation management for action. Comparison will be made on both the new system to be introduced and the old system. If it is advantageous to the organisation to embark on computerization of their financial analysis, then It will be adopted and the old system would be dropped.

However, it should be pointed out that while changing form the current system to the new system just developed the management has options to chose among system conversion change over from the old system to the new system might take one of these means.

(i)   Direct change over

(ii)   Parallel change over

(iii)   Pilot running

(iv)   Staged change over

An extract profit and loss account and balance sheets of A. G. Leventis (Nigeria) Plc is provided for the year ended December 31st, 1998.

PROFIT AND LOSS ACCOUNT YEAR ENDED DECEMBER 31, 1998

	1998	1997
	N'000	N'000
Turnover	2,615,123	3,316,009
Cost of sales	(2,047,156)	(1,682,981)
Gross profit	567,967	633,028
Net Operating Expenses	448,515	442,351
Operating profit	119,452	190,677
Investment Income	10540	6,092
Profit before interest payable	129,992	196,706
Interest payable	126,992	95,670
	1998	1997
Profit before Taxation	3,657	101,027
Taxation	9,289	8,363
(Loss) Profit after Taxation	(5,632)	92,664
Minority interest	-	-
(Less)/Profit after taxation and minority interest	(5,632)	92,664
Dividend (Gross)	-	34,919
	(5,632)	57,745
Debenture redemption reserve	-	11,000
(Loss) Retained profit for the year	(5,633)	46,745
(Loss) Earning per share	(2k)	32k
Dividend per share	=	12k

BALANCE SHEETS AT DECEMBER 21, 1998

	1998	1997
	N'000	N'000
Fixed assets	7,83,7,597	81,119
Long term investments	231,854	192,192
Promising notes	618,532	771,945
	1,634,145	1,745,256
CURRENT ASSETS		
Stocks	572,954	726,056
Debtors	1,262,249	1,041,184
Cash at bank and in hand	115,710	241,989
	1,949,913	2,009,230
CREDITORS		
Amount falling due within one year	(1,786,250)	(1,904,364)
Net Current assets	163,663	104,866
Total Assets Less Current Liabilities Creditors	1,797,808	1,850,122
Amount falling due after more than one year	(208,419)	(199,240)

Provision for liabilities and charges

Pension and similar obligations	(30,319)	(26,376)
Deferred interest	(132,128)	(146,840)
	1998	1997
Net Assets	1,426,942	1,477,666
Capital and Reserves		
Called up share capital	145,497	145,497
Exchange difference reserve	379,858	424,950
Reserves	330,983	336,615
Assets revaluation reserve	570,604	570,604
Shareholders' funds	1,426,942	1,477,666
Minority interests	-	-
	1,426,942	1,477,666

FOOTNOTE

Annual Report and financial statement of A. G. Leventis (Nigeria) Plc., 1998.

CHAPTER FOUR

4.1   DEFINITION OF PROGRAMMING

Before giving the definition of programming, it would be rational enough to know what software is. Software is the general term used to denote all forms of program that control the activities of a computer. It refers to the set of computer programs, procedures and associated documentation related to the effective operation of a data processing system. Software, therefore, enables us to exploit the capabilities of a computer.

This, therefore, connotes that for a computer to be controlled, it requires writing a set of instructions, which is referred to as programming. A programming can thus be defined to mean a set or sequence of instructions, which informs a computer of the steps required for achieving a defined task. Each instruction defines a basic operation to be performed identifies the address of the data to be processed, the peripheral device (input or output device) to be used.

However, the act of giving instructions to computer is made possible through the computer programming languages. A programming language is simply the mode of communicating to computer. It is in the form of artificially defined set of characters, symbols and words plus the rules for combing these characters, symbols and words into meaningful communications, so designed to be conveniently used by human beings in developing programs.

4.2 PROGRAMMING STEPS

Generally, problem is anything that requires solution. This problem may be numerical problem which involves mathematical calculation for it to be solved or non-numerical problem which does not require any calculation. However, most of these problems can be solved via the use of computers. Therefore, using computers to solve problems requires writing programs for that purpose. As earlier defined that a program is a set or sequence of instructions, which informs computer of the step required for achieving a defined task. Programmes do not simply spring into being; they require number of procedures before they can be fully applied to solve problems. The best technique of problem solving via computer programming involves the following stages.

(i)   **Program Planning:** This is the preliminary stage of program development. It is virtually impossible to write a computer program without fist identifying and clearly understanding the problem. The planning stage is concerned with the function of the requirements that the tasks place on the computer. It also involves identifying the input data, the required output and the formula needed.

(ii)   **Program Design:** The design stage perhaps the most important stage and it outlines and defines the set of rules required for the solution to be problem. In fact, it involves the listing and ordering of successive steps and the . tools mostly used in this stage are

pseudopodia, flowcharts, N-S diagram etc, which are used for algorithm representation.

(iii) **Coding:** Once the steps of the solution has been ordered and outlined, the next stage is the transformation of these steps to the form understandable by the computer. Therefore, the coding stage covers the transformation of the design made earlier into a chosen computer language as well as entering the programs into the computer.

(iv) **Debugging:** As you begin to code and compile your program, you may discover that one or more bugs (errors) have occurred. The process at detecting and removing program errors is called debugging. Basically, there are two kinds of errors that may occur in a program, which are syntax and semantics.

(a) Syntax: This is the name given to the rules that govern the sentence structure in a language. This could simply be spelling of a keyword such as 'PRINT' or the precise way in which a statement or group of statements may be composed.

(b) Semantic: This is the second important concept of the language, which simply is the meaning applied to a sentence in a computer language. In other words leaning the semantic means learning what effects particular statement or groups of statements will have when they are executed.

(v)   **Testing:** The essence of program testing also referred
to as program validation is to determine whether any
error still remain in the program.   Testing is the
process of running the computer program and
evaluating the program results in order to determine if
any error exists. This is done by moving the program
with various sets of input values so as to be sure that
the expected result is gotten.

(vi)   **Implementation:** Once a program has been tested
and found working as required, the next stage is the
implementation of the program.   The implementation
stage is concerned with making the program fully
operational. That is, it involves applying the programs
to solve the problem it meant to solve.

4.3   PROGRAMME FLOWCHARTS

The traditional method of expressing algorithms is the flowchart.
However, in more recent years structure diagrams pseudocode in many
different forms have been ntroduced. It is often difficult to produce an easily
readable program from a flowchart, makes the flowchart is relatively simple.
However, it is still useful to be able to understand flowcharts, as the ideas
conveyed by them are still simple and effective in many circumstances.

The boxes that are used to make up flowcharts have special shapes
depending on the function that the box is to perform.

CHAPTER FIVE

5.1   SUMMARY AND CONCLUSION

A careful study of this project work would reveal the importance of financial statements and analysis which really affect the position of an organisation resulting in an effort to settle their financial obligations, take cogent decision to raise funds either in the capital market or money market and so on.

Given the modernization of computerization of the world that is the old conventional ways of solving problems is being replaced by computer. It would not amount to an exaggeration to say that, it would be a pathetic situation for an organisation that fails to utilize the opportunity of computerization. This project work has to some extent if not extensively enumerated the benefits that would be derived form computerization of an organisation financial statement.

In conclusion, it has vividly been stated in the introduction part of the project that among the tools in analyzing the financial statements is ratio analysis. I categorically picked this method of analysis because it is the best method. The ratio analysis clearly guide the management (insider) in their decision taking which also guide the banks and prospective investors (outsider) on the affairs of the organisation. Among the function of management is to take prompt decision and to plan ahead. Computer is really noted for fastness and accuracy without getting bored.

It would really be good to overemphasized that management of an organisation that computerized their financial statements would benefit by

taking prompt decision with accuracy and also the outsider of the information would aptly take their decision as it affect them.

5.2 RECOMMENDATIONS

I would strongly say that in the ages of ours, computerization has really made the world to be simplistic compared with the conventional ways of doing something in the olden days. Computer possesses good characteristics which are reliability, memory capability, accurate calculation, storage of data, continuous operation and rapid. Given, the importance of financial statements and analysis to the users of the information, which affect their decision that would be taken. Therefore, an erroneous financial statements and analysis would definitely lead to erroneous decision being taken. In that wise, care has to be taken and also that is why it is imperative to go computerization.

Many organisations that have computerized their systems have gained enormously in terms of their operation. Financial statements and analysis affect the position of an organisation, as that is what forms the bedrock of the opinion of the users of the information. Timely and accurate information would help the users of financial statements and analysis in taking appropriate decision and computer has proved its worth on these aspects.

The help of a system analyst should be sought before going on computerization, because system analyst who is a specialist on the area would give appropriate advice as per what to do.

When an organisation after computerizing their financial statements and analysis, the appropriate and suitable method of change over should be adopted.

5.3 REFERENCES AND BIBLIOGRAPHY

Akin Fapohunda: Understanding and Using Microcomputer, Aflon Limited. A Computer and Publishing Services Company, Abuja Nigeria (1997).

Charles T. Honngien: Introduction to Management Accounting. Fourth Edition by Prentice-Hall, Inc., Eaglewood Chiffs New Jersey, (1978).

Charles J. Woelfel: An Introduction to Financial Accounting, Goodyear Publishing Company Inc., Santa Monica, California (1980).

j. Fred Weston & Engene F. Brigham: Essential of Managerial Finance, College Publishing, New York (1982).

M. W. E. Glanteer & B. Underdown: Accounting Theory and Practice. Third Edition. Pitman Publishing, 128 Long Acne, London, WC2E 9NW 1986.

5.4 PROGRAMMES

```
DECLARE SUB TurnoverRatio () DECLARE SUB LiquidRatio
()
DECLARE SUB LeverageRatio () DECLARE SUB ProfitRatio ()
DECLARE SUB WaitForKeyPress ()
REM Display Intro
CLS
PRINT SPC(15); "THE COMPUTATION AND ANALYSIS OF
FINANCIAL STATEMENTS"
PRINT
PRINT SPC(38); "BY"
PRINT
PRINT SPC(30); "Mustapha A. Mubashir" PRINT SPC(30);
"PGD/MCS/97/98/493"
PRINT
PRINT SPC (2S); "DEPARTMENT OF MATHS/COMPUTER"
PRINT SPC(20); "FEDERAL UNIVERSITY OF
TECHNOLOGY, MINNA" PRINT SPC (3S); "MARCH 2002"
CALL WaitForKeyPress
Running = 1
CLS
Menu:
PRINT SPC (20); "ANALYSIS OF FINANCIAL STATEMENTS"
PRINT "1. Profitability ratios" .PRINT "2. Liquidity ratios"
PRINT "3. Leverage/Gearing ratios"
PRINT "4. Activity/Turnover ratios" PRINT "S. Quit"
PRINT SPC (5); "Select option by pressing corresponding key"
REM Wait for user to select
DO
        Sel$ = INKEY$
        LOOP WHILE (Sel$ = "")
        SELECT CASE Sel$
        CASE "1"
```

```
        CALL ProfitRatio
        CAS E " 2 "
        CALL LiquidRatio
        CASE "3"
        CALL LeverageRatio
        CASE " 4 "
        CALL TurnoverRatio CASE "S"
        Running = 0
        END SELECT
        CLS
        IF Running = 1 GOTO Menu
        PRINT "Terminating program.. . "
        END


SUB LeverageRatio
        CLS
        PRINT SPC(15); "LEVERAGE RATIOS"
REM Obtain data
        PRINT "Enter required data:"
        INPUT "Shareholder's equity"; sEquity
        INPUT "Net profit befor Intrest and Tax"; nProfit
        INPUT "Total debt"; tDebt
        INPUT "Intrest payable"; ipay
REM Compute ratios
        deRatio = tDebt / sEquity
        icRatio = nProfit / ipay
REM Display results
        PRINT
        PRINT "Result:"
        PRINT "Debt equity ratio = "; deRatio; ": 1"
        PRINT "Intrest coverage ratio = "; icRatio; ": 1"
        CALL WaitForKeyPress
END SUB
```

```basic
SUB LiquidRatio
        CLS
        PRINT SPC (15); "LIDUIDITY RATIOS"
REM Obtain data
        PRINT "Enter required data:"
        INPUT "Current assets"; cAsset
        INPUT "Current assets less stock"; cStock
        INPUT "Current Liabilities"; cLiabili ties
REM Compute ratios
        cRatio = cAs set / cLiabilities
        aRatio = cStock / cLiabilities


REM Display results
        PRINT
        PRINT "Result:"
        PRINT "Current ratio = "; cRatio; ": 1"
        PRINT "Acid test ratio = "; aRatio; ":1"
        CALL WaitForKeyPress
END SUB
SUB TurnoverRatio
        CLS
        PRINT SPC (15); "TURNOVER RATIOS"
REM Obtain data
        PRINT "Enter required data:"
        INPUT "Sales"; Sales
        INPUT "Cost of goods sold"; Cost
        INPUT "Average stock"; aStock
        INPUT "Trade debtors"; tDebtor
        INPUT "Trade creditors"; tCreditor
        INPUT "Credit sales"; cSales
        INPUT "Net fixed assets"; nFixed
        INPUT "Total assets"; tAsset
        INPUT "Capital employed"; cEmployed
```

```
REM Compute ratios
        sTurnover = Cost / aStock
        cpDebt = 356 * tDebtor / cSales
        cpCredit = 356 * tCreditor / Sales
        faTurnover = Sales / nFixed taTurnover = Sales / tAsset
        ceTurnover = Sales / cEmployed
REM Display results
        PRINT
        PRINT "Result:"
        PRINT "Stock turnover = "; sTurnover
        PRINT "Fixed asset turnover = "; faTurnover
        PRINT "Total asset turnover ="; taTurnover
        PRINT "Capital employed turnover = "; ceTurnover
        PRINT "Average debtors collection period = "; cpDebt;
"days"
        PRINT "Average creditors collection period = ";
cpCredot; "days"
        CALL WaitForKeyPress
END SUB
SUB WaitForKeyPress
PRINT
        LOCATE 22, 20: PRINT "Press any key to continue..."
        DO
        A$ = INKEY$
        LOOP WHILE (A$ = "")
END SUB
SUB ProfitRatio
        CLS
        PRINT SPC(15); "PROFITABILITY RATIOS"
REM Obtain data
        PRINT "Enter required data:"
        INPUT "Sales"; Sales
        INPUT "Cost of goods sold"; Cost
```

```
        INPUT "Net profit before Intrest and Tax"; nProfit
        INPUT "Net assets value"; nAsset
        INPUT "Fixed + Current Assets"; fcAsset
        INPUT "Shareholder's funds"; s Funds
REM Compute ratios
        gpRatio = 100 * (Sales - Cost) / Sales
        npRatio = 100 * nPrcfit / Sales Roce = 10Q * nProfit /
nAsset
        rtAssets - 100 * nProfit / fcAsset rsEquity = 100 * nProfit
/ sFunds
REM Display results
        PRINT
        PRINT "Result:"
        PRINT "Gross profit ratio = "; gpRatio; "%"
        PRINT "Net profit ratio = "; npRatio; "%"
        PRINT "Return on capital employed = "; Roce; "%"
        PRINT "Return on total assets = "; rtAssets; "%"
        PRINT "Return on shareholder's equity = "; rsEquity; "%"
CALL WaitForKeyPress
END SUB
```

PROFITABILITY RATIOS

Enter required data: Sales? 2615123

Cost of goods sold? 2047156

Net profit before Intrest and Tax? 129992

Net assets value? 1426942

Fixed + Current Assets? 9787510

Shareholder's funds? 1426942

Result:

Gross profit ratio = 21.71856 %

Net profit ratio = 4.970779 %

Return on capital employed = 9.109831 %

Retu.n on total assets = 1.328142 %

Ret Jrn on shareholder's equity = 9.109831 %

Press any key to continue …

PROFITABILITY RATIOS

Enter required data: Sales? 2615123

Cost of goods sold? 2047156

Net profit before Interest and Tax? 129992

Net assets value? 1426942

Fixed + Current Assets? 9787510

Shareholder's funds? 1426942

Result:

Gross profit ratio = 21.71856 %

Net profit ratio = 4.970779 %

Return on capital employed = 9.109831 %

Return on total assets = 1.328142 %

Return on shareholder's equity = 9.109831 %

L!DUIDITY RATIOS

Enter required data:

Current assets? 1949913

Current assets less stock? 1376959

Current Liabilities? 1786250

Result:

Current ratio = 1.091624 :1

Acid test ratio = .7708658:1

Press any key to continue...

LEVERAGE RATIOS

Enter required data:

Shareholder's equity? 1426942

Net profit before Interest and Tax? 129992

Total debt? 2157116·

Interest payable? 126335

Result:

Debt equity ratio = 1.511705 :1

Interest coverage ratio = I.028947 :1

Press any key to continue...

LEVERAGE RATIOS

Enter required data:

Shareholder's equity? 1426942

Net profit before Interest and Tax? 129992

Total debt? 2157116

Interest payable? 126335

Result:

Debt equity ratio = 1.511705 :1

Interest coverage ratio = 1.028947:1