A COMPARATIVE ANALYSIS OF COMPUTERIZED ACCOUNTING SYSTEM AND MANUAL ACCOUNTING SYSTEM

(A study of Ama breweries Plc. Eke, Udi L.G.A and Africa petroleum Plc Presidential road)

BY

EZEDIUNOR JULIANA.C

ACC/2009/563

DEPARTMENT OF ACCOUNTANCY

FACULTY OF MANAGEMENT AND SOCIAL SCIENCES

CARITAS UNIVERSITY AMORJI-NIKE,

ENUGU, ENUGU STATE

AUGUST, 2013

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A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF ACCOUNTANCY,

FACULTY OF MANAGEMENT AND SOCIAL SCIENCES, CARITAS UNIVERSITY, AMORJI – NIKE ENUGU

IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF BACHELOR OF SCIENCE (B.Sc.) DEGREE IN ACCOUNTING

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APPROVAL PAGE

This project topic; a comparative analysis of computerized accounting system and manual accounting system a study of Ama breweries Plc. Udi, Eke L.G.A metropolis and Africa petroleum Plc Presidential road Enugu, Enugu State has been carefully assessed and approved by the committee of department of accountancy, faculty of management and social sciences.

…….. ……..
MR. UGWU JAMES DATE
PROJECT SUPERVISOR

…….. ……
DR. FRANK E. OVUTE DATE
H. O. D

…….. ……..
EXTERNAL SUPERVISOR DATE

CERTIFICATION

This is to certify that this project titled A COMPARATIVE ANALYSIS OF COMPUTERIZED ACCCOUNTING SYSTEM AND MANUAL ACCOUNTING SYSTEM was carried out by EZEDIUNOR JULIANA C. With Registration number ACC/2009/563, under my supervision in the department of Accountancy, Caritas University, amorji-nike, Enugu.

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Mr. Ugwu James	Dr. Frank Ovute
(Project supervisor)	(H.O.D of department)

DEDICATION

I dedicate this piece of work to God almighty who gave me a functional brain and good health to get to this height of academic ladder.

ACKNOWLEDEGEMENT

All praises, thanks and adoration are due solely to almighty God for making it possible for me once again to successfully pass this academic hurdle.

My sincere gratitude goes to my project supervisor, Mr. Ugwu James without whose supervision, constructive criticism, suggestion and useful advice this work would not have been completed. The Dean of management and social sciences Professor C.C Umeh, the Head Of Department Dr. Frank Ovute a man of double integrity and wheels of excellence and also to my departmental lecturers Mr. Desmond Abani, Mr. Enekwe chinedu Innocent, prof E.O Nwadilor, Mr Agu I remain ever grateful to them also for the help and inspiration I derived from their scholarly experience.

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I will also like to pour out my heartfelt gratitude to the people who develop the materials and works that helped me in accomplishing this work and also all the people I did not mention here, believe me you mean a lot to me and without your impact this work would not have been possible.

May the Almighty God reward you all in Jesus name Amen.

ABSTRACT

This research study is a comparative analysis of computerized accounting system and manual accounting system with reference to Ama breweries plc. and African petroleum plc. all in Enugu state. It is a survey research. The study is a comparative evaluation of computerized accounting system and manual accounting system to ascertain which one is more effective and efficient than the other. Data were collected from primary and secondary sources which include the use of questionnaires, personal observations, text books, journals and internet. Three hypotheses were formulated and tested using Z-test statistics, while questionnaires were analyzed in tabular form using simple percentage. It was discovered that software accounting system is expensive to run, software accounting system handles larger volume of data than manual accounting system and software accounting system encourages fraud, and funds can be lost in organization with the use of software accounting system. As a result of the comparison between manual accounting system and computerized accounting system, to attain a larger volume of data and work accuracy in a shorter period it is better for organizations to use computerized accounting system to increase their efficiency. Those studying accounting as a profession should be introduced to both the theoretical and practical aspect of software accounting and to reduce funds lost through frauds and forgeries managers and accountants should provide software developers with progressive information relating to their business activities.

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Accounting system according to an Italian monk, Luca Pacioli (1491), is the combination of personnel records and procedures that a business uses to meet its need for financial data. Financial accounting also encompasses the summary of information and presentation of periodic reports such as profit and loss statement and balance sheet. The historical firms of accounting were of different degree of sophistication according to the need and techniques of the time. This is why modern accounting is based on the double entry system and the recognition of the dual nature of each transaction and this gives a co-ordinate support for the control of all the transaction of a business.

Accounting system according to business dictionary is an organized set of manual and computerized accounting methods, procedures and controls established to gather, record, classify, analyze, summarize, interpret and present accurate and timely financial data for management decisions.

In spite of this, there are policies for reporting on an organization performance and current conditions. These policies increase the usefulness of report including their reliability and comparability. The policy that makes up

acceptable accounting practices are determined by many individuals and groups and those policies are referred to as generally accepted accounting principles (GAAP). Since accounting is a service activity, these rules reflect our society's needs and not only on those of accountants. The financial Accounting standard Board (FASB) is another body or group that is seen as an independent group of seven full-time members with a large staff. This body has issued six statements of accounting concepts which help in guiding accounting standard setting. Many companies and organizations involve themselves in setting accounting rules/policies. They include investors, government agencies, politicians, unions, lenders and other business and non-business organizations.

Furthermore, there are two major types of methods used in recording accounting information, such methods are manual accounting system and software accounting system or computerized accounting system.

Manual accounting system extends and includes the method of processing, recording, journalizing transactions posting to the ledgers and preparing the financial statements which provide decision makers with useful information in making decisions. These decisions relate to the allocation and use of scarce economic resources such as money, land, labour and capital. These manual accounting systems are wholly used for preparing income tax returns, reports to managers, bills to customers and other forms of providing accounting information.

In addition, with manual accounting system, accountants and managers usually inspect the documents, journal ledgers and reports in the performance of testing and verification. Transaction can be traced from source documents to journals, general ledgers, printed report etc. Subsidiary ledgers can be posted and the total can be compared with control accounts. It is visually observed by the auditors or accountants to determine whether proper books of accounts or is being followed.

Technology is a main part of our modern society and business practices. It also plays a major important in accounting as it help in reducing the time, effort and cost of record keeping while improving clerical accuracy. Technology has distinct the way we store, process and summarize large masses of data which makes accounting free to increase its field.

The origin of software could be dated back to early 1960s. Historically, emphasis in computer industry was on programming and was seen as the biggest single problem in the implementation of a computer system. Computer has the ability to add and subtract, but frequently not to multiply or divide, the computer run with relatively simple software routines.

However, this study tends to analyze the comparison between manual accounting and software accounting which are the two types of accounting system used by various organizations and companies.

1.2 STATEMENT OF THE PROBLEM

In recent times, most companies and organizations have been using the manual form of operations in their accounting systems. Primarily, this manual accounting systems used to meet the organizational information requirement but this has been on consistent failure in recent times as a result of growth and diversification of business and technological advancement complexities in information technology to meet the current business demands.

Thus, companies and organizations had usually been faced with a number of problems in the use of this manual accounting system which involve lack of ability to handle sufficient volume of data in terms of speed and accuracy, insufficient data storage and retrieval system often resulting in loss of vital records, incorporating final updates, rampant report of frauds and forgeries in the use of the system, unseemliness of information which implies that information needed for effective decision making . This is repeatedly, as a result of poor retrieval and inability to collect large volume of data within the required time. All these problems include consequence in great loss of scarce resources and impeded organization growth, steadiness and advancement.

Hence, in attendance to affect these problems related with the manual accounting system and substitute it with the development of an integrated accounting software system where financial and non-financial accounting

transaction are recorded, analyzed, retrieved, reported, interpreted, summarized and processed.

1.3 OBJECTIVE OF THE STUDY

The main objective of this study is a comparative analysis of software accounting system and manual accounting system.

The study aims at ascertaining the following objectives:

1. To evaluate whether frauds and forgeries are encourage in computerized accounting system i.e. software accounting system than the manual accounting system.
2. To examine whether software accounting system can handle large volume of data than the manual accounting system.
3. To study whether the use of software accounting system increases effectiveness and efficiency in organizations or companies than manual accounting system in reducing the amount of funds lost through frauds and forgeries.
4. To examine whether software accounting system is capable of storing, retrieving, analyzing, processing, summarizing and reporting rapidly than manual accounting system.
5. To show the operational and reporting system in both the manual accounting system and software accounting system.

1.4 RESEARCH QUESTION

The course of this research has picked up some interesting enquires and discussions which centered more on a comparative analysis of software accounting and manual accounting system in two companies Nigeria Breweries Plc. and Africa Petroleum Plc in Enugu State.

The following questions are put forward for the purpose of the study:

i. What are the measures taken to ascertain the extent to which fraud and forgery can be prevented and controlled using either of the accounting system?
ii. Can software accounting system handle large volume of data more than the manual accounting system?
iii. How effective and efficient is the use of software accounting system or manual accounting system?

1.5 RESEARCH HYPOTHESES

Here the following hypotheses were formulated, tested and validated in the study.

Hypothesis One

H_0: frauds and forgeries are not encouraged with the use of software accounting

system than manual accounting system.

H_1: frauds and forgeries are encouraged with the use of software accounting system than manual accounting system.

Hypothesis Two

H_0: Software accounting system is not able to handle large volume of data than the manual accounting system.

H_1: Software accounting system is able to handle large volume data than the manual accounting system.

Hypothesis Three

H_0: Manual accounting system is not effective and efficient than the software accounting system in reducing the amount of funds lost frauds and forgeries.

H_1: Manual accounting system is more effective and efficient than the software accounting system in reducing the amount of fund lost through frauds and forgeries.

1.6 SIGNIFICANCE OF THE STUDY

This study has a lot of significance to the educational system and industrial environments.

1. It impart hold knowledge to the general public who may not have the

opportunity of reading some relevant test on software accounting system as well as manual accounting system.

2. It creates new initiative in information expertise sub-sector.

3. Non-computer experts with little or no assistance will be exposed and encourage through this study.

4. It provides important literature for other researchers.

5. It will promote productivity, efficiency and effectiveness in industries since users satisfaction is assured as well as error free and speeding reporting system.

1.7 SCOPE OF THE STUDY

The coverage of this study is limited to the study of a comparative analysis of software accounting system and manual accounting system of which particular attention is given using two companies in Enugu as study. These companies are Nigeria breweries PLC (Enugu), African Petroleum PLC (Enugu).

1.8 COMPANIES PROFILE

NIGERIA BREWERIES PLC

Nigeria Breweries Plc. was incorporated on November 6th, 1996 as Nigeria Breweries limited and was first commissioned in Lagos on 2nd June 1949, while

other branches were established such as Aba branch in 1957, Kaduna 1963, Ibadan in 1982 and Enugu in 1995.

AFRICAN PETROLEUM PLC

The history of African petroleum Plc. dates back to 1945 when the British petroleum company limited bought up the assets of the Atlantic Refining Company on the West Africa coast. In1964, AP Nigerian limited was incorporated in Nigeria. As an associate of the world wide AP group, it marketed petroleum throughout the federal Republic of Nigeria. In 1973, the company changed from a private company to public company, when 40% of its shares were sold to Nigerian citizens in compliance with provisions of Nigerian Enterprises promotion decree of 1977.

1.9 LIMITATION OF THE STUDY

There is no research work or study that is entirely hitch-free. During the course of this study, a lot of problems prompted up. The main limitation of this research work is time factor. The researcher had limited time with which he used in completing the study. This also created a room for other problems and made data collection a difficult task.

The problem of finance cannot be ruled out any research work of this entails

typing, photocopying, transportation etc. The unavailability of material with which to work with constituted the limitation of the research work.

The study is however limited to these companies. Nigeria Breweries Plc. 9th mile Enugu metropolis, African Petroleum Plc. Presidential road, Enugu. As well as the following financial areas: Such as general ledger, account payable, account receivable, purchasing, inventory control and cash resources. The research will also provide overall information on software such as peach tree accounting system for windows implementation procedures involved.

1.9 DEFINITION OF TERMS

SYSTEM: It is an interrelated or interacting element organized into a complex whole. A system is a group of interrelated components working together towards a common goal by accepting inputs and producing outputs in an organized transformation process.

SOFTWARE: It is a general term for the various kinds of programs used to operate computers and related devices. Software is the programs and symbolic languages that control the function of the hardware.

MANUAL ACCOUNTING SYSTEM: These are those system in which source document are posted by hands which extends and includes method of processing,

recording, journalizing transactions posting to the ledgers, sales, cash receipt and other type of journals.

ACCOUNTING SYSTEM: It is an organized set of manual and computerized accounting methods, procedures and controls established to gather, record, classify, analyze, summarize, interpret and present accurate and timely financial data for management decisions.

ACCOUNTING: It is a system for recording; classifying, measuring, interpreting financial data for an organization to enable users make assessment and decision making.

COMPUTERIZED ACCOUNTING: It is what businesses used to track their financial information.

COMPUTERIZED ACCOUNTING SYSTEM: It is a system used by business for recording their financial information. Every time a transaction happens, an entry is made into the system.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 EVOLUTION OF MANUAL ACCOUNTING AND COMPUTERIZED ACCOUNTING

The historical aspect of accounting started with God when he says that every living soul must give account of his/her life at the last day. Going with concept, it means that the world we are in is a market place where we do buying and selling after which we give account of the business we have transacted. So you can understand that God ever approves the word "Accounting". Accounting is the first and important law made by God which everybody must obey. The buying and selling business in this world is our service to God laws.

From the above explanation, accounting can be referred to as the recording of transactions in books of accounts (i.e. book-keeping) in line with double entry principle which dated back to the 14th century when Italian merchants began to use the double entry system to record their transactions. The earliest known double entry records are the accounts of stewards of the commune of Genoa for the year 1340. An Italian monk, Luca pacioli published the first known text on double entry accounting. In his book summa di Arithmetica geometria proportioni et proportionalita (meaning everything about Arithmetic, Geometry and proportion

published in 1494,he included a section on double entry accounting entitled De computis et scripture. This section was later separately published in 1504 under the title in scuola perfetta dei mercanti, which in English means the perfect school of merchants. The double entry system quickly spread across Europe, particularly after the publication of Luca Pacioli's summa. Due to its Italian origin, the system, in those days was known as the Italian method.

The European writer subsequently started to improve on his work by stating the emergence of money as a medium of exchange has provided impulsion for the development of accounting and book-keeping. Thus, it became necessary to record business events on monetary aspect rather than on physical values. Furthermore, the industrial revolution of 18th century which bought about ample growth in the world trade and industry provided an important incitement to accounting and book-keeping. The business has been continuous growth and expansion resulting in increased need for information through proper records. Before this era, business that the need for information was less required. The industrial revolution was in effect and the basis of the modern business enterprises ranging from partnership to joint companies.

Therefore, business enterprises are thus described as a means or mobilization of funds and human resources. This implies the principle of accountability which marks a step further in the development of accounting and book-keeping. It is a

common practice nowadays that business enterprises, especially large ones who do collect millions of naira obtained from thousands of people (i.e. investors and lenders) and deploy them in operations extending throughout the country or even beyond, for the ultimate purpose of profitability.

Thus, the result of successive innovations has its adaptations and modifications to the changing of business environment. In fact accounting has gone through many phases of changes due to changing socio-economic environment. Like any other discipline, it has been adjusting itself to changing requirements and will continue to do so in future as well as to promote social welfare hence, enabling its users to form rational as sound judgment and take appropriate decisions.

Computerized accounting system is a well-known hi-tech modern device used in every walk of life in today's world. It is a vital tool in the field of information system whatsoever it relates to management or accounting, engineering or technology, medicine or surgery, arts or drawings, music or movies, finance or investment, manufacturing or marketing, transportation or travelling, insurance or banking. It has, hence become essential in every sphere of life.

With the advent of industrial revolution, a wide spectrum of change has been brought about and the business grew in size and complexity from the sole trading firms to the global corporations and MNCS (multi-national corporations) firm

single commodity to hundreds or thousands of products and varieties in them from localized operations to the globalized operation in the fields of production, finance, human resources and marketing. Hence it is impossible to manage and account for these activities without the help of any device, as large volumes of inter-related data emerge. It is, thus through this computerized system that a full-fledged information system can be designed which collects the required data, processes it with accurate, speed and precision and finally gives the results for that reasons. The growth of management theory and techniques, management accounting and its application theory in the production and distribution, changes in the organizational structure etc. has made it mandatory to switch over to the computerized information system to win over the business competitors and rivals.

Computer system helps to analyze financial data from the past and forecast for the future for arriving at appropriate and correct decisions. It not only calculates but also projects trends in costs, prices, profitability analysis and product mix to meet the financial information needs for the users of account information.

In 1968, Gary Dickson proposed a model of information system development, based on the organization structure and its information needs. This was categorized into the application system like clerical information, decision support and programmed system which are discussed as follows:

- **Phase 1: Evolution of clerical system:** Accounting was the prime candidate

for computerization in the early stages. The accounting applications had well defined inputs, output and processing rules. The computerized system replaced the manual system at this stage.

- **Phase 2: Evolution of information system:** This system provided the summarized data, which the managers converted into information for control or decision making. Initially, the users played a minor role in the development of systems. A major concern was to determine how to give users a longer role in all phases of development.
- **Phase 3: Evolution of decision support system:** Application system at this phase became interactive, user friendly manager machine system. The decision situations were broadly classified into structured and unstructured, on the basis of whether the procedure could be well defined or not, or further flexibility could be provided in these systems or not. In case of structured decisions, the system extends facilities to interact with the database and model base for findings solutions.
- **Phase 4: Evolution of programmed system:** The development of information system at this level required an information system manned at the top level in the organization. Programmed system, thus, involved information systems manager as a member of the development group and assigned him a productive role. This influenced the designing of the system and its compatibility with the

information requirements.

The above discussed stages elaborate on the evolution of the system and their integration over a period of time to provide adequate database to generate the accounting information in an acceptable and sophisticated standardized format, ready for analysis.

2.2 STAGES IN EVOLUTION OF ACCOUNTING

The development of accounting can be divided into four periods. Such as the pre-capitalist period 4000 BC -1000 HD, Commercial capitalist 1000-1750, industrial capitalism 1750-1830 and the financial capitalism 1830-20th century.

1. THE PRE – CAPITALIST PERIOD 4000 BC – 1000 AD: This period began with the Mesopotamian civilization and through Greek and Roman times to the "Dark Ages" The need for record keeping initially stem from the extensive trade which grew up within and outside the very fertile Mesopotamia valley. There the only primitive form of record was mound record, where record was initially expressed in terms of substantial quantities and later in financial terms.

2. THE COMMERCIAL CAPITALISM 1000 – 1750: The essence of commercial capitalism which was also called mercantile capitalism is that money was invested mainly in trade and when sold for cash, the proceeds will be used to

acquire more stock. During this period, little was invested in what may broadly be described as fixed assets or productive equipment expects perhaps in the shipping and mining industries.

3. THE INDUSRIAL CAPITALISM 1750-1830: There are factor that facilitated industrialization, the waste discovery of new energy source was in the second half of the 19th century, the use of machine in manufacturing and the development of factory system was made on abundance of labour which was occasioned by the low infant mortality and cheap capital available was in large quantities.

At present, there have been tremendous advancements in accounting to meet the needs brought about by information technology.

4. FINANCIAL CAPITALIST 1830-2000: This period between 1939 -1945, world war saw the most far reaching changes in accounting system and practice started during the world war. The primary important was the growing recognition of ways in which accounting could contribute to management decisions making.

Thus, this point has begun as an offshoot of stewardship reporting and controlling some functions of mangers thereby assume major important role and accountant professors were included and commerce all became much more closely involved as members of management team.

2.3 PURPOSE OF ACCOUNTING INFORMATION

Accounting is referred to as the language of business. It is a medium of communication information in which "communication" deals with identification. Therefore, to say accounting is the language that it is the mode in which business information is identified, processed, transmitted and received by the relevant parties in business to enable different users make proper decision making.

The ultimate purpose of accounting is to act as a steward, which use its record to report to the owners of the company i.e. the shareholder, on transactions made during the period and the effect of these transactions on their investment. Thus, for this purpose, the balance sheet which analyses the financial position of the business and the profit and loss account which measures the success or failure of the company's operation are both important statements.

Furthermore, the purpose of accounting provide decision makers with information in making informed economic decisions by planning future operations via the budget in making decisions between alternatives in allocating scarce resources and in controlling the business by reporting an event soon after they have taken place and make comparison, with the budget or plan. Thus, the managers were charge with the responsibility of directing the use of economic resources which will shape the world's economics. Then, the resource allocation will

determine the prices, wages and what goods and services to be produced etc.

2.4 CLASSIFICATION AND STORING DATA IN AN ACCOUNTING ENVIRONMENT.

The two methods of classifying and storing data within an accounting system are widely use as ledgers accounts and computerized accounting system.

A. LEDGER ACCOUNTS

In both manual and computerized accounting system the effect of business transaction are classified in terms of organization charts of accounts. The phase "chart of accounts" refers to the number of title of ledger accounts used by organization. In designing of the ledger accounts of any business, question always arise as to the extents of details needed in the chart of accounts.

B. COMPUTERIZED ACCOUNTING SYSTEM

In the realms of computerized accounting system, the fascinating interest of the organizations, individuals and nations are to embrace the advancement in technology, and providing a business with tool to compete in the fast changing business environment that encourages the firms and their decision makers to be well informed and empowered with the right information at the right time and in the right manner. This has attributed and given rise to the need to design computerized accounting systems. These systems are sophisticated, information

and data, generate reports, present them graphically and constantly update the data. All these information are then made accessible to the decision-makers.

Accounting + computerized = Integrated computerized accounting system

The accounting and financial software are mostly found in the following areas such as pay rolling system, inventing control, account receivable, account payable and general ledger.

2.5 ACCOUNTING IN THE MANUAL SYSTEM ENVIRONMENT.

Traditionally, organization has produced their business documents, kept their books and prepared their accounts manually. This manual method involves operations performed by a clerk assisted if desired by specific need such as pocket calculators or adding machine etc. This method of processing is suitable in case where the volume of data to be processed is small and there is not much emphasis on the specific period of time the work must be completed. The process is simple and in most cases, the employment of more hands will solve the problem of time limitation.

However, this accounting system also involves processing the accounting transaction through reading the information in the general journal and consequently posting the same to the general ledger. It is the foundation of

introducing accounting procedures in organization that uses manual accounting system.

This should be actually noted before these entries are posted in the ledger account, be it general or special ledger, there may be a considerable amount of detailed work in order to provide the information which is the subject of these entries for example before entering payments for wages and salaries, it is necessary to complete an invoicing system of the amount payable by using payroll system. All sales and purchases transaction affect stock, which must be recorded in a system records.

2.6 THE NATURE OF INTEGRATED ACCOUNTING SOFTWARE SYSTEM

An integrated software accounting system is the suite of interrelated programs which often in modular form. Each module is designed to run on its own or as part of the system. Therefore, an integrated accounting system streamline the accounting routines for allowing the transfer of common information data relating to business transaction from one application module to another which is either directly or through a batch file. Normally this relate to the transfer of transaction details from sales and purchases module to the normal ledger. Most financial

accounting and book keeping programs are purchased off-the-shelf and then developed in house, often by the accountants working, in the case of ledger system with their organization IT departments.

These are most commonly used software accounting system includes:

1) Account receivable
2) Bills of materials
3) Account payable
4) Payroll
5) Purchasing
6) Inventory control
7) Cash manager
8) General ledger

While most commonly used integrated software system includes:

1) Peach tree accounting system
2) Quick book and quick play
3) Financial projection
4) Sage sterling
5) DAC accounting
6) Tetra accounting system
7) Pacioli 2000

8) Oracle accounting system
9) Excel accounting system
10) Act plus
11) Solomon in accounting system
12) Bank and cash manager
13) DAC easy
14) Lotus 1-2-3 system
15) MYOB [Mind your own Business] accounting plus
16) Profit point
17) Money count
18) Money 200 business and personal
19) Sun system accounting system
20) Quick book 2000

PEACH TREE FOR WINDOWS ACCOUNTING SYSTEM

The peach tree in accounting system for window system manages integrated modules that are tailored to work the way you do. The peach tree program aims to increase productivity by allowing you to manage your business records in the most cost and time efficient manner possible.

Peach tree accounting software offers the consumer all forms of accounting services. Not only does the software provide general ledger, book-keeping, account

payable, account receivable, payroll, inventory, crystal report, financial statement and job costing can all be performed within the program.

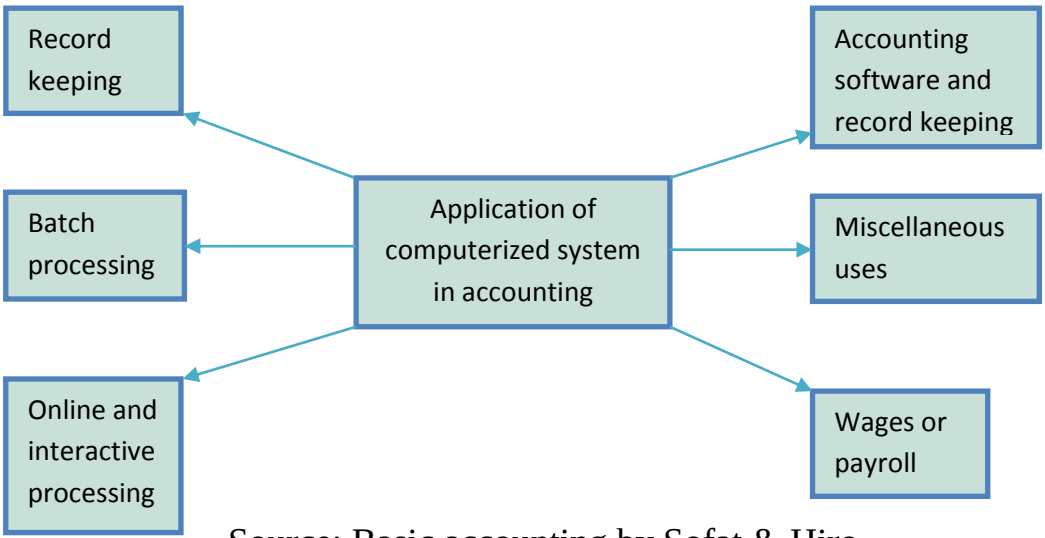
2.7 CHECKLIST FOR SELECTING ACCOUNTING SOFTWARE PACKAGES

- What computer and operating system is the software designed for?
- Can the package be integrated with software from their supplies?
- Does the software have a reliable history of use in similar type of business?

2.8 APPLICATION AND BASIC REQUIREMENT OF SOFTWARE ACCOUNTING SYSTEM.

There are numerous ways in which computerized accounting system can be helpful to accounting systems.

FIG 2.8 APPLICATION OF COMPUTERIZED ACCOUNTING SYSTEM



Source: Basic accounting by Sofat & Hiro

1. **Utility in record keeping:** The computerize systems maintain proper accounting records of each transaction and finally provide the financial statements. These are the source of information for the past, present and the future. The records contribute a lot in the decision making.

2. **Utility in batch processing:** A set of identical tasks such as calculating the pay for each employee run through the computer in a batch. This mode of operation is known as batch processing. However, there is a limitation in this. The programs carrying out the processes tend to be very inflexible. The accounting data is stored in a way that suits the accounting programs, making it difficult to access for any other kind of analysis. There is no way in which accounting reports could be created promptly "on demand".

3. **Utility in online/interactive processing:** Online processing overcomes the draw backs of batch processing. This style of working is practices mostly nowadays, since it is used everywhere from a PC package to main frame based services users are able to interact directly with the computer, which is very user friendly.

4. **Utility in wage/payroll system:** It is used for accounting purposes in financial management. Its goal is to control personnel's cost, timely disbursement of wages/salary and structuring the salary. Various documents which serve this function are as follows:

a) Personnel application form

b) Appointment letter

c) Attendance and leave record

d) Wages/salary agreement

e) Data on wage/salary structure

f) Statement of loans, advances and deductions

g) Notifications of statutory deductions

The reports generated are in the form of salary register, provident fund, ESI reports, ledger and returns, income tax form, statement of TDS(Tax deducted at Source)etc.

Most of these reports are used by professionals in the financial and operational management.

5. **Improved reporting system:** Having recorded the accounting transactions in an electronic form, the production of reports becomes a matter of running some appropriate software's to turn data into a summarized form and tables or standardized balance sheet and profit and loss statements. No longer does the staff need to extract information directly from the ledger entries. This saves a lot of time and reduces error of calculation and transcription. Most accounting software provides facilities for generating period end and year end reports and produce 'trial balance'.

Once accounting software becomes firmly established in the organization final befit can be achieved from having data for successive years or periods in an electronic form. This makes it possible to look at how key financial indicators have change with time and to predict what will happen if particular trends continue.

The essential requirement of this system includes:

i. An organized data processing system is also required to provide effective information.
ii. Feedback is an essential requirement in order to provide for any modification required.
iii. Online interrogation facilities are necessary for obtaining information on demand.

2.9 ADVANTAGES OF USING ACCOUNTING SOFTWARE SYSTEM.

1) **Speed:** Data entry onto the computer with its formatted screens and built in data bases of customers and supplier details and stock records can be carried out far more quickly.

2) **Accuracy:** There is less room for errors as only one accounting entry is needed for each transaction rather than two or three for a manual system.

3) **Legibility:** computerized accounting system eliminates the need to decipher poor or odd hand writing, eliminating much of the possibility of error due to misreading a hand written line item.

4) **Management information:** Reports can be produced which will help management monitor and control the business, for example the aged debtors analysis will show which customer accounts are overdue ,trial balance, trading and profit and loss account and balance sheet.

5) **Staff motivation:** The system will require staff to be trained to use new skills, which can make them feel more motivated.

6) **Availability of information:** Data are instantly available and can be made available to different users in different locations at the same time.

7) **Reduce frustration:** Management can be on top of their accounts and thus reduce stress levels associated with what is not known.

8) **The ability to deal in multiple currencies easily:** Many computerized accounting packages now allow a business to trade in multiple currencies with ease. Problems associated with exchange rates changes are minimized.

9) **Easy document production:** Purchase orders, debit memos, sales receipts, sales invoices, inventory list and others can be printed in moments.

10) **Easy learning:** This is where an auditor learns how to code in GAS language faster than in a general purpose language.

2.10 DISADVANTAGES OF SOFTWARE ACCOUNTING SYSTEM

1. Cost: When using accounting software, you must buy the software and any additional licenses necessary for other users and computer. Some software requires you to purchase upgrades or updates for additional information.

2. Reliance on computer: If your computer crashes or data is corrupted by a virus, you won't be able to use your accounting software until the problem is fixed. This also means you won't have access to any entered data until the computer is running again.

3. Fraud: Accounting software data requires extra levels of security to prevent problem like fraud and embezzlement. Software makes it easier for users to alter data, making fraud easier to accomplish. As a result, there is an increased need for internal auditors to check for any data inaccuracies.

4. Additional software: Most accounting software requires you to have additional software in order to view reports. For instance some programs allow you to export data as a PDF file or an excel spreadsheet. This allows user without the accounting program to view the data. However, the viewing software may pose additional expenses to users.

5. Human errors: While it is easy to write down numbers incorrectly, it is even easier to mistype a number. Entering data into accounting software too quickly may result in serious errors. With the program performing calculations, it

can be more difficult to trace the cause of the problem. Spreadsheets, digital ledgers or written ledgers make tracking simpler and faster.

6. **Training:** Computerized accounting requires you to take the time to learn to use it. While you may be an experienced accountant, you'll still need to learn what each button and menu command does in order to use computerized accounting effectively. This learning curve can result in costly errors.

7. **Time:** Many accountants find that it takes more time to enter data into computerized accounting than it does to write it or type it into a spreadsheet. Due to step by step screens, the process often takes longer, especially for those who don't use the computer often or are still new to using the program.

2.11 COMPARISON BETWEEN MANUAL ACCOUNTING AND SOFTWARE ACCOUNTING SYSTEM

There are various bases on which the computerized system and the manual system can be distinguished from each other, which are as follows:

S/N	BASIS	COMPUTERISED SYSTEM ACCOUNTING	MANUAL SYSTEM ACCOUNTING
1	Analysis and classification	Analyze and classify business transactions by their type. Access appropriate menu for data.	Analyze and journalize transaction as they occur.
2	Posting of entry	Computers automatically post transactions as a batch or when entered online.	Manual system accountings post every journal entry to the ledger accounts.
3	Unadjusted balances display	The unadjusted balances are available immediately after each posting.	Computer the adjusted balance in each account at the end of the period.

4	Access to trial balance and summarized	Trial balance if needed can be accessed as a report.	Trial balance is a processing step leading to the financial statement.
5	Adjusting entries	Enter and post adjusting entries. Print the financial statement. Run automatic closing procedures after backing up the periodic accounting records	Prepare the financial statements. Journalize and past the adjusting entries. Journalize and post the closing entries.
6	Opening and closing balances	The next period's opening balances are created automatically as a result of closing.	Prepare the post-closing trial balance. The trial balance becomes step 1

			for the next phase
7	Interpretation and presentation	Interpretation and presentation of data is more graphical need-based and sophisticated in comparison to the manual system.	These may be slower and less attractive but can be customized as per the need. It definitely lacks presentation and promptness.
8	Reporting	Instant reporting is possible as information is compiled and is processed immediately. constant and instant reporting possible	The reporting depends on the frequency of maintenance of data. Reporting is comparatively slower than automated systems.

2.12 EFFECT OF SOFTWARE ACCOUNTING SYSTEM ON CUSTOMERS

1) Customers may not have the patient to wait for manual updating of account.
2) Time waste.
3) Customers may not obtain the required information at the appropriate time for investment purpose.
4) Data only entry maybe in accurately made on customers account.

2.13 EFFECT OF SOFTWARE ACCOUNTING SYSTEM ON ORGANIZATION PERFORMANCE

1) Inconsistency in reprinting system as reports maybe provided with updating.
2) Lack of time of information may make an organization to take wrong decision on stock valuation.
3) Poor quality of service maybe provided as entries may contain cancellation distortion or roughly presented
4) Consequently, customer's part may decline and this may lead poor profit report of the organization.

CHAPTER THREE

RESEARCH METHODOLOGY

INTRODUCTION

In this chapter, the researcher states the methods in which he has applied in carrying out the research work. In which the explanation of theoretical framework and research methodology will be adopted in this study. The researcher will talk on the research design, population of the study, sample design and techniques, sources of data collection, validity and reliability of the instrument, method of data analysis.

3.1 RESEARCH DESIGN

The design of a research work is basic plan that guides the data collection and analysis phases of the research work. Hence, the research design is the framework which specifies the type of information to be collection, the source of data and the data collection procedures. The two approaches to research design are the case study and the survey method.

Here the study focuses on a comparative analysis of software accounting system and manual accounting system with the aim to show the operational and

reporting system in both computerized accounting system and manual accounting system.

3.2 SOURCES OF DATA

The researcher carried out a statistical analysis by collecting the necessary data and also extracting data from already existing literature on the subject matter of the study which is from the main source of the data. The data collected in this work are made up of both primary and secondary data.

3.2.1 PRIMARY DATA

This can be done through personal interviews, administrating of questionnaire to the people on observation. The data collected by the researcher is the direct information decides by the researcher form employees of the two selected companies. For the purpose of this research work, questionnaires were distributed to employees of the two selected companies to be filled for relevant information needed for the research.

3.2.2 SECONDARY SOURCE OF DATA

The secondary source of data entails information gotten by the researcher from already existing materials that are related to this topic of study. Hence, the secondary data for this study was obtained by the researcher from published and unpublished texts, journals magazines, and gazette of the existing document.

3.3 AREA OF THE STUDY

This study or research work covers a comparative analysis of software and manual accounting system. All research work was carried out in two companies to be more precise: Nigeria Breweries Plc. and African Petroleum Plc. all in Enugu state.

3.4 POPULATION OF THE STUDY

The population of interest in this study consists of accountants and manager in the financial section of the companies involved (Nigeria Breweries Plc. and African Petroleum Plc.). The researcher applied judgmental sampling technique in limiting the study.

Nigeria Breweries Plc	66

African Petroleum Plc	54
Total	120

3.5 DETERMINATION OF THE SAMPLE SIZE AND SAMPLING TECHNIQUES

A sample is a part of a population and the techniques for selecting this sample is referred to as sampling procedures.

In determining the judgmental sampling technique the researcher adopted Yaro Yamani's formula:

$$n = \frac{N}{1+N(e)^2}$$

Where:

n = Sample size

N = Population

e = Level of significance (5%)

1 = constant

Substituting in the formula

$$n = \frac{120}{1+120(0.005)^2}$$

$$= \frac{120}{1+120(0.0025)}$$

$$= \frac{120}{1+0.3}$$

$$= \frac{120}{1.3}$$

n = 92.30

Sample size = 92

3.6 VALIDITY AND RELIABILITY TEST OF THE INSTRUMENT

The reliability of the instrument used is guaranteed and as the researcher used structured questionnaire and had an oral interview with the staff of the selected companies.

Questionnaires were the principal instrument used by the researcher to gather data or information for this study.

Validity is the extent to which a measure of concept achieves what the researcher set out to measure. The researcher conducted on the spot, interview in structural form. The researcher also avoided misleading question and ambiguous question in his research questions to ensure validity in his data collection.

3.7 METHOD OF DATA COLLECTION

The ultimate aim of every research is to find solutions to identify the problems of the subject of study. This can only be achieved through the collection of reliable data.

Therefore data were collected from both primary and secondary sources (data).

3.8 TECHNIQUES FOR DATA ANALYSIS

Data obtained were analyzed using percentage and simple statement as referred to the information collected from respondents through research questionnaire delivered as represented in a tabular form.

A parametric statistical testing tool Z-test is used to test hypothesis about the difference between the mean of the group. The formula for Z-test statistical tool used is state below:

$$Z = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{(SD_1)^2}{n_1} + \frac{(SD_1)^2}{n_2}}}$$

Where: Z = Test statistics

X_1 = Mean of sampled 1

X_2 = Mean of sampled 2

SD_1 = Standard deviation for sample 1

SD_2 = Standard deviation for sample 2

n_1 = Sample size of sample 1

n_2 = sample size of sample 2

A four scale was used to award point to each specific questions responded by the respondents. The favorable points are scored as follows:

Strongly Agreed (SA)

Agreed (A)

Disagreed (D)

Strongly disagreed (SD)

3.9 DECISION CRITERION FOR VALIDATION OF HYPOTHESIS

The decision rule is based on the comparison between the calculated values. Reject the Null Hypothesis (H_0) and uphold Alternative Hypothesis (H_1) if the Z – calculated value exceeds the Z – critical value. Otherwise do not reject the Null Hypothesis

CHAPTER FOUR

DATA PRESENTATION, INTERPRETATION AND ANALYSIS OF DATA

4.1 PRESENTATION OF DATA AND ANALYSIS OF DATA

This chapter deals with the presentation of data used in this research work and also attempt to answer questions in the mind of the researcher. It deals with clarification of the ways in which data obtained during the field survey have been effectively used in the study.

Raw data collected by any method employed in a research will remain raw unless it is presented and analyzed. Therefore without analyzing research work is working meaningless in terms of assisting the researcher's question for truth.

4.1 PRESENTATION OF DATA

For the purpose of this research 92 questionnaires were typed and distributed but only 86 questionnaires were completed and returned. This study was carried out to determine the study of comparative analysis of software accounting system and manual accounting system and the result of the research work was represented in a statistical form and percentage was used for the analysis.

QUESTION ONE

Is manual accounting system, the most commonly used accounting information techniques in the industry for management decision – making?

Table 4.1.1

Response	Number of Respondent	Percentage (%)
Strongly agreed	29	34
Agreed	43	50
Disagreed	6	7
Strongly disagreed	8	9
Total	86	100

Source: field survey 2013

From the above response in Table 4.1.1 it shows that 34% strongly agreed, 50% agreed, 7% disagreed and 9% strongly disagreed. It can be concluded that manual accounting systems are the most commonly used accounting information techniques in the industry for management decision.

QUESTION TWO

Are there funds lost through frauds and forgeries when organizations use software accounting system?

Table 4.1.2

Response	Number of Respondent	Percentage (%)
Strongly agreed	37	43
Agreed	26	30
Disagreed	16	19
Strongly disagreed	7	8
Total	86	100

Source: field survey 2013

From table 4.1.2 the responses indicate 43% strongly agreed, 30% agreed, 19% disagreed and 8% strongly disagreed. It can be observed that funds are lost through frauds and forgeries when organizations use software accounting system.

QUESTION THREE

Do you think that the use of software accounting system is more proficient, accurate and pleasurable than manual accounting system?

Table 4.1.3

Response	Number of Respondent	Percentage (%)
Strongly agreed	36	42
Agreed	29	34
Disagreed	6	7
Strongly disagreed	15	17
Total	86	100

Source: field survey 2013

The analysis in Table 4.1.3, it shows that 42% strongly agreed, 32% agreed, 7% disagreed and 17% strongly disagreed. It implies that the use of software accounting system is more proficient, accurate and pleasurable.

QUESTION FOUR

As an accountant or manager does the use of manual accounting system create any special problems?

Table 4.1.4

Response	Number of Respondent	Percentage (%)
Strongly agreed	22	26
Agreed	38	44
Disagreed	9	10
Strongly disagreed	17	20
Total	86	100

Source: field survey 2013

From the table in 4.1.4, it shows that 26% strongly agreed, 44% agreed, 10% disagreed and 20% strongly disagreed. From this responses one can conclude that the use of manual accounting system create special problems for the user i.e. accountants and managers.

QUESTION FIVE

As an accountant or manager does the use of software accounting system create any special problems?

Table 4.1.5

Response	Number of Respondent	Percentage (%)
Strongly agreed	28	33
Agreed	9	10
Disagreed	33	38
Strongly disagreed	16	19
Total	86	100

Source: field survey 2013

From Table 4.1.5, it shows that 33% strongly agreed, 10% agreed, 38% disagreed 19% strongly disagreed. From personal observation it was notice that software accounting system does not create special create any special problem.

QUESTION SIX

Does it take more financial resources to run a software system than manual accounting system?

Table 4.1.6

Response	Number of Respondent	Percentage (%)
Strongly agreed	33	38
Agreed	24	28
Disagreed	10	12
Strongly disagreed	19	22
Total	86	100

Source: field survey 2013

According to table 4.1.6, it shows that 38% of the respondents strongly agreed, 28% agreed, 12% disagreed, and 22% strongly disagreed. From this analysis it was clarify that it takes more financial resources to run a software accounting system than the manual accounting system.

QUESTION SEVEN

Does your organization encounter frauds and forgeries when using software than the manual accounting system?

Table 4.1.7

Response	Number of Respondent	Percentage (%)
Strongly agreed	42	49
Agreed	19	22
Disagreed	17	20
Strongly disagreed	8	9
Total	86	100

Source: field survey 2013

From table 4.1.8, it shows 49% strongly agreed, 22% agreed, 20% disagreed and 9% strongly disagreed. Observations show that many accountants or managers agreed that computerization has increased rapidly in terms of frauds and forgeries.

QUESTION EIGHT

Does the software accounting system increase effectiveness and efficiency in your organization than manual accounting system?

Table 4.1.8

Response	Number of Respondent	Percentage (%)
Strongly agreed	39	45
Agreed	22	28
Disagreed	10	12
Strongly disagreed	13	15
Total	86	100

Source: field survey 2013

From table 4.1.8, it reveals that 45% strongly agreed, 28% agreed, 12% disagreed and 15% strongly disagreed. One can inferred that in software accounting system, the effectiveness and efficiency has increased tremendously than when manual accounting system are used.

QUESTION NINE

Are frauds and forgeries encouraged with the use of software accounting system than with manual accounting system?

Table 4.1.9

Response	Number of Respondent	Percentage (%)
Strongly agreed	42	49
Agreed	21	24
Disagreed	14	16
Strongly disagreed	9	11
Total	86	100

Source: field survey 2013

From the table, 49% strongly agreed and 24% agreed, 16% disagreed and 11% strongly disagreed that software accounting system are not encouraged with the frauds and forgeries compare to manual accounting system.

QUESTION TEN

Has there been any increase in the quality of work done since the use of software accounting system?

Table 4.1.10

Response	Number of Respondent	Percentage (%)
Strongly agreed	48	56
Agreed	31	36
Disagreed	5	6
Strongly disagreed	2	2
Total	86	100

Source field survey 2013

From table 4.1.10, it shows that 56% strongly agreed, 36% agreed, 6% disagreed and 2% strongly disagreed. It implies that the use of software accounting system has maximum increase for the quality of work done.

QUESTION ELEVEN

Does the software accounting system handle large volume of data than the manual accounting system?

Table 4.1.11

Response	Number of Respondent	Percentage (%)
Strongly agreed	40	46
Agreed	36	42
Disagreed	4	5
Strongly disagreed	6	7
Total	86	100

Source: field survey 2013

From table 4.1.11, it indicates that 46% strongly agreed, 42% agreed, 5% disagreed, 7% strongly disagreed. It implies that software accounting system can handle large volume of data than the manual accounting system.

Thus with the above view, it then stands out that computerized accounting turns out large volume of data.

QUESTION TWELVE

Is software accounting system capable of storing retrieving, analyzing, processing, summarizing and reporting promptly than manual accounting system?

Table 4.1.12

Response	Number of Respondent	Percentage (%)
Strongly agreed	43	50
Agreed	36	42
Disagreed	4	5
Strongly disagreed	3	3
Total	86	100

Source: field survey 2013

From table 4.1.12, it indicates that 50% strongly agreed, 42% agreed, 5% disagreed and 3% strongly disagreed. It can be inferred that software accounting system is most capable of handling, storing, retrieving, analyzing, processing, summarizing and promptly reporting.

QUESTION THIRTEEN

Is manual accounting system more effective and efficiently in reducing total amounts of funds lost through frauds and forgeries than software accounting system?

Table 4.1.13

Response	Number of Respondent	Percentage (%)
Strongly agreed	30	35
Agreed	24	28
Disagreed	14	16
Strongly disagreed	18	21
Total	86	100

Source: field survey 2013

From table 4.1.13 it shows that 35% strongly agreed, 28% agreed, 16% disagreed, and 21% strongly disagreed. From personal observation it was notice that manual accounting system is more effective and efficient in reducing frauds and forgeries in total amount of fund.

4.2 TEST OF HYPOTHESES

The hypothesis which were stated earlier in chapter one would be tested in this chapter for acceptance or rejection. The hypothesis is to be tested using the z-test for uncorrelated data.

Formula

$$Z = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{(SD_1)^2}{n_1} + \frac{(SD_1)^2}{n_2}}}$$

Where Z = Test statistics

$\bar{x}_1$ = Mean of sampled 1

$\bar{x}_2$ = Mean of sampled 2

SD_1 = Standard deviation for sample 1

SD_2 = Standard deviation for sample 2

n_1 = Sample size of sample 1

n_2 = sample size of sample 2

4.2.1 TEST OF HYPOTHESIS ONE

For the purpose of clarifying the hypothesis are hereby restated thus

H_0: frauds and forgeries are not encouraged with the use of software accounting system than manual accounting system.

H_1: frauds and forgeries are encouraged with the use of software accounting system than manual accounting system

Analysis the data in table 10 using z – test model thus:

$$Z = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{(SD_1)^2}{n_1} + \frac{(SD_1)^2}{n_2}}}$$

Table 4.3.1

Respondent	No. of respondent	Grouped that strongly agreed or agreed X_1	Grouped that disagreed or strong disagreed X_2
Accountant	48	35	13
Manager	38	28	10
Total	86	63	23

A. Computation of mean for accountants (x_1) and managers (x_2)

i. For x_1 (i.e the groups that agreed or strongly agreed)

$$\bar{x} = \frac{\sum x_1}{n_1} = \frac{63}{2} = 32$$

ii. For x_2 (i.e the group that disagreed or strongly disagreed)

$$\bar{x} = \frac{\sum x_2}{n_2} = \frac{23}{2} = 12$$

B. Computation of standard deviation for SD_1 and SD_2

Group that agreed or strongly agreed			**Group that disagreed or strongly disagreed**		
x_1	$x_1 - \bar{x}_1$	$(x - \bar{x}_1)^2$	x_2	$x - \bar{x}_2 = x_2$	$(x - \bar{x}_2)^2$
35	3	9	13	1	1
28	-4	16	10	-2	4
63		25	23		5

$SD_1 = \sqrt{\frac{(x-\bar{x}_1)^2}{n-1}}$

$SD_1 = \sqrt{\frac{25}{2-1}}$

$SD_1 = \sqrt{\frac{25}{1}}$

$SD_1 = \sqrt{25}$

$SD_1 = 5$

$SD_2 = \sqrt{\frac{(x-\bar{x}_1)^2}{n-1}}$

$SD_2 = \sqrt{\frac{5}{2-1}}$

$SD_2 = \sqrt{\frac{5}{1}}$

$SD_2 = \sqrt{5}$

$SD_2 = 2.24$

C. Now the Z – test formula will be apply

$$Z = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{(SD_1)^2}{n_1} + \frac{(SD_1)^2}{n_2}}}$$

Where: $\bar{x}_1 = 32$

$\bar{x}_2 = 12$

$SD_1 = 5$

$SD_2 = 2.24$

$n_1 = 2$

$n_2 = 2$

Note: The level of significance is 0.05.

Decision rule stated that the H_0 (i.e null hypothesis) should be accepted if the Z calculated value is less than Z critical value of (±1.98) and the alternative hypothesis should be rejected if it is greater than the critical value of (±1.98).

The (±1.968) is the critical value of 2 for a two tailed test at 0.05 level of significance.

$$Z = \frac{32 - 12}{\sqrt{\frac{(5)^2}{2} + \frac{(2.24)^2}{2}}}$$

$$Z = \frac{20}{\sqrt{\frac{25}{2} + \frac{5}{2}}}$$

$$Z = \frac{20}{\sqrt{12.5 + 2.5}}$$

$$Z = \frac{20}{\sqrt{15}}$$

$$Z = \frac{20}{3.87}$$

$$Z = 5.17$$

D. To compute the critical value 2 computed value

Critical value = (± 1.98)

Computed value = 5.17

Computed value > critical value

E. Decision on the acceptance or rejection of H_0 and H_1. Since the calculated value of Z is greater than critical value, we should reject the null hypothesis (H_0) and uphold the alternative hypothesis (H_1)

F. Conclusion: fraud and forgeries are encouraged with the use of software accounting system than manual accounting system

HYPOTHESIS TWO

H_0: Software accounting system is not able to handle large volume of data than the manual accounting system.

H_1: Software accounting system is able to handle large volume of data than the manual accounting system.

A. To determine the mean for accountants ($\bar{x}_1$) and managers ($\bar{x}_2$)

Respondent	**No. of respondent**	**Grouped that ($\bar{x}_1$) strongly agreed or agreed ($\bar{x}_1$)**	**Grouped that disagreed or strong disagreed ($\bar{x}_1$)**
Accountant	48	42	6
Manager	38	34	4
Total	86	76	10

For ($\bar{x}_1$)

$$\bar{x} = \frac{\sum x_1}{n_1} = \frac{76}{2} = 38$$

For ($\bar{x}_2$)

$$\bar{x} = \frac{\sum x_1}{n_1} = \frac{10}{2} = 5$$

B. Computation of standard deviation for accountants SD_1 and managers SD_1

Group that agreed or strongly agreed			**Group that disagreed or strongly disagreed**		
x_1	$x_1 - \bar{x}_1$	$(x - \bar{x}_1)^2$	x_2	$x - \bar{x}_2 = x_2$	$(x - \bar{x}_2)^2$
42	4	16	6	1	1
34	-4	16	4	-1	1
76		32	10		2

SD_1 = $\sqrt{\frac{(x-\bar{x}_1)^2}{n-1}}$

SD_1 = $\sqrt{\frac{32}{2-1}}$

$SD_1 = \sqrt{\frac{32}{1}}$

$SD_1 = \sqrt{32}$

$SD_1 = 5.67$

$SD_2 = \sqrt{\frac{(x-\bar{x}_1)^2}{n-1}}$

$SD_2 = \sqrt{\frac{2}{2-1}}$

$SD_2 = \sqrt{\frac{2}{1}}$

$SD_2 = \sqrt{2}$

$SD_2 = 1.41$

C. Now the Z – test formula will be apply

$$Z = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{(SD_1)^2}{n_1} + \frac{(SD_1)^2}{n_2}}}$$

Where: $\bar{x}_1 = 38$

$\bar{x}_2 = 5$

$SD_1 = 5.67$

SD_2 = 1.41

n_1 = 2

n_2 = 2

Note: The level of significance is 0.05.

Decision rule stated that the H_0 (i.e null hypothesis) should be accepted if the Z calculated value is less than Z critical value of (±1.98) and the alternative hypothesis should be rejected if it is greater than the critical value of (±1.98).

The (±1.98) is the critical value of 2 for a two tailed test at 0.05 level of significance.

$$Z = \frac{38 - 5}{\sqrt{\frac{(5.67)^2}{2} + \frac{(1.41)^2}{2}}}$$

$$Z = \frac{33}{\sqrt{\frac{32.15}{2} + \frac{1.99}{2}}}$$

$$Z = \frac{33}{\sqrt{16.08 + 1.00}}$$

$$Z = \frac{33}{\sqrt{17.08}}$$

$$Z = \frac{33}{4.13}$$

$Z = 7.99$

D. To compute the critical value 2 computed value

Critical value = (± 1.98)

Computed value = 7.99

Computed value > critical value

E. Decision on the acceptance or rejection of H_0 and H_1. Since the calculated value of Z is greater than critical value, we should reject the null hypothesis (H_0) and uphold the alternative hypothesis (H_1)

F. Conclusion: Software accounting system is able to handle large volume of data than the manual accounting system.

HYPOTHESIS THREE

H_0: Manual accounting system is not effective and efficient than the software accounting system in reducing the amount of funds through frauds and forgeries.

H_1: Manual accounting system is effective and efficient than the software accounting system in reducing the amount of funds through frauds and forgeries.

A. To determine the mean for accountants ($\bar{x}_1$) and managers ($\bar{x}_2$)

Respondent	**No. of respondent**	**Grouped that ($\bar{x}_1$) strongly agreed or agreed ($\bar{x}_1$)**	**Grouped that disagreed or strong disagreed ($\bar{x}_1$)**
Accountant	48	30	18
Manager	38	24	14
Total	86	54	32

For ($\bar{x}_1$)

$$\bar{x} = \frac{\sum x_1}{n_1} = \frac{54}{2} = 27$$

For ($\bar{x}_2$)

$$\bar{x}_2 = \frac{\sum x_2}{n_2} = \frac{32}{2} = 16$$

B. Computation of standard deviation for accountants SD_1 and managers SD_1

Group that agreed or strongly agreed			**Group that disagreed or strongly disagreed**		
x_1	$x_1 - \bar{x}_1$	$(x - \bar{x}_1)^2$	x_2	$x - \bar{x}_2 = x_2$	$(x - \bar{x}_2)^2$
30	3	9	18	2	4
24	-3	9	14	-2	4
76		18	32		8

$SD_1 = \sqrt{\frac{(x-\bar{x}_1)^2}{n-1}}$

$SD_1 = \sqrt{\frac{18}{2-1}}$

$SD_1 = \sqrt{\frac{18}{1}}$

$SD_1 = \sqrt{18}$

$SD_1 = 4.24$

$SD_2 = \sqrt{\frac{(x-\bar{x}_1)^2}{n-1}}$

$SD_2 = \sqrt{\frac{8}{2-1}}$

$SD_2 = \sqrt{\frac{8}{1}}$

$SD_2 = \sqrt{8}$

$SD_2 = 2.83$

C. Now the Z – test formula will be apply

$$Z = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{(SD_1)^2}{n_1} + \frac{(SD_1)^2}{n_2}}}$$

Where: $\bar{x}_1 = 27$

$\bar{x}_2 = 16$

$SD_1 = 4.24$

$SD_2 = 2.83$

$n_1 = 2$

$n_2 = 2$

Note: The level of significance is 0.05.

Decision rule stated that the H_0 (i.e. null hypothesis) should be accepted if the Z calculated value is less than Z critical value of (±1.98) and the alternative hypothesis should be rejected if it is greater than the critical value of (±1.98).

The (±1.98) is the critical value of 2 for a two tailed test at 0.05 level of significance.

$$Z = \frac{27 - 16}{\sqrt{\frac{(4.24)^2}{2} + \frac{(2.83)^2}{2}}}$$

$$Z = \frac{11}{\sqrt{\frac{17.98}{2} + \frac{8.01}{2}}}$$

$$Z = \frac{11}{\sqrt{8.95 + 4.01}}$$

$$Z = \frac{11}{\sqrt{12.96}}$$

$$Z = \frac{11}{3.6}$$

$$Z = 3.06$$

G. To compute the critical value 2 computed value

Critical value = (± 1.98)

Computed value = 3.06

Computed value > critical value

H. Decision on the acceptance or rejection of H_0 and H_1. Since the calculated value of Z is greater than critical value, we should reject the null hypothesis (H_0) and uphold the alternative hypothesis (H_1)

I. Conclusion: Software accounting system is able to handle large volume of data than the manual accounting system.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AMD RECOMMENDATION

5.1 SUMMARY OF FINDINGS

The following findings were made and summarized as follows:

1) Computerized accounting system is the most accurate accounting techniques that are useful in planning, controlling and decision making in organizations.
2) Manual accounting system according to my findings creates special problems for the users of accounting information. Such as accountants and managers since the system lack required speed, accuracy and capacity.
3) Software accounting system handles large volume of data than the use of manual accounting system.
4) Manual accounting system are the most commonly used accounting information techniques in the industry for management decision making than software accounting system due to inability of some employees of the organization to operate the computer.
5) A huge amount of money is lost through frauds and forgeries when organizations use software accounting system.

6) Software accounting system is capable of storing, processing, summarizing, retrieving and analyzing business information.

5.2 CONCLUSION

From the study, software accounting system proves to be a better choice in handling data but the issue of fraud and forgery continues to be a major challenge to accountants and managers. Fraud and forgery is a security issue that is common to most software implementation which can be measured and reduced.

5.3 RECOMMENDATION

After reaching the results, the study recommendations was highlighted which when implemented will produce much required choice of better accounting system.

1) Migrating to software accounting system: recent experience has shown that manual accounting systems are no longer attainable in processing large volume of data or little volume of data during transactions. Therefore showing the necessity for companies to move over to software accounting system.

2) Software accounting system encourages speed in caring out various business objectives therefore organizations are recommended to switch over to software

accounting system for their daily business activities in order to increase efficiency and effectiveness.

3) The researcher therefore suggests that further research should be carried out in the following areas:

a. The effect of the introduction of accounting system in organizations.
b. Managers and students of accounting should be introduced to both the theoretical and practical of software accounting system.
c. Encouragement of research in the areas of software accounting system in our institution of higher learning.
d. Establishment of post graduate diploma in accounting and financial modeling as one of the series of qualifying examination for being a member of professional accounting body.

4) In reducing fund lost through fraud and forgery managers and accountants are recommended to provide software developers, with information on progressive changes in carrying out business activities to enable them design better algorithms in accounting software. Also users of this software are to be trained to enable them monitor fraudulent activities that could be carried out if not monitored.

BIBLIOGRAPHY

Amor, D. (2000). *The e-business (R) Evolution: Living and Working in an Interconnected Working.* Upper Saddle River, New Jersey: Prentice Hall Inc.

Bhatia, H .L. (2003). *Public finance (24th Edition).* New Delhi: Vikas publishing House PVT Ltd.

Brown, J. (2005). *Computers and Automation*. New York: Arco Publishing Company.

Cecchini, M., Aytug, H., Koehler, G., & Pathak, P. (2005). *Detecting Management Fraud in Public Companies*. Florida: University of Florida Fisher School of Business.

Enekwe, C. I. (2010). *Basic Fundamentals in Accounting*, Volume 1. Enugu: Providence Press Nigeria Ltd.

Haloren, S. M. O. (2000). *Computers and Their Social Impact*. New York: John Willey and Sons Ltd.

Igben, R. O. (2009). *Financial Accounting Made Simple*-volume 1. Lagos: ROI Publishers.

Maduegbuna, A. N. (2006). *Research Methodology,* Basic Issues and Techniques. Awka: Scoa Heritage System.

Mcmahon, G. P. (2001). *Business growth and performance and the financial reporting practices of Australian manufacturing SMEs*. Journal of small business management, 39 (2), 152-164.

Onyewuenyi, R. N. (2002). *Microcomputers Studies for Beginners* (*2nd edition*). Onitsha: Spritians Publication.

Wood, F., & Sangster, A. (2002). *Business Accounting (9th edition).* London: Pearson Education Limited.

Menson, N., Lee, M. B., & Eldenburg, L. (2000). *Productivity of Information Systems in the Healthcare Industry;* Information System Research 11 (1)83-92.

O'Brien, J. A. (2002). *Management Information Systems: Managing Information Technology in the e-business Enterprise (5th Edition)*. New York: Mc Graw-Hill Publisher.

Oladele, O. K. (2009). *Computer-based Accounting Systems in the Private Sector.* ICAN Students' Journal 7-12.

Rajini S., & Preeti H. (2012). *Basic Accounting. (2nd edition*). India: PHI Learning Pvt Ltd. www.google.com. [Viewed on May 19, 2013]

Richard, O. A. (2003). *Effects of Information Systems on the Efficiency and Profitability of Banks in Nigeria*. ICAN Students' Journal 6-9.

Shofe, S. M., & T. A. Byrd. (2000). *A Framework for Measuring the Organizational Investments in Information Technology Using Data Envelopment Analysis.* Omega 28: 125-141.

Sippic, J. (2005). *Computers Dictionary*. Indian Polish Ward: W. Sams and Co Inc.

Venkotesh, V., & F. D. Daxis. (2000). *A Theoretical Extension of the Technology Acceptance Model:* Four Longitudinal Field Studied Management Science 46(2):186-2004.

APPENDIX I

Department of Accountancy
Faculty of management and Social sciences
Caritas University,
Amorji-nike, Enugu
Enugu state
26th June, 2013.

Dear Respondent,

I am a final year student of the above mentioned institution, carrying out a research on the topic, A COMPARATIVE ANALYSIS OF COMPUTERIZED ACCOUNTING SYSTEM AND MANUAL ACCOUNTING SYSTEM: A study of Nigeria breweries plc and African Petroleum Plc. This study is purely on academic exercise in partial fulfillment of the requirement for the award of a Bachelor of Science (B.Sc.) Degree in Accounting.

Your special assistance is needed is needed in answering the questions attached. Be assured that all response will be treated in strict confidence and used for the purpose of the study only.

Subsequently, I request an unbiased and sincere response to the questions raised in this questionnaire to enable me arrive at a fair results.

Thanks for your anticipated co-operation.

Yours faithfully

EZEDIUNOR JULIANA. C
ACC/2009/563

APPENDIX II

QUESTIONNAIRE

Kindly indicate your response to each of the questions below by ticking (√) in the appropriate box.

SECTION A

PERSONAL DATA

1) SEX: a. Female [ ] b. Male [ ]

2) AGE: (a.) Below 30 years [ ] (b.) Between 30-50 years [ ]

(c.) Over 50 years [ ]

3) EDUCATIONAL BACKGROUND: a. OND [ ] (b.) HND [ ]

(c.) B.Sc. [ ] (d.) M.Sc.[ ]

4) NUMBERS OF YEARS OF EXPERIENCE: a. 1-5 Years [ ]

(b.) 6-10 Years (c.) 11 and above [ ]

5) PRESENT POSITION HELD ……..

SECTION B

1. Is manual accounting system, the most commonly used accounting information techniques in the industry for management decision making?

   (a.) Strongly agreed [ ] (b.) Agreed [ ] (c.) Disagreed [ ]
   (d.)Strongly Disagreed [ ]

2. Are there funds lost through frauds and forgeries when organization uses manual accounting system?

   (a.) Strongly agreed [ ] (b.) Agreed (c.) Disagreed [ ]
   (d.) Strongly Disagreed

3. Do you think the use of software accounting system is more proficient, accurate and pleasurable than manual accounting system?

   (a.) Strongly agreed [ ] (b.) Agreed [ ] (c.) Disagreed [ ]
   (d.) Strongly Disagreed [ ]

4. As an accountant /manager does the use manual accounting create system special problems?

   (a.) Strongly agreed [ ] (b.) Agreed [ ] (c.) Disagreed [ ]
   (d.) Strongly Disagreed [ ]

5. As an accountant/ manager does the use of software accounting system create special problems?

   (a.) Strongly agreed [ ] (b.) Agreed [ ] (c.) Disagreed [ ]

   (d.) Strongly Disagreed [ ]

6. Does it take more financial resources to run a software system than with manual accounting system?

   (a.) Strongly agreed [ ] (b.) Agreed [ ] (c.) Disagreed [ ]

   (d.) Strongly Disagreed [ ]

7. Does your organization encounter frauds and forgeries when in use of software than the manual accounting system?

   (a.) Strongly agreed [ ] (b.) Agreed [ ] (c.) Disagreed [ ]

   (d.) Strongly Disagreed [ ]

8. Does the software accounting system increase effectiveness and efficiency in your organization than with manual accounting system?

   (a.) Strongly agreed [ ] (b.) Agreed [ ] (c.) Disagreed [ ]

   (d.) Strongly Disagreed [ ]

9. Are frauds and forgeries encouraged with the use of software accounting system than with manual accounting system?

   (a.) Strongly agreed [ ] (b.) Agreed [ ] (c.) Disagreed [ ]

   (d.) Strongly Disagreed [ ]

10. Has there been any increase in the quality of work done since the use of software accounting system?

    (a.) Strongly agreed [ ] (b.) Agreed [ ] (c.) Disagreed [ ]

    (d.) Strongly Disagreed [ ]

11. Does the software accounting system handle large volume of data than with manual accounting system?

    (a.) Strongly agreed [ ] (b.) Agreed [ ] (c.) Disagreed [ ]

    (d.) Strongly Disagreed [ ]

12. Is software accounting system capable of storing, retrieving, analyzing, processing, summarizing and reporting promptly than manual accounting system?

    (a.) Strongly agreed [ ] (b.) Agreed [ ] (c.) Disagreed [ ]

    (d.) Strongly Disagreed [ ]

13. Is manual accounting system more effective and efficient in reducing total amount of funds lost through frauds and forgeries than software accounting system?

    (a.) Strongly agreed [ ] (b.) Agreed [ ] (c.) Disagreed [ ]

    (d.) Strongly Disagreed [ ]