**THE IMPACT OF ACCOUNTING INFORMATION SYSTEM ON BANK PORTFOLIO MANAGEMENT IN NIGERIA**

**(A Case Study of First Bank of Nigeria, Agbara)**

**BY**

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**HACF/19/0036**

**A PROJECT SUBMITTED**

**TO**

**THE DEPARTMENT OF ACCOUNTANCY, SCHOOL OF FINACIAL AND MANAGEMENT STUDIES, OGUN STATE INSTITUTE OF TECHNOLOGY IGBESA, OGUN STATE.**

**IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF NATIONAL DIPLOMA**

**July, 2021**

**CHAPTER ONE**

**INTRODUCTION**

**1.1 BACKGROUD OF THE STUDY**

An accounting information system (AIS) is a system used in accumulating, keeping and putting financial and accounting data that is used by decision makers into process. It is generally a computer-based method for tracking accounting activities in conjunction with information technology resources. It combines the study and practice of accounting with the design, implementation, and monitoring of information system.

Accounting information is one of the oldest information systems known in companies, as accounting information described with a great importance in identifying the financial and economic reality of the firms, and how company's relationships with its environment (Kassem, 2004).

For any commercial bank to be sure of success in the management of their portfolios in this day’s rapid changing environment, the management and staff must update themselves with every relevant and current accounting information that will be beneficial in determining the predetermined goals. Management must therefore plan the course of action of the bank by identifying the long, medium and short term goals based on the detailed analysis of feasibility, bearing in mind the socio-economic and political situation that might affect the plans to be achieved.

The type of accounting systems put in place will determine the quality of accounting information generated by such system. In this present day where users of financial statements require quality information to aid their investment decisions, there is the need to determine the impact of such systems on their performances.

The bank’s portfolio management is a major success factor of bank management. Numerous discussions on the new capital adequacy proposals enlighten the necessity to consider the banks portfolio management from both the internal and regulatory point of view. The question now is: with a simplified bank portfolio, is it possible to examine the impact of the regulatory risk limitation rules on the optimal situations under unfavorable market condition and intensifying competition bearing in mind that they are exposed to decreasing return margin on the portfolio and at the same time, their shareholders demand for higher risk premium for the capital they invested.  
Based on this, this research work is assessing the extent to which banks are enlightened on how to strike a balance between risks and portfolios and whether commercial banks use accounting information especially on decisions to buy or not to buy a portfolio considering factors like the personality and integrity of the prospective investor and the Nigerian stock exchange trade guidelines.

Optimal bank portfolio management is a continuous struggle of maintaining a balance between liquidity, profitability and risk. Banks need liquidity because such a large portion of their liabilities are payable on demand. The decision to choose one combination of portfolio over another, given the liquidity size and capital accounts of the bank would have direct and significant effect on bank’s profitability, liquidity and risk.

Commercial banks are very important financial institution in the economy in the expansion of investments and risks. Unfortunately, a deviation from profits to losses in portfolios will bring about wrong investment decisions by the bank which will bring about a defeat in their future risk taking policies and profit performance. A expansion of investments and risks. Unfortunately, a deviation from profits to losses in portfolios will bring about wrong investment decisions by the bank which will bring about a defeat in their future risk taking policies and profit performance. A thorough analysis of the risk presented by an investment will improve the portfolio management thereby yielding less risk and more profitable portfolios.

**1.2 STATEMENT OF THE PROBLEM**

Commercial banks might not really know the importance of adequate accounting information system in the management of their portfolios until they probably put it into practice in their bank.

Inadequate or lack of accounting information exposes or leaves portfolio management to certain problems such as:

1. Malfunctioning and wrong decision making by managers in the management of risks arising from the portfolios.
2. High occurrence of factors that may result to high incidence of losses instead of expected profits where proper accounting information on portfolio management is not on hand.
3. Inability of the managers to strike a balance between risk and investment, the negative effects which is seen on the low profits derived from the portfolios.
4. The implications of continued incidence of losses due to poor portfolio management on the productivity of the portfolios.

**1.3 OBJECTIVES OF THE STUDY**

The overall purpose of this research work is to evaluate and determine the impact of accounting information on the portfolio management of bank. Specifically, this research work stands to achieve the following objectives:

1. To determine whether accounting information has enhanced the portfolio management of commercial banks.
2. To find out whether conflict in accounting information affects the choice of portfolios.
3. To determine whether accounting information has improved the basic roles of cost minimization, proper allocation of scarce resources and improvement of the portfolios.
4. To ascertain the extent to which adequate use of accounting information reduces the risks associated with the portfolios.

**1.4 RESEARCH QUESTIONS**

The following research questions will be used in this study to form the research hypothesis.

1. Has accounting information enhanced the portfolio management of commercial banks?
2. Can conflict in accounting information lead to improper management of banks portfolios?
3. Has accounting information improved the basic roles of cost minimization, proper allocation of scarce resources and improvement of the portfolios?
4. To what extent do factors that bring about losses other than profits occur in the bank’s portfolios?
5. To what extent does adequate use of accounting information reduce risks in bank’s portfolios?

**1.5 RESEARCH HYPOTHESES**

This research work is undertaken on the basis of the following hypothesis:

HO1: Accounting information does not enhance the portfolio management of commercial banks.

Hi1: Accounting information enhances the portfolio management of commercial banks.

Ho2: Conflict in accounting information does not affect the choice of portfolios.

Hi2: Conflict in accounting information affects the choice of portfolios.

Ho3: Accounting information has not improved effectively the basic roles of cost minimization, proper allocation of scarce resources and improvement of the portfolios. Hi3: Accounting information has improved effectively the basic roles of cost minimization, proper allocation of scarce resources and improvement of the portfolios

**1.6 SIGNIFICANCE OF THE STUDY**

This research work lays much emphasis on the impact of good accounting information on banks portfolio management and as such will help commercial banks as they analyze on their portfolio management and also help them in reducing the high incidence of losses instead of expected profits from the portfolios.

Also, this work will be of great help to students, researchers and scholars as it will open a new area of study for further research and also form a basis for view of related literature.

**1.7 SCOPE OF THE STUDY**

This research work will specifically focus attention on the impact of accounting information on banks portfolio management. Due to logical point that not all the commercial banks can be studied, this research work is therefore limited to First Bank of Nigeria Plc, Agbara. Any other reference is just for a better understanding of the topic but not within the scope.

**1.8 LIMITATION OF THE STUDY**

A major limitation of this study is that it did not go into the general impact of accounting information on portfolio management of both bank and non-bank financial institutions, rather it is limited to only banks portfolio management. The conservation nature of banks and their apathy towards providing information especially with respect to their internal operating policies is another limitation.

Human errors and biases are other limitations of this study as some of the data were collected through interviews therefore there is a possibility of omitting and exaggeration of vital information in order to give their bank a positive credit for fear of what seem like an invasion in the bank’s privacy.

**CHAPTER TWO**

**LITERATURE REVIEW**

**2.1 INTRODUCTION**

Many researchers such as (Abdallah, 2013: Adrian-Cosmin, 2015) test the impact of the accounting information systems on bank portfolio. They found there is a strong effect of using the accounting information systems on the quality of financial statements. Zakaria et al. (2017) assess the impact of accounting information system (AIS) on the users’ tasks efficiency. The findings ascertain a significant impact of (AIS) on their tasks efficiency related to budgeting, financial reporting, auditing and financial controlling in the companies. While Shuhidan et al. (2015) detect a significant impact of (AIS) on the organizational performance; they also discovered a strong relationship between AIS success and organizational performance. whereas Onaolapo and Odetayo (2012) found that Accounting Information System (AIS) enhance organizational effectiveness especially in global technology advancement, agree with Patel (2015), who detect the importance of accounting information systems, that helps in facilitating decision making and amend organization’s environment, structure and requirements of task, furthermore, emphasizes accounting information plays an necessary role in decision making process related to the financial and economic issues such as cost accounting system, management accounting system, price and profitability which provide the useful information to the manager to make the financial and economic decisions, also they a certain that (AIS) played a significant role in survival of banks and any organization

Accounting is the language of business as it is the basic tool for recording, reporting and evaluating economic events and transactions that affect business enterprise. It is the process whereby all documents of a business financial performance from payroll, cost, capital expenditure and other obligations to sale revenue and owner’s equity are evidenced to facilitate economic decisions. It provides financial information about one’s business to the internal and external users of accounting information, such as managers, investors and others. It is sometimes referred to as a means to an end, with the ending being the decision that helped by the availability of accounting information (Smith, 2015).

According to the researchers’ knowledge, until yet there are little studies that have been completed to inspect the nature impact of applying (AIS) on the improving the banks success according to banks managers perspective. Although few studies that argued the (AIS) effect on the banks success in developing countries, and most studies didn't investigate this issue independently as main study problem; they discussed it in the context of other financial and accounting topics. Such as decision making, improving the company's performance or improving the quality of accounting information see (kanakriyah, 2016).

**2.2: PORTFOLIO MANAGEMENT**

A Portfolio Management refers to the science of analyzing the strengths, weaknesses, opportunities and threats for performing wide range of activities related to the one’s portfolio for maximizing the return at a given risk. It helps in making selection of Debt Vs Equity, Growth Vs Safety, and various other trade offs.

In terms of mutual fund industry, a portfolio is built by buying additional bonds, mutual funds, stocks, or other investments. If a person owns more than one security, he has an investment portfolio. The main target of the portfolio owner is to increase value of portfolio by selecting investments that yield good returns.

The basics and ideas of Investment Portfolio Management are also applied to portfolio management in other industry sectors.

****Application Portfolio Management**:** It involves management of complete group or subset of software applications in a portfolio. These applications are considered as investments as they involve development (or acquisition) costs and maintenance costs. The decisions regarding making investments in modifying the existing application or purchasing new software applications make up an important part of application portfolio management.

****Product Portfolio Management:****The product portfolio management involves grouping of major products that are developed and sold by businesses into (logical) portfolios. These products are organized according to major line-of-business or business segment. The management team actively manages the product portfolios by taking decisions regarding the development of new products, modifying existing products or discontinue any other products. The addition of new products helps in diversifying the investments and investment risks.

****Project Portfolio Management:**** It is also referred as an initiative portfolio management where initiative portfolio involves a defined beginning and end; precise and limited collection of desired results or work products; and management team for executing the initiative and utilizing the resources. A number of initiatives that supports a product, product line or business segment, are grouped into a portfolio by managers.

**2.2.1: ROLES OF PORTFOLIO MANAGEMENT**

1. Determination of a viable project mix that meets the target of the organization.
2. Ensuring a mix of projects that balance various factors such as research versus development, short term versus long term, risk versus reward, etc.
3. Regular monitoring of the planning and execution of the optimal selected projects.
4. Evaluating the performance of portfolio and various ways for improving it.
5. Analysing the recent opportunity against the existing portfolio.
6. Comparing the project execution capacity of the organisation
7. Providing recommendations to decision makers at every level of the process management

There has been increasing awareness among the organizations regarding the improvement of project portfolio management process for making it more efficient. In many companies the improvement of project portfolio has become part of the organizational learning process.

**2.3 DEVELOPMENT OF ACCOUNTING INFORMATION SYSTEM**

The development of Accounting Information Systems (AIS) includes five basic steps which are discussed below:

1. **Planning:** project management objectives and techniques: The very first phase of an Accounting Information System Development is planning the project. This involves determination of the scope and objectives of the project, the definition of project responsibilities, control requirements, project phases, budgets, and final products.
2. **Analysis:** The analysis phase is used to determine and document the accounting and business processes used by the company. These accounting processes are usually redesigned to take advantage of the operating characteristics of modern system solutions.
3. **Data Analysis:** It is a review of the accounting information that is currently being collected by a company. Current data are then compared to the data that the organization should be using for managerial purposes. This method is used primarily when designing accounting transaction processing systems.
4. **Decision Analysis:** It is a review of the decisions that a manager is responsible for making. The primary decisions that managers are responsible for are identified on an individual basis. Then models are created to support the manager in gathering financial and related information to develop and design alternatives, and to make actionable choices. This method is valuable when the primary objective of the system is decision support.
5. **Process Analysis:** It is a review of the company business processes. The organizational processes are identified and segmented into a series of events that are able to either add or change data. These processes can then be modified or re-engineered to improve the organization’s operations in terms of lowering cost, improving service, quality, or management information. This accounting method is used when automation or re-engineering is the system’s primary objective.

**2.4 MODERN PORTFOLIO THEORY**

Modern portfolio theory (MPT) refers to the theory of investment that seeks to maximize the expected return of portfolio at a given level of risk. Similarly it also attempts to diminish risk for a given level of return expected. To achieve this, portfolio manager choose the proportions of different assets in a portfolio carefully. The modern portfolio theory is extensively used for practice in the financial industry, however basic assumptions of this theory has faced certain challenges in fields like behavioral economics.

Modern Portfolio theory (MPT) presents the concept of diversification in investing by using mathematical formulation. It aims to select a collection of investment assets which has lower risk than any individual asset. It can be observed spontaneously as dynamic market conditions cause changes in value of different types of assets in conflicting ways. The prices in the bond market may fall independently from prices in the stocks market, thus there is overall lower risk in a collection of both bond and stocks assets as compared to individual asset. Moreover, the diversification reduces the risk even if cases where assets’ returns are positively correlated.

MPT assists in the selection of a portfolio with the maximum possible expected return at a given level of risk. Similarly, MPT assists in the selection of a portfolio with the lowest possible risk at a given amount of expected return. Thus, it is not possible to have a targeted expected return exceeding the highest-returning available security except there is possibility of negative holdings. MPT stresses the diversification and assists the portfolio managers in finding the best possible diversification strategy.

In technical terms, a Modern Portfolio theory (MPT) represents the return of asset as a normally distributed function or as an elliptically distributed random variable where risk is defined as the standard deviation of return. According to MPT, the return of a portfolio is equivalent to the weighted combination of the assets’ returns because the portfolio is modelled as a weighted combination of assets. MPT aims to reduce the total variance of the return of portfolio by combining various assets whose returns are negatively correlated or not positively correlated. MPT assumes that the markets are competent and investors are logical.

**2.3.1 BENEFITS OF MODERN PORTFOLIO THEORY**

MPT is [a useful tool](https://www.investopedia.com/managing-wealth/modern-portfolio-theory-why-its-still-hip/) for investors trying to build [diversified](https://www.investopedia.com/terms/d/diversification.asp) portfolios. In fact, the growth of exchange traded funds ([ETFs](https://www.investopedia.com/terms/e/etf.asp)) made MPT more relevant by giving investors easier access to different asset classes. Stock investors can use MPT to reduce risk by putting a small portion of their portfolios in [government bond ETFs](https://www.investopedia.com/articles/investing/080515/top-4-us-government-bonds-etfs.asp). The variance of the portfolio will be significantly lower because government bonds have a negative correlation with stocks. Adding a small investment in Treasuries to a stock portfolio will not have a large impact on expected returns because of this loss reducing effect.

Similarly, MPT can be used to reduce the [volatility](https://www.investopedia.com/terms/v/volatility.asp) of a U.S. Treasury portfolio by putting 10% in a [small-cap value index fund](https://www.investopedia.com/articles/investing/020416/5-best-us-small-cap-value-index-mutual-funds.asp) or ETF. Although small-cap value stocks are far riskier than Treasuries on their own, they often do well during periods of high [inflation](https://www.investopedia.com/terms/i/inflation.asp) when bonds do poorly. As a result, the portfolio's overall volatility is lower than one consisting entirely of government bonds. Furthermore, the expected returns are higher.

Modern portfolio theory allows investors to construct more efficient portfolios. Every possible combination of assets that exists can be plotted on a graph, with the portfolio's risk on the X-axis and the expected return on the Y-axis. This plot reveals the most desirable portfolios. For example, suppose Portfolio A has an expected return of 8.5% and a standard deviation of 8%. Further, assume that Portfolio B has an expected return of 8.5% and a standard deviation of 9.5%. Portfolio A would be deemed more efficient because it has the same expected return but lower risk.

It is possible to draw an upward sloping curve to connect all of the most efficient portfolios. This curve is called the [efficient frontier](https://www.investopedia.com/terms/e/efficientfrontier.asp). Investing in a portfolio underneath the curve is not desirable because it does not maximize returns for a given level of risk.

**2.4 PORTFOLIO MANAGEMENT TECHNIQUES**

Portfolio management (PM) techniques are the systematic methods for analyzing or evaluating a set of projects or activities for achieving the optimal balance between stability and growth, risks and returns; and attractions and drawbacks. It focuses on achieving this balance by using the limited resources available in best possible manner.

Portfolio Management involves selection of a portfolio of new product development projects for achieving the below mentioned goals:

1. Maximizing the profitability
2. Maximizing the value of the portfolio
3. Providing optimal balance
4. Supporting the strategy of the enterprise

Project Portfolio Management Techniques comprises of complete spectrum of project portfolio management (PPM) functions. It includes selecting projects and their successful execution by creating project-friendly and formalized environment.

The efficient Portfolio Management is ensured by the senior management team of an organization which conduct regular meetings for managing the product pipeline and making decisions related to the product portfolio.

Portfolio Management (PM) Techniques

There are various techniques that are used for supporting the portfolio management process:

1. Heuristic models
2. Scoring techniques
3. Visual or mapping techniques

**2.4.1: HEURISTIC MODEL**

Heuristics are problem-solving techniques that result in a quick and practical solution. In contrast to business decisions that involve extensive analysis, heuristics are used in situations where a short-term solution is required.

Although heuristics may not result in the most optimal and ideal solution, it allows companies to speed up their decision-making process and achieve an adequate solution for the short term.

In situations where perfect solutions may be improbable, heuristics can be used to achieve imperfect but satisfactory decisions. Heuristics can also include mental shortcuts that help speed up the decision-making process.

Some of the most common fundamental heuristic methods include trial and error, historical data analysis, guesswork, and the process of elimination. Such methods typically involve easily accessible information that is not specific to the problem but is broadly applicable. It provides an opportunity to make imperfect decisions that can adequately address the problem in the short term.

**2.4.2: SCORING TECHNIQUE**

In portfolio management, the scoring techniques are used for arriving at precise investment needs, in order to enhance the profitability and assistance in numerous strategic planning. This specific technique is not able to optimize things during mixed project scenario and involves little stress on the financial measures.

There are two commonly used methods of Scoring including Simple Additive Weighting (SAW) and Weight Product Method.

1. Simple Additive Weighting (SAW) Method: It is considered to be the best know method that is most widely used technique in portfolio management. It employs regular arithmetical operations including multiplication and addition. In this method, the attribute values are both numerical and comparable.
2. Weight Product Method: This method does not involve transformation when we multiplication is used among attribute values. The weights turn out to be exponents linked with each attribute value. It assigns negative power for cost attributes and positive power for benefit attributes.

**2.4.3: MAPPING OR VISUAL TECHNIQUE**

There are many graphing and charting techniques that are employed for depicting the “balance” of a portfolio of projects by showing the performance of various projects on two or more criteria or dimensions. The portfolio mapping diagram which displays project risk and reward is the most widely used and highly popular. It displays probability of success on y axis and reward on X axis. The projects are usually plotted on the diagram as per their approximate success probabilities and payoffs.

**Bubble Diagram:** A bubble diagram represents a famous variant of portfolio mapping that employs a circle or ellipse for identification of every project in place of a single point. The extra information related to the analogous project is provided by varying the shape, size, colour or shading of the circle. For instance, the shape of the circle may be used for representing the initial costs of the project.

**CHAPTER THREE**

**RESEARCH METHODOLOGY**

**3.1 INTRODUCTION**

The purpose of this chapter is to state the manner the researcher goes about gathering the needed data for the purpose of presentation, analysis and possible testing of research hypotheses formulated. The study design in this chapter include the population and sample taken from the population, the sources of data employed in the course of the techniques of analysis and a declaration of known problems with design. The research design actually states the main issues discussed in the research hypotheses in relation to the statement of the problem and the research objectives.

1. **RESEARCH DESIGN**

As the main plan for the research work that provides the guidelines for the investigator in the process of trying to find a solution to the problem being studied, the researcher looks for a design that suit the study; in which case a survey design was employed, hence the researcher was concerned with analysis of the values of accounting information system implemented by First Bank of Nigeria, Agbara on their portfolio, where the study was carried out. The underlying character of this study calls for the adoption of the survey research design.

The survey research design was considered appropriate since data would be collected from the elements or subjects without imposing any condition or treatment on them. The study design was also employed to assist the investigator to infer reasonably on how the proposed hypotheses would be verified since the research questions were hypothesized and hence the research questions are automatically answered once the research hypotheses are verified.

The study undertaken as an interpretive study to discovering the impact of (AIS) on the banks success through a questionnaire which has been designed and developed according to literature review using a Likert model, it includes five values (5-1) that applied widely in social science studies, range from: strongly agree, to strongly disagree. This type (the questionnaire) always used when the responded number is large (N ≥ 100), to assurance getting and eliciting the perceptions of respondents that concerning the research topic.

1. **POPULATION AND SAMPLE TO THE STUDY**

The population for this study consists of the employees of First Bank of Nigeria, Agbara, Where the study was carried out. The proportion of the employees studied consists of the workers of First Bank of Nigeria, Agbara. The employees of the organization, most of them had substantial knowledge of accounting information system and most could give their practical experience and its impact on the company as whole. 34 employees of the band were carefully selected for study including the bank manager.

1. **TYPES AND SOURCES OF DATA**

The kinds of data employed in the course of the study consist of first-hand information obtained through the use of questionnaire (primary data) and documentary evidence from textbooks, journals and other publications. The sources of data employed are secondary and primary data sources.

The primary sources were employed to suit the study design by generating the needed data for testing of hypotheses while secondary sources were employed to assist the researcher in generating the required data for the review of literature.

1. **INSTRUMENT OF DATA COLLECTION**

The major instrument of data collection used in this study is the questionnaire. A questionnaire was carefully designed requiring responses from the questions contained in the questionnaire, some determining the extent to which accounting information system contributes to bank portfolio efficiency, risk reduction, analysis and effectiveness bases of certain indicators. The questionnaire was considered most appropriate due to the nature of the topic and the hypotheses formulated.

Moreover, the responses sought for were not properly documented and kept in the company where the study was conducted. The responses obtained from a twelve item questionnaire where used in testing the hypothesis and for presentation and analysis.

1. **TECHNIQUES OF DATA PROCESSING AND ANALYSIS**

The aim of this research is to determine the extent to which successful implementation of an accounting information system in an organization can enhance organizational values. The techniques adopted in analyzing the data collected were guided by the data collected were guided by the nature of the research problem and the hypotheses to be tested. Simple percentage method was used in the presentation and analysis of data and Chi-square test for testing the formulated hypotheses. The Chi-square test was adopted in relation to the nature of hypotheses.

3.7 **DECLARATION OF KNOWN PROBLEMS WITH DESIGN**

Research design is aimed at identifying variables and their relationship to one another and subsequently for the purpose of securing the required data for the test of hypotheses and for answering the research questions.

In this study, questionnaire was use as a major instrument of data collection; however, the use of questionnaire in data collection could give biased responses because of the common method used for the collection of all data. However extensive care was exercised in the course of designing the questionnaire in order to avert the problems associated with the methodology.

**APPENDIX A**

**LETTER OF INTRODUCTION**

Faculty of Financial & Management Studies,

Department of Accounting,

Ogun State Institute Of Technology,

Igbesa.

26th July, 2021.

Dear Sir/Madam,

**A REQUEST FOR RESEARCH DATA**

I am a final year student of OGUN STATE INSTITUTE OF TECHNOLOGY in the Department of Accounting undertaking a project work on the topic, “Impact of Accounting Information System on Bank Portfolio Management in Nigeria”. Your organization was chosen for the study.

I therefore request for your support by providing responses to the questionnaire attached to assist me complete the study.

The responses requested shall be used exclusively for the purpose of the study.

Thank for your anticipated cooperation.

Yours faithfully,