# ACCOUNTING INFORMATION SYSTEM AND PROFITABILITY OF LISTED CONSUMER GOODS FIRMS IN NIGERIA

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**Abstract**

*The study investigated the relationship between accounting information system and profitability of consumer goods firms in Nigeria. The study was built on the ex-post research design and covers a scope of 12 years spanning from 2010 to 2021. The study population is made up of the 21 listed consumer goods firms in Nigeria and the study sample drawn from the population is 10 listed consumer goods firms in Nigeria. The study employed accounting information system book value and accounting information system depreciation costs as proxies for accounting information system. The study also employed the use of return on assets to proxy profitability of sample firms and firm size measured with total assets as its control variable. The study used descriptive statistics, correlation analysis, variance inflation factors, hausman specification tests, fixed effect likelihood ratio tests and Langranger Multiplier test to analyse the data, specify the model to be used and test the hypotheses. The study found that there was evidence of statistically significant effect of accounting information systems on the profitability of listed consumer goods firms in Nigeria. The study concluded that accounting information system is statistically significant in influencing profitability of consumer good firms during the study period. The study recommended increased investment in accounting information system to improve operational efficiency.*

***Keywords:*** *Accounting Information System, Profitability, Book value, Depreciation, Return on Asset,*

## 1. INTRODUCTION

Accounting information systems have become a necessity in the 21st century as the world records unprecedented growth in the technological sector. This is due to the pervasive nature of innovative technologies that provides solutions to a wide range of problems across every sphere of human endeavour. This has led to wide spread application of accounting information systems in the business world in order to provide solutions to profitability problems and ensure improved competitive advantages. The consumer goods sector is made up of companies that manufacture items, which are to be used up and replaced. These are also called consumables. The use of accounting information systems can enhance every aspect of business operations of consumer goods firms from sourcing raw materials, market survey, inventory management, marketing, online marketplace, delivery, financial management, order. Alphonce 2014 posited that accounting plays a crucial role in the success or failure of existing business institutions. This is because of the ability of such systems to optimize the speed, quality and availability of information needed for operational decisions. The consumer goods firm industry in Nigeria is one of the largest in Africa with direct access to a market of over 200 million estimated consumers resident in Nigeria in 2022. This is a very important sector due to the high number of domestic users that directly rely on its products.

Barde et al. (2019) posited that forward evolution in communication technology have enabled millions of people around the world to communicate electronically irrespective of physical international divisions. Many organisations have participated in the global trend of technology adoption as a way to achieve and sustain the relevant competence needed not only to survive but to thrive. The importance of having ICT facilities is not applicable to only large

multinational corporations; it is applicable in all sectors of the economy and all forms of businesses. Even the smallest retail outlets now employ accounting information system tools as a means of increasing sales and minimising expenses. The use of accounting information systems could be as simple as having an email address, an online catalogue, or just having a simple online presence. According to Juma (2012) information technology has evolved faster in the most recent decades than ever and as a result it has become a major point of reference in determining market forces in an economy. This means that contemporary business environment is highly volatile and is accustomed to undergoing sudden and significant changes which drive the market. Banks who operate accounting information systems improve the efficiency and effectiveness of services offered to customers, enhance operational processes, as well as to improve managerial decision quality and team collaboration (Ibikunle 2021). Information system is a system of digitised operations in an organisation by using computers, software, telecommunications and technology to carry out activities in an organisation that could otherwise be done manually or without these tools mentioned above.

Information systems have become basic tools for human interaction. This could be due to its wide spread applicability and expected benefits accruable when used for business purposes. According to Makoni 2015, there is a growing recognition of accounting information systems as well as a growing magnitude of potential effects of such systems on profitability. Accounting information systems have the potential to improve business profitability, but the actual effects of these systems are not always positive. Some companies have adopted impeccable accounting information systems and yet suffered significant damages to their going concern. Accounting information systems can help gather data and also convert those data into more usable forms for specialized business functions, however, it opens organisations to digital risks such as increased costs, hacking, ransom ware, and disconnect from physical business environment. These risks give rise to significant doubts as to the exact effect of these systems (Gofwan 2019). This indicates that there are times that the use of accounting information systems does not help companies to achieve desired level of profitability. The reason for such is largely unknown. Many studies have attempted to investigate the relationship between accounting information systems and the profitability of firms, and they all found varying results. These studies include Amos and John (2019), Aende and Agbo (2016) and Gofwan (2019). This study will focus on studying how accounting information systems affect the profitability of listed Nigerian consumer goods firms and how the size of the firm affects on the profitability too. The study formulated the following hypotheses in pursuit of the above objectives.

$H_{01}$: There is no significant effect of accounting information system book value (AISB) on the profitability of listed consumer good firms in Nigeria.
$H_{02}$: There is no significant effect of accounting information system depreciation costs (AISD) on the financial performance of listed consumer goods firms in Nigeria.

## 2. LITERATURE REVIEW

### 2.1 Conceptual Framework

#### 2.1.1 Accounting Information System

Alphonce (2014) defined accounting information system as the system that registers and manages data of transaction and activities into useful information to be employed in planning, controlling and operation of businesses. This definition emphasizes the usefulness of information in the accounting information system to the end users of the system. According to Romney and Steinbart (2000), accounting information system is a system that processes information and transactions avail users with data which they need to plan, control and carry

out their business operations. They emphasized that accounting information system is not solely for managing accounting information for related decisions but also for every other information need of an organization. Mauldin and Ruchala (1999) expressed accounting information system as a computerised system for recording, managing, presenting and analysing business information with the option to aid accounting decision and information.
This study defines an accounting information system as a system that digitalizes the processes and machinery of information gathering which organisations employ to record, store, analyse, extract, project and present operational data of past and potential activities. This study will measure accounting information system as the balance sheet value of the entity's AIS assets and also the yearly AIS depreciation charge. AIS assets are assets that allow the entity to carry out tasks through the use of AIS. These include software, hardware assets like antivirus, ERP, computer monitor, flash drives, printers, WIFI devices, POS machines etc.

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**2.1.2 Accounting Information System Book value**

Wetusa (2012) expressed AIS book value as the worth of AIS assets which a firm which a firm owns as demonstrated by the statement of financial position at a given point in time. They argued that although there may be other measures of a firm's assets, the balance sheet value is more reliable in measuring asset value as adherence to prevailing financial reporting standards have improved the reliability of audited financial statements when compared to unverified means of value measurement. AIS book value can be seen as the carrying amount of AIS assets in the financial statements of organizations. It is a measure that represents the AIS assets which a company controls at a particular point in time. This measure is always given in the financial statements as at the last day of the financial year.

**2.1.3 Accounting Information System Depreciation**

The depreciation charge for AIS assets for a particular year indicates the financial value of the resources committed to development and use of AIS in every organization (Wetusa, 2012). This is filtered to include the depreciation for only assets that directly facilitate AIS application in a firm's operations. AIS depreciation is the annual accounting depreciation charge allocated for AIS assets which a firm owns. This is used to estimate the financial worth of AIS value consumed by sample firms for a period of time. This is usually measured at the end of each financial year.

**2.1.4 Profitability**

Bala (2006), posited that profitability is the level of performance of a firm in terms of its financial transactions and corollary profit for a given period of time. They further that profitability is usually measured on a period by period basis. They also posited that profitability measures are numerous and can be grouped based on functions such as assets, equity, dividend, tax etc. Drury and Tayles (1995) posited that profitability measures are subject to applicable financial reporting standards and that performance will vary across different financial reporting frameworks. Alphonce (2014) expressed profitability as the subjective measure of how well a firm uses its assets in its primary course of business to generate revenues and settle costs. The definition lays emphasis on the revenue generating capacity of a firm as well as the cost management capacity of pertinent firm through its primary course of business. This study defines profitability as a measure of a firm's ability to fulfil its financial objectives for a given accounting period in regards to a particular venture or group of ventures. This study will measure financial performance as return on asset (ROA).

### 2.1.5 Return on Asset

This is a ratio based profitability measure that seeks to present the ratio of an entity's profits for a given period of time to its total assets at the end of that period. A higher return on asset ratio is desired and lower ROA values are less desirable. Titus (2021) posited that return on assets (ROA) shows the percentage of how profitable a company's assets are in generating revenue. It is a profitability value that is contingent on the value of assets. It is more desirable for managers to produce profits that are higher in proportion to their assets.

The ROA shows the profit making potential of an entity's assets. This study defines ROA as the profit before tax of a particular accounting year divided by the total assets of a company measured at the closing date of the financial year. It can be sometimes given as a percentage or ratio. This study measures ROA as a percentage of total assets. Regardless of how it is expressed, the rule of thumb that a higher ROA is more desirable remains constant.

### 2.1.6 Firm Size

Malikova et al. (2018) posited that firm size was the monetary value of all the assets of an entity financed by the owners and creditors. The paper also stated that the asset measure is the best accounting measure of a company's size regardless of type and sector. Total Assets, most commonly used in the relation to a firm, is defined as the resources owned by the entity that presents an economic value whose benefits can be derived presently and in the future (Matthew & Owens, 2009) Assets are further classified into liquid assets and illiquid assets, depending on their liquidity. A liquid asset is that asset that can be easily transformed into cash or quickly sold for cash; otherwise, it is called an illiquid asset (Scout, 2008). This study defines total assets of a firm as the sum of rights, physical assets and knowledge that a firm owns and controls for the purpose of doing business. For the purpose of this study, total assets will be used to measure firm size which is recognized as the control variable.

## 2.2 Empirical Framework

Egiyi (2023) investigated the impact of accounting information system on the financial health of firms. The study focuses on firms operating in Enugu and covers a sample of 156 respondents. The study was built on the survey research design and employed the use of primary data which was collected through the use of a 5 point likhert scale questionnaire. The study employed the use chronbach's alpha and linear regression techniques to analyse the data collected. The study found that there was evidence of positive and statistically significant relationship between accounting information system and financial health of sample firms. The study concluded that there was a crucial role played by accounting information system in directing the financial health of firms. The study consequently recommended that there should be increased investment in accounting information systems by firms in an attempt to boost financial performance.

Akhter (2022) studied the effect of accounting information systems on organizational performance in Dhaka. The study focus on a sample of 30 banks and 200 employees which was derived from a population of 32 banks and 450 experienced employees. The use of primary data by the study included a 5 point likhert scale questionnaire. The data collected was evaluated using regression analysis and ANOVA on the SPSS software. The study found that the use of accounting information systems had presented a positive impact on the financial performance as well as quality of financial reporting of sample firms. The study concluded that AIS significantly influenced financial performance of banks. The study recommended that there should be more staff training to ensure that AIS works optimally in sample organisations.

Ida, et al (2019) studied the effect of accounting information systems on the performance of MSMES in west lombok regency using the quality of financial statements as control variables. The study had a population of 1879 businesses from which it sampled 152 respondents. The study was built on the associate research design. The study employed the use of primary data which it gathered from the use of questionnaires. The descriptive statistics, heteroskedasticity tests and regression analysis were used to analyse the data for the study. The study consequently found that there was a positive effect of accounting information systems on the quality of financial statements in sample firms. The study also found that there was positive and significant effect of accounting information systems on the financial performance of sample firms. The study recommended further research effort that uses more variables to understand the relationship between accounting information systems and financial performance.

Amos and John (2019) analysed the Effect of Accounting Information System on Financial Performance of Firms using literature review. The study was built on the exploratory research design and covered a wide range of empirical review to draw its findings and conclusions. The study was consequently devoid of sufficient scientific analysis as it did not consider the use of statistical analysis. The study leveraged on agency theory, contingency theory and resource based view theory to unearth to explain the relationship between the variables of interest. The study found that there were varying degrees of relationships between accounting information systems and financial performance in the literature reviewed. The study concluded that accounting information had positive and significant effects on the financial performance of firms. The study failed to describe the selected sample size and also to proffer recommendations.

Gofwan (2019) investigated the effect of accounting information systems on the financial performance of firms. The study was built on the exploratory research design and was devoid of any statistical analysis. The study relied on literature reviews to draw logical conclusions. The study found that accounting information system had positive significant effect on the financial performance of sample firms. The study consequently concluded that the most significant effect of accounting information system on firms was found in the firm's ability to develop computerised systems to track and record financial transactions and also facilitating management decision making internal controls as well as quality of financial report. The study consequently recommended prioritisation of accounting information systems as a way of driving performance and sustaining productivity. The study failed to specify a sample size as well as a population.

Aende and Agbo (2016) studied the effect of accounting information system on financial reporting quality using review of theories and empirical works for achieve the study objectives. The study also employed the use of the exploratory research design, which is devoid of any scientific and statistical considerations. The study examined a number of relevant theories, which include Contingency theory, Innovation Diffusion Theory, Theory of Reasoned Action and Its Derivatives in User Acceptance, Innovation Diffusion Theory, Theory of Planned Operational Control, Socio-Technical Systems Theory of Information Technology Acceptance, and Activity Theory. The study did not specify a sample size. From the literature review, the study found that there was no significant effect of accounting information system on the financial performance of firms in terms of profitability and efficiency. The study concluded that the use of accounting information system was not instrumental to boosting the internal control systems of firms which in turn will impact positively on the firm's ability to perform better financially and otherwise. The study consequently recommended that more research efforts should be directed towards understanding the relationship between accounting

information systems and financial reporting quality. The study failed to give any specific recommendations to firms on the use of accounting systems and financial reporting quality.

### 2.3 Theoretical Framework

#### 2.3.1 Innovation Diffusion Theory (IDF)

This theory was introduced by Professor Everett Rogers in his book diffusions of innovations in 1962. Rogers opined that four main elements influence the spread of new ideas; these are the nature of innovation itself, the time lag of communications, and a social system. Rogers (1983) defined the process of technological diffusion as one which is dictated by uncertainty minimisation behaviour amongst potential adapters during the introduction of technological innovations. This is the major theory underpinning this research work. Odoma (2019) describes this as a theory that seeks to explain the how, why, and rate which new ideas and technology are adopted. To counter this uncertainty interested users are motivated to derive additional information from their workplace peers (Brancheau & Wetherbe, 1990). Rogers (1983) identified the following five characteristics of innovations that consistently influence the adoption of new technologies. First, Relative advantage: that is, the extent to which an innovation is perceived to be an improvement on the current status. Secondly, Compatibility which refers to the extent to which an innovation is perceived to fit together with potential adopters' habits and practices. Third, Complexity which refers to the depth to which an innovation is seen as being complicated to operate. Fourth, observable that is, the level to which results from innovation usage are observable to stakeholders. The fifth is 'triability' and it refers to the degree to which an innovation may be sufficiently evaluated prior to adoption. As regards information systems, Moore and Benbasat (1991) reference the work of Rogers, amongst others and increased the array of innovation features to seven. Three out of these seven features were directly lifted from the work of Rogers. These three are relative advantage, compatibility and 'triability'. The remaining four are ease of use, results demonstrability and visibility. The innovation diffusion theory is significant to this study as it seeks to identify what motivates individuals and organisations to adopt accounting information systems. This is the theoretical framework that underpins this research.

#### 2.3.2 Technology Acceptance Model (TAM)

The Technology Acceptance Model was proposed by Davis (1989). According to Odoma (2019) the model posits that when users became aware of a new technology, numerous factors influence their choice of if and how they will use it. These factors were summarised as envisaged usefulness which was defined by Davis (1989) as the degree to which it is believed that employing an accounting information system would enhance his or her performance and secondly is the believed ease of use which is seen as the level to which a person believes that using an information system would be free from operational difficulties. Davis (1989) proposed the TAM to focus in the reason the users accept or reject the information technology and how to improve the acceptance, off erring, this way, a support to foresee and explain the acceptance. The model TAM was designed to comprehend the causal relation between external variables of user's acceptance and the real use of computer, trying to understand the behaviour of this user through the utility knowledge and use facility perceived by him (Davis, 1989). The reason this theory is relevant to this study is that it seeks to describe why the development of information systems has enjoyed widespread acceptance across the world and despite the ever changing information systems, all participants and users are motivated to keep up with the phenomenal evolution.

## 3. METHODOLOGY

The Ex-Post facto study design was adopted for this study. The selected population of this study is made up of all consumer good firms listed on the Nigerian Exchange Group for a period of 12 years spanning from the year 2010 to 2021. The selected population of the study is the total consumer good firms listed and traded on Nigerian Exchange Group. The Convenience Sampling Technique was employed by this research to choose the sample size. The chosen sample size for this study is ten (5) consumer product companies listed and traded on the Nigerian Exchange Group. To carry out the necessary analysis to fulfil the study objectives Descriptive statistics, Correlation Analysis and Ordinary Least Squares regression were all executed with the pertinent data using the EViews 10 software.

The regression model used to test the hypotheses was adopted from Murtalabala (2015). as stated below:

$ROA = \beta_0 + \beta AISB_t + \beta AISD_{2t} + \beta TA_t + \varepsilon_t$ ……..…..…..…. 1

Where:

$ROA_t$ = Return on Asset

$AISB_t$ = Accounting Information System Book Value

$AISD_{2t}$ = Accounting Information System Depreciation costs

$TA_t$ = Total Assets

$\beta$ = coefficient of parameter estimate

$\varepsilon$ = error term

t = time

For this study, the Apriori expectation posits that a growth in Accounting Information System will have a positive and significant effect on the profitability of listed consumer good firms in Nigeria. The table below shows a summary of the proxies used to represent the variables used in the study.

Table 1: Measurement of Variables

| S/n | Definition | Type | Acronym for variables | Measurement | Source |
|---|---|---|---|---|---|
| **1** | Profitability | Dependent | ROA | Return on Assets | Dioha (2017) |
| **2** | Accounting Information System Book Value | Independent | AISB | Ratio of software assets to total assets | Wesutsa (2012). |
| **3** | Accounting Information System Book Value | Independent | AISD | Ratio of hardware assets to total assets | Wesutsa (2012). |
| **4** | Total Asset | Independent | TA | Total Book value of Assets | Emmanouil and Dimitrios (2017). |

*Source: Researchers Compilation (2023)*

## 4. RESULT AND DISCUSSION

### 4.1 Result

#### 4.1.1 Descriptive statistics

**Table 2: Summary statistics**

| | ROA__ | AISB | AISD |
|---|---|---|---|
| Mean | 17.98235 | 8.226538 | 335.4604 |
| Median | 21.70000 | 5.270000 | 24.63000 |
| Maximum | 42.10000 | 51.00000 | 4387.100 |
| Minimum | -30.60000 | 0.069000 | 0.390000 |
| Std. Dev. | 13.11894 | 8.951827 | 961.0356 |
| Skewness | -0.867873 | 1.843785 | 3.432064 |
| Kurtosis | 4.644831 | 7.402139 | 13.37261 |
| Jarque-Bera | 28.35317 | 163.5110 | 767.0902 |
| Probability | 0.000001 | 0.000000 | 0.000000 |
| Sum | 2139.900 | 978.9580 | 39919.79 |
| Sum Sq. Dev. | 20308.57 | 9455.954 | 1.09E+08 |
| Observations | 119 | 119 | 119 |

**Source:** *Authors computation using Eviews10(2023)*

The Table 2 above shows the results of the descriptive statistics of the variables of the study. The mean values for ROA, AISB and AISD were 17.982, 8.2265 and 335.460 respectively. This indicates thadespite some negative values, the variables of interest demonstrated an increasing trend throughout the study period.

The skewness value for ROA was -0.867873. This indicates that the data is negatively skewed. The skewness values of 1.843785 and 3.432064 were for AISB and AISD respectively. These values are greater than 1. This indicates that the two series were positively skewed.

The kurtosis values of 4.644831, 7.402139 and 13.37261 for ROA, AISB and AISD were all above the value of 3. This means that the series were leptokurtic. In interpreting the probability values, the null hypothesis states that the data is not normally distributed. The decision rule is to reject the null hypothesis if the corresponding probability value is higher than the 0.05 level of significance. The probability values of 0.000001, 0.000000 and 0.000000 representing ROA, AISB and AISD were all below the value of 0.05. This indicates that the variables were not normally distributed.

#### 4.1.2 Correlation Matrix

This is a technique used to evaluate the relationship among the variables.

**Table 3 Correlation Matrix Result**

| | ROA__ | AISB | AISD |
|---|---|---|---|
| ROA__ | 1 | 0.3206181 | -0.349868 |
| AISB | 0.3206181 | 1 | -0.2056050 |
| AISD | -0.349868 | -0.2056050 | 1 |

**Source:** *Authors computation using Eviews10(2023)*

The Table 3 above presents the results for the correlation analysis carried out. The table indicates a weak and positive correlation between ROA and AISB. This is shown by the 0.3206181217338426 value of correlation. The table also shows a weak and negative correlation between ROA and AISD. This is evidenced by the -0.3498683574374951 correlation value.

### 4.1.3. Variance Inflation Factor (VIF)

The VIF measures how much the behaviour or variance of an independent variable is influenced by its interaction or correlation with other independent variables. They give a quick measure of how much a variable is contributing to the standard error in the regression.

**Variance Inflation Factor**

Variance Inflation Factors

Date: 04/14/23 Time: 05:27

Sample: 2010 2021

Included observations: 119

| Variable | Coefficient Variance | Uncentered VIF | Centered VIF |
|---|---|---|---|
| C | 2.579398 | 2.156469 | NA |
| AIS__B | 1.57E-06 | 1.933411 | 1.044139 |
| AISD | 1.36E-06 | 1.172439 | 1.044139 |

**Source:** *Authors computation using Eviews10(2023)*

The variance inflation factor is used to test the regression model for multicolinearity. The table above presents the results to the variance inflation test. Here, the null hypothesis is that there is no multicollinearity between the variables of the study. The decision rule is to reject the null hypothesis if the centered VIF is higher than 10. The result indicates that there is no evidence of multicollinearity in the model. This is evidenced by the centered VIF values of 1.044139 and 1.044139 which are all below the value of 10.

### 4.1.4 Hausman Specification Tests

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|---|---|---|---|
| Cross-section random | 18.518658 | 2 | 0.0001 |

Cross-section random effects test comparisons:

| Variable | Fixed | Random | Var(Diff.) | Prob. |
|---|---|---|---|---|
| AIS__B | -0.000503 | -0.000309 | 0.000000 | 0.0058 |
| AISD | 0.007300 | 0.006640 | 0.000000 | 0.0000 |

Cross-section random effects test equation:
Dependent Variable: ROA__
Method: Panel Least Squares
Date: 04/13/23 Time: 16:07
Sample: 2010 2021
Periods included: 12
Cross-sections included: 10
Total panel (unbalanced) observations: 119

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 15.94750 | 0.679100 | 23.48330 | 0.0000 |
| AIS__B | -0.000503 | 0.000602 | -0.835771 | 0.4051 |
| AISD | 0.007300 | 0.000798 | 9.148142 | 0.0000 |

Effects Specification

Cross-section fixed (dummy variables)

| | | | |
|---|---|---|---|
| R-squared | 0.906034 | Mean dependent var | 17.98235 |
| Adjusted R-squared | 0.896374 | S.D. dependent var | 13.11894 |
| S.E. of regression | 4.223116 | Akaike info criterion | 5.814410 |
| Sum squared resid | 1908.314 | Schwarz criterion | 6.094657 |
| Log likelihood | -333.9574 | Hannan-Quinn criter. | 5.928209 |
| F-statistic | 93.79187 | Durbin-Watson stat | 1.603804 |
| Prob(F-statistic) | 0.000000 | | |

**Source:** *Authors computation using Eviews10(2023)*

Here, the test evaluates whether fixed effect method is more effective than the random effect method in estimating a particular regression model. The null hypothesis here states that the random effect is more efficient for estimating the model. The decision rule is to reject the null hypothesis if cross section random probability is less than 0.05. The cross section probability value is 0.0001. This is lower than 0.05. Therefore the study rejects the null hypothesis and

concludes that the fixed effect method is more efficient than the random effect method in estimating this regression model.

### 4.1.5 Fixed Effect Likelihood Ratio

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

| Effects Test | Statistic | d.f. | Prob. |
|---|---|---|---|
| Cross-section F | 90.977027 | (9,107) | 0.0000 |
| Cross-section Chi-square | 256.780829 | 9 | 0.0000 |

Cross-section fixed effects test equation:
Dependent Variable: ROA__
Method: Panel Least Squares
Date: 04/14/23 Time: 05:17
Sample: 2010 2021
Periods included: 12
Cross-sections included: 10
Total panel (unbalanced) observations: 119

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 16.20956 | 1.606050 | 10.09281 | 0.0000 |
| AIS__B | 0.003805 | 0.001254 | 3.035322 | 0.0030 |
| AISD | -0.004047 | 0.001168 | -3.465742 | 0.0007 |

| | | | |
|---|---|---|---|
| R-squared | 0.186981 | Mean dependent var | 17.98235 |
| Adjusted R-squared | 0.172963 | S.D. dependent var | 13.11894 |
| S.E. of regression | 11.93057 | Akaike info criterion | 7.820971 |
| Sum squared resid | 16511.25 | Schwarz criterion | 7.891033 |
| Log likelihood | -462.3478 | Hannan-Quinn criter. | 7.849421 |
| F-statistic | 13.33905 | Durbin-Watson stat | 0.166400 |
| Prob(F-statistic) | 0.000006 | | |

**Source:** *Authors computation using Eviews10(2023)*

This test is used to assess whether the pooled OLS method is more efficient for estimating the model than the fixed effect regression method. The null hypothesis states that the pooled regression method is more efficient. The decision rule is to reject the null hypothesis if the probability cross section f is less than the 0.05 level of significance. The results here indicate a cross section f value of 0.000 which is lower than 0.05. The study consequently rejects the null hypothesis and concludes that the fixed effect model of regression is more efficient.

### 4.1.6 Fixed Effect Regression

Dependent Variable: ROA__
Method: Panel Least Squares
Date: 04/14/23 Time: 05:15
Sample: 2010 2021
Periods included: 12
Cross-sections included: 10
Total panel (unbalanced) observations: 119

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 15.94750 | 0.679100 | 23.48330 | 0.0000 |
| AIS__B | -0.000503 | 0.000602 | -0.835771 | 0.4051 |
| AISD | 0.007300 | 0.000798 | 9.148142 | 0.0000 |

Effects Specification

Cross-section fixed (dummy variables)

| | | | |
|---|---|---|---|
| R-squared | 0.906034 | Mean dependent var | 17.98235 |
| Adjusted R-squared | 0.896374 | S.D. dependent var | 13.11894 |
| S.E. of regression | 4.223116 | Akaike info criterion | 5.814410 |
| Sum squared resid | 1908.314 | Schwarz criterion | 6.094657 |
| Log likelihood | -333.9574 | Hannan-Quinn criter. | 5.928209 |
| F-statistic | 93.79187 | Durbin-Watson stat | 1.603804 |
| Prob(F-statistic) | 0.000000 | | |

**Source:** *Authors computation using Eviews10(2023)*

The table above indicates the results of the study hypothesis. The null hypothesis here states that accounting information system does not have a significant effect on the financial performance consumer goods firms in Nigeria. A probability value of 0.4051 is higher than the 5% level of significance. Therefore, the study cannot reject the null hypothesis. This means that book value of accounting information system was not statistically significant in determining the value of financial performance in Nigerian consumer goods firms. A coefficient value of -0.000503 indicates a negative direction of the relationship. The null hypothesis here states that ais depreciation does not have a significant effect on the financial performance consumer goods firms in Nigeria. A probability value of 0.0000 is less than the 5% level of significance. Therefore, the study rejects the null hypothesis. This means that AIS depreciation was not statistically significant in determining the value of financial performance in Nigerian consumer goods firms. A coefficient value of 0.007300 indicates a positive direction of the relationship.

The R-squared output of 0.906034 indicates that over 90% of variations in the value of ROA can be attributed to the independent variables. An adjusted R-squared of 0.896374 is of great proximity to the R-squared indicates that the frequency of independent variables in the structure did not reduce the model's efficiency. This means that the study discovered evidence of a positive and statistically insignificant effect of AIS on the return on assets of sample companies during the study period.

### 4.2 Discussion of Findings

This study is aimed at investigating the effect of accounting information systems and total assets on the profiability of listed consumer goods firms in Nigeria during the study period. The study found that there was evidence of statistically significant effect of accounting information systems on the profitability of listed consumer goods firms in Nigeria.

The findings of this study are in line with the findings of Egiyi (2023), Akhter (2022), Ida, et al (2019) and Gofwan (2019) who found positive and significant impact of accounting information system on the financial performance of sample firms. The findings of this study are in contrast with the findings of Aende and Agbo (2016) who found no significant relationship between accounting information system on the financial performance of firms in terms of profitability and efficiency.

## 5. CONCLUSION AND RECOMMENDATIONS

This study sought to investigate the effect of the use of accounting information systems on the profitability of listed consumer goods firms in Nigeria. From the findings revealed by the data analysis, the study concludes that accounting information systems was significant in determining the profitability of consumer goods firms in Nigeria during the study period. The study concludes that this may be because of increased efficiency and availability of decision-making data as a consequence of an accounting information system decision. From the above conclusions, the following recommendations were formed.

i. The study recommends increased investment in accounting information systems (software assets) since they improve operational efficiency. Also, there should be proportional allocation of software assets to total assets as commensurate with operational needs of an organisation.

ii. The study also recommends that accounting information systems hardware assets be properly recorded so that profits reported as this will boost the 'true and fair' view of entities' financial statements.

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