

Value Relevance of Intangible Assets Disclosure in Listed Deposit Money Banks in Nigeria

Muhammad Surajo Abdulwahab, Usman Sabo

Federal University Dutse, Jigawa, Dutse, Nigeria

DOI: <https://doi.org/10.51244/IJRSI.2026.1306000494>

Received: 04 July 2026; Accepted: 10 July 2026; Published: 20 July 2026

ABSTRACT

This study examines the value relevance of intangible assets disclosure of listed deposit money banks in Nigeria. The population of the study constitutes of all the fourteen listed deposit money banks (14) in Nigeria out of which a sample of thirteen (13) banks were drawn. Descriptive research design was adopted. Secondary data from annual reports and accounts of the listed deposit money banks in Nigeria for the period of 2015 to 2024 were used. Intangible assets disclosure was used as independent variables. Value relevant was used as dependent variables proxied by earnings per share, book value per share and market value added. The study revealed that intangible assets disclosure had a positive but insignificant effect on earnings per share, indicating that greater disclosure does not significantly enhance short-term profitability among Nigerian banks. Similarly, the findings of the study showed that intangible assets disclosure had a positive and highly significant effect on market value added, meaning greater transparency enhances investor confidence and boosts bank valuation, and finally the study revealed that intangible assets disclosure had a positive and significant effect on book value per share, indicating that greater transparency boosts equity value and investor confidence. The summary of the findings indicate that intangible assets have limited influence on short term performance indicators such as earnings but have strong positive impacts on both book and market values; thus, intangible assets are value relevant to investors and essential for long term firm valuation. The study recommends that Nigerian banks should reinforce the level and the consistency of intangible assets disclosure to enhance investor understanding and to actualize long-term profitability. Furthermore, the management of the banks and the regulators such as (FRCN, CBN, SEC) should mandate enhanced quantitative and qualitative disclosures of intangible assets.

Keywords: intangible assets, earnings per share, book value per share, market value added, deposit money banks.

INTRODUCTION

Value relevance as a concept is based on the pillars of relevance and reliability. It involves the ability of accounting numbers to summarize the information underlying the stock prices. It describes the relationship between financial information and stock prices (Liu & Liu, 2007). Value relevance needs to be accessed in order to determine the usefulness of financial information to investors (Papadaki & Siougle, 2007) basically, listed firm's including banks uses financial statements as one of their major ways for communicating financial information to their shareholders and the public at large (Nassar, Uwuigbe, Uwuigbe & Abuwa, 2014). Accounting information is described or seen as relevant when it influences the users' decisions to form an opinion (Uwalomwa, Uwuigbe & Okorie, 2015). It ensures that firms remain credible in the mind of investors and shareholders.

The objective of accounting is to report an entity's economic activities in a manner that can serve the needs of diverse users and assist them in taking useful and informed decisions. The impact of such financial information can only be beneficial to the stakeholders if it is reliable and relevant. This implies that financial reports can only be regarded as useful if it represents the economic substance of an organization in terms of its relevance, reliability and comparability (IASB Conceptual Framework, 2014). The market valuation of a firm's stock is one of the most important criteria in describing a firm's values. Therefore, the maximization of prices of a firm

stock is the main aim of most organizations in achieving their credibility and reliability in the mind of investors. Consequently, the value of a firm is based on how the market perceives its performance.

Research has revealed that intangible assets outside the financial statements are the value drivers of firms since they increasingly base their own value on know-how, patents, skilled employees and other intangible assets (Bukh, 2003). Investors lack of information which could result in an increased risk perception cause difficulties in attracting funds and can possibly lead to an underestimation of future earnings (Everaert, 2011). In order to avoid this underestimation, companies can decide to voluntarily disclose value relevant information, and this could be done through disclosing such information either in the annual report or in the prospectus. This is to say that companies can provide investors through their prospectus and financial statement with the voluntary disclosure of intangible by reporting additional information on the companies' risk, future profitability and strategy

In today's knowledge-driven economy, intangible assets such as software, brand equity, intellectual property, customer relationships, and technological capabilities have become major determinants of firm value. For Nigerian deposit money banks (DMBs), these assets are critical due to the industry's dependence on innovation, digital platforms, and service efficiency. Despite their increasing importance, intangible assets are poorly disclosed in Nigeria. This leads to information asymmetry, reduced transparency, and weak investor confidence. The study therefore examines whether intangible asset disclosures are value-relevant, meaning whether they significantly affect key market-based performance indicators.

While global research confirms the importance of intangible assets, Nigeria lacks sufficient empirical evidence, particularly in the banking sector. Disclosure practices are inconsistent, partly due to restrictive recognition rules under IAS 38, leading to understatement of firm value. As a result, stakeholders including investors, regulators, analysts, and policy makers are unable to correctly assess the true market worth and future income-generating potential of Nigerian banks. This gap motivates the study's investigation into whether intangible asset disclosures influence Earnings per Share (EPS), Dividend per Share (DPS), Book Value per Share (BVPS), and Market Value Added (MVA).

The main aim of this study is to examine the value relevance of intangible assets disclosure in the annual reports of listed deposit money banks in Nigeria. The study's specific objectives are to determine the effect of:

1. Intangible assets disclosure on earning per share of listed deposit money banks in Nigeria.
2. Intangible assets disclosure on market value added of listed deposit money banks in Nigeria.
3. Intangible assets disclosure on book value per share of listed deposit money banks in Nigeria

This research covers the value relevance of intangible assets disclosure of listed deposit money banks in Nigeria for ten years (10) from the period of 2015 to 2024. The dependent variable is value relevance proxied by earnings per share, market value per share and book value per share while the independent variable is intangible assets disclosure proxied by natural log of intangibles assets. The period 2015 to 2024 has been selected for this study due to several contextual and empirical reasons that align with the objectives of assessing the value relevance of intangible asset disclosures by listed deposit money banks (DMBs) in Nigeria. Some of the justifications are the Post-IFRS Adoption Effects: Nigeria fully adopted the International Financial Reporting Standards (IFRS) in 2012, but the effects of IFRS on financial reporting, particularly intangible asset disclosures, became more pronounced in subsequent years. By 2015, most listed banks had transitioned and begun to embrace IFRS requirements into their annual reports. Thus, starting from 2015 ensures data reliability under a consistent reporting framework

CONCEPTUAL REVIEW

Value relevance is a term that has been commonly used to refer to the extent to which investors consider accounting figures in financial statements in making equity investment decisions. It is also referring as the extent to which changes in accounting figures explain the changes in stock prices (Outa, 2017) similarly, (Adetunji, 2016) Furthermore, Mirza and abdulhamid (2019) defined value relevance as an ability of accounting information to capture or summarize information affecting the share price. The value relevance of

accounting information measures how well financial statements information summarizes the information found in share values, serving as one of the methods for evaluating the qualitative accounting information disclosed in organizations' financial statements (Omokhudu & Ibadin, 2015). The International Accounting Standard Board, Standard 38 (IAS 38), defines an intangible asset as an identifiable non-monetary asset without physical substance. Such an asset is identifiable when it is separable, or it arises from contractual or other legal rights. The study is anchored on value relevance theory and supported by Ohlson Model (1995) linking accounting information to firm value. Signaling Theory was also highlighted which assumes that firms disclose valuable information to signal competitiveness. Value relevance literature explains the relationship between accounting figures and stock prices, while intangible asset theories emphasize their role as modern-day value drivers.

Intangible assets

The International Accounting Standard Board, Standard 38 (IAS 38), defines an intangible asset as an identifiable non-monetary asset without physical substance. Such an asset is identifiable when it is separable, or it arises from contractual or other legal rights. Separable assets can be sold, transferred, or licensed etc. An asset is a resource that is controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity (IAS 38, 2023). According to this definition, computer software, patents, copyrights, licenses, motion picture films, customer lists, fishing licenses, and import quotas are considered as intangible assets.

Earnings per Share

Earnings or profit determination is one of the central attentions of accounting as it determines the wealth position between businesses (Bello, 2010). It is considered as a fundamental and prominent accounting variable when it comes to the investigation of the value relevance of accounting information. Earnings are the result of the statement of profit or loss and other comprehensive income. Earnings per share is applied by entities whose ordinary shares are publicly traded and by entities that are in the process of issuing ordinary shares in public markets.

Book Value per Share

The book value of a firm represents the value of the stock of resources that can be used to generate future earnings. Therefore, the book value of equity plays securing roles in valuation by representing the net stock of resources which the future earnings of firms depend (Oshodin & Mgbame, 2014). Book value of equity per share is a ratio that divides common equity value by the number of common shares outstanding. Book Value per Share (BVPS) measures valuation of shares in the books of account as it relates to shareholders' investment. BVPS is one factor that investors can use to determine whether a stock price is under-valued. It approximates the net benefit that the stockholders have received from investing their capital in the books of account.

Market Value Added

Market value added was firstly introduced by Simerly in 1995, and it is defined as the difference between the current market value of the firm and the capital contributed by investors. It is a financial metric that measures the capital that investors have contributed to a company in excess of the market value of the company. MVA is a vital concept that investors use to gauge how well the company has been using its capital. A positive MVA means added value in the company while negative MVA indicates destroyed value. A negative MVA signals the investors that the company is not using its capital effectively or efficiently (Christopher, 2020).

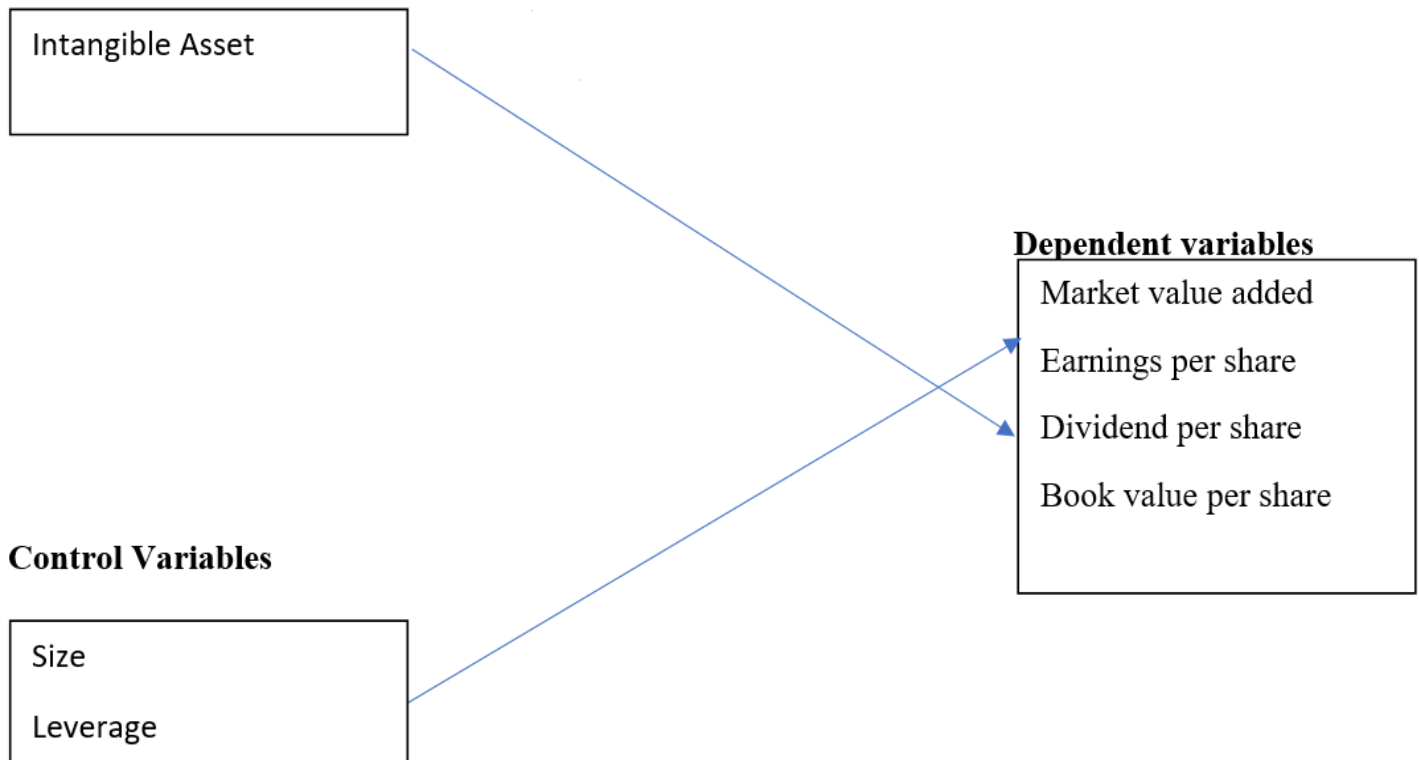
Conceptual Research Framework

This study is anchored on the Ohlson (1995) valuation model, which emphasizes the relevance of accounting information such as earnings, book value, and other value-relevant factors in explaining firm value. Intangible assets disclosure serves as the independent variable because of its potential to provide investors with forward-looking information and enhance the credibility of financial reports. The dependent variables, namely Earnings

per Share (EPS), Dividend per Share (DPS), Book Value per Share (BVPS), and Market Value Added (MVA), represent value-relevant measures commonly used by investors and analysts in assessing firm performance.

The inclusion of firm size and leverage as control variables is premised on the notion that larger banks may have greater capacity for disclosure and that leverage can influence disclosure practices and firm valuation. The framework suggests that intangible assets disclosure influences the selected value measures directly. However, firm size and leverage may either strengthen or weaken the effect of disclosure on these performance indicators

Independent variables



Adopted from Amos Adejare Aderibigbe et.al (2024) and modified by the researcher.

Empirical Review

Amos, Adejare, Aderibigbe et.al (2024) in their study examined the impact of intangible assets on banks' financial performance, specifically in Nigeria using the five biggest banks in the country. The banks include Zenith Bank, United Bank for Africa, Guarantee Trust Bank, Access Bank, and First Bank of Nigeria. The study sought to address the conflicting findings in light of the paucity of research in developing nations, to determine the relevance of the relationships. Secondary data analysis was used, emphasizing total intangible assets and financial Performance indicators like Return on assets, earnings per share, dividend per share. Using firm size as a control variable for robustness, a panel data analysis method was used while Eviews software was employed to analyze the data culled from the banks' financial reports over ten years (2013–2022). The natural log of total assets indicates firm size, whereas the natural log of all intangible assets represents intangible assets. The findings showed intangible assets have positive significant relationships with all the financial performance metrics (ROA, DPS, and EPS) used. The study concluded that the intangible assets of Nigerian banks impact their Financial Performance positively and significantly. The study recommended that Banks should prioritize investments in intangible assets, to enhance the profitability metrics such as return on assets, dividend per share, and earnings per share. The study though conducted in Nigeria focused only on three banks but did not consider all the listed banks in Nigeria as such the findings may not be applicable to all listed banks in Nigeria and therefore this study seeks to use all the listed deposit banks in Nigeria.

In the studies conducted by Etim, Umoffong, Peters, and Gabriel (2022) they examined the relationship between share prices and the value relevance of accounting information. Book Value per Share, Earnings Per

Share, and Cash flow from Operation, as well as their impact in three sectors of the Nigerian economy: real estate and construction, healthcare, information and communication technology (ICT). The research covers 7 years from 2015 to 2021, using accounting and stock price data for three sectors, ex post facto study design was used. Nine companies were selected (9) for Construction /real estate, ten (10) for Health Care, and nine (9) for ICT. Ordinary Least Square was used for the analysis and to estimate the model. From the analysis CFO and EPS were noted to have a significant effect on the share prices of firms in the construction and real estate sectors, BVPS and CFO have a significant effect on the share prices of firms in the health and ICT sectors.

Olaoye et al. (2020) using secondary data studied the effect of intangible assets on the financial performance of deposit money banks in Nigeria. Intangibles were measured using the total intangible assets that the chosen banks provided in their financial statements, and the financial performance was measured using ROA. The findings showed a weak but favourable correlation between the profitability of Nigerian DMBs and their intangible assets. Similarly, Okoye et al. (2019) used secondary data from 2008 to 2017 to examine the impact of intangible assets on the performance of Nigerian public corporations. Annual reports of five firms selected from various sectors provided the data. ROCE was considered the dependent variable, whereas employee benefit costs, Research & Development expenses, and goodwill were considered the independent variables. The study employed descriptive statistics, OLS regression, and correlation analyses to analyze the data. It was found that the return on capital used by listed businesses in Nigeria is insignificantly impacted by employee benefit costs. The research findings indicated the ROCE of listed entities is significantly impacted by the R & D expenses. The study concluded that the return on capital used by listed entities in Nigeria is significantly impacted by goodwill. According to the study, intangible assets have a significant positive impact on financial performance of Nigerian listed companies.

Chinnau, Siyanbola. Tunji and Omoniyi (2021) conducted a study on the value relevance of noncurrent assets held for sale and discontinued operations in selected listed Nigerian deposit money banks. Ex post facto research design was used for the study, Secondary data were collected from the annual reports of the sample banks the Nigerian Exchange Daily Official List for a period of ten (10) years i.e 2012 to 2021. Robust Least Square was employed to make the analysis and Ohlson and Etim model was adopted for the study. Stock return was the dependent variable, while non-current assets held for sale and discontinued operations were the independent variable. Three (3) listed deposit money banks were selected from the population of listed deposit money banks. Results indicated that noncurrent assets held for sale and discontinued operations have a positive but insignificant influence on stock returns. The study concluded that the disclosure provided by the listed deposit money banks in Nigeria on noncurrent assets held for sale and discontinued operations is not value relevant. The study recommended that IFRS 5 requires revision to the extent that more information could be provided, as this will make it value relevant.

The relationship between the adoption of IFRS and the value relevance of the financial data of Nigeria's listed deposit money banks was examined by Olawe and Hassan (2021). Ex-post facto and correlation study designs were employed. The study covers a period of eight years (8) i.e from 2008 to 2015, secondary data were used in the study and general least squares regression was used for the analysis. The conclusion suggested that financial data had importance both before and after IFRS introduction. Despite the fact that this study concentrated on Nigeria, deposit money banks, and IFRS, it did not specifically focus on intangible assets disclosure.

Agbata, Uchegbu, and Eze (2022) conducted a study on the effect of IFRS on the usefulness of accounting information in the Nigerian stock market. Dividends per Share, Book Value of Equity, and Earnings per Share on stock prices throughout and after the adoption of IFRS were used as the variables of the study. A sample 48 businesses were chosen as the sample size using purposeful sampling. The research covers ten years from 2007 to 2016. The time period was divided equally into pre-IFRS and post-IFRS phases lasting 5 years each 2007 to 2011 and 2012 to 2016. The annual reports of the sampled companies were used as a source of secondary data. Using E View 9.0, multiple regression analysis was used to test the hypotheses that were developed. The results showed that there is no statistically significant difference between the pre-and post IFRS periods in the

impact of EPS, BVE, and DPS on the stock price. However, the value relevance of intangible assets disclosure was not investigated in the study for the period mention.

Joonho (2011) has explored the franchising and non-franchising of the intangible assets in retail sales. The study was on the financial performance of the company investigating the profitability and the intangible assets value of the franchise and non-franchise. Secondary data was collected from the company's financial statements and reports from 2001 to 2009. The variables are leverages, firm size, intangible values etc. The researcher compares the financial statements and reports of the franchising and non-franchise companies and concluded that the franchising companies have higher profitability and intangible values than non-franchise companies.

Similarly, in an attempt to explore the value relevance of reported intangible assets, Salami Ephraim and Mue (2020) examine the effect of intangible assets on value relevance of listed manufacturing firm in Nigeria. A sample of nine firms was used out of the total of 34 listed firms. The variables used in the study are; computer software, intellectual property, goodwill, book value, earnings, and dividend. The study covers a period of seven years (7) i.e from 2013 to 2019. The research adopted a correlational research design. Secondary data was extracted from the annual reports and accounts of manufacturing firms listed on the Nigerian stock exchange and multiple regression was use for data analysis. The findings of the study revealed intellectual properties to be positively and significantly associated with the market value of listed manufacturing firms in Nigeria. However, goodwill was shown to have a negative and significant relationship with market value.

A study by Jaafar (2011) examined the moderation effect of firm life cycle on the relationship between accounting choice for intangible assets (brand names, patents and trademarks, licences, copyrights, designs) and their value relevance in the pre- and post-Australian equivalents to International Financial Reporting Standards (AIFRS) periods. The sample consists of 900 and 1,225 firm-years observations for the pre-and post-AIFRS period, respectively with sample firms classified into three life cycle stages; Growth, Mature and Decline, based on Anthony and Ramesh's (1992) classification method. Four regression models based on the Ohlson (1995) valuation model in the tests of value relevance were used. The findings indicated that during the pre-AIFRS period, intellectual property assets are value relevant. A comparison between the pre- and post-AIFRS period suggests that the market attaches higher value to identifiable intangible assets after the adoption of AIFRS. This study though relevant, has findings too specific to different stages of firms' life-cycle, hence may be difficult to apply to listed banks in Nigeria

Abubakar and Abubakar (2015) conducted another related study on intangible assets and value relevance of accounting information of listed high tech firms in Nigeria. The research covers a period of seven years (7) from 2005 to 2011. In arriving at the population of this study, listed companies in the Nigerian Stock Exchange (NSE) market that are considered as intangible intensive or high technology companies were selected, a total population of 131 companies were used out of which a sample 94 firms were dropped out using a criterion and therefore arrived at the population of 37 firms.

Similarly, a sample of nine companies were selected out of 37 firms and the annual report of each company was collected from the official website of Nigerian stock exchange. Correlation research design was employed, and ordinary least square (OLS) regression technique after transforming the data for the effect of the problems of heteroskedasticity, as the tool for the analysis. The variables of the study are market value, book value, earnings per share and intangible assets. The findings of the study show that there is joint incremental value relevance of recognizing intangible assets in the statement of financial positions of high technology firms in Nigeria at 99% confidence level. Similarly, the study found that intangible assets are value relevance and reliable. The study also found that intangible assets are value relevance and reliable in taking investment decisions. They therefore recommended that IAS 38 should be broadened to include brand assets and that the standard should recognize intangible assets in the statement of financial position of listed high-technology firms as this will increase the quality of accounting information of the firms. The work by Abubakar and Abubakar (2015) restricted their study to brand names alone and did not include other intangible assets like trademark, licenses and patents.

Theoretical Framework

Resource Based Theory:

According to Utami and Alamanos (2023) resource based theory (RBT) was first put forward by Penrose (2009), who proposed a model on the effective management of firms' resources, diversification strategy, and productive opportunities. Penrose's publication was the first to propose conceptualizing a firm as a coordinated bundle of resources to address and tackle how it can achieve its goals and strategic behavior. RBT began to take shape in the 1980s. The antecedent of RBT was the theory of the growth of the firm. Later, during the 1990s, Jay Barney's work was significant to the emergence of RBT and became the main idea in strategic management and strategic planning.

The resource-based theory (RBT) is an influential approach in strategic management. It has been widely applied as a managerial framework to determine vital resources for a firm to achieve a sustained competitive advantage. The theory provides an essential framework to explain and predict the fundamentals of a company's performance and competitive advantage Utami and Alamanos (2023) According to this theory, the intangible assets are the main resource to improve enterprise growth. Additionally, Inseng and Uford (2019) further explained that the resource-based theory declared that all important resources that drive a firm's competitive advantage and vital market performance should be recognized and their contributions measured.

Therefore, managers need to be able to identify the key resources and drivers of performance and value in their organizations. Furthermore, the theory also states that a company's competitive advantage is derived from the company's ability to assemble and utilize an appropriate combination of resources. Such resources can be tangible or intangible, and represent the inputs into a firm's production process; such as capital, equipment, the skills of individual employees, patents, financing, and talented managers. Thus, RBT supports intangible assets as resources that are unique, not substitutable, unstated in nature, and synergistic and fosters sustainable advantage (akpan, 2020).

METHODOLOGY

Ex-post facto research design was used for the study and the population of the study covers all the listed deposit money banks in Nigeria from 2015–2024 with the exception of Jaiz bank which was excluded because it was listed in 2017. The research covered a sample size of thirteen (13) DMBs. Relevant data were sourced from the published annual reports and financial statements of the banks, the dependent variables are: EPS, BVPS, MVA and the independent variable is intangible asset disclosure (log of total intangibles). Intangible assets were measured using the natural logarithm of total intangible assets, consistent with emerging empirical techniques. Controls variables which include bank size and leverage were also employed in the study. Panel regression (Pooled OLS, Fixed & Random Effects, Hausman tests) were also tested in the study The 10-year period (2015–2024) was selected to capture post-IFRS adoption effects, digital transformation, and improved reporting stability within the banking sector.

Variables of the Study and their Measurement

The study used dependent and independent variables. The independent variables are value relevance proxied using; market value added, book value per share, and earnings per share while the dependent variable is intangible assets disclosure. The study also employs bank size and leverage as moderating or control variables. The independent variable is the intangible assets disclosure and this has been measured using different methods as used by many researchers in their studies. For instance, Wang (2008), Miller (2008), Haji and Ghazali (2018) used the difference between market value and book value' this is used mostly where the value of intangible assets is hidden in the financial statement. Other researchers such as Sharma (2020) used 'the ratio of value given to intangible assets to total assets' etc. For the purpose of this study, the independent variable is intangible assets disclosure measured by taking the Log of total intangible assets at the end of the year (Kemal & Batuhum, 2022), and (Aulia, 2020) etc This method is mostly used where the value of intangible assets is clearly presented in the financial statement.

Table of Variables and their Measurement

Independent variable	Measurement/Justification
Intangible asset disclosure (IAD)	Measured by taking the log of total intangible assets at the end of the year. Kemel and batuhum 2022) and aulia (2020)
Dependent Variables	Measurement/Justification
Book value per share	Measured as the value of common equity divided by the number of ordinary shares Ephraim, (2020), Mue and Salami, 2020, Eko, 2004 and Ohlson, (1995)
Earnings per share	Measured by dividing profit or loss attributable to ordinary equity holders by the number of ordinary shares Ezejiofor and Aigienohuwa (2023) Eko (2004); Ohlson (1995); Ephraim 2020; Mue& Salami, 2020)
Dividend per share	Measured by dividing the total dividend attributable to ordinary equity holders by the number of ordinary shares. Eko 2004, ohlson 1995, Ezejiofor and Aigienohuwa (2023) Ephraim 2020, Mue and Salami (2020) and Masum, (2014).
Market value added	Measured by taking the difference between book value per share and earnings per share. Akpan (2020)
Control variables	Measurement
Size of the company	Measured by taking the logarithms of total assets at the end of the year. Bozzolan (2003) Ramadan M, (2016), (Kemel and Batuhum 2022)
Leverage	Measured by total debt to total assets. Zuliana (2007) Omar (2008) & (Kemel and Batuhum 2022)

Model Specification

This section develops the empirical models based on the Ohlson (1995) framework, extended to include intangible assets as the key explanatory variable, while bank size and leverage are introduced as control variables. The dependent variables considered are earnings per share (EPS), book value per share (BVPS), and market value added (MVA). Researchers have been using this model in their value relevance studies such as Akpan (2020), Ephraim (2020), Mue and Salami (2020), Mirza (2019) Aulia (2020) etc. The Ohlson (1995) model links a firm's market value to its book value of equity and abnormal earnings, within the residual income valuation framework. The general Ohlson model is expressed as:

$$P_{it} = \alpha_0 + \alpha_1 BV_{it} + \alpha_2 X_{it} + \alpha_3 v_{it} + \varepsilon_{it}$$

Where:

P_{it} = market value (or share price) of firm i at time t

BV_{it} = book value per share

X_{it} = earnings per share

v_{it} = other information (here: intangible assets, bank size, leverage)

Model Specifications

Model 1: EPS Regression

$$EPS_{it} = \beta_0 + \beta_1 INTAN_{it} + \beta_2 BS_{it} + \beta_3 LEV_{it} + \varepsilon_{it}$$

Model 2: MVA Regression

$$MVA_{it} = \beta_0 + \beta_1 INTAN_{it} + \beta_2 BS_{it} + \beta_3 LEV_{it} + \varepsilon_{it}$$

Model 3: BVPS Regression

$$BVPS_it = \beta_0 + \beta_1 INTAN_it + \beta_2 BS_it + \beta_3 LEV_it + \varepsilon_it$$

Where:

Pit = Share price of bank in time t

ITAN = Intangible assets disclosure in year t

EPS = Earnings per Share of bank in year t

BVS = Book Values per Share of bank in year t

MVA = Market Value Added of bank in year t

LEV = Leverage of bank in year t

a = is the intercept

ε_i = Residual Error term

Decision rule:

1. If p value is equal to less than 0.05, the null hypothesis is rejected and the alternate hypothesis is accepted.
2. If the p value is more than 0.05, the null hypothesis is accepted or is not rejected and the alternate hypothesis is rejected.

Model 1: Intangible assets disclosure and share of listed deposit money banks, Dependent Variable: EPS

RANDOM EFFECT			
Variable	Coeff	Std Error	Prob Value
C	-40.61245	30.39779	0.1839
INTAN	4.012579	3.435677	0.2450
SIZE	5.330250	2.614351	0.0436
LEV	-7.073310	12.46436	0.5714
R-squared	0.075896		
Adjusted R-squared	0.053893		

Source: Generated using EVIEWS 12

The Hausman test result shows a Chi-square statistic of 0.8450 with 3 degrees of freedom and a probability value of 0.8387. Since the probability value is greater than 0.05, the null hypothesis that the random effects model is appropriate and is not rejected. Therefore, the Random Effects Model (REM) is preferred for interpretation over the Fixed Effects Model (FEM). The dependent variable is Earnings per Share (EPS), representing bank profitability and market performance. The explanatory variables include intangible assets disclosure (INTAN), bank size (SIZE), and leverage (LEV).

The coefficient of INTAN is positive in both models but statistically insignificant (p-values of 0.2326 and 0.2450 respectively). This implies that although intangible assets disclosure has a positive relationship with earnings performance, the effect is not statistically strong. In other words, greater disclosure of intangible assets tends to increase profitability, but the relationship lacks significant evidence in this sample. This could be due to low awareness of intangible value among investors or inadequate reporting standards across banks. The positive relationship aligns with the signaling theory, which argues that firms use disclosure as a means of signaling quality and future profitability to investors.

The findings are consistent with those of Osazevbaru and Izedonmi (2019), who found that intangible assets disclosure had a positive but insignificant effect on earnings per share among Nigerian listed firms. Similarly, Agundu, Achugamonu, and Olayiwola (2020) observed that although intangible asset reporting contributes to firm credibility and investor perception, its direct impact on short-term profitability is limited due to weak recognition standards under Nigerian accounting practice.

Conversely, studies such as Aboody and Lev (2021) and Mugisa and Muwanga (2018) reported a significant positive relationship between intangible assets and firm profitability. These studies, conducted in developed markets, suggest that transparent disclosure of research, software, and customer-related assets can enhance future earnings potential and attract investment. The disparity between these findings and the Nigerian results may reflect differences in market sophistication, investor awareness, and the regulatory environment.

SIZE has a positive and statistically significant relationship with EPS under the random effects model (coefficient = 5.33, $p = 0.0436$). This indicates that larger banks tend to achieve higher earnings per share. The result aligns with the expectation that bigger banks benefit from economies of scale, stronger capital bases, and greater operational efficiency, which enhance profitability and investor confidence. This suggests that larger banks benefit from economies of scale, diversified income sources, and higher operational efficiency, thereby achieving better profitability. This finding is consistent with Abubakar and Yahaya (2021), who reported that bank size significantly improves earnings performance in the Nigerian banking sector.

Conversely, LEV (leverage) has a negative coefficient (-7.07) in REM and is statistically insignificant ($p = 0.5714$). This suggests that higher leverage reduces profitability, though the effect is weak. The negative sign implies that excessive reliance on debt financing may increase financial risk and interest obligations, which could dampen earnings. This finding aligns with Otekunrin et al. (2020), who noted that high debt levels tend to increase financial risk and interest costs, reducing earnings potential.

The R-squared value of 0.0759 under the random effects model indicates that about 7.6% of the variation in earnings per share is explained by the included independent variables. Although modest, this is typical for firm-level panel data with few explanatory variables.

Model 2: Intangible assets disclosure on market value added of listed deposit money banks; Dependent Variable: MVA

Variable	RANDOM EFFECT		
	Coeff	Std Error	Prob Value
C	13.78024	5.110105	0.0080
INTAN	3.185019	0.510788	0.0000
SIZE	-2.714242	0.389624	0.0000
LEV	6.855080	1.857318	0.0003
R-squared	0.602422		
Adjusted R-squared	0.698105		

Source: Generated using EVIEWS 12

The regression analysis investigates the effect of intangible assets disclosure (INTAN) on the market value added (MVA) of listed deposit money banks in Nigeria. The model also includes bank size (SIZE) and leverage (LEV) as control variables. The Hausman test result (Chi-Sq = 2.613296, $p = 0.4552$) indicates that the random effect model is appropriate since the probability value (0.4552) exceeds the 0.05 significance level. Hence, the interpretation is based on the random effects results. The constant term (C) has a coefficient of 13.78024 with a p-value of 0.0080, indicating statistical significance at the 1% level. This implies that when intangible assets disclosure, size, and leverage are held constant, the market value added of the banks would increase by approximately 13.78 units. The positive and significant intercept shows that other unobserved factors beyond the model contribute positively to market valuation.

The coefficient of INTAN is 3.185019 with a standard error of 0.510788 and a p-value of 0.0000, making it

highly significant. This indicates that a 1% increase in intangible asset disclosure leads to a 3.19-unit increase in market value added, holding other variables constant. This finding suggests that transparent and extensive reporting of intangible assets such as brand value, intellectual property, software, and goodwill significantly enhances investor confidence, thereby increasing the firm's market valuation. This aligns with signalling theory, which posits that disclosure of intangible resources provides investors with valuable information about future profitability and competitive advantage. The result strongly supports value relevance theory, which asserts that financial information is value-relevant if it influences investors' perceptions of firm value (Barth et al., 2001).

This finding also corroborates with the work of Lev and Gu (2016), who argued that investors increasingly value firms' intangible resources such as brand equity, human capital, and intellectual property since these assets drive sustainable competitive advantage. Likewise, Asogwa and Etuk (2021) found that intangible asset disclosure significantly enhances market value among Nigerian listed firms, especially in financial services.

Similarly, Kwon and Kim (2019), in their study on Korean financial institutions, confirmed that high transparency in intangible asset disclosure positively impacts market capitalization, as investors perceive such information as a signal of strong governance and innovation capability.

The SIZE variable has a coefficient of -2.714242 with a p-value of 0.0000, showing a statistically significant negative relationship with MVA. This implies that larger banks tend to have lower market value added compared to smaller ones. The negative sign could indicate that as banks expand, agency costs and inefficiencies may increase, or that investors perceive large banks as riskier due to over extension and operational complexities. Thus, size does not necessarily translate to higher market valuation in the Nigerian banking context.

This finding aligns with Ibrahim and Tijani (2020), who reported that overly large Nigerian banks sometimes suffer from operational inefficiencies and higher regulatory burdens that erode shareholder value.

The LEV variable, with a coefficient of 6.855080 and a p-value of 0.0003, shows a strong and significant positive relationship with MVA. This means that a 1% rise in leverage (debt-to-equity ratio) increases the market value added by approximately 6.86 units. This result suggests that debt financing can enhance shareholder value, possibly due to tax shields or efficient use of borrowed funds to support growth and investment opportunities. This supports Modigliani and Miller's (1963) proposition that debt creates a tax shield that increases firm value.

The model's R-squared (0.602422) and adjusted R-squared (0.698105) indicate that about 60%–70% of the variations in market value added are explained by the included variables. This high explanatory power signifies a well-fitting model. Overall, the findings demonstrate that intangible assets disclosure plays a crucial role in enhancing the market performance of Nigerian deposit money banks, while leverage supports value creation and firm size may exert a moderating negative influence.

Model 3: Intangible assets disclosure on book value per share of listed deposit money banks; Dependent variable. BVPS

Variable	FIXED EFFECT		
	Coeff	Std Error	Prob Value
C	−0.002745	0.009985	0.7839
INTANGIBE_ASSETS_N	0.005583	0.001477	0.0003
SIZE	−0.002098	0.001132	0.0663
LEV	0.007853	0.005392	0.1480
R-squared	0.478760		
Adjusted R-squared	0.410176		

Source: Generated using EVIEWS 12

The Hausman test result ($\text{Chi-Sq} = 9.709886$, $p = 0.0212$) shows a probability value below 0.05, indicating that the fixed effect model is more appropriate for this analysis. This implies that the unique characteristics of individual banks have a systematic influence on their book value per share, and the fixed effect model better captures these firm-specific effects. The constant term has a coefficient of -0.002745 with a probability value of 0.7839, indicating that it is not statistically significant. This suggests that when all explanatory variables are held constant, the expected book value per share of the banks remains approximately zero. The insignificance implies that other unobserved factors not included in the model may contribute more meaningfully to the book value of banks.

The coefficient of intangible assets disclosure is 0.005583 with a p-value of 0.0003, which is statistically significant at the 1% level. This positive relationship implies that a 1% increase in intangible asset disclosure leads to a 0.56% rise in book value per share, holding other factors constant. The result suggests that when banks disclose more information regarding their intangible assets such as goodwill, brand equity, software, patents, and customer relationships it enhances investor confidence and perceived transparency. This, in turn, strengthens the bank's equity position and increases shareholder value as reflected in the book value per share. The finding aligns with the signalling theory, which posits that greater disclosure of intangible assets signals stronger performance and sound management practices.

This finding is consistent with Okoye, Ugwoke, and Ofoegbu (2021), who found that intangible asset disclosure significantly increases equity value among Nigerian banks. Similarly, Hassan and Ibrahim (2022) discovered that disclosure of human capital and goodwill positively influences book value per share in Sub-Saharan African financial institutions.

On the contrary, Cheng and Zhao (2018) reported an insignificant effect of intangible assets on book value per share among Chinese banks, suggesting that the market often undervalues intangibles in emerging economies where recognition standards remain underdeveloped.

The coefficient for firm size is -0.002098 with a p-value of 0.0663, showing a negative but marginally significant relationship at the 10% level. This suggests that larger banks tend to have slightly lower book value per share. The negative relationship could indicate that as banks grow in size, they may experience higher operating costs or dilution of equity value. It may also reflect the fact that larger institutions are more diversified, leading to reduce per-share book value compared to smaller, and more focused banks. This aligns with Abiola and Ajayi (2020), who argued that large Nigerian banks often experience lower per-share value due to extensive branch networks and administrative overhead.

The coefficient of leverage is 0.007853, with a p-value of 0.1480, which is not statistically significant. This implies that leverage does not have a strong direct influence on book value per share among Nigerian deposit money banks. Although the relationship is positive, suggesting that debt financing might slightly improve book value by leveraging shareholder funds, the effect is weak and statistically insignificant in this model.

The R-squared (0.478760) and adjusted R-squared (0.410176) indicate that approximately 48% of the variation in book value per share is explained by the included variables, showing a moderately good fit.

The following are the summary of the major findings: Intangible assets disclosure had a positive but insignificant effect on earnings per share, indicating that greater disclosure does not significantly enhance short-term profitability among Nigerian banks.

- i. Intangible assets disclosure had a positive and highly significant effect on market value added; meaning greater transparency enhances investor confidence and boosts bank valuation.
- ii. Intangible assets disclosure had a positive and significant effect on book value per share, indicating that greater transparency boosts equity value and investor confidence

The study gives the following recommendations:

- i. The board of Nigerian banks should strengthen the quality and consistency of their intangible assets disclosure to enhance investor understanding and long-term profitability. Regulatory bodies such as the

- Financial Reporting Council of Nigeria (FRCN) should enforce clearer disclosure standards that link intangible investments to earnings potential, thereby improving the transparency and comparability of financial reports.
- ii. Banks should prioritize transparent reporting and valuation of intangible assets to attract investor confidence and boost market value. Managers should also optimize leverage levels to enhance financial performance while minimizing risks associated with excessive debt. Furthermore, larger banks should focus on improving operational efficiency and innovation to counter potential diseconomies of scale.
 - iii. The management of the banks should continue to disclose comprehensive information on their intangible assets to strengthen equity valuation and investor trust. Large banks should implement strategies to manage equity dilution, such as efficient capital restructuring and prudent reinvestment of retained earnings. Additionally, moderate use of leverage should be maintained to support financial stability and shareholder value without increasing solvency risks.

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