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Moderating Effect of Firm Age on Ownership Structure and Financial Performance of Listed Financial Services Firms in Nigeria

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Abstract

This study investigates the moderating effect of firm age on the relationship between ownership structure and financial performance of listed financial service firms in Nigeria, using Tobin's Q as a proxy of financial performance. The study adopted ex-post facto research design and utilized secondary panel data obtained from the audited annual reports of 44 listed financial service firms covering the period 2015–2024, yielding 440 firm-year observations. Ownership structure was measured using institutional ownership, managerial ownership, foreign ownership and ownership concentration, while firm age served as the moderating variable. The data were analyzed using panel regression techniques and the Hausman specification test indicated that the Random Effects estimator was the most appropriate for all three models. The findings of the study showed that institutional ownership has a positive and significant effect on financial. Foreign ownership also has a significant positive influence on financial performance, while managerial ownership is statistically insignificant, indicating weak alignment between managerial shareholding and market valuation. Ownership concentration exhibited mixed but generally positive effects. The moderation analysis reveals that firm age significantly strengthens the relationship between institutional ownership and financial performance and also between ownership concentration and financial performance but does not significantly moderate the effects of managerial ownership and foreign ownership. The study concludes that ownership structure and firm age jointly influence financial performance in Nigeria's financial services sector. The study recommends stronger institutional participation, increased foreign investor involvement, and age-sensitive governance practices to enhance market performance and strengthen firm financial performance.

Keywords: *ownership structure, financial performance, firm age, financial services firms in Nigeria.*

I. INTRODUCTION

Financial performance remains a fundamental objective of corporate organizations because it reflects firms' ability to create value for shareholders, sustain operations and remain competitive in increasingly dynamic business environments. Within the financial services sector, financial performance is particularly important because of the industry's contribution to financial intermediation, capital formation, economic stability and investor confidence. Consequently, improving financial performance has become a major concern for corporate managers, investors, regulators and policymakers. Effective corporate governance, particularly ownership structure, has been identified as one of the principal mechanisms through which firms can enhance financial performance and maximize shareholder value (Rashid, 2020).

Ownership structure refers to the distribution of equity among different categories of shareholders, including institutional investors, foreign investors, managers, and individual shareholders (Fuadah et al., 2022). As a key corporate governance mechanism, ownership structure influences managerial behavior, strategic decision-making, monitoring effectiveness, and organizational performance (Alhassan & Mamudah, 2020). Previous studies have shown that variations in ownership composition influence governance quality, strategic direction, financial capability, and ultimately firm performance (Affes & Jarboui, 2023). Because each ownership category differs in its monitoring incentives and governance responsibilities, institutional ownership, foreign ownership, managerial ownership, and ownership concentration are expected to exert varying effects on financial performance.

Institutional investors are generally regarded as sophisticated shareholders with the expertise and incentives to monitor management effectively, thereby reducing agency conflicts and promoting long-term value creation (Gillan & Starks, 2003). Empirical evidence indicates that greater institutional ownership strengthens managerial oversight and encourages decisions that improve financial performance (Ogunleye et al., 2025). Likewise, foreign ownership is often associated with improved governance practices, managerial expertise, international business experience, and stronger monitoring mechanisms capable of enhancing organizational performance (Olugbenga et al., 2025). Similarly, managerial ownership is expected to align managers' interests with those of shareholders, thereby reducing agency conflicts, although excessive managerial ownership may lead to managerial entrenchment and weaker external monitoring (Salihu et al., 2024). Ownership concentration, represented by block shareholders, may also strengthen corporate governance through effective monitoring of management; however, it may equally create opportunities for majority shareholders to pursue private benefits at the expense of minority shareholders.

Although ownership structure has been widely acknowledged as an important determinant of financial performance, its effectiveness may depend on firm-specific characteristics. One important contextual factor is firm age, which reflects organizational maturity, accumulated experience, governance development, resource endowment, and institutional legitimacy (D'Amato & Falivena, 2020). Older firms generally possess more established governance systems, stronger internal controls, and well-developed operational processes than younger firms. Consequently, firm age may influence the extent to which ownership structure enhances financial performance.

Despite the strategic importance of Nigeria's financial services sector, the industry continues to experience persistent financial performance challenges, including weak profitability, declining shareholder returns, rising operating costs, recapitalization pressures, mergers, acquisitions and frequent regulatory interventions (Central Bank of Nigeria [CBN], 2024; Nigerian Exchange Group [NGX], 2024; National Insurance Commission [NAICOM], 2024). These developments continue to raise concerns regarding the effectiveness of existing corporate governance mechanisms in improving organizational performance.

Existing empirical evidence on the relationship between ownership structure and financial performance remains inconclusive. While some studies report positive relationships between institutional, foreign, managerial and concentrated ownership structures and firm performance, others document negative or statistically insignificant effects (Alabdullah, 2018; Nguyen et al., 2020; Alkurdi et al., 2021; Adegbite & Nakajima, 2022; Bishwas & Hossain, 2025). These conflicting findings suggest that the relationship between ownership structure and financial performance is context-dependent and may be influenced by firm-specific characteristics. Although firm age has been identified as a potential determinant of governance effectiveness, limited empirical evidence exists regarding its moderating role, particularly among listed financial service firms in Nigeria. Consequently, regulators, investors and corporate managers have limited evidence to guide governance decisions that recognize differences in organizational maturity.

In this backdrop, this study investigates the moderating role of company age on the link between ownership structure and financial performance of listed financial service firms in Nigeria. Specifically, the study investigates the effects of institutional ownership, foreign ownership, managerial ownership and ownership concentration on financial performance, examines the direct effect of firm age on financial performance and evaluates whether firm age moderates the relationship between ownership structure and financial performance. This study addresses this gap and contributes to the corporate governance literature by providing evidence that could guide governance policies and managerial actions aimed at enhancing the financial performance of listed financial service firms in Nigeria.

II. LITERATURE REVIEW

Concept of Financial Performance

According to Tanko and Ibrahim (2019), financial performance can be defined as the measurement of profitability and financial strength through financial statement analysis in order to reveal the meaning and importance of the items included in income statements and statement of financial position which will assist management in the development of operating and financial policies. The performance of a firm relates to the way and techniques adopted by the firm on objects of economic worth to sensibly utilize such things for the fulfillment of the general business purpose and objectives. (Nguyen et al., 2022) Financial performance is one of the indicators to measure operational success and long term viability of companies.

The Concept of Ownership Structure

Ownership structure describes the distribution of equity ownership shares among different types of shareholders in a corporate body, and it dictates the allocation of ownership rights, control, and decision-making power (Almashaqbeh et al., 2023). These include the rights of ownership, such as the right to the firm's earnings, residual assets upon dissolution or sale, voting rights, and the right to influence strategic and operational choices. Ownership structure, according to Peter (2019), is the mix of shareholdings of diverse stakeholders, including directors and managers (managerial ownership), institutional investors, international investors, government entities, families and shareholders with concentrated ownership interests. The author argues that external corporate governance mechanisms like institutional and foreign ownership can be key influences on managerial behavior and organizational effectiveness. In this way, the ownership structure captures the internal governance mechanism of a corporation by setting forth the allocation of rights, responsibilities and control among shareholders. In this study, ownership structure is conceptualized along four key dimensions including institutional ownership, managerial ownership, foreign ownership and ownership concentration. Each of these dimensions is considered as a key determinant of corporate governance effectiveness and organizational outcomes.

Institutional Ownership

Onuora et al. (2022) define institutional ownership as the ownership portion or interest that a corporation has in the hands of significant financial institutions, pension funds or endowments. Institutional shares are shares held by the domestic legal entities of the country, including domestic mutual funds, insurance firms, government organizations and other corporations. Institutional investors are defined as insurance companies (life and non-life), pension funds, investment trusts (including unit trusts), financial institutions (including Banks, finance companies, building societies and credit cooperatives), investment companies and other nominee companies affiliated with the aforementioned categories of institutions (Yahaya & Yusuf, 2020).

Foreign Ownership

Foreign ownership was defined by Yusuf et al. (2024) as the percentage of shares owned by foreigners, corporate and institutional investors. Foreign share ownership is the percentage of a company's shares that are owned by foreigners. Foreign shareholders are one of the main cornerstones for transparency and confidence between firms and stakeholders. Foreign ownership was the percentage of shares held by foreign owners who were not individual investors (Yusuf et al., 2024).

Managerial Ownership

According to Lawan et al. (2018), managerial ownership is defined as the percentage of shares owned by the management who are actively involved in making corporate decisions in a corporation. Managerial ownership refers to the ownership part or stake in a firm that is owned by managers. Managerial ownership is not only aimed at raising the firm's capital but also to serve as inducements to managers to align managers' interests with interests and needs of the company (Alhassan & Mamuda, 2020).

Ownership Concentration

According to Alhassan and Mamuda (2020), ownership concentration refers to the percentage or share of ownership in a corporation held by shareholders with a controlling interest or a large probability. Ownership concentration: An ownership share or stake in a firm held by shareholders with the controlling interest or a substantial stake. Concentration of ownership provides the shareholders with the motivation and opportunity to observe and supervise the management's decision. Thus, tight shareholders leverage on their large window of opportunity in reducing conflicts of interests between managers and the firm by practicing pragmatic approaches in supervising and safeguarding their assets (Adebiyi & Olowookere, 2016).

Concept of Firm Age

Firm age can be measured as the number of years from the incorporation of the firm to the current time. Firm age is defined as the number of years of existence of such firms (Crane et al., 2019). Zhang (2021) demonstrated that while older firms have access to more resources, their bureaucratic structures can hinder agility, resulting in lower performance in rapidly changing industries.

Empirical Framework

Andow and David (2016) evaluated the effect of managerial ownership on the financial performance of conglomerate enterprises in Nigeria during the period 2004-2013. The data used is a secondary data which is examined by using multiple linear regression. The study reveals that management ownership has significant detrimental impact on organizations performance. Andow and David (2016) did not consider other types of ownership structure and the analysis was limited to conglomerate enterprises in Nigeria. The study considered various categories of ownership structure of listed financial service firms in Nigeria and extended the period to 2024. Dakhlallh et al. (2021) studied the influence of concentrated ownership on firms' performance in Jordan during 2009-2017. The sample consisted of 180 companies and multiple regression technique was used for analysis. The study shows that the concentrated ownership has a good effect to firm performance. The duration of this study ends in 2017 while the length of the present study ends in 2024. The present study is carried out in Nigeria while this study was undertaken in Jordan. The domain of this work was not particular whereas the domain of the current study is listed financial service organizations in Nigeria.

Egolum et al. (2021) studied effect ownership structure and business valuation on Nigerian oil and gas firms 2010-2019. The study sample size was 8 listed oil and gas firms in Nigeria. The study adopted ex-post facto research design. The study employed Spearman rank correlation and panel least squares (POLS) regression. The study found that management and CEO ownership have insignificant positive impact on Tobin's Q, government ownership has insignificant negative impact on Tobin's Q while ownership concentration has large negative impact on Tobin's Q. The study's sector emphasis and use of POLS regression may restrict generalizability and robustness, while giving crucial Nigeria-specific insights. Duong et al. (2021) evaluated the effect of foreign ownership on company performance in Vietnam for the period 2015–2019. The study employed panel regression models on a sample of 288 non-financial listed enterprises in Vietnam. The study indicated a non-linear connection (inverted U-shaped). Firm performance increased with foreign ownership until an optimal threshold was reached, after which further increases led to a decline in performance. This study examined listed financial service organizations in Nigeria. The study examined Vietnam

Abedin et al. (2022) evaluated the impact of institutional ownership on company performance in an emerging economy focused on Bangladesh for the period 2008–2018. The study employed Ordinary Least Squares (OLS) regression on the sample size of 180 listed enterprises in Bangladesh. The results revealed that both domestic and foreign institutional ownership are favorably and significantly related to firm performance, and that excellent board governance strengthens this link. However, the study concentration on Bangladeshi enterprises limits generalisability to other emerging economies. The present analysis will concentrate on the listed financial services organizations in Nigeria. Kusuma and Dewi (2024) evaluated the effect of capital structure, profitability and firm age on firm value of property and real estate businesses listed on the Indonesia Stock Exchange in 2018-2021. The study utilized secondary data gathered from yearly financial reports of chosen companies. The researchers used a purposive sample strategy to select 16 companies from 83 companies of population and multiple linear regression analysis was used with the help of SPSS software. The results showed that the age of the firm has a positive and statistically significant impact on the firm value. This means that older firms have more operational experience, stability and market reputation, which improves the firm value. The present study did not utilize moderator while the previous employed firm age as a moderator.

Almashaqbeh et al. (2023) investigated the effect of ownership structure on the company value of Jordanian enterprises listed on Amman Stock Exchange during 2020-2022. The study used a sample size of 50 businesses. The results of the regression analysis show that both institutional ownership and family ownership have a positive and significant impact on firm value, i.e. committed ownership increases market value. The limitations of the study are the short sample period, focus on one stock exchange, the potential endogeneity of ownership and business valuation, and the lack of control of governance or institutional variables. Alrwabdah and Lok (2024) studied the impact of ownership structure on company performance of the firms listed on Amman Stock Exchange (ASE) in Jordan from 2015 to 2021. The study adopted a sample size of 158 enterprises and employed generalized method of moment estimator to solve the potential endogeneity issues. The study revealed that institutional ownership has strong positive association with Tobin's q but not with return on asset. Foreign ownership and ownership concentration have a beneficial impact on both return on asset and Tobin's q. The study did not include moderator while the current study used firm age as moderator.

Theoretical Framework

Agency Theory (Jensen and Meckling, 1976) is used in the study to describe the connection between shareholders (principals) and managers (agents) within the framework of the separation of ownership and control in modern organizations. The theory assumes managers might pursue self-interests that are in conflict with the maximization of shareholders' wealth and so create agency conflicts and the related monitoring costs. Therefore, sound procedures of corporate governance are essential to ensure alignment of the interests of managers and shareholders and to reduce agency costs. To reduce conflict of interest between principal and agent, equity ownership is given to the persons in the firm, top management and institution. The objective of the principal and agent is now aligned and this is geared towards solving the conflict of interest in the firm (Omorokunwa & Idubor, 2023).

Research Framework

The research framework for this study will build on the study of Bhakar et al. (2024) by introducing additional variables. This involves the introduction of the four categories of ownership structure (institutional ownership, managerial ownership, foreign ownership and ownership concentration), two control variables (board size and audit committee size) and a moderating variable (firm age). The proposed research framework will show the effect of ownership structure on financial performance with firm age as a moderator and also the effects of the control variables. Thus, it is illustrated in the diagram below.

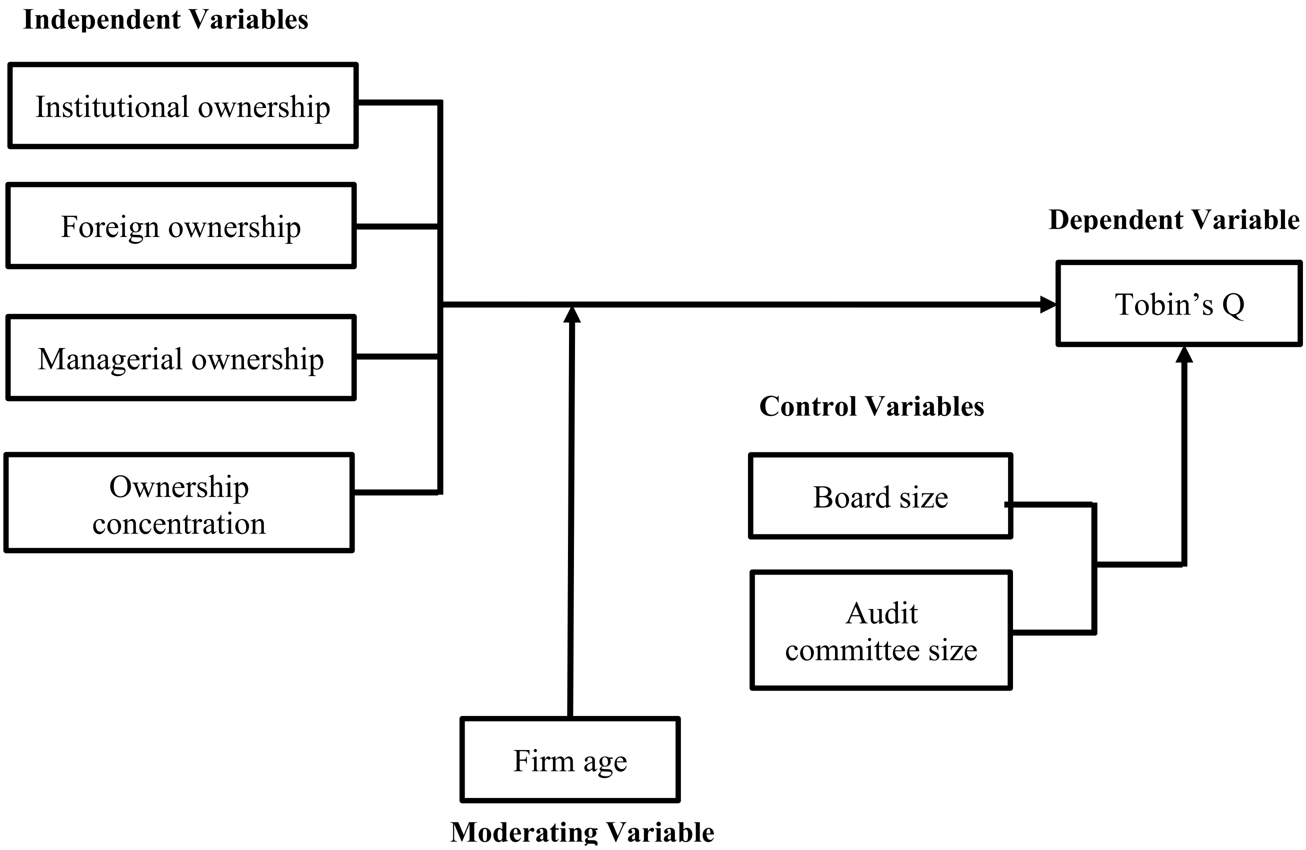

Figure 1: Research Framework

III. RESEARCH METHOD

The study utilized an ex post facto research approach within the longitudinal panel data framework to investigate the moderating effect of company age on the connection between ownership structure and financial performance of listed financial service firms in Nigeria. The study was based on historical financial and corporate governance data gathered from publicly available sources and no manipulation of the variables under consideration was undertaken; thus, the ex post facto design was found appropriate (Samuel, 2021). As a longitudinal panel design is used, it enables an assessment of changes in firm attributes and financial performance over time and takes unobserved firm-specific variability into account (Osborne et al., 2023).

The population consists of all 44 financial service enterprises listed on Nigerian Exchange Group (NGX) as at 31 December, 2024 which include deposit money banks, insurance companies, mortgage institutions, microfinance banks and other financial service corporations. Because the population was small and accessible, the study employed the census sampling technique. The sample was all the 44 firms mentioned. The analysis was made for a decade (2015-2024) and the panel was balanced with 440 firm-year observations.

The study employed secondary data obtained from the audited annual reports and accounts of the sampled firms and the Nigerian Exchange Group (NGX). Annual reports were downloaded for each sample firm, and relevant financial and corporate governance information was extracted and compiled into a panel dataset for analysis using STATA.

Financial success was measured by utilizing Tobin's Q as the dependent variable. We measured ownership structure by institutional ownership, foreign ownership, managerial ownership and ownership concentration. Firm age was the moderating variable, whereas board size and audit committee size were control variables. Table 1 contains the operational definitions and measures of the study variables.

Table 1: Measurements of Variables

Variable name	Variable Type	Acronym	Measurement
Tobin's Q	Dependent variable	TQ	$\frac{\text{market value of shares}}{\text{total assets}}$
Managerial ownership	Independent variable	MO	$\frac{\text{\% of shares held by directors}}{\text{total number of shares issued}}$
Institutional ownership	Independent variable	IO	$\frac{\text{\% of institutional investor's shares}}{\text{total number of shares issued}}$
Ownership concentration	Independent variable	OC	Proportion of shares held by shareholders at 5 % and above
Foreign ownership	Independent variable	FO	$\frac{\text{\% of shares held by foreigners}}{\text{total number of shares issued}}$
Firm Age	Moderating variable	FA	Firm age is measured by the natural logarithm of the number of years since the firm's incorporation
Board Size	Control variable	BS	Total number of directors on the board
Audit committee size	Control variable	ACS	It is measured through members of that committee elected by board of directors.

Model Specification

To examine the direct and moderating relationships, three panel regression models were estimated.

Model 1: Direct Effect Model

$TQ_{it}=\beta_0+\beta_1IO_{it}+\beta_2MO_{it}+\beta_3FO_{it}+\beta_4OC_{it}+\beta_5BS_{it}+\beta_6ACS_{it}+\varepsilon_{it}$ ---------------------------------1

Model 2: Main Effect of Firm Age

$TQ_{it}=\beta_0+\beta_1IO_{it}+\beta_2MO_{it}+\beta_3FO_{it}+\beta_4OC_{it}+\beta_5FA_{it}+\beta_6BS_{it}+\beta_7ACS_{it}+\varepsilon_{it}$ -----------------2

Model 3: Moderating Effect of Firm Age

$TQ_{it}=\beta_0+\beta_1IO_{it}+\beta_2MO_{it}+\beta_3FO_{it}+\beta_4OC_{it}+\beta_5FA_{it}+\beta_6BS_{it}+\beta_7ACS_{it}+\beta_8IO_{it}\text{ x }FA_{it}+\beta_9MO_{it}\text{ x }FA_{it}+\beta_{10}FO_{it}\text{ x }FA_{it}+\beta_{11}OC_{it}\text{ x }FA_{it}+\varepsilon_{it}$ ---3

where TQ denotes financial performance; IO, FO, MO, and OC represent institutional ownership, foreign ownership, managerial ownership, and ownership concentration, respectively; FA denotes firm age; BS and ACS represent board size and audit committee size; β_0 is the intercept; ε is the error term; i denotes the firm; and t denotes the year;. β_8IO_{it} x FA_{it} represent the interacting effect of firm age and institutional ownership; β_9MO_{it} x FA_{it} represent the interacting effect of firm age and managerial ownership $\beta_{10}FO_{it}$ x FA_{it} represent the interacting effect of firm age and foreign ownership; $\beta_{11}OC_{it}$ x FA_{it} represent the interacting effect of firm age and ownership concentration.

Estimation Technique

Descriptive and inferential statistics techniques were used to analyze the data. Descriptive statistics (mean, standard deviation, minimum and maximum values) were employed to describe features of variables. Pearson correlation analysis was undertaken to investigate the correlations between the variables and test for multicollinearity. The panel form of the data implies the need to estimate both fixed-effects and random-effects regression models. To select the most suitable estimator, a Hausman specification test was performed. Additionally, diagnostic tests such as normality tests, ramsey reset specification test, heteroskedasticity test, and multicollinearity tests were used to validate the validity of the regression models. Where heteroskedasticity was found, robust standard errors were used to allow valid statistical inference.

IV. RESULTS

Descriptive Statistics

Table 2 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min.	Max.
TQ	440	1.460	0.505	0.100	3.326
FA	440	3.310	0.811	0.693	4.370
IO	440	0.269	0.172	0.000	0.799

FO	440	0.186	0.109	0.000	0.552
MO	440	0.088	0.071	0.000	0.222
OC	440	0.440	0.184	0.050	0.922
BS	440	9.677	3.228	0.000	21.00
ACS	440	5.484	2.474	0.000	8.00

Table 2 presents the descriptive statistics of the study variables for the 440 firm-year observations covering the period 2015–2024. The results indicate that the mean value of Tobin's Q is 1.460 (standard deviation = 0.505), suggesting that, on average, the sampled financial service firms were valued by the market above their book value. The minimum and maximum values of 0.100 and 3.326, respectively, indicate considerable variation in market valuation across firms. Institutional ownership recorded a mean value of 0.269, indicating that institutional investors held approximately 27% of the outstanding shares of the sampled firms. Foreign ownership averaged 18.6%, while managerial ownership had a relatively low mean of 8.8%, suggesting limited equity participation by managers. Ownership concentration exhibited the highest average among the ownership variables (44.0%), implying that a substantial proportion of shares was controlled by large block shareholders. Firm age had a mean logarithmic value of 3.310, indicating moderate variation in the maturity of the sampled firms. The average board size was approximately ten directors, while audit committees comprised an average of five members, reflecting compliance with prevailing corporate governance regulations in Nigeria. Overall, the descriptive statistics reveal sufficient variability across the study variables to support subsequent regression analysis.

Correlation Analysis

Table 3 Correlation Matrix of the Variables

Variables	**TQ**	**FA**	**IO**	**FO**	**MO**	**OC**	**BS**	**ACS**
TQ	1.0000							
FA	0.2512	1.0000						
IO	0.7592	0.0549	1.0000					
FO	0.7177	0.0302	-0.0238	1.0000				
MO	-0.0454	0.0456	-0.0974	0.0705	1.0000			
OC	-0.2227	0.0196	-0.0062	-0.1155	0.01276	1.0000		
BS	-0.0526	0.0228	-0.1487	0.1501	-0.2265	-0.1281	1.0000	
ACS	-0.2055	0.0055	-0.2310	0.1397	0.0815	0.0360	0.2576	1.0000

Table 3 reports the Pearson correlation matrix for the study variables. Institutional ownership (r = 0.7592) and foreign ownership (r = 0.7177) exhibit strong positive associations with Tobin's Q, suggesting that firms with higher institutional and foreign ownership tend to record superior market performance. Conversely, ownership concentration (r = –0.2227), audit committee size (r = –0.2055), managerial ownership (r = –0.0454), and board size (r = –0.0526) display negative correlations with financial performance, although the strength of these relationships varies. The correlation coefficients among the explanatory variables are generally low, with no coefficient exceeding the conventional threshold of 0.80, indicating the absence of serious multicollinearity. These preliminary results support the inclusion of the variables in the panel regression analysis.

Diagnostic Tests

Prior to estimating the regression models, several diagnostic tests were conducted to ensure the validity of the panel regression assumptions. The Shapiro–Wilk test indicated that all variables satisfied the normality assumption ($p > 0.05$). Multicollinearity was assessed using the Variance Inflation Factor (VIF), with mean VIF values ranging from 1.10 to 1.20 across the three models, well below the recommended threshold of 10. These findings indicate that multicollinearity is not a concern.

The Breusch–Pagan test revealed evidence of heteroskedasticity in Models 1 and 2 but not in Model 3. Consequently, robust standard errors were employed to obtain consistent parameter estimates. Furthermore, the Ramsey RESET test confirmed that all three regression models were correctly specified, while the Hausman specification test indicated that the random-effects estimator was more appropriate than the fixed-effects estimator for all models. Accordingly, the hypotheses were tested using random-effects panel regression with robust standard errors.

Regression Results

Model 1: Direct Effect of Ownership Structure on Financial Performance

Table 4 Regression Results for Direct Effect

Variable	Coefficient	z	P>/z/
CONSTANT	1.1703	9.10	0.000
IO	2.2536	10.59	0.000
MO	0.4105	1.20	0.231
FO	0.6814	2.50	0.013
OC	-0.6058	-5.67	0.000
BS	0.0016	0.32	0.746
ACS	-0.0422	-1.98	0.048
R-Square:			
Within 0.1252			
Between 0.8653			
Overall 0.6550			
Wald chi2 173.22			
Prob>F 0.0000			

The results of the random-effects regression model are presented in Table 4. The model is statistically significant (Wald $\chi^2 = 173.22$, $p < 0.001$), with an overall R^2 of 0.655, indicating that approximately 65.5% of the variation in financial performance is explained by ownership structure and the control variables. Among the control variables, board size has no significant effect on financial performance, whereas audit committee size exhibits a negative and statistically significant relationship, implying that larger audit committees do not necessarily translate into improved market performance within the sampled firms.

H_{01}: Institutional ownership has no significant effect on financial performance of listed financial service companies in Nigeria.

Institutional ownership exerts a positive and statistically significant effect on financial performance ($\beta = 2.2536$, $p < 0.001$). Based on the p-value from model one (random effect) in Table 4, H_{01} is rejected because institutional ownership has a p-value of 0.000 for Tobin's Q which is well below the 0.05 significance level. This indicates that institutional ownership has significant positive effect on the financial performance of listed financial service companies in Nigeria.

H_{02}: Foreign ownership has no significant effect on financial performance of listed financial service companies in Nigeria.

Foreign ownership also has a positive and significant effect on financial performance ($\beta = 0.6814$, $p = 0.013$). For H_{02}, the p-value for foreign ownership is 0.013 for Tobin's Q, which is below 0.05. Therefore, H_{02} is rejected implying that foreign ownership has significant positive effect on financial performance of the listed financial service firms in Nigeria.

H_{03}: Managerial ownership has no significant effect on financial performance of listed financial service companies in Nigeria.

Managerial ownership exhibits a positive but statistically insignificant effect on financial performance ($\beta = 0.4105$, $p = 0.231$). Regarding H_{03}, the p-value for managerial ownership is 0.231 for Tobin's Q, which is above the 0.05

threshold. Consequently, H_{03} is accepted, indicating that managerial ownership has no statistical significant effect on financial performance of listed financial service companies in Nigeria.

H_{04}: Ownership concentration has no significant effect on financial performance of listed financial service companies in Nigeria.

Ownership concentration shows a negative and statistically significant relationship with financial performance ($\beta = -0.6058$, $p < 0.001$). For H_{04}, the p-value for ownership concentration is 0.000 which is below 0.05. Hence, H_{04} is rejected, this implies that ownership concentration has a significant effect on market financial performance of listed financial service firms in Nigeria.

Regression Result for Model 2 (With Firm Age) (Random Effect)

Table 5: Regression Results for Model Two

Variables	Coefficients	Z	P>z
CONST.	0.7055	4.63	0.000
FA	0.1317	4.06	0.000
IO	2.2018	14.80	0.000
FO	0.6946	3.38	0.001
MO	0.3201	1.12	0.264
OC	-0.5922	-6.01	0.000
BS	0.0020	0.38	0.705
ACS	-0.0351	-1.73	0.083

R-Square:
Within = 0.1379
Between = 0.9217
Overall = 0.6989
Wald chi2 = 396.66
Prob > chi2 = 0.0000

Table 5 presents the random effects regression results for Model 2, which examined the effects of ownership structure, firm age and the control variables on the financial performance of listed financial service firms in Nigeria. The overall model is statistically significant with a Wald chi-square value of 396.66 ($p = 0.0000$), indicating that the explanatory variables jointly explain variations in financial performance. The overall R^2 of 0.6989 shows that approximately 69.9% of the variation in Tobin's Q is explained by the variables included in the model. Compared with Model 1, the explanatory power increased from 65.5% to 69.9%, suggesting that the inclusion of firm age improves the explanatory ability of the model.

The coefficient of institutional ownership is positive and statistically significant ($\beta = 2.2018$, $z = 14.80$, $p = 0.000$), implying that firms with higher institutional ownership are associated with better financial performance. Similarly, foreign ownership has a positive and statistically significant effect on financial performance ($\beta = 0.6946$, $z = 3.38$, $p = 0.001$). In contrast, managerial ownership has a positive but statistically insignificant effect on financial performance ($\beta = 0.3201$, $z = 1.12$, $p = 0.264$). The results further indicate that ownership concentration has a negative and statistically significant effect on financial performance ($\beta = -0.5922$, $z = -6.01$, $p = 0.000$). Regarding the control variables, board size has a positive but statistically insignificant effect on financial performance ($\beta = 0.0020$, $z = 0.38$, $p = 0.705$). Likewise, audit committee size has a negative but statistically insignificant effect ($\beta = -0.0351$, $z = -1.73$, $p = 0.083$).

H_{05}: Firm age has no significant effect on financial performance of listed financial service firms in Nigeria.

The results show that firm age has a positive and statistically significant effect on financial performance ($\beta = 0.1317$, $z = 4.06$, $p = 0.000$). For H_{05}, the p-value for firm age is 0.000 which is below 0.05, H_{05} is rejected and this implies that firm age has a significant effect on market performance of listed financial service firms in Nigeria.

Regression Result for Model 3 (Moderating Effect) (Random Effect)

Table 6: Regression Results for Moderating Effect

Variable	Coefficient	Z	P>/z/
CONST.	1.1206	9.63	0.000
FA	-0.0016	-0.02	0.984
IO	0.4541	1.11	0.269
MO	0.3720	0.29	0.774
FO	0.0276	0.03	0.974
OC	-0.9872	-0.23	0.820
BS	0.0010	0.19	0.852
ACS	-0.0332	-1.87	0.062
IO*FA	0.5811	4.38	0.000
MO*FA	-0.0290	-0.08	0.939
FO*FA	0.1578	0.69	0.490
OC*FA	-0.1309	-1.05	0.000
R-Square:			
Within 0.1281			
Between 0.9398			
Overall 0.7177			
Wald chi2 593.74			
Prob>chi2 0.0000			

Table 6, presents the regression results for Model 3, which examined the moderating effect of firm age on the relationship between ownership structure and the financial performance of listed financial service firms in Nigeria. The model includes the main effects of institutional ownership, managerial ownership, foreign ownership, ownership concentration, firm age, board size and audit committee size, as well as the interaction terms between firm age and each ownership structure variable. The overall model is statistically significant with a Wald chi-square value of 593.74 ($p = 0.0000$), indicating that the explanatory variables jointly explain variations in financial performance. The overall R^2 of 0.7177 indicates that approximately 71.8% of the variation in Tobin's Q is explained by the variables included in the model. This represents an improvement over Models 1 and 2, suggesting that incorporating the interaction terms enhances the explanatory power of the model.

Unlike Models 1 and 2, the coefficients of the ownership structure variables and firm age in Model 3 should not be interpreted independently because interaction terms have been introduced into the regression model. Their coefficients represent the effects of these variables when the moderating variable equals zero and therefore are not the primary focus of interpretation. Consequently, emphasis is placed on the interaction terms, which directly indicate whether firm age moderates the relationship between ownership structure and financial performance.

$H_{05(i)}$: Firm age does not significantly moderate the relationship between institutional ownership and financial performance of listed financial service companies in Nigeria.

The interaction between institutional ownership and firm age (IO × FA) has a positive and statistically significant coefficient ($\beta = 0.5811$, $z = 4.38$, $p = 0.000$). Based on the p-value from model three (random effect) in Table 6, $H_{05(i)}$ is accepted because the interaction term between institutional ownership and firm age has a p-value of 0.000 which is below 0.05, indicates that firm age significantly moderates the relationship between institutional ownership and market based financial performance of listed financial service companies in Nigeria.

$H_{05(ii)}$: Firm age does not significantly moderate the relationship between managerial ownership and financial performance of listed financial service companies in Nigeria.

The interaction between managerial ownership and firm age (MO × FA) has a negative but statistically insignificant coefficient ($\beta = -0.0290$, $z = -0.08$, $p = 0.939$). For $H_{05(ii)}$, the interaction term between managerial ownership and firm age has p-value of 0.939 , which is above to 0.05 level of significance threshold. Therefore, $H_{05(ii)}$ is accepted, suggesting that firm age does not significantly moderates the relationship between managerial ownership and financial performance of listed service companies in Nigeria.

$H_{05(iii)}$: Firm age does not significantly moderate the relationship between foreign ownership and financial performance of listed financial service companies in Nigeria.

The interaction between foreign ownership and firm age (FO × FA) has a positive but statistically insignificant coefficient ($\beta = 0.1578$, $z = 0.69$, $p = 0.490$). Regarding $H_{05(iii)}$, the interaction term between foreign ownership and firm age has p-value of 0.490, which are above 0.05. As a result, $H05_{(iii)}$ is accepted, implying that firm age does not significantly moderate the relationship between foreign ownership and financial performance of listed service companies in Nigeria.

$H_{05(iv)}$: Firm age does not significantly moderate the relationship between ownership concentration and financial performance of listed financial service companies in Nigeria.

For $H_{05(iv)}$, the interaction term between ownership concentration and firm age has p-value of 0.000 for Tobin's Q, which is below 0.05. Hence, $H_{05(iv)}$ is rejected indicating that firm age significantly moderates the relationship between ownership concentration and financial performance of listed financial service companies in Nigeria.

V. DISCISSIONS

The findings of the study are discussed with reference to the hypotheses tested, focusing on both the direct effects of ownership structure on financial performance and the moderating role of firm age. Each hypothesis was evaluated using the p-values from the relevant models, with model one employed to test the direct relationships and model three used to assess the moderating effect. This approach allows for a systematic examination of whether institutional, managerial, foreign, and concentrated ownership significantly influence the market-based performance of listed financial service firms in Nigeria, as well as how firm age modifies these relationships.

Institutional Ownership and Financial Performance

The study showed that institutional ownership has a significant positive effect on the financial performance of listed financial service companies in Nigeria. This implies that institutional investors play a critical role in enhancing firm efficiency and profitability. Their active monitoring, governance oversight, and influence on strategic decisions likely reduce agency problems and ensure that management acts in the best interest of shareholders. Consequently, firms with higher institutional ownership are better positioned to achieve sustainable growth and improved market valuation, reinforcing the importance of attracting and maintaining institutional investors. This finding is in line with the finding of Abedin et al. (2022) who found that institutional ownership motivates and influences businesses to perform better.

Foreign Ownership and Financial Performance

The study showed that foreign ownership has a significant effect on financial performance. This implies that firms with higher proportion of foreign shareholders tend to perform better financially than those with lower foreign ownership. Foreign investors often bring superior managerial expertise, advanced technological capabilities and stronger corporate governance practices which enhance operational efficiency and profitability. In addition, foreign ownership exert stronger monitoring mechanism that reduce agency problems and improve decision making. This finding is in line with the finding of Doung et al. (2021) who found that foreign ownership improve financial performance.

Managerial Ownership and Financial Performance

The study showed that managerial ownership has no statistically significant effect on financial performance of listed financial service companies in Nigeria. This indicates that ownership by directors or managers does not necessarily align their interests with those of other shareholders in these firms. This suggests that simply granting managers' shares may not be sufficient to influence firm performance, possibly due to weak monitoring mechanisms or entrenched managerial practices, highlighting the need for complementary governance structures to ensure that managerial incentives translate into tangible performance improvements. This finding correlates with that of Egolum et al. (2021) who stated that managerial ownership does not improve business performance.

Ownership Concentration and Financial Performance

The finding of the study showed that ownership concentration has a significant effect on the financial performance of listed financial service firms in Nigeria. This indicate that the level of shares controlled by block shareholders influences the market value of listed financial service firms in Nigeria. In addition, ownership concentration enhance investors' valuation of firms because large shareholders have stronger incentives and capacity to monitor managers, reduce agency conflicts and ensure more efficient decision making The finding is similar with the finding of Almashaqbeh et al. (2023) who found that ownership concentration significantly impact company performance.

Firm Age and Financial Performance

The findings of the study also showed that firm age has a positive and significant effect on financial performance of listed financial services firms in Nigeria. This indicate that older firms tend to possess greater operational experience, stability and market reputation, which enhance firm value. In addition, older firms usually enjoy accumulated knowledge, stronger investor confidence and improved managerial efficiency, which contribute positively to financial performance and firm value. The findings is similar with the findings of Kusuma and Dewi (2024) who found that firm age significantly impact financial performance.

Firm Age, Institutional Ownership and Financial Performance

The finding showed that firm age significantly moderates the relationship between institutional ownership and financial performance, indicating that the influence of institutional investors on firm outcomes remains depends on how long a firm has been in existence. In other words, institutional ownership does not influence financial performance uniformly across all firms instead its impact varies between younger and older firms. In addition, institutional ownership improve financial performance in older firms because they typically have established governance structures, stable operational processes and good reporting system making easier for institutional investors to exercise effective monitoring.

Firm Age, managerial Ownership and Financial Performance

The study showed that firm age does not moderate the relationship between managerial ownership and financial performance indicates that that the impact of managers' shareholding on firm outcomes remains largely unchanged, regardless of whether the firm is young or mature. In other words, the extent to which managerial ownership influences profitability or market value is not significantly affected by how long a firm has been in existence.

Firm Age, Foreign Ownership and Financial Performance

The finding showed that firm age does not moderate the relationship between foreign ownership and financial performance suggests that the effect of foreign shareholding on firm outcomes remains consistent, regardless of whether a firm is young or old. This means that the benefits or limitations associated with foreign ownership are not significantly influenced by how long a financial service firm has existed.

Firm Age, Ownership Concentration and Financial Performance

The finding showed that firm age significantly moderates the relationship between ownership concentration and financial performance indicates that the effect of concentrated shareholding on firm outcomes varies between young firms and older firms. This means that the benefits or limitations associated with ownership concentration are significantly influenced by how long a financial service firm has existed.

VI. CONCLUSION

Based on the findings of this study, it is concluded that ownership structure is an important determinant of the financial performance of listed financial service firms in Nigeria. Institutional ownership significantly improves market-based financial performance, suggesting that institutional investors strengthen corporate governance, enhance monitoring, and increase investor confidence. Foreign ownership also contributes positively to financial performance, indicating that foreign investors bring managerial expertise, improved governance practices and increased market credibility.

In contrast, managerial ownership does not significantly influence financial performance, implying that increasing managers' shareholding alone may not improve firm value. Furthermore, ownership concentration has a significant negative effect on financial performance, indicating that excessive concentration of ownership may weaken corporate governance through the entrenchment of controlling shareholders and reduced protection of minority shareholders.

The findings further demonstrate that firm age has a significant positive direct effect on financial performance. However, when interaction terms were introduced, the direct effect of firm age became statistically insignificant, indicating that firm age mainly influences financial performance through its interaction with specific ownership structure variables.

Also, the results of the moderation analysis show that firm age moderates the association between institutional ownership and financial performance, and the relation between ownership concentration and financial performance significantly. Hence, the impact of institutional ownership and ownership concentration is contingent upon the life-cycle stage of the organization. However, the effects of managerial ownership, foreign ownership and financial performance are not considerably moderated by business age. Therefore the ownership policies should take into account the maturity of organizations when formulating corporate governance measures for increasing financial performance.

VII. RECOMMENDATION

Based on the findings of this study, the following recommendations are made:

i. Financial service firms should strengthen institutional ownership participation because institutional investors significantly improve financial performance, and their positive influence becomes stronger as firms mature.

ii. Financial service firms should continue to attract foreign investors through transparent governance practices and investor-friendly policies because foreign ownership contributes positively to market-based financial performance.

iii. Financial service firms should not rely solely on managerial shareholding as a mechanism for improving performance. Instead, greater emphasis should be placed on performance-based incentives, effective monitoring mechanisms and sound corporate governance practices.

iv. Financial service firms should discourage excessive ownership concentration by promoting a more balanced ownership structure that protects minority shareholders and strengthens corporate governance. This is necessary because higher ownership concentration significantly reduces financial performance, particularly in older firms.

v. Managers of younger firms should establish strong governance structures, effective internal controls and transparent reporting systems to maximize the benefits of institutional ownership as the firms mature.

vi. Regulatory authorities such as the Securities and Exchange Commission (SEC), the Central Bank of Nigeria (CBN) and the Nigerian Exchange Group (NGX) should continue to promote corporate governance policies that encourage institutional investment while discouraging excessive ownership concentration among listed financial service firms.

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