The Influence of Determinants of Audit Fees on Listed Manufacturing Firms in Nigeria

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Abstract
This study examined the determinants of audit fee by listed manufacturing companies in Nigeria. Theories that relate to this study were reviewed which are Agency theory and Audit Pricing theory. The study adopts correlation research design to examine the relationship between audit fee determinants and audit fee with the adaptation of five variables which are client size, client complexity, audit firm size, audit tenure and profitability. Data were obtained from 30 manufacturing firms out of a population of 48 that were listed on the Nigeria Exchange Group from 2018-2022. Secondary data collection method was employed in this study to obtained data from annual report within the study period. The data were analyzed using linear regression and correlation analysis. Findings of the study indicated that client size was a determinant of audit fee while client complexity, audit firm size, audit tenure and profitability were not determinants of audit fee. It was also found that significant differed exist between the examination of audit fee using multiple regression analysis and linear regression analysis. This study instructively proposed that assurance clients should devise an outline of guidelines and practices to guide activities in the manufacturing sector by monitoring the variables that impact audit fees.

Keywords: Audit firm size, Audit tenure, Audit fee, Manufacturing firm

1. Introduction

The global practice world over is for corporate organizations to prepare financial statements and publish same to the public. In line with that, corporate organizations are expected to produce audited financial statements to give assurance to the public that the financial reports prepared by the management are a true reflection of their performance. In Nigeria, corporate organizations are mandated by the companies and allied Matters Act (CAMA), 2020 in section 374(6) to produce audited financial statements that reflects their true economic stands. The quest to produce acceptable financial statement has been a puzzle to corporate organizations as owners of the firm occasionally doubt the actions of the management to be in the interest of the owners. To close this gap shareholders of corporate organizations hire external auditors to audit the financial statements prepared by their agents so that credibility could be given to the report on the economic transactions. Auditing of financial statements requires the services of experts in the field of

auditing; the audit services are done at a consideration which is negotiated between the auditor and the auditee. The negotiation of audit fee takes into consideration a number of factors; these factor are client factors, auditor factors and the Market Factor. The Clients Factors are also called Clients Attribute which comprises of the size, Profitability and the Complexity. The auditors attribute consist of audit firm size, audit tenure. The Market Factor includes the market value of the audit firm. Auditors are likely to price their services based on the value of the firm at a particular time.

The audit fee charged by the client is to compensate for the time spent in the audit process, the risk of the assignment, the level of expertise required to perform the audit and other professional considerations (Sundgren & Svanstrom, 2013 Santhosh & Ganesh, 2020) or simply sum paid by the company in respect of the auditors' expenses (section 408, CAMA, 2020). A firm whose market value is low may not be charged high audit fee but a firm whose value is high may be associated with high audit fee. Another market attribute is in the demand and supply for audit, many audit firms are out there looking for audit assignments. Demand on the one hand could be viewed from the point of the number of auditors willing to audit a company when audit tenders are made available. The more auditors bid for an audit assignment, the lower the audit fee and the fewer the auditors bidding for an audit assignment, the higher the audit fee. This is because in line with the theory of demand and supply, the larger the number of proposals from audit firms the wider the chances of choosing the proposal with lower fee. This makes market factors determinants of audit fee. Notwithstanding market factors, Ezinando (2020) opined that a number of auditor and client factors exist that determine audit fee. These factors include complexity of the audit assignment, audit tenure, audit size and audit technical competence these factors are considered by the auditor in determining audit fee. Also considered by the auditor and client in accepting audit fee are factors like profitability and the size of the firm.

Olutokunbo et al., (2020) studies investigated the audit fee determinants that covered the three specific attributes- client-firm, client-board and audit-firm but with a fewer study time frame of seven years and eleven years, respectively. Auditee profitability is an important variable in determining audit fees and is regarded as a significant sign of management performance and its effectiveness in allocating available resources. Realizing the income or loss figure presented through the income statement can help to identify the auditee profitability. Profitable firms pay more audit fees to their external auditors in view of the fact that higher profits may require accurate audit testing of the revenue and expenses which require more audit time (Joshi & Al-Bastaki, 2022).

The complexity of the company is another factor affecting the cost of time, this is because auditing a company with complex transactions require much time and the more time is spent on audit work, the higher the fee chargeable (Simunic, 2019). This means that audit fee is influenced by the degree of the complexity of the engagement. Complexity is one of the factors that characterize manufacturing firms in Nigeria. Nigerian firms in the manufacturing sector are complex and big in size in terms of their transactions and activities. Furthermore, manufacturing companies are big and need considerable capital investment Yua., Upaa., Adiga., Haruna, (2020), therefore, maybe expected to increase funds via bank borrowing and thus, they tend to

record many transactions (Yua, Mkuma & Ogbonna, 2021) therefore, the auditors would perform more auditing procedures, which result in higher audit fees. Several factors can be used to reflect the complexity of the company. Previous studies such as Thinggaard and Kiertzner (2018) included several measures of complexity such as physical complexity as measured by number and location of operating units, and the diversification of product lines. Secondly, legal complexity as measured by number of the company's subsidiaries and affiliates, and number of countries in which the company operates. Thirdly, reporting complexity as measured by number of separate audit reports issued annually for the company such as combining financial statements and separate reports on subsidiaries and affiliates.

The industry type is another important factor in determination of audit fees. Certain industries (e.g., banking) need special audit work because of their natures. Identifying significant audit areas and inspection of records need distinct skills. The audits of firms in such an industry call for specialized knowledge of the industry and the firms that operate within the industry. Prior studies like Gonthier, Besacier and Schatt (2017) point out that there is possible association between the audit fees chargeable and the type of Industry.

The size of audit firm is an important factor in the provision of audit services. A number of previous studies were interested in observing whether audit fees paid to "Big four" audit firms are significantly higher than fees paid to "non-Big four" firms. Big four audit firms have efficiencies due to large-scale operations. Moreover, they have more resources to invest in staff training, technology and facilities. Prior researches have focused on whether there are identifiable differences between the amount of audit fees charged by big audit firms and those charged by non-big audit firms. However, the reason for studying the audit firm size comes from the assumption that the big four audit firms may charge higher audit fee relative to the non big four audit firms. This is because shareholders believe that the big four may outperform the non big four because of their size and goodwill they have made over time Thus, an association may occur between audit firm size and the amount of audit fees charged. However, talking about the outperformance of the big four, it should be noted that, the big audit firms were once known as the "Big Eight", and were reduced to the "Big Six" and then "Big Five" by a series of mergers, and the Big Five became the Big Four after the demise of Arthur Andersen in 2002, following its involvement in the Enron scandal. Notwithstanding, Walid (2012) opined that the size of the audit firm is an important factor in affecting the amount of external audit fees because presently, the Big 4 audit firms dominate the audit services market, and consequently, smaller firms face huge obstacles to enter the market of big companies. Moreover, the fee charged by big four audit firms may be higher than that of non-big four firms, due to the reputation influence and advantage of the big companies. Consequently, this study seeks to find the determinants of audit fee by manufacturing companies in Nigeria.

1.1 Objectives of the Study
The objective of the study is to examine the determinants of audit fees of listed manufacturing firms in Nigeria. The specific objectives include to;

i.   Investigate if complexity of auditee is a determinant of audit fees of listed manufacturing firms in Nigeria.
ii. Determine whether firm size is a determinant of audit fees of listed manufacturing firms in Nigeria,
iii. Examine if audit firm size is a determinant of audit fees of listed manufacturing firms in Nigeria.
iv. Investigate if auditor tenure is a determinant of audit fees of listed manufacturing firms in Nigeria.
v.   Examine if profitability is a determinant of audit fee of listed manufacturing firms in Nigeria
vi. Examine if significant differences exist between the determination of determinants using multiple regression and linear regression models

2.   Review of related Literature

2.1   Conceptual Framework
2.1.1   Concept of audit fee

Auditing has developed over many years, but it was not until the late nineteenth century that auditing became widely accepted in the United Kingdom and by extension, in other parts of the world. Individual firms of accountants have refined their approach to auditing from time to time and the professional accountancy bodies in various countries have published guidelines to their members on auditing procedures. American Accounting Association, (1973) defined auditing as a systematic process of objectively obtaining and evaluating evidence in respect of certain assertions about economic actions and events, to ascertain the degree of correspondence between those assertions and established criteria and reporting the results to interested parties. Auditing usually covers a particular period of time. Auditing may be narrowly defined as a written report on the examination of financial statements for a particular period of time.

Audit fee determination refers to the determination of auditor remuneration. The audit remuneration has in extant literature been divided into two categories; audit fees and non-audit fees. While audit fees refer directly to payments made to the auditor that relates directly to the audit function, non-audit fee is concerned with payments for other non-audit services rendered by the auditor. Generally, the audit fee should cover audit costs and provide a reasonable profit. Therefore, the audit fee can be seen as a combination of two items; audit cost and profit or auditors reward.

2.1.2 Concept of auditee attributes of audit fee

Auditee attributes are characteristics of the company that is audited. These attributes relate solely to the client and consists of the client size, risk, complexity, profitability ownership, leverage, internal control, industry, and governance. The size and complexity of the auditee determines the audit fee because a large company requires a higher workload (Pong, Whittington, 1994). Larger companies generally require a more time-consuming audit than smaller ones (Widmann, Follert, Wolz, 2021). The size of an audited entity, expressed by the total assets or the natural logarithm of this total is one of the most frequently used explanatory variables in the previous studies.

Moreover, it should be emphasized that the statistically essential relation between the size of the studied entity expressed in this way and the amount of an auditing fee for a financial statement was most often used. This is explained of size, profitability, Complexity.

2.1.3 Auditor attributes to audit fee

These attributes relate only to audit firm and it comprises of; size of the audit firm, auditor tenure, auditor location and are explained below; The influence of auditor size on audit fees is tested by a number of studies. Francis and Yu (2019) predict that larger auditors have higher quality audits due to greater in-house experience in administering such audits. If this is true, one could expect that large auditors charge a premium for this higher quality. Simunic (2016) and Firth (2015) did not find significant price differences between large firms (big 8) and smaller firms (non-big 8). Auditor tenure represents the length of time the services of an audit firm are engaged by a client company.

2.2 Theoretical Framework

This aspect of the study discusses the theories that under pines the study the theories are discussed one after another as follows:

2.2.1 Agency theory

Agency Theory was propounded by Jensen and Meckling in 1976, it states that, a company consists of a nexus of contracts between the owners of economic resources (the principals) and managers (the agents) who are charged with using and controlling those resources and the agents tend to act in a way that will favour them against the interest of the principals. (Jensen and Meckling,1976). Particularly, as mentioned in agency theory, in a public corporation, top management does not always act to maximize shareholders return on investment, therefore, it becomes the central problem with regard to shareholders interests. In the perspective of corporate executive "agency costs will be generated by the divergence between his interest and those of outside shareholders" (Jensen and Meckling, 1976). The emergence of the audit is to ask managers to pursue their legitimate interests in accordance with the provisions of the contract and inhibit biased motives of managers. Audit fees are an important part of monitoring costs; since auditors have a duty to ensure that the managers are behaving according to the owners' interest while they also have a duty to inspect the company's accounts. If the agency problem is greater, the auditors will spent more time and energy to inspect managers' activities. Auditor fees are a function of risk and volume of audit work involved. From the economic bonding hypothesis, the strength of the auditor's monetary dependence on the client or the economic bond consciously or unconsciously reduces the auditor's independence or the willingness to resist client-induced biases in the financial statements (Dang 2004). On the other hand, the psychological belief those auditors are rational wealth maximizers who would be intentionally biased towards compromising audit quality in order to generate wealth for them also link the performance and the fees paid to auditors.

2.2.2 Audit pricing theory

This theory was provided by Simunic (1980). He asserted that an external audit fee is simply a pair of market-clearing quantity (q) and price (p). The quantity represents labour hours, and the

price represents an average hourly billing. Simunic (1980) developed a positive model of the process by which audit fees are determined. An audit fee is the product of unit price and the number of audit services demanded by the management of the audited company (auditee).Cross-sectional differences in fees can represent either the effect of quantity differences or price differences. In this regard, the service is viewed as an economic good to the auditee, with substitutes and complements in consumption. Thus, the quantity of auditing demanded by an auditee will result from conventional equalization of marginal private benefits and costs. Audit fee =Q x P. Interesting, although both Simunic (1980) and Francis (1984) provided great discussions of the predictor variable in their models. Audit fees are observable, but neither P nor Q is observable without access to proprietary internal firm data. However, the current audit fee theory has not developed sufficiently to allow P and Q to be separately modeled, so existing audit fee models jointly estimate an unobservable price and quantity. Relevance of Simunic's theory to this research The audit fee calculated by Simunic (1980) provides for the variables being considered in this study. For example, both the theory and this study expect the quantity of resources or total costs of an audit (and the audit fee) to be significantly determined by the size, risk and complexity of the audit client.

2.3 Empirical Review

Authors Name and Year of Publication	Objectives	Methodology/ Population /Sample size/Variables	Findings
Kajola A. K., Moizer, P., Knechel, W. (2022)	Determine the amount of audit fee with empirical evidence of deposit Money Banks	OLS regression, sample size: 10, independence variables: Board size, independence, firm size, leverage, profitability, audit tenure and joint audit. Dependence: Audit fees.	BS, BI, and firm size have significant positive effect while profitability, audit tenure and joint audit have insignificant effect on audit fees.
Sagir ,B.A, Yaquot,A.A and Hassan(2022)	examined the determinants of audit fees of listed insurance companies in Kuwait	Random effect regression, sample size: 12 firms; variables: client size, audit firm size, client profitability, client complexity, client underwriting risk, client liquidity risk and audit fees	Client size and audit firm size were found determinants of audit fees while client profitability, client complexity, client underwriting risk, client liquidity risk were not determinants of audit fees.
Wasiu et al (2020)	Assessed the determinants of audit fees in quoted financial and non-financial firms	Panel least square regression. Sample size: 75 client size, risk, auditor size, reputation, engagement lag, and International Financial	All independent variables have significant were found to be significant determinants of audit fees.

		Reporting Standards (IFRS) implementation and audit fees	
Ezinando (2020)	Determined the determinants of external audit fees of Nigerian deposit money banks	Multiple regression; sample size: 15. Variables: Audit size, client complexity, audit committee independence and audit fees.	All independent variables were not significant determinants of audit fees.
Avram et al. (2018)	Investigated the determinants of audit fees: Empirical evidences from Romanian	Multiple regression OLS, sample size: 55, Variables: Annual turnover, number of employees, Big4 audit firms and audit fees.	All independent variables were not significant determinants of audit fees.
Musah & Alhassan (2017)	Examined the determinant of audit fee with empirical evidence of firms	Correlation and panel regression, sample size: 24, Variables: Client size, profitability, client risk, multi-national company and audit fee	Client size, profitability and multi-national Big4 were significant determinants of audit fees
Ilaboya (2017)	Investigated the determinants of abnormal audit fees in Nigerian quoted companies.	Panel regression, Sample size: 56 firms, Variables: Firm size, Big4, profitability, joint audit, leverage and audit fees	Firm size, Big4 were found to be significant determinants of audit fees while others were not.
Apadore and Letchumanan (2016)	Examined the determinants of audit fees among listed manufacturing companies.	Multiple regression, Sample size: 15 companies, Variables: Profitability, corporate size, complexity, status of audit firm, audit client's risk and audit fees.	Profitability, corporate size, status of audit firm were found to be significant determinants of audit fees while complexity and client risk were not.
Elkana (2016)	Sought to find out the determinants of audit fees of firms	Multiple regression, Sample size: 41 firms, Variables: Auditor experience, auditor reputation, Big 4 status, client size, client complexity, reporting time lag, reporting season, client profitability, auditor size and client risk	Audit pricing and: auditor experience, auditor reputation, Big 4 status; client size; client complexity; and the reporting time lag were found to be significant determinants of audit fees while reporting season, client profitability, auditor size were not determinants.

Dabor and Ohonba (2014)	Assessed the determinants of audit fees of the banking sector.	Multiple regression, Sample size 5, Variables: Client complexity, client size, profitability, client risk and audit fees.	Client complexity, client size and client risk were found to be significant determinants of audit fees while profitability was not.

Source: *Authors Compilation*

3. Methodology

This study adopts correlation research design to examine the relationship between the determinants of audit fees of listed manufacturing firms in Nigeria. The choice of correlation research design was informed by its effectiveness in studying the extent of the relationship of the independent variables on the dependent variable.

Table 1: Variables and measurement

Variable Name/Description	Variable Acronym	Measurement
Audit Firm Size	AFS (independent)	Large Global audit firm, measured by dichotomous variable; 1 if a firm is audited by a BIG4 audit firm (Deloitte and Touch, Ernst and Young, KPMG, Pricewaterhousecoopers),and 0 for otherwise .(Sagir.B.A, Yaquot,A.A and Hassan,2022)
Auditor Tenure	ATN (independent)	Tenure is measured by dichotomous variable, 1 if there is no change in audit firm during a year, and 0 for otherwise Wasiu et al (2020)
Firm Size	FSIZ (independent)	Measured as total assets. (Ilaboya & Musah (2017)
Audit Fee	AUDF (dependent)	Measured by the amount of audit fee paid to the auditor. Ezinando (2020)
Complexity	COMP (independent)	Measured by number of Branches of the firm Wasiu et al (2020)
profitability	PROF (independent)	Measured as the ratio of profit before interest and tax to total assets (Musah & Alhassan ,2017)

Source: Author's compilation

3.7 Model Specification

The model that is used to test the hypotheses formulated for this study is presented below, and is mathematically expressed as follows and is in line with prior studies (Losivan, 2008; Carson, Fargher and Simon, 2005).

$$AUDF_{it} = \alpha + \beta_1 AFS_{it} + \beta_2 ATN_{it} + \beta_3 FSIZ_{it} + \beta_4 COMP_{it} + \beta_5 PROF_{it} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\text{i}$$

$$AUDF_{it} = \alpha + \beta_1 AFS_{it} + \varepsilon_{it} \quad \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\text{ii}$$

$$AUDF_{it} = \alpha + \beta_1 ATN_{it} + \varepsilon_{it} \quad \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\text{iii}$$

$$AUDF_{it}= \alpha + \beta_1 FSIZ_{it} + \varepsilon_{it} \quad \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots..iv$$
$$AUDF_{it}= \alpha + \beta_1 COMP_{it}+\varepsilon_{it}\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots.v$$
$$AUDF_{it}= \alpha + \beta_1 PROF_{it}+ \varepsilon_{it}\dots\dots \quad \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots.vi$$

Where α = the intercept

$AUDF_{it}$ = audit fees of firm i in year t,

$COMP_{it}$ = complexity of firm i in year t

AFS_{it} = audit firm size if firm i in year t,

$PROF_{it}$ = profitability of firm i in year t

ROF_{it} = profitability of firm i in year t

ATN_{it} = auditor tenure of firm i in year t

ε_{it} = error term

β_i, β_2, β_3, β_4, β_5 are the coefficients

$FSIZ_{it}$ = size of the firm i in year t

3.3 Technique of Data Analysis

This study employed the linear and multiple regression technique of data analysis. The study further used the correlation between the predictor variables and audit fee to justify which variables actually determines audit fee. Linear regression analysis was used as one of the techniques of data analysis because linear regression reveals the coefficient of determination of the independent variables on the dependent variable. This tells how much the independent variable can predict the dependent variable. Correlation on the other hand was chosen as a confirmation technique because the square root of the determinants gives rise to the correlation between the two variables and indicates the extent to which the independent variable can predict the dependent variable. The multiple regression on the other hand was chosen to show the effect of the independent variables on the dependent variable and to draw a comparism between the linear regression and multiple regression. To ensure that the data collected was fit for interpretation, the study conducted the robustness tests to ensure the validity and fitness of the data. These included the test for heteroskedasticity, normality and multicolinearity, in an effort to comply with the classical assumption of regression technique and the model of the study in general.

4. Results and Discussions
4.1 Descriptive Statistics

The statistics of the data is described using the mean number of observations, the maximum and the minimum. The standard deviation of the data from the mean is also discussed.

Table 2: Descriptive Statistics

Variable	Mean	Std. Dev	Min	Max
AUDF	481592.4	301911.33	103000	1179881
FSIZ	3.59	2.40	3.88	9.66
COMP	14.88	5,916	7	25
PROF	0,4128	0.2757	0.026	0.91

ATN	9.82	1.2956	7	11
AFS	0.7133	0.4537	0	1

SOURCE: STATA 15

Table 2 above describes the statistics of the result of the data. The table shows that within the study period, the average audit fee paid by the manufacturing companies was N481592.4 million. The deviation from the mean was 301911.3 while the minimum was 103000 and maximum was 1179881. FSIZ had an average of N3.59bn with a deviation of N2.40bn and minimum of N3.88bn where as the maximum was N9.66bn. the COMP of the companies had an average of 14.88 with a deviation of 5.917 and minimum and maximum of 7 and 25 respectively. PROF and ATN had the average of 0.412 and 9.82 they deviated by 0.276 and 1.295 from the mean with the maximum and minimum of 0.91 and 11 respectively. The AFS of the companies had 1 as the maximum and 0 as the minimum. The average was 0.7133 with a deviation of o.453.

Robustness test for regression analysis
The robust regression tests were conducted on the data set to ascertain the compliance of the data with the regression assumptions. First the data was tested for heteroscedasticity. The result of the test indicates that the homoscedasticity was present since the P-value of the test was insignificant (0.1350). This meant that the error terms of the regression analysis was constant that followed a trend.

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of AUDF
chi2(1)   =   22.99
 Prob > chi2 =   0.1350

Another test that was done was the test of multicollinearity which was meant to ascertain whether the independent variables were significantly different from each other. The aim was to ensure that the effect of an independent variable on the dependent variable can be clearly identified. The result is as shown below:

Table 3: Test of Multicollinearity

VARIABLE	VIF	1/VIF
COMP	1.06	0.947701
AFS	1.04	0.958354
ATN	1.03	0.972787
PROF	1.02	0.982049
FSIZ	1.00	0.995338
Mean VIF	1.03	

Source: STATA 15

The result of multicollinearity above was an indication that there was absence of multicollinearity amongst the independent variables implying that all the independent variables were significantly different from each other and can independently predict the outcome variable. This was because

the mean value of the VIF test and the independent values of the test for the independent variables all fall below 10 which above it is an indication of the presence of multicollinearity. Another test conducted was the test of normality which was done to check if the data was normally distributed. However, the result of the test indicated that data for AUDF, FSIZ, COMP, PROF and ATN were not normally distributed except AFS that was normally distributed. To correct this problem, the logarithm of the data set was taken to normalize the data. Below is the table for normality test

Table: 4 Test of Normality

Variable	OBS	W	V	Z	Prob>z
AUDF	150	0.91441	9.959	5.211	0.00000
FSIZ	150	0.91672	9.690	5.149	0.00000
COMP	150	0.92021	9.285	5.052	0.00000
PROF	150	0.94246	6.695	4.311	0.00001
ATN	150	0.95150	5.643	3.923	0.00004
AFS	150	0.98728	1.480	0.888	0.18722

Source: STATA 15

4.2 Discussion of Results

Having satisfied the main assumptions of regression analysis, the data was analysed using regression analysis and correlation. The results of the regression and correlation analysis are presented in the table below.

Table 5: Regression and Correlation Results

Var.	Corf.	T	Prob	R^2	Prob.	t	R
	Multiple regression			Linear regression			Correlation
FSIZ	.00009	13.92	0.000	0.546	0.000	13.33	0.7387
COMP	-7145	-2.55	0.012	0.0083	0.269	-1.11	-0.0909
PROF	19001	0.35	0.748	0.0002	0.875	-0.16	-0.0129
ATN	-3444	-2.72	0.007	0.0136	0.155	-1.43	-0.1166
AFS	41612	1.14	0.255	0.0102	0.220	1.23	0.1008

Source: STATA 15

4.3 Discussion of Findings

The discussion of findings in this study is based on the analysis of multiple regression, linear regression and correlation.

Firm size and audit fee

The results from table 5 above indicate that the size of the firm has significant effect on audit fee when multiple regression analysis is applied. The linear regression analysis also indicated a significant effect between firm size and audit fee. The coefficient of determination was 54.6% using the linear regression. Furthermore, audit fee is highly correlated with firm size. These factors points to the fact that audit fee is determined by the size of the firm. The reason for this relationship was that, in the determination of audit fee, auditors are interested in the size of the firm because size reflects the level of work awaiting the auditors. Therefore, the higher the size of the firm, the more the volume of work the auditor will need to do. Also, the main audit work centers on examining the assets and liabilities of the firm. It is obvious that an auditor may determine the audit fee based on the size of the firm.

Test of the hypothesis

This hypothesis was tested using the coefficient of determination obtained from linear equation's model. The decision rule was to reject the null hypothesis if the value of the determinant was above 50% or the correlation between the independent variable and audit fee was greater than 0.5. In view of the fact that the coefficient of determination of audit fee using firm size appears greater than 50% and the correlation value was 0.738 which is higher than the average correlation of 0.5, it was concluded that audit fee is determined by firm size. Therefore, the null hypothesis was rejected and the alternative hypothesis accepted that firm size is a determinant of audit fee.

Firm complexity and audit fee

The results of the analysis in table five above indicated that using multiple regression, the complexity of the firm has significant effect on the determination of audit fee. This can be seen from the probability value of 0.012 and the t-value of -2.55 respectively. However, in the use of linear regression, the coefficient of determination of audit fee was 0.0083 which represents 0.83%, the correlation between complexity of the firm and audit fee was -0.09 which is less than 0.5. This implies that if multiple regression were considered, firm complexity will be seen as a determinant of audit fee since it has significant effect on audit fee. But the coefficient of determination and the correlation between complexity and audit fee are very low. This result could be interpreted as though the complexity of the firm may vary but the complexity in terms of the number of branches of the firm may not matter in determining the fee chargeable, what may matter is the quantum of assets that the auditor need to examine. The firm may have many branches but few assets making the job of the auditor less than a firm with few branches but high or many assets. This means that complexity of the firm does not determine the audit fee the auditors will charge the firm. This finding is however at variance with that of Kajola et al (2022) who used multiple regression analysis to find out the determinants of audit fee and concluded that complexity of the firm determines audit fee chargeable.

Test of the hypothesis
This hypothesis for this variable was stated in null form that complexity of the firm is not a determinant of audit fee. The decision rule was to reject the null hypothesis if the value of the determinant was above 50% or the correlation between the independent variable and audit fee was greater than 0.5. In view of the fact that the coefficient of determination of audit fee using firm complexity appeared less than 50% and the correlation value stood at -0.090 which was less than the average correlation of 0.5, it was concluded that the complexity of the firm was not a determinant of audit fee. This lead to the acceptance of the null hypothesis that audit fee is not determined by the complexity of the firm.

Firm profitability and audit fee
The results from table 5 above indicate that the profitability of the firm has insignificant relationship with audit fee when multiple regression analysis was applied. The linear regression analysis also indicated an insignificant relationship between profitability and audit fee as seen from the probability of 0.875. The coefficient of determination was 0.0002 using the linear regression. In addition, profitability had a low correlation with audit fee. These factors points to the fact that audit fee is not determined by the profitability of the firm. This relationship holds because firms that make losses are also charged audit fee. This means that the fee charged by the auditor is not a function of the profit made by the firm but a faction of the assets the auditor is expected to examine within the period of the audit. Therefore, it may not follow that the higher the profit of the firm, the more the audit fee because, the main audit work centers on examining the assets and liabilities of the firm with or without the elements of profit.

Test of the hypothesis
The null hypothesis for this objective was stated that profitability is not a determinant of audit fee. The hypothesis was tested using the coefficient of determination obtained from linear equation's model. The decision rule was to reject the null hypothesis if the value of the determinant was above 50% or the correlation between the independent variable and audit fee was greater than 0.5. In view of the fact that the coefficient of determination of audit fee using profitability was less than 50% and the correlation value was -0.0129 which was less than the average correlation of 0.5, it was concluded that audit fee is not determined by profitability. Therefore, the null hypothesis was accepted and the alternative hypothesis rejected.

Audit tenure and audit fee
The results of the analysis in table five above indicated that using multiple regression, the audit tenure of the firms had significant effect on audit fee. This can be seen from the probability value of 0.007 and the t-value of -2.72 respectively. However, in the use of linear regression, the coefficient of determination of audit fee was 0.0136 which represents 0.13%, the correlation between audit tenure of the firms and audit fee was -0.116 which is less than 0.5. This implies that if multiple regression were considered, firm audit tenure will be seen as a determinant of audit fee since it has significant effect on audit fee. But the coefficient of determination and the correlation between audit tenure and audit fee are very low 0.013 and 0.116 respectively. The implication of this finding is that audit tenure does not determine the fees charged by auditors. This connotes that the length of time an auditor audits a firm does not determine how much fee

he will charge the client. This is true because it does not make any economic sense that the number of items in terms of the assets of the firm that are auditable are increasing and audit fee is reducing because of the length of time the auditor has audited the company. It could be opined that an auditor that audits a firm for a long time may become conversant with the assets of the company such that the audit work may become simple for the auditor but that may not affect the fees charged by the auditor. This finding is however at variance with that of Sagir and Mohammed (2022) who used multiple regression analysis to find out the determinants of audit fee and concluded that complexity of the firm determines audit fee chargeable.

Test of the hypothesis
This hypothesis was stated that audit tenure is not a determinant of audit fee. The decision rule was to reject the null hypothesis if the value of the determinant was above 50% or the correlation between the independent variable and audit fee was greater than 0.5. In view of the fact that the coefficient of determination of audit fee using audit tenure appeared less than 50% and the correlation value stood at -0.116 which was less than the average correlation of 0.5, it was concluded that the audit tenure of the firm was not a determinant of audit fee. This lead to the acceptance of the null hypothesis that audit fee is not determined by the tenure of the auditor.

Audit firm size and audit fee
The results of the analysis in table five above indicated that using multiple regression, audit firm size had insignificant effect on audit fee. This can be seen from the probability value of 0.255 and the t-value of 1.14 respectively. However, in the use of linear regression, the coefficient of determination of audit fee was 0.0102, the correlation between audit firm size and audit fee was 0.1008 which is less than 0.5. The coefficient of determination and the correlation between audit firm size and audit fee are very low. This means that audit fees is not charged as a result of the type of auditor that is auditing the firm. It is possible to assert that auditors who are the big four auditors are synonymous with high fees but this is disputable as the auditors cannot charge high fees because they are named the big four. It fellows that firm size is what determines the fees that is charged and not the type of auditor.

Test of the hypothesis
This hypothesis was stated that audit firm size is not a determinant of audit fee. The decision rule was to reject the null hypothesis if the value of the determinant was above 50% or the correlation between the independent variable and audit fee was greater than 0.5. This hypothesis was accepted and the alternative hypothesis rejected because the coefficient of determination was less than 50% and the correlation between audit firm size and audit fee was less than 0.5.

5.0 Summary, Conclusion and Recommendations
This study was set to examine the determinants of audit fee of manufacturing companies in Nigeria. This aspect of the study is concerned with the summary, the conclusion and recommendations of the study. The section also looked at the suggestions for further studies and the contribution to the existing body of knowledge in the area of the determinants of audit fees.

5.2 Summary of Findings

This study examined the determinants of audit fees of listed manufacturing companies in Nigeria. The specific objectives of the study were to examine whether firm size, firm profitability, audit firm size and audit firm tenure are determinants of audit fee. The study adopted ex-post facto research design using secondary data obtained from audited financial reports and accounts of manufacturing companies in Nigeria. Descriptive statistics, correlation matrix and linear regression technique were used for the purpose of data analysis. The summary of the findings indicated that:

i. Firm size is a determinant of audit fees of listed manufacturing companies in Nigeria. This implies that the size of the firm measured in the study in terms of the total assets value of the manufacturing companies can influence the amount of audit fees that is paid to external auditors. This is because thrust of audit work is on the assets of the firm and the larger the assets of the firm, the more the work the auditor has to do implying that the more work the auditor has the more likely he is in charging high fee.

ii. Firm complexity was not found to be a determinant of audit fee by manufacturing companies listed on the Nigeria Exchange Group. This means that the audit fee charged by auditors is not a function of the number of branches of the company which represents complexity in this study but rather, audit fee is a matter of the quantum of assets the auditor needs to examine within an audit assignment.

iii. The profitability of the firm is not a determinant of audit fees because auditors are concerned with the quantum of work they have to do in charging the audit fee. It does not matter whether the firm has made losses within the audit period or it has made profit. The irrelevancy of profitability in charging audit fees can also be justified by the fact that firms that make losses are also required by law to carry out audits on their financial statements.

iv Audit firm tenure is not a determinant of audit fees of listed manufacturing companies in Nigeria. This implies that the duration an audit firm stays with a client for audit services does not determine the amount of audit fees the firm will pay rather; the consideration is a function of the nature of work done in terms of the assets examined.

v Audit firm size is not a determinant of audit fees of listed manufacturing companies in Nigeria. This implies that size of the audit firm in terms of Big4 and other associated features does not determine the amount of audit fees payable. It follows that if the size of the firm is large, high audit fees can be charged and vice versa.

vi It was also found that significant differences exist between examining determinants using multiple regression and linear regression. This is because multiple regression does not reveal the individual coefficient of determination of the dependent variable by the independent variable as in the case of linear regression.

5.3 Conclusion

The study examined the determinants of audit fees of manufacturing companies in Nigeria. From the analysis and findings of the study; it was concluded that firm size is a determinant of audit fees; firm complexity, firm profitability, audit tenure and audit firm size are not determinants of audit fees of manufacturing companies in Nigeria.

5.4   Recommendations

Based on the findings of the study, the following recommendations were made.

a.   Companies studied should keep only assets that are desirable to avoid high assets that may increase the fees chargeable. This can be achieved by selling out assets that are absolute so that audit work may reduce with a consequent reduction in audit fees. .

b.   The manufacturing companies' studies should ignore the number of branches they have when considering audit fees but should focus on the quantum of assets the auditor needs to examine. .

c.   Companies investigated should ignore profitability when considering the audit fee as the companies may not charge fee in line with the profit of the company. This is because profit or no profit audit fee has to be paid.

d.   The tenure of an audit firm does not determine the amount of audit fees the firm will pay therefore; attention should be directed on the size of the company in the consideration of audit fees.

e.   The size of the auditor is not a determinant of audit fee therefore; companies investigated should focus on the quantum of work the auditor is expected to do and not the name of the auditor.

References

Alhassan, M. (2017).Determinants of Audit Fees in a Developing Economy. Evidence from Ghana. *International Business Research*, 7, 11-20.

Apadore, K. W and. Letchumanan, D. E. (2016). "Determinants of audit fees", *Journal of product innovation management, 27 (5): 725-740.*

Avram, C. - Bota, Grosanu, A., Rachisan, P.R., & Ivan, R. O. (2018). Determinants of audit fees: Empirical evidences from Romanian public-interest entities.2nd International Scientific Conference.doi:10.31410.itema.2018.599https://pdfs.semanticscholar.org/7300/68a12bf89ad3c-44fe29f836169c0922447f35.pdf

Elkana, K. K. (2016). Determinants of Audit Fees Pricing. International Journal of Research, 6(15): 23-35

Ezinando, E. E. E. (2020). Determinants of external audit fees: An empirical analysis of deposit money banks in Nigeria. International Journal of Advanced Academic Research-Socialand Management Sciences, 6(3), 1-13.

Firth M., (1985). An Analysis of Audit Fees and Their Determinants in New Zealand.

Francis J. R., (1984). The Effect of Audit Firm Size on Audit Prices: A Study of the Australian Market, *Journal of Accounting and Economics,* No. 6, pp.133-151.

Francis J. R., Simon D. T., (1987). A Test of Audit Pricing in the Small Client Segment of the US Audit Market, *Accounting Review,* 62, January, pp.145-157.

Gonthier-Besacier N., Schatt A. (2007). Determinants of Audit Fees for French Quoted Firms, *Managerial Auditing Journal,* No.22, pp.l39-160.

Hassan, Y. M and Naser, K. (2013). Determinations of Audit Fees. Evidence from an Emergency Economy; *International Business Research*, 6(8) 13-15.

Hassas, Y. Y. and Alavi, T. H. (2004). The Relationship Between Spend Resources for Internal Audit and Independent Audit of Expenses, *Quarterly of Accounting Studies,* 1(4), 72-82.

Ho, S. and Hutchinson, M. (2010). Internal Audit Department Characteristics/Activities and Audit Fees: Some Evidence from Hong Kong Firms, *Journal of International Accounting, Auditing and Taxation,* 19 (2010) 121-136.

Joshi, P. L., and Al- Basaki, H. (2000). "Determinants of Audit Fees". Evidence from the Companies in Bahrain. *International Journal of Auditing* 4 129-138.

Kajola, A. K., Moizer, P., Knechel, W. R (2022): Determinants of audit fees in Bangladesh. *The International Journal of Accounting*, 31(4), 497-509.

Knechel, W. R., Payne, J. (2001). Additional evidence on audit report lags. *Auditing: A Journal of Practice & Theory,* 20(1), 137–46.

Musah, A. (2017). Determinants of audit fees in a developing economy: Evidence from Ghana. International Journal of Academic Research in Business and Social Science, 7(11), 716-730. doi:10.6007/IJARBSS/v7-i11/3510

Olutokunbo, O. T., Yisa, A., & Abdullahi, J. S. (2020). Corporate characteristics, audit fees and the Nigerian corporate environment: A panel data approach. European Journal of Accounting, Auditing and Finance Research, 8(9), 78-97.

Pong, C.M. and Whittington, G. (1994). "The Determinants of Audit Fees: Some Empirical Models", Journal *of Business Finance and Accounting,* Vol. 21, No. 8, pp.1071-1091.

Sagir, B. A., yaquot, A. A and Hassani, A. A. (2022). *Determinant of Audit Fees in Kuwait.* International Academy of Business and Economic 8(1)1-7.

Santhosh, N., & Ganesh, R. S., (2020). Determinants of audit fees: Evidence from companies listed in the industrial sector of Muscat securities market. *Journal of Critical Reviews*, 7(3), 33-36.

Simon, D. T., Ramanan & Duangar, A. (1986). "The Market For Audit Services In India; an Empirical Examination". *International Journal of Accounting, Spring*, 27-35

Simunic, D. (1980). The Pricing of Audit Services: Theory and Evidence, *Journal of Accounting Research,* 161-190.

Sundgren, S., & Svanstrom, T. (2013). Audit office size, audit quality and audit pricing: Evidence from small-and medium-sized enterprises. *Accounting and Business Research*,

Widmann, M., Follert, F., and Wolz, M. (2021) What is it going to cost? Empirical evidence from a systematic literature review of audit fee determinants. *Management Review Quarterly, 71.*

Yua, H., Mkuma, Y.P., & Ogbonna, K.S., (2021). Deposit Money Bank's Credit and Industrial Output in Nigeria, *International Journal of Economics, Business and Management Research,* 5(2), 147-161.

Yua, H., Upaa, J.C., Adiga, D.L., Haruna, H.A (2020). Commercial Bank Credit and Manufacturing Sector Performance in Emerging Economies: Evidence from Nigeria 1985-2018. *The International Journal of Business & Management,* 8(5), 155-161