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Audit Market Concentration and Audit Quality of Listed Industrial Firms in Nigeria

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ABSTRACT

This study examined the effect of audit market concentration on the audit quality of listed industrial firms in Nigeria. With the aim of investigating the level of influence audit fees, auditor tenure, and audit firm size would affect audit quality, the study made use of discretionary accruals for audit quality measures. The study adopted an ex-post facto research design. In addition, the corporate annual reports and websites of ten (10) sampled listed industrial firms for the period 2012-2021 were utilized as the main sources of secondary data. In testing the research hypotheses and ascertaining the significant effect of the independent variable i.e., audit market concentration (proxy by audit fees, auditor tenure, and audit firm size) and dependent variable (i.e., audit quality), the study utilized a multiple regression technique method of data analysis. The findings from the study revealed that audit fees and audit firm size have a positive relationship with audit quality. However, an auditor's tenure has no significant impact on audit quality. The study concluded that audit market concentration and audit market size would positively influence the audit quality of listed industrial firms in Nigeria. The study, therefore, recommended that audit fees and audit firm size should be given more attention in the course of considering the attribute of audit firms and the quality of audits in Nigeria. Thus, the study, therefore, suggested that further validation should be expanded to longer periods and more samples.

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Introduction

The oligopoly of the so-called "Big Four" audit firms—KPMG, PwC, Deloitte, and Ernst & Young—which characterizes the concentration of suppliers—entails, among other things, the long-term exclusion of small- and medium-sized businesses from the market. The agglomeration of economic strength, which exists across a wide range of industrial sectors and has a variety of reasons, is referred to as "concentration" (Moeller & Hoellbacher, 2019). Economic research has been debating the evolution of concentration for more than 150 years, but our study focuses on the market for legally mandated audits of publicly listed businesses, which has only been empirically established internationally since the 1960s (Freidank & Velte, 2020).The concentration of suppliers on the audit market, to be determined with the help of empirical studies, must be assessed negatively from the point of view of competition policy (Okolo, 2018) since the incentives to ensure cost efficiency and appropriate audit quality are decreasing, Higher entrance hurdles for small and medium-sized audit firms exist, and it must be considered that the Big Four had a significant effect on the creation of international accounting and audit standards (IFRS and ISA) (Okolo, 2018).

However, the present competition intensity depends on many parameters and not only on the number of suppliers and their individual market shares (Emeka, 2016), so that the connection between audit market concentration and competition remains unclear. The EC has classified in their current audit regulation drafts of 2011 (EC, 2011) the increasing supplier concentration at the European audit market as a serious threat. The risks related to a potential discontinuation of one of the big audit companies are pointed out. It is particularly feared that a lasting loss of trust into the quality of external audit could occur, which is a considerable part of stability of the financial system. Audit market though similar to some market for services, has its unique characteristics. The market plays a crucial role in ensuring transparency, investor confidence and in improvement of capital markets (Nnubia, 2018). Since the demand for audit service is compulsory as a result of the legal obligation on firms to use audit service, the market is said to be ever expanding market as the economy expands (Nnubia, 2018).

Notwithstanding, audit quality may depend on market concentration attributes (Firth *et al*., 2020). As a result, prior studies have documented that market concentration attributes affect audit quality and enhance quality financial reporting (Feldman, 2016; Boone *et al.*, 2020). Audit market concentration is generally associated with essential factor of competitiveness for audit firms to ensure good audit quality as well as protect stakeholders' interest (Porter, 2018). The application of audit market concentration to audit quality issues may be borne of the need for accurate and transparent quality financial reporting that will help in actualizing shareholders' interest and the need to ensure investors' confidence in a business entity while being cautions of sliding into the trap of business failure, insider trading and information asymmetry (Erinos & Rahmawati, 2017).

There are several studies on the relationship between audit market concentration and audit quality. These studies yield mixed evidence, suggesting that the results so far are inconclusive (Erinos & Rahmawati, 2017; Schaen & Maijoor, 2017; Okolo, 2018). Prior studies have documented a wide range of findings, including the evidence that audit fee does not influence audit quality (Ferhan *et al.*, 2019; Yuniarti, 2021; Augustine et al., 2021); the association between audit fee and audit quality is not significant (Ting-Chiao, 2015; Mohammad, 2019); auditor tenure positively influence audit quality (Odesa et al., 2020; Jeff & Agubata, 2020)); the association between auditor tenure, auditor independence and audit quality in Australia is significant (Murtaza, & Muhammad, 2022); the association between audit firm size and audit quality is negative (Sinan & Murad, 2017; Francis et al., 2019; Karem, 2019); audit firm size does not significantly affect audit quality (Kittsteiner & Selvaggi,

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2018; Eichenseher, 2019; Le Vourch & Morand, 2021). Not much research effort has been expended in examining the effect of audit market concentration on audit quality in developing countries in Africa. To expand evidence on the relationship between audit market concentration and audit quality, this study examined the relationship based on industrial firms in Nigeria, and using a number of audit market concentration variables audit fees, auditor tenure and audit firm size. Using evidence from firms in industrial sectors in Nigeria, the study seeks to:

i. determine the effect of audit fee on audit quality

ii. examine the extent to which auditor's tenure influence audit quality

iii. investigate the effect of audit firm size on audit quality

Literature Review and Hypotheses Development

This section focuses mainly on previous studies by various researchers in relation to nexus between audit market concentration and audit quality. The review of related literatures is discussed under the conceptual, theoretical and empirical review.

Conceptual Review

Audit Market Concentration and Audit Quality

Due to several corporate financial scandals and business failures, audit quality concerns have recently gained prominence in Nigeria and throughout the world. For instance, in the financial scandals involving Enron, WorldCom in the US, and Cadbury in Nigeria, auditors were accused of acting unethically and of compromising sensitive information (Pulic et al, 2017). Attention has been drawn to the involvement of accountants and auditors in unethical behavior. (Pulic *et al*, 2017). The Cadbury saga experience is the most cited case in this respect. Given these scenarios, the issue of audit quality has grown in importance. When it comes to company's accounts, the relevance of quality audit becomes more critical in given the sensitive nature and operations of these companies in any economy. In addition, audit market concentration causes to decrease the scope of firms' authorities for selecting the audit institutions but instead it increases the power of auditors' market that in turns, leads to a decrease in quality. Recent high-profile reports in the United States, the United Kingdom, and the European Union have raised concerns over the concentration of supply by the Big 4 accounting firms, and the potentially adverse effect this concentration may have on audit markets and the quality of audits in these legal jurisdictions (General Accounting Office 2018; Government Accountability Office 2018). The study emphasizes the importance of ''legal jurisdictions'' because audit markets are country-specific in nature due to country-level controls over the licensing and regulation of auditors. As a consequence, accounting firms are organized as legally autonomous and country-specific partnerships. In other words, even though the Big 4 accounting firms operate a global network, each country constitutes a separate legal practice and audit market. (Dang, 2019)

In view of this, audit market concentration is a device that enhances audit quality assurance and gives credibility to financial reports (Flanagan *et al.*, 2018). It boosts the confidence of the potential investors on the financial reports. The importance of quality financial report cannot be over emphasised as it guides investment decisions and helps to evaluate managers' true performance (Ahmed *et al.,* 2018). According to Velte and Stinglbauer (2021), the term "concentration" refers to the accumulation of financial power that exists across a number of economic sectors for a variety of different causes. Audit market concentration is simply the market share for audit firms. The structure of the audit market is an essential factor of competitiveness for audit firms. Extant literature examines the use of market share as a proxy for market concentration (Dubaere, 2018; Miguel, 2020). Also, extent literature defines audit quality as degree at which the audit exercise stick to germane auditing principles and regulations (Cook, 2017). However, a broad body of literature also propose that audit quality is normally interconnected with the market concentration (Ahmed *et al.*, 2018). As a result, audit market concentration attributes such as auditor independence, auditor appointment, audit fees, auditor tenure, audit firm size and audit firm age have been found to impact on the audit quality (Cook, 2017; Dubaere, 2018; Miguel, 2020). This study therefore uses audit fees, auditor tenure and audit firm size as a proxy for audit market concentration.

Theoretical Framework

The study is hinged on agency theory. Agency theory was propounded by Jensen and Meckling (1976) which is based on the relationship between the principal (owners) and the agent (managers). The separation of ownership from management in modern corporations provides the context for the function of the agency theory. Modern organizations have extensively strewn ownership, in form of shareholders, who are not usually involved in the management of their companies. In these situations, an agent is appointed to oversee the daily operations of the company. This separation of ownership from control generates conflicts of interests between agents and principals, which result in costs associated with resolving these conflicts (Jensen & Meckling, 1976; and Eisenhardt, 1989).

The main argument in favor of agency theory is that managers often act in ways that benefit themselves, rather than with the interests of the company's shareholders and value maximization, at the forefront of their thoughts. For instance, because the expense is paid by the owners, managers may be enticed to purchase vehicles and other extravagant products. So, ensuring that managers follow the interests of shareholders as well as their own is the primary conundrum suggested by agency theory. Eisenhardt (1989) elucidates that agency difficulties emerge when ―The aims of the principal and agent clash, and it is difficult and expensive for the principal to verify what the agent is really doing‖. When principals are unable to keep track on agents' work, controversy often results (Jensen & Meckling 1976). Simply put, agency theory acknowledges that agents, in this example, the directors or managers of the company, have a tendency to behave more in their own interests than in those of their employers and shareholders.

By providing external validation of the trustworthiness of a firm's financial accounts, auditing helps reduce information asymmetries, as noted by Jensen & Meckling (1976). The effectiveness of an external audit is what defines the audit's quality. So, the value of audit services is due to the nature of a high-quality audit (Kilgore, 2007). Agency Theory may also be used to clarify the audit market's supply side. The possibility that the auditor would find problems in the financial statements and the auditor's willingness to expose these flaws (for example, by qualifying the auditor's findings), even against the auditee's wishes, largely influence the contribution of an audit to their parties (auditor independence). Many studies have proven the costs of reputation damage, and they show that these losses cause the audit to lose the public's trust and lower patronage (Hayes, et al., 2005).

According to this concept, auditing mitigates the negative impacts of ownership and control separation (Jensen & Meckling, 1976). The competition and laws, for example, conflict with the function of separation of ownership and control in the audit environment. The market's competition limits the amount of auditor fees that customers of audit firms may charge. The audit business receives more sources of demand from the market, which raises its resigning threats. Moreover, certain regulations stipulate that a minimum amount of auditing must be purchased, as specified by Generally Accepted Auditing Standards, which outline minimal audit methods (Antle & Demski 1991). Hence, the relationship between an audit firm and its function in reducing the negative impact of the separation of ownership and control—agency cost—may be influenced by both competition and regulation.

Moreover, principals employ outside auditors who, as agents working on their behalf, must be impartial toward the agents running their business. In order to lower agency expenses, the external auditor must eliminate information asymmetry in financial reporting (Piot, 2001). Since it prevents conflicts of interest and lowers agency expenses, external auditing is regarded by agency theory as the most significant monitoring tool. According to Watts and Zimmerman (1983), excellent external auditing will reduce the management-introduced agency cost associated with opportunistic conduct. Acting on behalf of the shareholders are these monitors. As a consequence, managers may have less possibilities to act in their own self-interest at the cost of owners when an independent, specialized auditor performs a high-quality audit. As a result, principals may get more favorable returns. Therefore, the agency relationship provides a vehicle to analyze the market concentration and audit quality of quoted manufacturing companies in Nigeria in tandem with the auditors' attributes.

Empirical Review

Audit Fees and Audit Quality

Audit fees is also regarded as one of the proxies that is adopted for the quality of audit to be measured. The amount that the auditor charged for the performance of audit process and for the accounts of a firm is what is regarded as audit fees (Walid, 2012). Audit fees that are high are reflected in higher costs which result from greater quality of audit (Okolie, 2014). According to Pouraghajan (2016), audit fees are related with higher quality of audit resulting in higher reputation of auditors. The theoretical and empirical literature on the effect of audit market concentration on audit fee has been mixed and inconclusive (Alali *et al.,* 2017).

Extant studies revealed a significant positive relationship between audit fee and audit quality (Aggreh, 2017; Ekiomado & Osaretin, 2017; Onaolapo *et al.,* 2017; Chuke & Chinedu, 2018; Boone *et al.,* 2020). On contrary, some studies found audit fee to be an insignificant explanatory variable (Alali *et al.,* 2017; Aliu *et al.,* 2018) while others found it significant but in negative association with audit quality (Farhan *et al.,* 2019; Mohammad, 2019; Augustine *et al.,* 2021). Ting-Chiao *et al* (2018) found a conflicting result. The author points out that audit fee did not associate with audit quality. A related study of audit fee and audit quality by Jeff and Agubata (2020) hypothesized that audit fee have a significant negative relationship with audit quality. Hence, the following hypothesis is examined:

H1: There is no significant relationship between audit fees and audit quality of listed industrial firms in Nigeria.

Auditor Tenure and Audit Quality

Audit tenure has the potential to reduce audit quality when auditors' tenure is extended. This may compromise auditor independence and turn the auditor into a puppet in the auditee's hands (Francis, 2019). Extended audit tenure for both the firms and the engagement team members may result in actual or perceived risks to independence and jeopardize the audit's quality. Regulators from throughout the world have raised worry that the incentive to keep customers and the intimacy that has developed between auditors and management may eventually erode auditor independence, which might then have a negative impact on audit quality. This led to a discussion over the best way to solve the problem on a global scale (Odesa *et al.,* 2020). Contrarily, since it takes a new auditor some time to understand the accounting system, familiarity with the auditee due to a long-term connection is often preferable than random auditor switching (Enofe *et al.,* 2018). Having remained in operational contacts with the same customer, however, hedging against any sort of activity that may sound opportunistic, it is possible to earn certain client-specific advantages over time (Pouraghajan, 2019).

A significant positive relationship between auditor tenure and audit quality has been consistently found by prior syudies such as (Adeyemi *et al.*, 2017; Ilaboya & Ohiokha, 2019; Jeff & Agubata, 2020; Odesa *et al.,* 2020). However, Murtaza (2017); Nwanna and Francis (2017), and Pouraghajan (2019) found an insignificant relationship between auditor tenure and audit quality using panel regression analysis. Therefore, these results propose the following hypothesis:

H2: There is no significant relationship between auditor tenure and audit quality of listed industrial firms in Nigeria.

Audit Firm Size and Audit Quality

Previous studies generally concur that the audit quality of large audit firms (offices) with international brand names is better than that of small audit firms. There is now a great deal of evidence that large audits firms provide higher quality audits and offer greater credibility to clients' financial reports than audit firms of relatively small size. As opined by Erinos (2017) and Eichenseher, (2019), the choice to engage a big audit firm transcends to a favorable reaction in the stock market as against a smaller audit firm. The accuracy of financial distress signaling is higher with big audit firms as shown in their audit opinions (Murtaza, 2019). The auditors' pocket depths as well as the reputation of the auditors are duo-core proofs of the theoretical research provision for audit quality's positive correlation with the size of the auditors. Okolie *et al.,* (2018) argues that bigger audit firms have larger client base and thus generate more revenue from audit, higher reputation to keep, so, they have more inducement for provision of high-quality service delivery.

Prior empirical studies on the relationship between audit firm size and audit quality exhibited a significant positive relationship among the two variables (Beauty *et al.,* 2017; Chuxuan, 2017; Enofe *et al.,* 2018; Augustine *et al.,* 2021). On contrary, some studies found insignificant relationship between audit firm size and audit quality using multiple regression analysis (Sinan & Murad, 2017; Francis et al., 2019; Ilaboya & Ohiokha, 2019; Karem, 2019). Given the impact of audit firm size on audit quality, the following hypothesis is tested:

H3: There is no significant relationship between audit firm size and audit quality of listed industrial firms in Nigeria.

Methodology

The study adopted *ex-post facto* and correlational research design. The population of the study consisted of twenty-four (24) industrial companies quoted on the Nigerian Exchange Group (NGX) as of 31 Dec 2021. The period of the study is ten years, from 2012 to 2021. This study used the purposive sampling technique in selecting a sample due to the availability and completeness of data for the period under review. The sample size of ten (10) industrial companies was selected from the total population. The data for this study were sourced from the annual reports of the sampled industrial companies and the Nigeria Exchange Group factbook for the period under review. The dependent variable for this study is audit quality and the independent variable consists of audit fees, auditor tenure, and audit firm size. The model for this study was adopted from the study of Aggreh (2019). This study employed descriptive, correlational, and multiple regression analysis for the purpose of data analysis. The multiple regression with an error term (Ɛ) is shown below:

$AQ_{it} = \beta_0+\beta_1 AUDF_{it} + \beta_{2t} AUTEN_{it} + \beta_3 AUDFZ_{it} + \varepsilon_{it}$

Table 1: Measurement of Variables

S/N	Variables	Definitions	Measurement	Source
	Dependent Variable			
1	AQ	Audit Quality	Discretionary Accurals	Le Vourch, and Morand (2011), Aggreh (2019)
	Independent Variable			
2	AUDF	Audit Fees	Measured by the natural log of audit fee	Velte and Azibi (2015)
3	AUTEN	Auditor tenure	Measured by how long the audit firm has had a relation with the client	Junaidi et al., (2012)
4	AUDFZ	Audit firm size	It is Measured by the natural logarithm of total asset.	Owolabi and Afolayan, (2020).

Source: Author compilation (2023)

4. Results and Discussions of Findings

Table 2: Descriptive Statistics of Variables

	AQ	AUDF	AUDT	AUDFZ
Mean	0.055105	0.110749	0.746641	0.243614
Median	0.095867	0.048600	0.455185	0.145233
Maximum	1.094442	0.980000	5.341602	1.349004
Minimum	-3.943179	0.000000	0.020661	-1.547496
Std. Dev.	0.460411	0.176111	1.131616	0.356614
Skewness	-6.893629	3.374205	3.210508	0.148619
Kurtosis	59.30701	15.20786	11.76256	9.874761
Jarque-Bera	14002.36	810.7203	491.7164	197.2945
Probability	0.000000	0.000000	0.000000	0.000000
Sum	5.510550	11.07486	74.66407	24.36136
Sum Sq. Dev.	20.98581	3.070497	126.7750	12.59018
Observations	100	100	100	100

Source: Researcher's computation, 2023

Table 2 shows the descriptive statistics. The table revealed that the average mean value for audit quality (AQ) was 0.055 with minimum and maximum values of -3.94 and 1.094, respectively, for the selected listed industrial firms. The standard deviation stood at 0.46, indicating the dispersion in values for audit quality from the mean across the sampled firms. Similarly, descriptive results on audit fees (AUDF) showed an approximate mean value of 0.11 with a standard deviation of 0.176. The table also presents an approximate mean value for auditor tenure (AUDT) as 0.75, with an approximate standard deviation of 1.132. In the same vein, the table also presents the results of the audit firm size (AUDFZ) with a mean value of 0.24 and a standard deviation value of 0.36. The Jargue-Bera (JB) statistics also indicate that most of the data series do not have a normal distribution. This is indicated by the probability value of the JB statistics which for most series are significantly different from zero at 5% levels of significance. This justifies the statistical significance of the variables of the study. Skewness and kurtosis help to provide information about the shape of a distribution. The result from the table showed that audit quality which has a skewness value of -6.89, is negatively skewed because it has a value <1 while audit fee (3.37), and auditor tenure (3.21) whose values are >1 is positively skewed. However, audit firm size has a value of 0.15 which indicates that it is negatively skewed since it has a value <1. On the other hand, the kurtosis of audit quality revealed (59.3) while audit fee, auditor tenure, and audit firm size show (15.2), (11.76), and (9.87) respectively. The kurtosis results indicate that all the variables are leptokurtic because their kurtosis values are >3. However, the result shows that all variables selected for the study after being logged are not normally distributed.

Table 3: Correlation Analysis

Variables	AQ	AUDF	AUDT	AUDFZ
AQ	1.000000			
AUDF	-0.017731	1.000000		
	0.8610			
AUDT	-0.006601	-0.117231	1.000000	
	0.9480	0.2454		
AUDFZ	0.025022	0.069889	0.595635	1.000000
	0.8048	0.4896	0.0000	

Source: Researcher's computation, 2023

The correlation matrix in Table 3 shows the extent of the relationship between variables. The results show that audit fee and auditor tenure of the selected firms is negatively correlated with audit quality with the correlation value of -0.0177 and -0.0066 indicating p-value of 0.8610 and 0.9480 is statistically non-significant at 5% which strongly indicate that an increase in `the audit fee or auditor tenure will lead to a decrease in audit quality. Audit firm size is positively correlated with the audit quality of the selected firms. The values of 0.0250 of the variables indicated p values of 0.8084 which is statistically non-significant at 5%, indicating that an increase in audit firm size will result in an increase in audit quality. Furthermore, the result of the correlation matrix indicates the explanatory variables namely audit fee, auditor tenure, and audit firm size are not perfectly correlated with audit quality with correlation values less than 70% which implies that there is the absence of multicollinearity between the dependent and independent variables.

Table 4: Summary of the Regression Results

Variables	Fixed Effect	P value	Random Effect	P value
AUDF	0.017423	0.8427	0.15410	0.0492
AUDT	0.115906	0.7230	-0.062820	0.8167
AUDFZ	0.002414	0.9888	0.062841	0.0307
Observation	100		100	
Hausman Test	0.1474			
F statistics	0.995443		0.05862	
R squared	0.120726		0.001811	

Source: Researcher's Computation, 2023

Table 4 shows the summary of the multiple regression results obtained. In view of the nature of the data, both fixed and random effect models were tested. The Hausman specification test was then used to decide between the two results. The result from the Hausman test revealed a Chi-Square value of 5.348, a degree of freedom of 3, and a p-value of 0.1474 which is statistically non-significant at 5%. This implies that the test considered the random effect as the most appropriate estimator. The full results of the Hausman test are attached as an appendix. In view of this, the random effect model was used for analysis. The R Square of 0.1811 shows that the variables combined determine about 18.11% of audit quality and audit market concentration variables. The F-statistics shows that the regression equation is well formulated explaining that the relationship between the variables combined is statistically significant.

The result of the first hypothesis of the study shows that there is a positive significant relationship between audit fees and audit quality. The findings of this study agree with Aggreh (2017); Ekiomado and Osaretin (2017); Chuke and Chinedu (2018) and Boone *et al.*, (2020). The outcome of this study negates the findings of Farhan *et al.*, (2019); Mohammed (2019) and Augustine *et al.*, (2021). The findings of this study mean that an increase in the audit fee of a firm will lead to an increase in audit quality. This suggests that when auditors are paid higher it will enable them to put more effort into audit exercise, thereby contributing to audit quality.

The result of the second hypothesis of the study revealed that there is a negative but insignificant relationship between auditor's tenure and audit quality. The finding is in tandem with Murtaza (2017); Nwanna and Francis (2017) and Pouraghajan (2019), who found a non-significant relationship between auditor's tenure. They found that the number of auditor's years does not influence audit quality. However, the findings negate Odesa et al., (2020) and Jeff and Agubata (2020) who documented that the auditor's tenure has a significant effect on audit quality.

The result of the third hypothesis suggested a positive and significant relationship between audit firm size and audit quality. This finding is in agreement with Chuxuan (2017); Beauty *et al.*, (2017) and Augustine *et al.*, (2021) who reported that audit firm size affects audit quality positively. The result disagrees with that of Sinan and Murad (2017); Francis et al., (2019) and Karem (2019) which provided evidence that audit firm size has no significant effect on audit quality. This result indicates that the audit firm size is able to improve audit quality.

Conclusion and Recommendation

This study investigated the relationship between audit market concentration and audit quality of industrial firms listed on the Nigeria Exchange Group for the period 2012 to 2021. The study employed a sample of ten firms and multiple regression model to investigate the effect of audit fees, auditor tenure, audit firm size on audit quality of the sampled firms for the period under review. The empirical analysis revealed that there is a positive significant relationship between audit fees and audit quality; there is a negative but insignificant relationship between auditor's tenure and audit quality and a positive and significant relationship between audit firm size and audit quality. Hence, this paper concludes that certain audit market concentration attributes influence the level of audit quality of listed industrial firms in Nigeria. On the basis of the conclusion, the paper recommended as follows: industrial firms should pay more attention to audit fee and audit firm size in evaluating audit quality; regulatory agencies in Nigeria should make a policy that restricts the switching from one big four to another big four, thereby giving the non-big four audit firm opportunity and reducing the audit market concentration. Also, the non-Big 4 should pursue rigorous investment in human capital to expand their expertise and knowledge base to be able to compete favorably. However, this study is limited to only three audit market concentration variables. Hence, other variables like auditor independence, audit firm rotation, and audit firm age can be considered in future research. Also, further research can be carried out on other sector of the economy.

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