

The Contribution of PAF Industry Specialization to the Audit Quality Metric Score and Implications for the Tobin's Q of Manufacturing Firms

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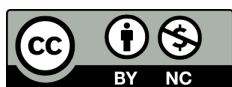
Abstract. In the context of the growing complexity of the business environment for manufacturing enterprises, the industry specialisation of auditors is becoming a key factor that potentially increases the quality of audits. This study aims to empirically verify the contribution of Public Accounting Firm (PAF) industry specialisation to audit quality, measured by the Audit Quality Metric Score (AQMS), and to examine its implications for firm value in Indonesian manufacturing companies using Tobin's Q as a proxy. The research sample comprises 126 manufacturing companies registered at the Indonesian Stock Exchange (IDX) between 2022 and 2024. For the analysis, the authors collected data from annual financial reports available on the IDX website (www.idx.co.id) and company websites. Data analysis includes descriptive statistics, multiple regression analysis, and linearity tests for model specification, as well as hypothesis-testing model verification. The results show that PAF industry specialisation plays a highly significant role in determining audit quality, accounting for 95.17% of the variance in AQMS. Thus, specialised auditors possess superior industry knowledge and competence, which translates into stronger audit quality outcomes. At the same time, audit quality has only a very weak negative effect on firm value. Thus, although audit quality is important for governance, firm value is more influenced by external factors such as economic conditions, managerial decisions, industry performance, and investor expectations. To increase public confidence in audit results, regulatory authorities should ensure that audit services for specific industries are provided by specialised audit firms whose representatives possess the necessary industry-specific expertise. In turn, companies can receive more practical recommendations from specialised auditors on improving financial reporting indicators or correcting errors. Investors should remember that audit quality cannot be a sole indicator in assessing a firm's value, as its influence is often weak and indirect.

Keywords: audit quality, PAF industry specialization, firm's value, Tobin's Q, manufacturing firms in Indonesia.

Received: 2 October 2025 | **Revised:** 16 November 2025 | **Accepted:** 8 December 2025 | **Published:** 30 December 2025

Suggested Citation

Husain, T., & Zakaria, N. B. (2025). The Contribution of PAF Industry Specialization to the Audit Quality Metric Score and Implications for the Tobin's Q of Manufacturing Firms. *Oblik i finansi*, 4(110), 133-143. [https://doi.org/10.33146/2518-1181-2025-4\(110\)-133-143](https://doi.org/10.33146/2518-1181-2025-4(110)-133-143)



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Внесок галузевої спеціалізації аудиторських фірм у показник якості аудиту та наслідки для коефіцієнта Тобіна виробничих компаній

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Анотація. В умовах зростаючої складності бізнес-середовища, в якому функціонують виробничі компанії, галузева спеціалізація аудиторів стає ключовим фактором, який потенційно підвищує якість аудиту. Мета цього дослідження – емпірично перевірити внесок галузевої спеціалізації аудиторських фірм у якість аудиту, що вимірюється за допомогою показника якості аудиту (AQMS), та вивчити наслідки впливу якості аудиту на вартість індонезійських виробничих компаній, виражену коефіцієнтом Тобіна. Вибірка дослідження складається з 126 виробничих компаній, зареєстрованих на Індонезійській фондовій біржі (IDX) у період з 2022 по 2024 рік. Для аналізу дослідники зібрали дані з річних фінансових звітів, доступних на веб-сайті IDX (www.idx.co.id) та веб-сайтах компаній. Аналіз даних включає описову статистику, множинний регресійний аналіз та тести лінійності для специфікації моделі, а також перевірку гіпотез. Результати аналізу показують, що галузева спеціалізація аудиторських фірм відіграє значну роль у визначенні якості аудиту, пояснюючи 95,17% дисперсії в показнику AQMS. Таким чином, спеціалізовані аудитори володіють кращими знаннями галузевої специфіки та компетенцією, що призводить до підвищення якості результатів аудиту. Водночас якість аудиту має лише дуже слабкий негативний вплив на вартість фірми. Отже, хоча якість аудиту важлива для управління, на вартість фірми більше впливають зовнішні фактори, такі як економічні умови, управлінські рішення, показники галузі та очікування інвесторів. Щоб підвищити довіру громадськості до результатів аудиту, регуляторні органи повинні забезпечити умови, щоб аудиторські послуги для конкретних галузей надавалися спеціалізованими аудиторськими фірмами, представники яких мають необхідний досвід та знання. У свою чергу, компанії можуть отримати більш практичні рекомендації від спеціалізованих аудиторів щодо покращення показників фінансової звітності або виправлення помилок. Інвестори не повинні переоцінювати роль якості аудиту при аналізі вартості фірми, оскільки її вплив часто є слабким та непрямим.

Ключові слова: якість аудиту, галузева спеціалізація аудиторських фірм, вартість фірми, коефіцієнт Тобіна, виробничі компанії в Індонезії.

INTRODUCTION

The quality of external audits carried out for businesses, both in the private and public sectors, has been a constant theme of debate and attention over the previous years, particularly as more people and companies interact with the capital market. This centers around the reputation of independent auditors or public accounting firms (PAF). According to DeAngelo (1981), the quality of an audit serves to identify financial reporting fraud through the joint probability of an auditor (Herusetya, 2012). Tandiontong (2016) states that audit quality is related to the auditor's tendencies in identifying and reporting any fraud present in the client's or firm's accounting system.

Many academics and practitioners have conducted trials to measure audit quality; however, recent studies have been developed and modified based on the specific needs of a particular country or state, resulting in a lack of a comprehensive model for measuring audit quality (Husain, 2019). Furthermore, it has been challenging to find a consensus on an explicit definition of audit quality among academics since the implementation of IFRS in Indonesia. The IAASB (2014) recommends that a comprehensive audit quality framework can provide comparative information about public accounting firms (PAFs) to the public, helping investors evaluate audit quality and assess the potential of new PAF services

(Brown et al., 2016). Additionally, academic research conducted several years earlier also developed audit quality measures to examine specific aspects. In particular, Chae et al. (2020) recommend categorizing auditors from the Big 4 to examine financial reporting transparency and audit quality in relation to stock market performance by measuring crash risk. Hazea et al. (2020) use internal audit quality measurement, one of which is based on the audit team's competence in the bank's financial performance. Almaqoushi and Powell (2021) recommend using one measurement of financial reporting quality, comparing Big 4 category auditors and new auditors not from the Big 4, to assess company value based on several Tobin's Q proxies. Angsoyiri (2021) recommends measuring the Big 4 PAF scale, which represents the reputation of external auditors in measuring company performance with ROA and ROE. Al-Ahdal and Hashim (2022) provide 10 items of perception on measuring external audit quality in relation to company performance, using ROA, Tobin's Q, and ROE. Dorames and Ng (2022) use Audit Quality-Metric Scores (AQMS) as a measurement of financial reporting quality, with Tobin's Q proxy. Yolandita and Cahyonowati (2022) focus on using audit quality, as measured by Big 4 criteria, to assess company value in the financial services sector. Husain and Syniuta (2020) focus on using the audit quality category, which is similar to the Big 4 PAF and LNFE proxy at registered IPOs in Indonesia.

The aforementioned results provide initial evidence that audit quality testing for corporate performance evaluations continues to rely on proxies that categorize organizations into Big 4 and non-Big 4 categories. Since Antonius Herusetya developed the model in 2012, which employs both composite and traditional measurements, other audit quality measures, such as Audit Quality Metric Scores (AQMS), have actually been empirically tested for ten years. Nonetheless, the majority of these empirical evaluations have concentrated on management and accounting earnings in industrial companies listed on the IDX. Prayogo and Agoes' (2017) study, which examined the impact of independence, activity, and audit quality metrics on profit management, makes this clear. Andalawestyas and Ariyati's (2020) study used audit quality, as defined by AQMS, as a moderating variable to investigate how corporate characteristics affect profits smoothing. Additionally, Oktaviani and Ahmad's (2022) study examined the impact of audit quality and profit forecasting on investment returns.

A competency dimension that comprises elements of (i) PAF size of classification Big 4 and non-Big 4 clause, (ii) accounting firm industry specialization, and (iii) audit tenure is represented by the usage of the AQMS with a composite measure approach. (i) The accounting firm's financial reliance on the client and (ii) the correctness and willingness to publish a Going-Concern or proxy audit opinion (RQA) are components of the independence dimension. An improved audit quality is indicated by a higher AQMS score (Herusetya, 2012). The significance of audit quality in relation to Tobin's value is an essential component for assessing, forecasting, and evaluating its influence on financial performance and business value, especially in light of the current research gap.

The amount someone would pay to purchase or acquire a corporate entity, based on market or book value, to preserve the business survival and competitive edge, is known as theoretical firm value (Teece, 2018). Besides, financial information can be interpreted as a measure of

managerial performance achievement in enterprises, based on the components of a firm's performance (Nasution, 2025). Since the audit quality metric score (AQMS) measurement focuses on how one component, PAF industry specialization, can represent the total number of client assets handled by a particular PAF industry specialization, which appeals to the amount of population assets audited, the market value approach was chosen for its implications that come from audit quality probability. This greatest industry share indicates focus and excellent audit quality. This research aims to specifically verify the contribution of the PAF to audit quality and its impact on the firm's value in the manufacturing sector using Tobin's Q as a proxy. It is expected that the results of this study will allow the identification of manufacturing companies whose fabrication industry has a significant elevate in firm's value in the last three periods, to report high audit quality, and to provide an overview of the firm's value with a general management performance report and can be a reference in making investment decisions based on Tobin's Q.

LITERATURE REVIEW

PAF Industry Specialization

Owhoso et al. (2002) and Balsam et al. (2003) indicate that industry-experienced auditors are better skilled to find errors in their industry specialization in their tasks. As previously described by Watts and Zimmerman (1986), a PAF that concentrates on a particular industry and audit procedures enables to gain a deeper understanding of the client's business, allowing a PAF with industry specialization to work more effectively (Herusetya, 2012). Auditor expertise is developed through the repeated conduct of audits under similar circumstances.

Table 1 presents several research approaches used to measure the PAF of industry specialization.

Table 1. Matrix Variable Gap for PAF Industry Specialization

No.	Researchers	Sample	Dependent Variable Used		
			Name	Proxy	Results
1	2	3	4	5	6
1	Balsam et al. (2003)	19,091 data from Compustat annual industrial (years ended of 1991-1999)	Earnings Quality	Discretionary Accruals; Earnings Response Coefficients	The client who uses a specialist auditor has a higher ERC and a lower DAC than the client with a non-specialist auditor
2	Chi et al. (2011)	925 data from audit analytic from 2001 to 2008	Earnings Management	Real Earnings Management	Auditor industry expertise on the city-level and audit fees are linked with higher levels of REM, although weaker, on yields of Big-N auditors
3	Sarwoko and Agoes (2014)	50 PAF registered on the Indonesian capital market	Audit Quality	Several dimensions and indicators adopted from Schroeder et al. (1986) and Duff (2004)	The auditor's industry specialization is one factor that impact on the audit quality.

1	2	3	4	5	6
4	Anafiah et al. (2017)	65 FOBINDO companies listed on the IDX from 2008 to 2012	Audit Quality	Audit Quality Metric Score (AQMS)	Companies face high entrenchment effects and appoint a high-quality auditor to preserve the firm's reputation and reduce the conflict of interest.
5	Uthman et al. (2022)	40 listed firms in Nigeria from 2005 to 2019	Audit Quality	Kothari et al (2005); Modified Jones (1991) Model; Performance Adjusted Jones (1991) Model	Audit quality has significantly improved as a result of audit industry specialization.
6	Marizki and Dharma (2023)	348 data observations of manufacturing firms in Indonesia from 2019 to 2021	Audit Quality	Big 4 PAF	The audit fees, audit tenure, and auditor specialization have an influence on the audit quality.

Source: Authors' analysis data (2025).

Audit Quality

According to the definitions provided above, the auditor's reputation – as determined by perceived competency and degree of independence – can be used to assess audit quality. The reputation of auditors connected to an accounting firm that is independent of outside parties and has secured a license to practice in compliance with rules and regulations about the provision of professional services (Agoes, 2017). According to Watkins et al., a large number of scholars concur that the application of quality audits must be predicated on the auditor's competence and independence, serving as a tool for assessing strength (Tandiontong, 2016).

The category of public accounting firm (PAF) can reflect the quality of services provided. Auditors are considered qualified when they meet the auditing standards outlined in the Public Accountant Professional Standards. Larger companies will establish strong internal controls. Financial reports presented by management will

be more complex, requiring highly qualified auditors, which can ultimately increase firm value and share price (Chalmers et al., 2019).

Using a multidimensional audit quality (AQMS) technique to assess the Antonius Herusetya (2012) – developed audit quality metric score (AQMS) measurement has not been shown to have a greater level of validity than the traditional approach. The competency and independence elements of audit quality are represented by the composite measure technique used in this study, which reexamines them with a single proxy – the PAF industry specialization – and examines their consequences for corporate value. Consequently, a firm with a higher AQMS score has a strong audit quality assessment score, which might lead to an increase in the company's worth.

Table 2 presents several research approaches used to measure the audit quality.

Table 2. Matrix Variable Gap for Audit Quality Metric Score

No.	Researchers	Sample	Dependent Variable Used		
			Name	Proxy	Results
1	2	3	4	5	6
1	Herusetya et al. (2013)	1,152 firm-years observations on the Indonesia Stock Exchange (IDX) from 1999 to 2017	Earnings Management; Earnings Benchmarks	Real Earnings Management (EMRT); (ABCFO, ABPROD, ABDISEXP)	The study found some evidence of the negative effect of audit quality with multidimensional approach (AQMS) on the earnings management propensity to meet earnings targets along the period of observation, regardless of the presence or absence of the moderating effect of regulation. At the same time, there is the moderating effect of regulation that can weaken the positive effect of audit quality on the propensity to meet earnings targets.

1	2	3	4	5	6
2	Prayogo and Sitardja (2021)	480 observation of 79 manufacturing companies listed on the IDX from 2008 to 2015	Earnings Management; Firm Value	Performance Matched Discretionary Accruals; Book Value per Share	The changes of audit quality is significantly effect on earnings management mitigation in companies so firm value that represented on stock price can be analyzed more carefully in long term period view.
3	Daromes and Ng (2022)	210 firms listed on the IDX from 2017 to 2019	Quality of Financial Reporting; Firm Value	Working Capital; Tobin's Q	The managerial ability has a positive and significant influence on the quality of financial reporting. The quality of financial reporting has a positive and significant effect on firm value.
4	Oktaviani and Ahmad (2022)	285 manufacturing firms listed on the IDX from 2018 to 2020	Prediction of profit; Return on Investment (ROI)	Residuals from the earnings persistence formula (Lipe, 1990); Dividend Payout Ratio	The audit quality has a negative implication for the earnings predictions, but it is insignificant. Then, audit quality has a positive influence on investment returns.
5	Abu Afifa (2023)	43 service firms listed on the Amman Stock Exchange (ASE) from 2012 to 2019, giving an amount of 344 firm-year observances	Earnings Quality; Company Value	Earnings Management Practices; Tobin's Q	The audit firm industry specialization positively affects earnings management practices while its size and tenure do not, which implies that industry specialization does not restrict earnings management but rather leads to an increase in opportunistic behaviors.

Source: Authors' analysis data (2025).

Tobin's Q

Tobin's Q is a measurement of firm performance or external value. According to Brigham and Houston (2019), the firm's value is calculated by discounting the present value (PV) of future free cash flow (FCF) divided by the weighted average cost of capital. Several methods for computing the firm's value are:

- A comparison between the stock price and its earnings per share (EPS) is known as the price-to-earnings ratio. Shifts in future projected profit capacity influence the price-to-earnings (P/E) ratio.
- Price-to Book Value (PBV); for investors to develop market capital portfolio concepts, measuring this ratio is crucial. The current stock price and book value (BV) per share can be used to calculate PBV.
- Market-to-Book Value (MBR). By using share prices, this ratio describes how investors perceive a firm's value in relation to its book value. Information about the resources firm's net worth can be found by calculating the market-to-book value from the balance sheet. Investors will rate book value favorably if the market-to-book ratio is higher (Gitman & Zutter, 2019).
- Tobin's Q proposed by Professor James Tobin. The financial market's return on current estimates from every dollar invested makes this ratio a very valuable concept.

Tobin's Q is estimated as a firm's total equity value, divided by the book value of assets (Klapper & Love, 2004). This ratio provides the most accurate information about common activities, like the connection between management share ownership and firm value.

Hypothesis Statements Development

PAF Industry Specialization and Audit Quality

The PAF industry specialization is utilized to measure the audit quality metric score (AQMS), which links these together in the context of corporate governance (Prayogo & Agoes, 2017; Wijaya, Ng, & Gandasully, 2019). Thus, researchers included the PAF industry specialization in the audit quality measurement metric score when verifying earnings management and market reactions. Sarwoko and Agoes (2014) have proven a connection between audit quality and an auditor's competency in industry specialization. Anafiah et al. (2017) utilize the AQMS and assert that a high-quality auditor can preserve the enterprise's reputation and mitigate agency conflict. Uthman et al.'s (2022) research indicates that audit quality, as measured by AQMS, has improved significantly for Nigerian listed firms due to audit industry specialization. According to Marizqi and Dharma (2023), auditor specialization has an impact on audit quality. Therefore, the first alternative hypothesis would be as follows:

H₁: *There is a contribution of PAF audit specialization to the audit quality.*

Audit Quality and Tobin's Q

Several studies provide evidence on the impact of audit quality, as measured by the AQMS, on Tobin's Q, a proxy for a firm's value. However, most studies focus on the quality of earnings management (Herusetya et al., 2013; Susanty et al., 2016; Prayogo & Sitardja, 2021). Research by Oktaviani and Ahmad (2022) demonstrated that audit quality has a significant impact on investment returns. However, research findings from Abu Afifa et al. (2023) suggest that the audit size and PAF industry specialization, which are key measurements of the AQMS, have a positive impact on company value. Therefore, the second alternative hypothesis would be as follows:

H₂: *There is an implication of audit quality to the firm's value.*

RESEARCH METHODOLOGY

This study aims to determine the cause-and-effect relationship between independent and dependent variables. The research sample comprises 228 manufacturing companies registered at the Indonesian Stock Exchange (IDX) between 2022 and 2024. For the analysis, the authors collected data from annual financial reports available on the IDX website (www.idx.co.id) and company websites. Additionally, other data sources, such as the results of similar studies, were utilized in the discussion.

The objective of the purposive sampling is: (1) to select companies in the manufacturing sector that have consistently reported in their annual reports from 2022 to 2024, and (2) firms with complete annual and financial reporting data (data supporting the calculation of the Audit Quality Metrics Score or AQMS). Based on these criteria, a sample of 126 firms was selected. Table 3 calculates the total measure of variables using the ratio scale.

Table 3. Operational Variables Measurement

Variable Name	Dimension	Symbol Abb.	Measuring	
			Proxy (Source)	Sign
PAF Industry Specialization		SPCL	SPCL shall receive a score of "1" if it has the largest industry share, as quantified by the ratio of the total client assets for a PAF in a specific industry divided by the total client assets for all PAFs in that same industry, and otherwise has a score of "0" (Gul et al., 2009; Herusetya, 2012).	+
Audit Quality	Audit Quality Metric Score	AQMS	The AQMS is the total score of the five audit quality proxies of the public accounting firm for client <i>i</i> in year <i>t</i> (Big 4 + SPCL + TENURE* + CI** + RQA***), weighted by the highest AQMS score, which is 5 (Chen et al., 2010; Herusetya, 2012).	+
Firm's Value	Tobin's Q	TQ	$\frac{\text{Market Price of Outstanding Shares} + \text{Total Debt}}{\text{Total Assets}}$	

Notes:

* The medium-term audit tenure (TENURE) is > 3 years and < 9 years, which is an audit engagement deemed sufficient to acquire a good understanding of the client and the client's business without compromising audit quality in the PAF independence. TENURE is scored "1" if the audit firm's tenure is > 3 years and < 9 years, representing high audit quality, and "0" otherwise.

** The level to which an auditor is the client's economically dependent is measured by Client Importance (CI), which is a gauge of auditor independence. To assess financial dependency, we utilize CI. In Indonesia, where there is no public disclosure of auditor fees, the client's reliance on the public accounting business makes this a more accurate representation. To measure this indicator, we use a formula from Chen et al. (2010) that uses firm size.

$$CI_{it} = \frac{SIZE_{it}}{[\sum_{i=1}^n SIZE_{it}]}$$

*** Reynolds and Francis (2001) recommend that the Reporting Quality of Audit Report (RQA) is a going-concern (GC) audit opinion and test the accuracy level of GC opinion reporting. RQA is scored "1" if the accounting firm issues a GC opinion in the current year and a GC in the following year; otherwise, it is scored "0" (reporting error type "1"). Client's financial difficulties shall meet at least one of the following conditions: (a) negative cash operating flows (CFO); (b) net loss (Herusetya, 2012).

Source: Authors' analysis data (2025).

This study employs analysis methods such as descriptive statistics, multiple regression analysis, and linearity tests for model specification, as well as hypothesis-testing model verification. The following is the calculation of these regression equations:

$$\text{AQMS: } \alpha + \beta_1 \text{SPCL} + e \quad (1)$$

$$\text{TQ: } \alpha + \beta_2 \text{AQMS} + e \quad (2)$$

Each of the coefficients of the independent variables produced an output in the form of a regression equation

(Ghozali & Ratmono, 2017). This method tests the technique of panel data analysis. For understanding the data panel analysis, the problem of omitting variables can be significantly reduced by including information related to these variables (Gujarati, 2013). Simultaneous testing (F test) and individual parameter testing (t-test) are the commandments for decision-making in panel data analysis after determining the choice of the estimation model.

RESULTS AND DISCUSSION

Table 4. Descriptive Statistics

	SPCL	AQMS	TQ
Minimum	0	1	0.341300
Maximum	1	5	25.18370
Mean	0.272487	3.740741	1.739140
Std. Dev.	0.445829	1.236699	2.360632
Observations	378	378	378

Source: Data processed (2025).

Table 4 summarizes the descriptive statistics, including the minimum and maximum counts, the c-counts, and the standard deviation counts, as well as the normality assumptions for the 378 observations. In addition, the PAF industry specialization has an average score of 0.2725 and a deviation of 0.4458, which indicates that the average and deviation scores are sufficiently high (more than 50 per cent).

The minimum and maximum scores of audit quality, as measured by the audit quality metric scores (AQMS)

proxy, range from 1 to 5 counts. The average score for audit quality is 0.3741, which is approximately 30% of the standard deviation (1.2367), indicating minimal variation. Furthermore, the firm’s value (TQ) is decomposed, with a score of 1.7139140 for Tobin’s Q, indicating that the index of the linkage between market-value equity and debt is divided by total assets. The deviation score is 2.360632; this indicates that it is highly significant (greater than 50%).

Table 5. Panel Data Analysis

Testing Criteria	Assumption Methods	Earned Value / Conclusion	
		Results from Equation (1)	Results from Equation (2)
Common-effect ⊃ Fixed-effect	Chow-Test	$F = 41.378452$; <i>Prob. cross section (< 0,05) is 0.0000, than it is selected “Fixed Effect”</i>	$F = 6.973564$; <i>Prob. cross section (< 0,05) is 0.0000, than it is selected “Fixed Effect”</i>
Fixed-effect ⊃ Random-effect	Hausman’s Test	<i>Chi-Square (Stats.) is 20.679996 with Prob. is 0.00 (less than 0.05), inferred as “Fixed Effect”</i>	<i>Chi-Square (Stats.) is 0.274211 with Prob. is 0.6005 (higher than 0.05), inferred as “Random Effect”</i>
Common-Effect ⊃ Random-Effect	Lagrange Multiplier (LM) Test	*	**inferred as “Common effect”

* No testing, because from estimations inferred “Fixed-Effect” model

** Testing was verified LM-Stats.

Source: Data processed (2025).

Table 5 summarizes the predictions from the panel data analysis, as output by the Chow programs. The two proposed regression equation models yield associated F-scores of 41.378452 and 6.9373564, respectively, with a Prob. cross-section of 0.0000. The panel data analysis estimates from the output programs of the Hausman test, the first proposed models of the regression equation, are run with the appropriate chi-squared function. A statistical result of 20.679996 with chi-squared. Probability of less than 0.05, i.e. 0.0000. The other

proposed models of the regression equation proceed with the corresponding chi-squared number. A statistical score of 0.274211 with chi-square probability greater than 0.05, i.e. 0.6005. This means that the first regression models specified are assumed to have a fixed effect. For the second proposed model of the regression equation, the Hausman test has not been tested in this forecast. Then, we made mathematical calculations to obtain the following LM statistical score:

$$LM\text{-Stats.} = \frac{(126 \times 3)}{2(126-1)} \times \frac{(3 \times 2078.418)^2 - 1^2}{2078.418^2} = 1,512 \times (3 - 1)^2 = 1,512 \times 4 = 6,048$$

Based on the calculations of the LM test, the score of 6.048 is greater than the score of (>) the Chi-Square table (df-1) of 3.84146 (5.5)**. For this reason, the Lagrange multiplier test for estimating the common effect was

verified as follows: perform the data panel analysis separately for the fixed effect (t-test) and the simultaneous (F-test) methods; measure the pooled EGLS (cross-section weights) and the pooled OLS (Table 6).

Table 6. EGLS Methods – Pooled (cross-section weights) and PLS

Goodness of Fit	Earned Score of Audit Quality	Impact Score of Firm's Value
Adjusted R ²	0.951653 (very strong contribution)	0.008053 (very weak implication)
Probability (F-Stats)	0.0000 (significant)	0.0446 (significant)

Source: Data processed (2025).

Table 6 shows that the goodness of fit for the model yields an adjusted R² of 0.951653 (Equation 1), representing a significant contribution to the impact of audit quality. This indicates that 95.1653% of the relevance of the audit quality score measurement is targeted at the PAF industry specialization; the remaining 4.8347% is attributed to the effect of a dissimilar variable not included in the proposed study. Based on the

compendium of the next R² (Equation 2), these models explain the implication of Tobin's Q. An adjusted R² score of only 0.008053 is very weak to analyze these implications, it means that the 0.8053% of the implication of the Tobin's Q to the relevance of the audit quality from the PAF specialization contribution component is very low, and the remaining 99.1947% is the effect of many other distinct variables not inserted into this study.

Table 7. Panel Regression Results

	β	Earned Value / Conclusion	
		t-Stats sig.	Results of Hypothesis
SPCL → AQMS	0.607143	6.821230 / 0.0000	Accept H ₁
AQMS → TQ	-0.197302	-2.015085 / 0.0000	Accept H ₂

Source: Data processed (2025).

Table 7 presents the findings of the research hypotheses testing. For both hypotheses, the statistical score has a probability of less than 0.05; therefore, these hypotheses are accepted. The value of the coefficient $\beta = 0.607143$ indicates that PAF industry specialisation has a significant and positive effect on audit quality, represented as AQMS. Instead, the value of the coefficient $\beta = -0.197302$ indicates that audit quality has a weak negative effect on firm value, defined as Tobin's Q. Thus, the model demonstrates a stable and interpretable direction of implications: the impacts are not only statistically significant, but also have economic meaning (noticeable coefficients).

For the first hypothesis, the coefficient $\beta = 0.607143$ and the high t-statistic (6.821230) indicate that PAF industry specialisation is a key determinant of audit quality change. This effect size indicates that the PAF industry specialisation factor forms the basis of audit quality change, which is consistent with theoretical expectations and previous empirical studies (Sarwoko & Agoes, 2014; Anafiah et al., 2017; Uthman et al., 2022; Marizqi & Dharma, 2023). According to Marizqi and Dharma (2023), the impact of auditor specialisation on audit quality suggests that the more an auditor specialises in an industry, the greater their ability to understand and audit companies within that industry.

Uthman et al. (2022) found that audit firms that develop their industry specialisation provide higher-quality audit services, which enhances their competitiveness.

For the second hypothesis, although the coefficient $\beta = 0.197302$ is smaller in magnitude, the t-statistic (2.015085) confirms the presence of a real relationship. This indicates that audit quality has a weak negative effect on firm value. Other researchers have obtained slightly different results. In particular, Prayogo and Sitardja (2021) found that audit quality has a positive influence on firm value. At the same time, changes in audit quality significantly affect earnings management mitigation in companies, allowing the firm value represented by the stock price to be analysed more carefully in a long-term perspective. A study by Oktaviani and Ahmad (2022) found that audit quality has no significant effect on earnings predictions or negatively impacts earnings predictions. Additionally, audit quality has a significant positive impact on investment returns. We can assume that if the return on investment increases, the firm's value will also increase. Therefore, there is an indirect effect of audit quality on a firm's value. Furthermore, Daromes and Ng (2022) explain that the influence of audit quality on firm value is mediated by financial reporting quality.

CONCLUSIONS

This study aimed to empirically verify the contribution of Public Accounting Firm (PAF) industry specialisation to audit quality, measured by the Audit Quality Metric Score (AQMS), and to examine its implications for firm value in Indonesian manufacturing companies using Tobin's Q as a proxy. Based on a panel data analysis of 126 companies over the 2022–2024 period, the findings confirm that PAF industry specialisation plays a highly significant role in determining audit quality, accounting for 95.17% of the variance in AQMS. Thus, specialised auditors possess superior industry knowledge and competence, which translates into stronger audit quality outcomes. Specialised auditors can understand operational characteristics, industry risks, and specific transaction patterns, enabling them to provide more in-depth and relevant audits. The study found that audit quality has only a very weak effect on firm value, with AQMS explaining 0.8053% of the variation in Tobin's Q and showing a significant negative coefficient. Thus, although audit quality is important for governance, firm value is

more influenced by external factors such as economic conditions, managerial decisions, industry performance, and investor expectations.

To increase public confidence in audit results, regulatory authorities should ensure that audit services for specific industries are provided by specialised audit firms whose representatives possess the necessary industry-specific expertise. In turn, companies can receive more practical recommendations from specialised auditors on improving financial reporting indicators or correcting errors. Thus, the PAF industry specialisation has an important contribution to ensuring the quality of audit services.

Audit quality cannot be a decisive indicator in assessing a firm's value, as its influence is often weak and indirect. Investors should remember that a combination of financial results, operating efficiency, market position, external environment and intangible assets forms the value of a firm. The core of the assessment is the firm's ability to generate future cash flows, and the remaining factors (in particular, audit quality) either strengthen or weaken this expectation.

4 References

- Abu Afifa, M. M., Saleh, I., & Taqatqah, F. (2023). Mediating Influence of Earnings Management in the Nexus between Audit Quality and Company Value: New Proof from Jordanian Market. *Accounting Research Journal*, 36(2-3), 148–165. <https://doi.org/10.1108/ARJ-03-2021-0102>
- Agoes, S. (2017). *Auditing Petunjuk Praktis Pemeriksaan Akuntan oleh Akuntan Publik (Jilid-1) (5th Ed.)*. Jakarta: Salemba Empat.
- Al-Ahdal, W. M., & Hashim, H. A. (2022). Impact of Audit Committee Characteristics and External Audit Quality on Firm Performance: Evidence from India. *Corporate Governance: The International Journal of Business in Society*, 22(2), 424–445. <https://doi.org/10.1108/CG-09-2020-0420>
- Almaqoushi, W., & Powell, R. (2021). Audit Committee Quality Indices, Reporting Quality and Firm Value. *Journal of Business Finance & Accounting*, 48(1-2), 185–229. <https://doi.org/10.1111/jbfa.12478>
- Anafiah, V., Diyanty, V., & Wardhani, R. (2017). The Effect of Controlling Shareholders and Corporate Governance on Audit Quality. *Jurnal Akuntansi dan Keuangan Indonesia*, 14(1), 1–19. <https://doi.org/10.21002/jaki.2017.01>
- Andalawestyas, M., & Ariyati, T. (2020). Karakteristik Perusahaan dan Perataan Laba dengan Kualitas Audit sebagai Variabel Moderasi. *Jurnal Akuntansi dan Keuangan Methodist*, 4(1), 34–48. <https://doi.org/10.46880/jsika.Vol4No1.pp34-48>
- Angsoyiri, D. (2021). The Effect of Ownership Structure and Audit Quality on Firm Performance. *International Journal of Multidisciplinary: Applied Business and Educational Research*, 2(2), 77–87. <https://doi.org/10.11594/ijmaber.02.02.01>
- Balsam, S., Krishnan, J., & Yang, J. S. (2003). Auditor Industry Specialization and Earnings Quality. *Auditing: A Journal of Practice & Theory*, 22(2), 71–97. <https://doi.org/10.2308/aud.2003.22.2.71>
- Brigham, E., & Houston, J. (2019). *Fundamentals of Financial Management (15th Ed.)*. Boston: Cengage Learning.
- Brown, V. L., Gissel, J. L., & Neely, D. (2016). Audit Quality Indicators: Perceptions of Junior-Level Auditors. *Managerial Auditing Journal*, 31(8/9), 949–980. <https://doi.org/10.1108/MAJ-01-2016-1300>
- Chae, S.-J., Nakano, M., & Fujitani, R. (2020). Financial Reporting Opacity, Audit Quality and Crash Risk: Evidence from Japan. *Journal of Asian Finance, Economics and Business*, 7(1), 9–17. <https://doi.org/10.13106/jafeb.2020.vol7.no1.9>
- Chalmers, K., Hay, D., & Khlif, H. (2019). Internal Control in Accounting Research: A Review. *Journal of Accounting Literature*, 42, 80–103. <https://doi.org/10.1016/j.acclit.2018.03.002>
- Chen, S., Sun, S., & Wu, D. (2010). Client Importance, Institutional Improvements, and Audit Quality in China: An Office and Individual Auditor Level Analysis. *The Accounting Review*, 85(1), 127–158. <https://doi.org/10.2308/accr.2010.85.1.127>
- Chi, W., Lisc, L., & Pevzner, M. (2011). Enhanced Audit Quality Associated with Greater Real Earnings Management? *Accounting Horizons*, 25(2), 315–225. <https://doi.org/10.2308/acch-50082>

- Daromes, F. E., & Ng, S. (2022). Firm Value Effect of Managerial Ability and External Control Mechanism: Mediation Role of Financial Reporting Quality. In: *Proceedings of the 4th Asia Pacific Management Research Conference (APMRC 2022)* (pp. 284–300). Atlantis Press. https://doi.org/10.2991/978-94-6463-076-3_21
- DeAngelo, L. E. (1981). Auditor Size and Audit Quality. *Journal of Accounting and Economics*, 3(3), 183–199. [https://doi.org/10.1016/0165-4101\(81\)90002-1](https://doi.org/10.1016/0165-4101(81)90002-1)
- Ghozali, I., & Ratmono, D. (2017). Analisis Multivariat dan Ekonometrika: Teori, Konsep, dan Aplikasi dengan EViews 10 (Cetakan II) (2nd Ed.). (A. Tejokusumo, Ed.) Semarang: Badan Penerbit Universitas Diponegoro.
- Gitman, L. J., & Zutter, C. J. (2019). Principles of Managerial Finance (15th Ed.). Boston: Pearson Education Limited.
- Gujarati, D. N. (2013). Dasar-Dasar Ekonometrika (5th Ed.). (R. Mangunsong, Ed.) Jakarta: Salemba Empat.
- Gul, F. A., Fung, S. K., & Jaggi, B. (2009). Earnings Quality: Some Evidence on the Role of Auditor Tenure and Auditors' Industry Expertise. *Journal of Accounting and Economics*, 47(3), 265–287. <https://doi.org/10.1016/j.jacceco.2009.03.001>
- Hazaea, S. A., Tabash, M. I., Khatib, S. F., Zhu, J., & Al-Kuhali, A. A. (2020). The Impact of Internal Audit Quality on Financial Performance of Yemeni Commercial Banks: An Empirical Investigation. *Journal of Asian Finance, Economics and Business*, 7(11), 867–875. <https://doi.org/10.13106/jafeb.2020.vol7.no11.867>
- Herusetya, A. (2012). Analisis Kualitas Audit terhadap Manajemen Laba Akuntansi: Studi Pendekatan Composite Measure Versus Conventional Measure. *Jurnal Akuntansi dan Keuangan Indonesia*, 9(2), 117–135. <https://doi.org/10.21002/jaki.2012.08>
- Herusetya, A., Rossieta, H., & Veronica, S. (2013). Multi-Dimensional Audit Quality, Regulation, and Earnings Management to Meet Earnings Benchmarks: Evidence from Indonesia. In: *International Conference on Business, Economics, and Accounting, 20-23 March 2013* (pp. 20–23). Bangkok, Thailand: CAAL – International Education and Organizer. Retrieved from: http://www.caal-inteduorg.com/ibea2013/ejournal/058---Antonius_H&Hilda_Veronica_NPS---Multi__Dimensional_Audit_Quality.pdf
- Husain, T. (2019). An Analysis of Modeling Audit Quality Measurement Based on Decision Support Systems (DSS). *European Journal of Scientific Exploration*, 2(6), 1–9. Retrieved from: <https://www.syniutajournals.com/index.php/EJSE/article/view/128/118>
- Husain, T., & Syniuta, A. (2020). Audit Fee and “The Big-Four”: A Comparative Study at Initial Public Offerings (IPO) Companies in Indonesia Stock Exchange (IDX). *Multidisciplinary European Academic Journal*, 2(4), 1–7. Retrieved from: <https://www.syniutajournals.com/index.php/MEAJ/article/view/158>
- IAASB. (2014). A Framework for Audit Quality: Key Elements that Create an Environment for Audit Quality. New York: The International Federation of Accountants (IFAC). Retrieved from: <https://www.ifac.org/system/files/publications/files/A-Framework-for-Audit-Quality-Key-Elements-that-Crete-an-Environment-for-Audit-Quality-2.pdf>
- Klapper, L. F., & Love, I. (2004). Corporate Governance, Investor Protection and Performance in Emerging Markets. *Journal of Corporate Finance*, 10(5), 703–728. [https://doi.org/10.1016/S0929-1199\(03\)00046-4](https://doi.org/10.1016/S0929-1199(03)00046-4)
- Lawrence, F. P. (2023). Causal-Comparative Research. Research Methodology Group UOPX Research Community. US: University of Phoenix. Retrieved from: <https://www.phoenix.edu/content/dam/edu/research/doc/2023/causal-comparative-research.pdf>
- Marizqi, M. H., & Dharma, F. (2023). Impact of Audit Tenure, Fee and Auditor Specialist on Audit Quality: Study of Indonesian Manufacturing Firms. *Peradaban Journal of Economic and Business*, 2(2), 155–173. <https://doi.org/10.59001/pjeb.v2i2.104>
- Nasution, S. P. (2025). Predicting an Impact of Solvency on the SDGS Disclosure in LQ-45 Firm Indonesia Stock Exchange Period of 2021-2023. *New Challenges in Accounting and Finance*, 14, 1–13. <https://doi.org/10.32038/NCAF.2025.14.01>
- Oktaviani, W., & Achmad, T. (2022). Pengaruh Kualitas Audit terhadap Prediksi Laba dan Tingkat Pengembalian Investasi di Masa Mendatang (Studi Empiris pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia Tahun 2018-2020). *Diponegoro Journal of Accounting*, 11(4), 1–12. Retrieved from: <https://ejournal3.undip.ac.id/index.php/accounting/article/view/36341>
- Owhoso, V. E., Messier Jr., W., & Lynch Jr., J. (2002). Error Detection by Industry-Specialized Teams during Sequential Audit Review. *Journal of Accounting Research*, 40(3), 883–900. <https://doi.org/10.1111/1475-679X.00075>
- Prayogo, B., & Agoes, S. (2017). Role of Audit Regulation on the Effect of Corporate Governance and Audit Quality on Earnings Management. *OIDA International Journal of Sustainable Development*, 10(10), 53–66. Retrieved from: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3072717

- Prayogo, B., & Sitardja, M. (2021). The Role of Audit Regulation on the Relationship between Audit Quality, Corporate Governance and Firm Value. In: T. Suryanto (Ed.), *Proceedings of the 1st International Conference on Science and Technology in Administration and Management Information*. Jakarta: European Alliance for Innovation. <https://doi.org/10.4108/eai.17-7-2019.2302484>
- Reynolds, J. K., & Francis, J. R. (2001, May 19). Does Size Matter? The Influence of Large Clients on Office-Level Auditor Reporting Decisions. *Journal of Accounting and Economic*, 30(3), 375–400. [https://doi.org/10.1016/S0165-4101\(01\)00010-6](https://doi.org/10.1016/S0165-4101(01)00010-6)
- Sarwoko, I., & Agoes, S. (2014). An Empirical Analysis of Auditor's Industry Specialization, Auditor's Independence and Audit Procedures on Audit Quality: Evidence from Indonesia. In: K. I. Dandago, A. Che-Ahmad, A. Ahmi, & S. Saidin (Ed.), *International Conference on Accounting Studies (ICAS 2014), 18-19 August 2014*. 164 (pp. 271–281). Kuala Lumpur: Elsevier. <https://doi.org/10.1016/j.sbspro.2014.11.077>
- Sheikh, N. A., Rafique, A., & Abbasi, M. N. (2016). Impact of Working Capital on Performance of Textile Firms Listed on PSX. *Pakistan Journal of Social Sciences (PJSS)*, 36(1), 409–419. Retrieved from: <https://www.bzu.edu.pk/PJSS/Vol36No12016/PJSS-Vol36-No1-36.pdf>
- Tandiontong, M. (2016). *Kualitas Audit dan Pengukurannya*. Bandung: Alfabeta.
- Teece, D. J. (2018). Business Models and Dynamic Capabilities. *Long Range Planning*, 51(1), 40–49. <https://doi.org/10.1016/j.lrp.2017.06.007>
- Uthman, A., Salami, A., & Ajape, K. M. (2022). Impact of Auditor Industry Specialization on the Audit Quality of Listed non-Financial Firms in Nigeria. *Nigerian Journal of Risk and Insurance*, 12(1), 29–56. Retrieved from: <https://njri.unilag.edu.ng/article/view/1517>
- Watts, R. L., & Zimmerman, J. L. (1986). *Positive Accounting Theory*. New Jersey, USA: Prentice-Hall, Englewood Cliffs. Retrieved from: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=928677
- Wijaya, S., Ng, S., & Gandasully, J. R. (2019). Struktur Kepemilikan sebagai Mekanisme Peningkatan Kualitas Audit dan Dampaknya terhadap Reaksi Pasar. *SIMAK*, 17(02), 99–118. <https://doi.org/10.35129/simak.v17i02.94>
- Yolandita, A. A., & Cahyonowati, N. (2022). The effects of audit quality on firm value of Indonesian financial service sector (FSS). *Diponegoro Journal of Accounting*, 11(1), 1–8. Retrieved from: <https://ejournal3.undip.ac.id/index.php/accounting/article/view/33071>