PERSPECTIVES OF INDONESIAN ACCOUNTANTS AND AUDITORS ON THE EFFECTIVENESS OF CORPORATE GOVERNANCE AND IT IN PREVENTING FRAUD

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Abstract

Purpose This study explores the perspectives of accountants and auditors in Indonesia regarding Corporate Governance (CG) and Information Technology (IT). It aims to provide valuable insights for researchers, senior management, and boards of directors on effective fraud prevention strategies. Furthermore, the study seeks to enhance awareness of the importance of effective oversight, ethical behavior, and strong corporate governance practices in mitigating corporate failure. Design/methodology/approach. This study employs a survey method involving financial accountants as well as internal and external auditors. A one-sample test is used to evaluate the significance of Corporate Governance in fraud prevention. Paired sample tests are applied to compare traditional audit techniques with IT-based methods, while one-way ANOVA is conducted to assess differences in perspectives among respondents. Findings The results indicate that Corporate Governance has a significant impact on fraud prevention, with internal audit departments identified as the most utilized CG mechanism. Additionally, Information Technology demonstrates a comparable impact to traditional fraud prevention methods. Internal control reviews and improvements are the most frequently employed traditional techniques, whereas continuous auditing emerges as the most widely used IT-based approach for fraud prevention. Research implications/limitations The findings emphasize that strong corporate governance is essential for effective fraud prevention, requiring organizations to continuously enhance their governance practices. The integration of IT tools with traditional fraud prevention methods is recommended to develop a more comprehensive and effective strategy.Originality/value This study contributes to the existing literature by examining the role of Corporate Governance and Information Technology in fraud prevention and detection, particularly within Southeast Asia and other emerging economies. It offers important insights for both academics and practitioners in Indonesia, as well as for the international community.

Keywords: Indonesia, Fraud, Corporate Governance, Information Technology, Accountants, Internal Auditors, External Auditors

INTRODUCTION

Fraud is a deliberate act of deception intended to secure unauthorized gain or cause harm to others, and it can occur through various channels such as telephone, television, and the Internet (Kratcoski, 2018). Fraud has become a global issue that affects many businesses and exerts serious consequences on organizations and their stakeholders. Regardless of the industry, fraud represents an inherent risk in business operations, leading to substantial financial losses and unjust advantages. In the Asia-Pacific region, corruption is a major contributor to fraud-related losses, particularly in Indonesia, where it remains a significant concern (ACFE, 2008).

Transparency International (2024) reports that Indonesia scored 34 on a scale of 0 to 100, indicating persistent corruption challenges and relatively slow progress in addressing them. The role of the media in fraud prevention is crucial, as it serves as a platform for reporting and addressing complaints, many of which originate within organizations where corruption occurs. The Corruption Eradication Commission (KPK) has documented a rise in corruption cases between 2004 and 2018, reflecting an increasing trend of fraud in Indonesia. Framing theory suggests that media coverage of corruption can shape public perception, often amplifying the impression that corruption is widespread.

This study aims to achieve several key objectives. First, it seeks to examine differences in perceptions of fraud among internal auditors, external auditors, and financial accountants in order to gain deeper insight into their viewpoints. Second, it evaluates the relationship between corporate governance practices and the effectiveness of fraud prevention, providing a structured basis for assessing and improving governance mechanisms. Third, the study assesses the effectiveness of IT-based methods compared to traditional approaches in fraud prevention from the perspectives of auditors and accountants. Finally, it investigates the influence of factors such as work experience and professional qualifications on the effectiveness of corporate governance and fraud prevention techniques, enabling organizations to tailor their strategies to specific needs and challenges.

REVIEW OF LITERATURE

Theoretical Framework and Hypothesis Development

Fraud

According to KPMG (2014), fraud is characterized as a deliberate act of misrepresentation or distortion of information by an individual to harm another party or obtain undue advantage, resulting in financial or personal loss to the victim. Bhargavi (2023) further defines fraud as any intentional act of deception or misconduct carried out during banking transactions or within manually or computer-managed accounting systems. The Association of Certified Fraud Examiners (ACFE) estimates that organizations lose approximately 5% of their annual revenue to fraud (ACFE, 2024). Based on the ACFE Indonesia Chapter survey (2019) involving 239 respondents, the most common type of fraud in Indonesia is corruption (64.4%), followed by misappropriation of state and corporate assets (28.9%), and financial statement fraud (6.7%). These findings differ from the ACFE (2024) *Report to the Nations*, which identifies asset misappropriation as the most prevalent form of fraud (89%), followed by corruption (48%) and financial statement fraud (5%).

In preventing fraud, Stamler et al. (2014) argue that there is no absolute solution; however, effective preventive measures can significantly reduce fraud risk. Based on

extensive investigative experience, they developed a Red Flag System to enhance fraud detection and prevention. In addition, global business challenges such as globalization, technological advancement, and increasing data complexity (Siregar & Tenoyo, 2015) have encouraged organizations to adopt proactive fraud risk mitigation strategies.

Existence of Fraud in Indonesia

In Indonesia, efforts to address corruption are still considered inadequate. Transparency International (2024) reports that Indonesia scored 34 in the 2023 Corruption Perception Index, ranking 115th out of 180 countries. Between 2004 and 2022, the Corruption Eradication Commission (KPK) recorded 1,310 corruption cases. According to the *Report to the Nations* (2024), Indonesia ranks among the top three countries in the Asia-Pacific region in terms of fraud cases, following China (33 cases) and Australia (29 cases), with Indonesia reporting 25 cases.

Several major fraud cases include:

1. Jiwasraya (2018): IDR 16.8 trillion loss
2. Century Bank (2008): IDR 7 trillion and IDR 689.39 billion losses
3. PT Asabri (2012–2019): IDR 23.7 trillion loss
4. Hambalang (2010–2012): IDR 706 billion loss
5. e-KTP (2014): IDR 2.3 trillion loss
6. PT Pelindo II (2015): IDR 7 trillion loss
7. PT Duta Palma (2004–2022): IDR 87 trillion loss
8. PT TPPI (2009–2010): IDR 42.4 trillion loss
9. Juliari Batubara case (2020): IDR 14.59 billion loss

Perception is a process through which individuals organize and interpret information to understand their environment; however, perceptions may differ from reality (Sofia, 2016). Financial accountants primarily focus on accurate financial reporting and transaction recording rather than actively detecting fraud. In contrast, internal and external auditors are more sensitive to fraud risks due to their roles in prevention and detection.

Empirical studies indicate that procedures such as inventory observation, bank reconciliation, and internal control reviews are effective in reducing fraud (Hassan et al., 2023a). These findings highlight the importance of integrating strong internal controls with external oversight mechanisms such as auditing and forensic accounting. Differences in perspectives among financial accountants, internal auditors, and external auditors may reflect varying levels of awareness and reporting practices. Therefore, the following hypothesis is proposed:

H1: There is a significant difference in the perspectives of financial accountants, internal auditors, and external auditors regarding the existence of fraud within their organizations.

Corporate Governance Indicators to Prevent Fraud

Corporate Governance (CG) principles provide a framework for evaluating and improving legal, regulatory, and institutional structures to enhance economic efficiency, sustainable growth, and financial stability (OECD, 2023). These principles ensure accountability through transparent information and appropriate incentives for stakeholders, including shareholders, board members, executives, and employees. The effectiveness of corporate governance in preventing fraud has been measured using various indicators proposed by AICPA (2010) and prior studies. These include audit committees, internal and external audit effectiveness, employee training, and an organizational culture grounded in

ethical values. Corporate governance is typically assessed across five dimensions using a Likert scale.

The audit committee plays a critical role in ensuring transparency, accountability, and integrity, particularly in publicly listed companies. In Indonesia, governance guidelines are provided by the Otoritas Jasa Keuangan (OJK). The effectiveness of audit committees is essential in maintaining reliable financial reporting and strong internal control systems (Halbouni et al., 2016). Internal auditing, as defined by the Institute of Internal Auditors (2020), is an independent function aimed at adding value and improving organizational processes, including risk management and governance. External audits, on the other hand, ensure the reliability of financial statements and detect material misstatements caused by fraud. Human resource practices, such as continuous training and development, enhance employee capabilities and support effective auditing processes (Salas et al., 2012). A culture of honesty further strengthens governance and promotes anti-fraud practices (Halbouni et al., 2016).

Based on these considerations, the following hypothesis is proposed:

H2: Corporate Governance has a significant impact on fraud prevention.

Fraud Prevention Techniques

Auditors are required to implement effective fraud prevention measures using both traditional and technological approaches. The integration of IT with traditional auditing methods reflects modern business practices. Internal auditors play a crucial role in fraud detection, particularly through internal control systems (Lukman & Chariri, 2014).

Technological advancements such as Artificial Intelligence (AI), data mining, and continuous auditing enable real-time monitoring and enhance fraud detection capabilities (Alshurafat et al., 2021). However, previous studies (Halbouni et al., 2016) suggest no significant difference between the effectiveness of traditional and technological methods among auditors.

The integration of IT with corporate governance enhances fraud prevention by combining advanced tools with strong governance practices. Therefore, the following hypothesis is proposed:

H3: There is no significant difference between the use of technological and traditional fraud prevention methods among financial accountants, internal auditors, and external auditors.

Factors Influencing Auditors' Perspectives

Recent literature indicates that internal auditors often have broader responsibilities than external auditors, particularly in industries such as technology and financial services (Pickett, 2010). Technological developments, including AI and blockchain, have significantly improved audit quality (Smith, 2021; Tarek et al., 2017). Factors such as professional experience, organizational size, industry type, and technological capability influence auditors' perceptions of fraud risk. Larger firms tend to invest more in IT infrastructure, while audit experience enhances fraud awareness (Halbouni et al., 2016).

This study examines how demographic and organizational factors influence perceptions of fraud and governance effectiveness. Therefore, the following hypothesis is proposed:

H4: Position, qualifications, experience, company operations, business type, listing status, and organizational size significantly influence the perspectives of financial accountants, internal auditors, and external auditors regarding fraud, corporate governance effectiveness, and fraud prevention techniques.

RESEARCH METHOD

Research Design

This study employs a quantitative research approach with a descriptive design to examine the effect of Corporate Governance (CG) principles and Information Technology (IT) on fraud prevention. The collected quantitative data were tested for validity and reliability using statistical tools to ensure the accuracy and credibility of the results. Subsequently, the data were analyzed to explore the relationship between corporate governance, information technology, and fraud prevention, with a particular focus on the perspectives of financial professionals. This approach aims to provide a comprehensive understanding of the effectiveness of fraud prevention mechanisms. The study utilizes primary quantitative data obtained through a structured questionnaire designed to capture the perspectives of auditors, financial accountants, and practitioners in Indonesia. The questionnaire consists of Likert-scale items to measure respondents' perceptions systematically.

Population and Research Sample

The population of this study consists of senior internal and external auditors involved in financial statement audits, as well as senior financial accountants with more than five years of professional experience in Indonesia. Due to the absence of precise population data, the sample size was determined using the Lemeshow formula, which is appropriate for unknown populations. This method ensures that the selected sample size is sufficient to maintain the validity and reliability of the research findings (Ananda Ismail et al., 2022).

Data Analysis Method

According to Gravetter and Wallnau (2017), the data analysis in this study employs several statistical techniques:

- **One-Sample t-test**: This test examines whether the sample mean differs significantly from a specified population mean. It is used to test Hypothesis H2 regarding the effect of Corporate Governance on fraud prevention by comparing the mean value to 3 (the midpoint of the Likert scale). If the significance value (p-value) is less than 0.05 and the mean exceeds 3, the effect is considered significant.
- **Paired Sample t-test**: This test compares two related methods (technological vs. traditional approaches) in fraud prevention among auditors and accountants. It is used to test Hypothesis H3. A p-value of less than 0.05 indicates a significant difference between the methods, while a p-value greater than 0.05 indicates no significant difference.
- **One-Way ANOVA**: This test compares the means of more than two independent groups. It is used to test Hypothesis H1 (differences in fraud perceptions among accountants and auditors) and Hypothesis H4 (the influence of demographic and organizational factors on these perspectives). The decision criteria are as follows:
    - If **$p > 0.05$**, there is no statistically significant difference among the groups.
    - If **$p < 0.05$**, there is a statistically significant difference among the groups.

Analysis

This study involved senior internal and external auditors who are actively engaged in auditing financial statements, as well as senior financial accountants with more than five years of experience across various sectors in Indonesia. The data collection process resulted

in a total of 133 respondents. The results of the questionnaire distribution are presented in Table I.

Table I.
Questionnaire Distribution Rate

No.	Description	Total	Percentage
1	Number of questionnaires received	133	100%
2	Number of questionnaires that did not meet criteria	0	0%
3	Number of questionnaires processed	133	100%

Respondent Characteristics

Table II presents the characteristics of the respondents, including their current positions, professional qualifications, and work experience. It also provides information on organizational background, listing status, business type, operational scope, and organizational size.

Table II.
Information on Respondents' Background and Organization

Description	Category	Number (People)	Percentage
Current Position	Financial Accountant	50	37.6%
	Internal Auditor	32	24.1%
	External Auditor	51	38.3%
	Total	133	100.0%
Professional Qualification	Secondary School	6	4.5%
	Diploma	12	9.0%
	Bachelor's Degree	102	76.7%
	Master's Degree	13	9.8%
	Total	133	100.0%
Work Experience	5 – 10 Years	101	75.9%
	10 – 20 Years	26	19.5%
	More than 20 Years	6	4.5%
	Total	133	100.0%
Company Operation	Local Firm	63	47.4%
	Regional Firm	55	41.4%
	International Firm	15	11.3%
	Total	133	100.0%
Business Type	Manufacturing Company	39	29.3%
	Retail Company	21	15.8%
	Financial Institution	28	21.1%

Description	Category	Number (People)	Percentage
	Service Company	39	29.3%
	Government Organization	6	4.5%
	Total	133	100.0%
Listing Status	Listed Company	90	67.7%
	Unlisted Company	43	32.3%
	Total	133	100.0%
Company Size	Small: < 500 employees	100	75.2%
	Medium: 501–1000 employees	13	9.8%
	Large: > 1000 employees	20	15.0%

Based on current position, 37.6% of respondents are Financial Accountants, 24.1% are Internal Auditors, and 38.3% are External Auditors. In terms of professional qualifications, 4.5% have a high school education, 9.0% hold a diploma, 76.7% have a bachelor's degree, and 9.8% possess a master's degree. Regarding work experience, the majority of respondents (75.9%) have 5–10 years of experience, followed by 19.5% with 10–20 years, and 4.5% with more than 20 years of experience. Most respondents are employed in local firms (47.4%), followed by regional firms (41.4%) and international firms (11.3%). In terms of business type, the largest proportions are found in manufacturing and service companies (each 29.3%), followed by financial institutions (21.1%), retail companies (15.8%), and government organizations (4.5%). Furthermore, 67.7% of the companies are listed, while 32.3% are unlisted. In terms of company size, the majority are small firms with fewer than 500 employees (75.2%), followed by medium-sized firms with 501–1,000 employees (9.8%), and large firms with more than 1,000 employees (15.0%). Overall, the research sample encompasses a diverse range of companies and professional backgrounds, which is consistent with the study conducted by Halbouni et al. (2016).

Validity Test Results

The purpose of the validity test is to ensure that each questionnaire item is valid and accurately reflects the construct being measured. This test employs Pearson's product-moment correlation analysis by comparing the calculated r-value with the critical r-table value. An item is considered valid if its r-value exceeds the r-table value, which is 0.170 for a sample size of 133 respondents. The results of the validity test are presented in the following table.

Table III.
Validity and Reliability Test Results

Variable	Indicator	r-value (Calculated)	r-table	Conclusion
Perspectives of Fraud	F1	0.462	0.170	Valid
	F2	0.462	0.170	Valid
Perspectives of the Effectiveness of Corporate Governance	CG1	0.544	0.170	Valid

Variable	Indicator	r-value (Calculated)	r-table	Conclusion
	CG2	0.686	0.170	Valid
	CG3	0.333	0.170	Valid
	CG4	0.601	0.170	Valid
	CG5	0.668	0.170	Valid
	CG6	0.646	0.170	Valid
Perspectives of Prevention Techniques	Techniques 1	0.715	0.170	Valid
	Techniques 2	0.724	0.170	Valid
	Techniques 3	0.648	0.170	Valid
	Techniques 4	0.655	0.170	Valid
	Techniques 5	0.668	0.170	Valid
	Techniques 6	0.750	0.170	Valid
	Techniques 7	0.751	0.170	Valid
	Techniques 8	0.765	0.170	Valid
	Techniques 9	0.760	0.170	Valid
	Techniques 10	0.794	0.170	Valid
	Techniques 11	0.782	0.170	Valid
	Techniques 12	0.763	0.170	Valid
	Techniques 13	0.754	0.170	Valid
	Techniques 14	0.785	0.170	Valid
	Techniques 15	0.715	0.170	Valid

Variable	Indicator	r-value (Calculated)	r-table	Conclusion
	Techniques 16	0.781	0.170	Valid
	Techniques 17	0.706	0.170	Valid
	Techniques 18	0.818	0.170	Valid
	Techniques 19	0.790	0.170	Valid
	Techniques 20	0.682	0.170	Valid
	Techniques 21	0.726	0.170	Valid
	Techniques 22	0.736	0.170	Valid
	Techniques 23	0.776	0.170	Valid
	Techniques 24	0.694	0.170	Valid
	Techniques 25	0.748	0.170	Valid
	Techniques 26	0.760	0.170	Valid
	Techniques 27	0.847	0.170	Valid
	Techniques 28	0.731	0.170	Valid
	Techniques 29	0.795	0.170	Valid
	Techniques 30	0.733	0.170	Valid
	Techniques 31	0.758	0.170	Valid
	Techniques 32	0.766	0.170	Valid
	Techniques 33	0.756	0.170	Valid

The validity test results in table III show that all items in the categories of Fraudulent Techniques (2 questions), Corporate Governance Effectiveness (6 questions), and Prevention (33 questions) are valid because the calculated r value> r table value 0.170. *Reliability Test Results.* The reliability test measures the level of reliability of the research instrument for each construct using the SPSS 20.0 program with the Cronbach's Alpha test. The instrument is declared reliable if α> 0.6; if <0.6, the instrument is considered unreliable. The reliability test results are shown in the following table.

Table IV.
Reliability Test Results

Variable	Cronbach's Alpha	Conclusion
Perspective of Fraud	0.631	Reliable
Perspective of the Effectiveness of Corporate Governance	0.810	Reliable
Perspective of Prevention Techniques	0.977	Reliable

The reliability test results indicate that all variables—Fraud Perspective, Corporate Governance Effectiveness Perspective, and Prevention Perspective—have Cronbach's Alpha coefficients exceeding 0.60. Therefore, all variables in this study are considered reliable.

Hypothesis Testing Results

First Hypothesis Testing

To examine the first hypothesis regarding the existence of significant differences in the perspectives of financial accountants, as well as internal and external auditors, on fraud, this study employs a one-sample t-test and a one-way ANOVA test. The results of the analysis related to experience and fraud perception within organizations are presented in Table V and Table VI.

Table V.
Respondents' Perspectives on Fraud

No.	Statement	Mean	SD	% Rating (1 or 2)	% Rating (4 or 5)	t-value	Sig.
1	My firm has been a victim of fraud	3.20	1.00	27.8%	53.0%	2.247	0.026**
2	I expect fraud to increase in the future	3.47	1.19	26.0%	67.0%	4.516	0.000***
Overall Average		**3.33**	**0.92**			**4.134**	**0.000***

Notes: *** Significant at the 1% level; ** Significant at the 5% level.

Table V indicates that 53% of respondents believe their organizations have experienced fraud, which is consistent with the findings of Johnson and Rudesill (2001) as well as the PwC (2020) survey, which reported that 47% of global companies had encountered fraud within the past two years. Furthermore, 67% of respondents expect fraud

incidents to increase in the future, aligning with Paul van der Aa's (2020) perspective on the growing challenges of bribery and corruption. The t-test results show significance values of less than 0.05, confirming that respondents' perceptions regarding the occurrence and future increase of fraud in Indonesian companies are statistically significant. To further examine differences in fraud perceptions among financial accountants, internal auditors, and external auditors, a one-way ANOVA test was conducted, as presented in Table VI.

Table VI.
One-Way ANOVA Test for Respondents' Perspectives on Fraud

No.	Fraud-Related Statements	Mean Square	F-value	Sig.
1	My firm has been a victim of fraud	0.578	0.571	0.567
2	I expect fraud to increase in the future	0.778	0.545	0.581
3	Overall Average	0.641	0.749	0.475

The One-Way ANOVA test results indicated no significant differences in the perspectives of financial accountants, internal auditors, and external auditors regarding whether their organizations had been victims of fraud ($F = 0.571$, $p = 0.567 > 0.05$) or their expectations of increased fraud in the future ($F = 0.545$, $p = 0.581 > 0.05$). Furthermore, the overall perspectives on fraud were also not significantly different ($F = 0.749$, $p = 0.475$). These findings suggest that the first hypothesis, which proposed differences in fraud perceptions between financial accountants and auditors, is not supported; therefore, there is no significant variation in fraud-related views among these groups.

Second Hypothesis Testing

To evaluate the second hypothesis (H2: Corporate Governance significantly influences fraud prevention), the study examines the effectiveness of corporate governance through six specific questions. The t-test results reflecting respondents' perspectives on the role of corporate governance in preventing fraud are presented in Table VII.

Table VII:
Respondents' Perspectives on the Effectiveness of Corporate Governance in Fraud Prevention

No	Corporate Governance Question	Mean	SD	t-value	Sig
1	In my firm, the audit committee plays a significant role in fraud prevention.	4.22	0.99	14.227	0.000 ***
2	In my firm, the funding for the internal audit department has been significantly changed over the past three years.	4.20	0.91	15.231	0.000 ***
3	In my firm, high pressure is placed on employees to meet the organization's objectives.	3.83	1.10	8.690	0.000 ***
4	In my firm, external audit is playing a significant role in fraud prevention.	4.20	1.04	13.305	0.000 ***
5	In my firm, funding for employee fraud prevention training has been significantly changed over the past three years.	4.09	0.97	12.925	0.000 ***

No	Corporate Governance Question	Mean	SD	t-value	Sig
6	In my firm, top management is accountable to the same fraud standards as non-management employees.	4.12	0.94	13.778	0.000 ***
	Overall Average	4.11	0.71	17.988	0.000 ***

Notes: *** Significant at 1%; ** Significant at 5%

Table VII shows that respondents' perspectives on the corporate governance function have mean values ranging from 3.83 to 4.22, with a range of 0.39. These values exceed the cut-off point of 3 (t = 17.988, p = 0.000), indicating that corporate governance is effective in preventing fraud. Respondents expressed strong support for funding of internal audit departments and fraud prevention training, with significant t-values of 15.231 and 12.925 (p = 0.000). The audit committee also plays a crucial role in fraud prevention (t = 14.227, p = 0.000), and top management is held accountable to the same fraud prevention standards as non-management employees (t = 13.778, p = 0.000). External audits and the high pressure placed on employees to achieve organizational objectives also contribute significantly to fraud prevention (t = 13.305 and 8.690, p = 0.000).

These findings align with the research of Weisbach (1993) and Evans et al. (2002), which emphasize the importance of high-quality corporate governance. The results further indicate notable improvements in funding for internal audit departments and fraud prevention training over the past three years, consistent with studies by Halbouni et al. (2016) and Bierstaker et al. (2006). Overall, these results support the second hypothesis that corporate governance has a significant effect on fraud prevention and are in line with the findings of Mangala and Kumari (2017). However, they contrast with Rehman and Hashim (2020), who found that fraud risk assessment does not significantly impact good corporate governance.

Third Hypothesis Testing

The third hypothesis, H3, that there is no significant difference in the use of technological and traditional methods for fraud prevention among financial accountants, internal auditors, and external auditors was not supported. To test this hypothesis, a paired-sample t-test was employed. The study included 33 questions related to fraud prevention, comprising 12 questions on information technology methods and 21 questions on traditional techniques. The results of the analysis of respondents' perspectives on fraud prevention are presented in Table VIII.

Table VIII
Respondents' Perspectives of Fraud Prevention Techniques in Indonesia

No	Fraud Prevention Technique	Mean	SD	t-value	Sig	Rank
1	Corporate code of conduct/ethics policy	4.51	0.65	26.944	0.000***	3
2	Internal control review and improvement	4.57	0.62	29.279	0.000***	1
3	Reference checks on employees	4.38	0.76	20.749	0.000***	20
4	Employment contracts	4.34	0.80	19.374	0.000***	26
5	Fraud auditing	4.45	0.79	21.113	0.000***	17
6	Fraud reporting policy	4.41	0.78	20.906	0.000***	18

No	Fraud Prevention Technique	Mean	SD	t-value	Sig	Rank
7	Fraud hotline	4.25	0.94	15.301	0.000***	33
8	Whistle-blowing policy	4.33	0.77	20.037	0.000***	24
9	Operational audits	4.50	0.66	26.334	0.000***	4
10	Fraud prevention	4.44	0.74	22.316	0.000***	10
11	Ethics training	4.51	0.67	26.018	0.000***	5
12	Surveillance equipment	4.43	0.75	21.919	0.000***	13
13	Increased attention of senior management	4.42	0.74	22.125	0.000***	11
14	Code of sanctions against suppliers / contractors	4.41	0.74	22.033	0.000***	12
15	Increased role of the audit committee	4.38	0.81	19.603	0.000***	25
16	Surveillance of electronic correspondence	4.38	0.84	18.884	0.000***	28
17	Staff rotation policy	4.24	0.91	15.795	0.000***	31
18	Security department	4.36	0.84	18.731	0.000***	29
19	Employee counseling programs	4.33	0.89	17.337	0.000***	30
20	Cash reviews	4.47	0.67	25.270	0.000***	6
21	Inventory observation	4.51	0.70	24.793	0.000***	8
22	Bank reconciliations	4.53	0.62	28.431	0.000***	2
23	Ethics officer	4.38	0.75	21.390	0.000***	16
24	Fraud software	4.29	0.95	15.607	0.000***	32
25	Discovery sampling	4.33	0.70	21.797	0.000***	14
26	Data mining	4.31	0.73	20.665	0.000***	22
27	Digital analysis	4.44	0.80	20.675	0.000***	21
28	Continuous auditing	4.45	0.68	24.632	0.000***	9
29	Financial ratios	4.46	0.67	25.157	0.000***	7
30	Virus protection	4.44	0.82	20.203	0.000***	23
31	Password protection	4.44	0.77	21.544	0.000***	15
32	Firewalls	4.34	0.80	19.374	0.000***	27
33	Filtering software	4.38	0.77	20.830	0.000***	19
—	**Overall Average**	4.41	0.58	27.892	0.000***	—

Notes: *** significant at 1%

Table VIII indicates that internal control review and improvement is the most highly rated traditional technique for fraud prevention in Indonesia (Q2; mean = 4.57; t = 29.279; p = 0.000), followed by bank reconciliation (Q22; mean = 4.53; t = 28.431; p = 0.000) and corporate code of conduct (Q1; mean = 4.51; t = 26.944; p = 0.000). The lowest-ranked techniques were staff rotation policies (Q17; mean = 4.24; t = 15.795; p = 0.000), fraud

prevention software (Q24; mean = 4.29; t = 15.607; p = 0.000), and fraud hotlines (Q7; mean = 4.25; t = 15.301; p = 0.000). Differences in the use of fraud prevention techniques between financial accountants and auditors were examined using paired sample t-tests and one-way ANOVA.

Table IX
Paired sample t-test results

Variable	Mean	SD	t	p-value
Difference in usage between traditional and technological audit techniques	0.02909	0.25571	1.312	0.192

The paired-sample t-test revealed no significant difference between technology-based and traditional audit techniques in fraud prevention in Indonesia, with a mean difference of 0.02909, t( ) = 1.312, and p = 0.192. This indicates that both approaches are equally effective in preventing fraud.

Table X
One-Way ANOVA Results

Variable	Mean Square	F	p-value
Use of technological and traditional audit techniques by financial accountants, internal auditors, and external auditors	0.335	0.990	0.374

The One-Way ANOVA results indicate an F value of 0.990 with a significance level of 0.374, suggesting that there is no significant difference in the use of technology-based and traditional audit techniques among financial accountants, internal auditors, and external auditors in Indonesia. This implies that all groups employ both technological and traditional methods for fraud prevention.

Fourth Hypothesis Testing

This study employs the One-Way ANOVA test to examine Hypothesis H4, which investigates the influence of factors such as position, qualifications, experience, company operations, business type, issuance status, and company size on auditors' perceptions of fraud, governance effectiveness, and fraud prevention methods. The results are presented in Tables XI and XII.

Table XI
Analyzing the impact of respondents' backgrounds and organizational characteristics on their perspectives of whether my firm has been a victim of fraud using the One-Way ANOVA Test.

Factor	Category	Mean	SD	F value	Sig
Current Position	Financial Accountant	3.12	1.10	0.571	0.567
	Internal Auditor	3.13	0.87		
	External Auditor	3.31	0.99		
Professional Qualification	Secondary School	3.83	1.33	0.889	0.449

Factor	Category	Mean	SD	F value	Sig
	Diploma Degree	3.08	1.08		
	Bachelor	3.17	0.99		
	Master Degree	3.23	0.93		
Work Experience (years)	5–10	3.13	0.99	0.961	0.385
	10–20	3.38	1.06		
	>20	3.50	1.05		
Company Operation	Local Firm	3.14	1.03	1.518	0.223
	Regional Firm	3.35	0.97		
	International Firm	2.87	0.99		
Business Type	Manufacturing Company	3.23	1.18	1.516	0.201
	Retail Company	3.38	0.80		
	Financial Institution	3.32	1.06		
	Service Company	2.90	0.85		
	Governmental Organization	3.67	0.82		
Listing Status	Listed Company	3.22	1.03	0.196	0.658
	Unlisted Company	3.14	0.97		
Company Size	Small (<500 employees)	3.16	0.97	0.304	0.738
	Medium (501–1000 employees)	3.23	1.01		
	Large (>1000 employees)	3.35	1.18		

Table XI indicates that demographic factors do not significantly influence respondents' perceptions of fraud in their organizations. These findings are consistent with previous studies by Halbouni et al. (2016) and Bierstaker et al. (2006).

Table XII presents the analysis of the impact of respondents' backgrounds and organizational characteristics on their perceptions of the expected future increase in fraud, using the One-Way ANOVA test.

Factor	Category	Mean	SD	F value	Sig
Current Position	Financial Accountant	3.18	1.17	4.938	0.009***
	Internal Auditor	3.28	1.25		
	External Auditor	3.86	1.08		
Professional Qualification	Secondary School	4.00	1.26	0.724	0.539
	Diploma Degree	3.58	1.38		
	Bachelor	3.39	1.17		
	Master Degree	3.69	1.18		
Work Experience (years)	5–10	3.46	1.20	0.665	0.516

Factor	Category	Mean	SD	F value	Sig
	10–20	3.38	1.24		
	>20	4.00	0.89		
Company Operation	Local Firm	3.46	1.16	3.828	0.024**
	Regional Firm	3.67	1.16		
	International Firm	2.73	1.22		
Business Type	Manufacturing Company	3.74	1.14	0.996	0.412
	Retail Company	3.52	1.17		
	Financial Institution	3.32	1.12		
	Service Company	3.33	1.30		
	Governmental Organization	3.00	1.10		
Listing Status	Listed Company	3.59	1.25	3.003	0.085*
	Unlisted Company	3.21	1.01		
Company Size	Small (<500 employees)	3.44	1.19	0.472	0.625
	Medium (501–1000 employees)	3.77	1.01		
	Large (>1000 employees)	3.40	1.31		

Notes: *** significant 1%; ** significant 5% and * significant 10%

The ANOVA results indicate that **Current Position** significantly influences expectations of increased future fraud (F = 4.938, p = 0.009), with external auditors expressing the highest expectations. Company Operations also have a significant effect (F = 3.828, p = 0.024), where respondents from regional companies anticipate the highest likelihood of future fraud, followed by local companies, and international companies the lowest. Additionally, a marginally significant effect was observed for Listing Status (F = 3.003, p = 0.085), with companies listed on the Indonesia Stock Exchange expecting a higher probability of future fraud compared to unlisted companies.

Table XIII presents the One-Way ANOVA test results analyzing the impact of respondents' backgrounds and organizational characteristics on their perceptions of the effectiveness of the audit committee.

Factor	Category	Mean	SD	F value	Sig
Current Position	Financial Accountant	4.18	0.98	0.635	0.532
	Internal Auditor	4.09	1.06		
	External Auditor	4.33	0.95		
Professional Qualification	Secondary School	4.17	1.60	0.110	0.954
	Diploma Degree	4.33	0.65		
	Bachelor	4.20	1.01		
	Master Degree	4.31	0.85		
Work Experience (years)	5–10	4.24	0.97	0.990	0.374

Factor	Category	Mean	SD	F value	Sig
	10–20	4.27	0.96		
	>20	3.67	1.37		
Company Operation	Local Firm	3.94	1.16	5.649	0.004***
	Regional Firm	4.53	0.72		
	International Firm	4.27	0.70		
Business Type	Manufacturing Company	4.56	0.79	1.854	0.123
	Retail Company	4.05	1.24		
	Financial Institution	4.07	1.12		
	Service Company	4.05	0.89		
	Governmental Organization	4.33	0.82		
Listing Status	Listed Company	4.46	0.84	18.209	0.000***
	Unlisted Company	3.72	1.10		
Company Size	Small (<500 employees)	4.19	1.04	0.404	0.669
	Medium (501–1000 employees)	4.15	0.80		
	Large (>1000 employees)	4.40	0.82		

Notes: *** significant at 1%; ** significant at 5%; * significant at 10%

The F values and significance levels indicate that Company Operations and Listing Status have a significant effect on audit committee effectiveness. Respondents from regional companies and companies listed on the Indonesia Stock Exchange report higher perceived audit committee effectiveness compared to those from international and local companies, as well as unlisted companies.

Table XIV presents the One-Way ANOVA test results analyzing the impact of respondents' backgrounds and organizational characteristics on their perceptions of the effectiveness of the internal audit function.

Factor	Category	Mean	SD	F value	Sig
Current Position	Financial Accountant	4.20	0.99	0.181	0.834
	Internal Auditor	4.28	0.81		
	External Auditor	4.16	0.90		
Professional Qualification	Secondary School	4.67	0.82	1.148	0.332
	Diploma Degree	4.42	0.79		
	Bachelor	4.13	0.96		
	Master's Degree	4.38	0.51		
Work Experience (years)	5–10	4.13	0.95	1.646	0.197
	10–20	4.38	0.80		
	>20	4.67	0.52		

Factor	Category	Mean	SD	F value	Sig
Company Operation	Local Firm	4.22	0.92	1.201	0.304
	Regional Firm	4.27	0.80		
	International Firm	3.87	1.19		
Business Type	Manufacturing Company	4.59	0.79	3.594	0.008***
	Retail Company	4.05	1.02		
	Financial Institution	4.29	0.85		
	Service Company	3.87	0.92		
	Governmental Organization	4.00	0.63		
Listing Status	Listed Company	4.46	0.67	25.346	0.000***
	Unlisted Company	3.67	1.11		
Company Size	Small (<500 employees)	4.21	0.88	0.540	0.584
	Medium (501–1000 employees)	4.38	0.65		
	Large (>1000 employees)	4.05	1.19		

Notes: *** significant at 1%; ** significant at 5%; * significant at 10%

The F and significance values indicate that Business Type ($F = 3.594$, $p = 0.008$) and Listing Status ($F = 25.346$, $p < 0.001$) significantly affect the perceived effectiveness of internal audit. Respondents from manufacturing companies and companies listed on the Indonesia Stock Exchange report the highest perceptions of internal audit effectiveness in fraud prevention compared to other business types and company statuses.

Table XV presents the One-Way ANOVA test results examining the effectiveness of external audit, analyzing how respondents' backgrounds and organizational characteristics influence their perspectives.

Factor	Category	Mean	SD	F value	Sig
Current Position	Financial Accountant	4.04	1.11	4.358	0.015**
	Internal Auditor	3.94	1.16		
	External Auditor	4.53	0.81		
Professional Qualification	Secondary School	4.50	0.84	0.175	0.913
	Diploma Degree	4.17	1.40		
	Bachelor	4.20	1.04		
	Master's Degree	4.15	0.80		
Work Experience (years)	5–10	4.18	1.07	2.232	0.111
	10–20	4.46	0.71		
	>20	3.50	1.52		
Company Operation	Local Firm	4.08	1.10	1.131	0.326
	Regional Firm	4.36	0.99		

Factor	Category	Mean	SD	F value	Sig
	International Firm	4.13	0.99		
Business Type	Manufacturing Company	4.46	1.00	1.131	0.345
	Retail Company	4.19	1.17		
	Financial Institution	4.21	1.03		
	Service Company	3.97	1.06		
	Governmental Organization	4.00	0.63		
Listing Status	Listed Company	4.39	0.94	9.410	0.003***
	Unlisted Company	3.81	1.14		
Company Size	Small (<500 employees)	4.32	0.97	2.664	0.073*
	Medium (501–1000 employees)	3.77	1.24		
	Large (>1000 employees)	3.90	1.17		

Notes: *** significant at 1%; ** significant at 5%; * significant at 10%

The F and significance values indicate that Current Position (F = 4.358, p = 0.015) and Listing Status (F = 9.410, p = 0.003) significantly influence the perceived effectiveness of external audit, with external auditors and companies listed on the Indonesia Stock Exchange reporting the highest effectiveness. Company Size also shows a marginal effect (F = 2.664, p = 0.073), with respondents from small companies providing the highest ratings.

Table XVI presents the One-Way ANOVA test results examining the impact of respondents' backgrounds and organizational characteristics on their perspectives regarding the use of traditional fraud prevention techniques.

Factor	Category	Mean	SD	F value	Sig
Current Position	Financial Accountant	4.37	0.67	0.332	0.718
	Internal Auditor	4.38	0.49		
	External Auditor	4.46	0.63		
Professional Qualification	Secondary School	4.79	0.34	1.637	0.184
	Diploma Degree	4.62	0.43		
	Bachelor	4.35	0.65		
	Master's Degree	4.49	0.52		
Work Experience (years)	5–10	4.37	0.64	0.632	0.533
	10–20	4.52	0.49		
	>20	4.51	0.69		
Company Operation	Local Firm	4.39	0.62	0.060	0.942
	Regional Firm	4.42	0.64		
	International Firm	4.44	0.51		
Business Type	Manufacturing Company	4.69	0.48	3.948	0.005***

Factor	Category	Mean	SD	F value	Sig
	Retail Company	4.37	0.53		
	Financial Institution	4.42	0.52		
	Service Company	4.18	0.77		
	Governmental Organization	4.13	0.30		
Listing Status	Listed Company	4.53	0.54	11.763	0.001***
	Unlisted Company	4.15	0.68		
Company Size	Small (<500 employees)	4.42	0.61	0.311	0.733
	Medium (501–1000 employees)	4.28	0.81		
	Large (>1000 employees)	4.44	0.51		

Notes: *** significant at 1%; ** significant at 5%; * significant at 10%

The F and significance values indicate that **Business Type** (F = 3.948, p = 0.005) significantly affects the use of traditional fraud prevention techniques, with manufacturing companies applying these methods the most, followed by financial institutions, retail companies, service companies, and governmental organizations. **Listing Status** (F = 11.763, p = 0.001) also has a significant effect, with listed companies utilizing traditional techniques more extensively than unlisted companies.

Table XVII presents the One-Way ANOVA test results assessing the impact of participants' backgrounds and organizational characteristics on their attitudes toward the use of technological methods for fraud prevention.

Factor	Category	Mean	SD	F value	Sig
Current Position	Financial Accountant	4.28	0.74	0.865	0.424
	Internal Auditor	4.36	0.53		
	External Auditor	4.45	0.57		
Professional Qualification	Secondary School	4.79	0.27	1.552	0.204
	Diploma Degree	4.53	0.50		
	Bachelor	4.31	0.67		
	Master's Degree	4.46	0.51		
Work Experience (years)	5–10	4.33	0.65	0.507	0.604
	10–20	4.44	0.55		
	>20	4.53	0.70		
Company Operation	Local Firm	4.35	0.63	0.059	0.943
	Regional Firm	4.36	0.68		
	International Firm	4.42	0.53		
Business Type	Manufacturing Company	4.66	0.45	4.411	0.002***
	Retail Company	4.20	0.68		

Factor	Category	Mean	SD	F value	Sig
	Financial Institution	4.42	0.57		
	Service Company	4.17	0.74		
	Governmental Organization	4.00	0.26		
Listing Status	Listed Company	4.51	0.55	17.018	0.000***
	Unlisted Company	4.05	0.68		
Company Size	Small (<500 employees)	4.37	0.63	0.301	0.741
	Medium (501–1000 employees)	4.25	0.82		
	Large (>1000 employees)	4.43	0.53		

Notes: *** significant at 1%; ** significant at 5%; * significant at 10%

Business Type ($F = 4.411$, $p = 0.002$) and Listing Status ($F = 17.018$, $p < 0.001$) significantly influence the use of technology-based fraud prevention techniques. Respondents from manufacturing companies and companies listed on the Indonesia Stock Exchange report higher utilization of these technological methods compared to other business types and unlisted companies.

RESULTS AND DISCUSSION

There are varying perspectives among financial accountants, internal auditors, and external auditors regarding fraud within their organizations. All groups acknowledge that fraud has occurred and is likely to increase in the future. Financial accountants tend to focus more on record-keeping and the integrity of financial statements, while internal and external auditors emphasize fraud prevention measures. Research indicates that traditional methods such as inventory observations, bank reconciliations, and internal control reviews are effective in mitigating fraud. Corporate governance has a significant impact on fraud prevention, with the role of internal audit being particularly influential in Indonesia. Funding for internal audit departments is increasing, and there is a positive relationship between effective audit committees, internal audit functions, and reduced fraud incidence. The role of internal auditors in corporate governance has expanded, highlighting their strategic importance.

The study found no significant differences in the effectiveness of technological versus traditional fraud prevention methods among financial accountants, internal auditors, and external auditors, as all groups perceive benefits from using both approaches. Traditional techniques, such as internal control reviews, and technological methods, such as discovery sampling, are both actively employed in fraud prevention. Respondents' perspectives on fraud and their expectations for future improvements are influenced by factors including current position, professional qualifications, work experience, and company size. In particular, external auditors are expected to increasingly focus on fraud prevention, with corporate governance recognized as a key determinant of effectiveness. Regional companies are projected to face a higher risk of future fraud, whereas international companies are expected to have lower fraud exposure.

Analysis of the data highlights several key insights for fraud prevention in Indonesian companies. First, financial accountants, internal auditors, and external auditors generally share similar views on fraud incidence, showing no significant differences between groups. Second, corporate governance is a critical component of fraud prevention, with internal audit funding serving as a vital control measure. Traditional techniques, such as internal control reviews, are widely applied, while continuous auditing represents the most frequently used technological method in fraud detection. Organizational factors—such as company operations, business type, listing status, and company size—as well as individual factors—such as position, qualifications, and work experience—affect perceptions of fraud, governance effectiveness, and the adoption of prevention techniques.

The findings underscore the essential role of corporate governance in both fraud prevention and disclosure. Senior management and board members are provided with insights into the importance of oversight functions in fulfilling their responsibilities to stakeholders. The significant influence of the audit committee highlights the need for continuous training, orientation, and updates on standards and regulatory changes to strengthen risk oversight. Internal auditors must enhance their capabilities in addressing strategic, business, financial, compliance, technology, and fraud-related risks. External auditors are responsible for ensuring audit process efficiency, with management and audit committees involved in evaluating effectiveness.

The results also highlight the importance of fostering a strong business ethics culture to prevent and mitigate fraudulent activities while promoting honesty across the organization. Technology plays a complementary role, demonstrating to senior management the benefits of a systematic approach to fraud investigation, integrating both software tools and traditional auditing techniques.

CONCLUSION

Fraud prevention in Indonesian companies requires a balanced approach integrating corporate governance, traditional auditing practices, and technological methods. Internal and external auditors, alongside financial accountants, play complementary roles, supported by effective audit committees and strong ethical standards. Organizational characteristics and individual auditor factors shape perceptions and adoption of fraud prevention techniques, emphasizing the need for continuous training, strategic oversight, and technological integration to strengthen fraud mitigation efforts.

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