

COSO-Based Internal Control and Accounting Information System Quality on Fraud Prevention

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Abstract

This study analyzes the effect of COSO-based internal control and accounting information system (AIS) quality on fraud prevention within organizations. Fraud remains a serious issue that threatens financial stability, transparency, and stakeholder trust, particularly when control mechanisms are not effectively implemented. This research applies a descriptive quantitative approach using questionnaire data collected from 39 respondents and analyzed through multiple linear regression. The results indicate that COSO-based internal control has a positive and significant effect on fraud prevention with a significance value of $0.000 < 0.05$, showing that a strong control environment, effective risk assessment, control activities, information and communication, and continuous monitoring can reduce opportunities for fraudulent behavior. AIS quality also demonstrates a positive and significant effect on fraud prevention with a significance value of $0.004 < 0.05$, as accurate, timely, reliable, and secure financial information enhances transaction oversight. Simultaneously, both variables provide a substantial contribution, with an Adjusted R^2 value of 0.874, meaning that 87.4% of the variation in fraud prevention is explained by the model. These findings emphasize the importance of integrating internal control frameworks with high-quality AIS, supported by ethical culture and effective supervision, to minimize fraud risk.

Keywords: Fraud, COSO, Accounting Information System, Internal Control, Fraud Prevention

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1. Introduction

Fraud can be defined as a deliberate manipulative act intended to mislead external parties for unilateral gain. According to the classical theory proposed by (Cressey, 1953), the emergence of fraud is influenced by three key factors: pressure, opportunity, and rationalization. Emphasizes that fraud constitutes deceptive practices carried out by individuals or collective actors that pose risks of financial loss and undermine stakeholder trust. In line with this view, (Wahyuni, 2023) highlights the technical dimension of fraud as a distortion of information in financial statements aimed at misleading users and concealing material facts.

Issues related to fraud in Indonesia have shown a significantly increasing trend across various sectors, including both public and private institutions. The emergence of major deviation cases indicates the existence of critical gaps that require serious attention, particularly through the strengthening of internal control governance and the integration of more preventive accounting information systems. The Jiwasraya case illustrates how fraud was conducted through a combination of accounting data

manipulation and abuse of authority in investment decisions. The company deliberately presented misleading financial statements to obscure real losses resulting from high-risk investments. The systemic impact of these actions not only caused substantial financial losses to customers but also severely damaged the reputation of the national insurance industry. Investigations by authorized institutions confirmed the neglect of Good Corporate Governance (GCG) principles by top management.

Systemic fraud at Jiwasraya involved two primary aspects: the exploitation of high-risk investments and the manipulation of financial statements to conceal the company's insolvency. Unaccountable investment decisions by management violated transparency principles and resulted in massive financial losses amounting to IDR 16.81 trillion. These manipulations were intentionally carried out to mislead regulators and the public regarding the company's solvency, ultimately causing collective losses for thousands of policyholders and the state.

In addition to the Jiwasraya case, fraud can also be observed in the case of PT Garuda Indonesia. The financial scandal uncovered in 2020 revealed systematic abuse of authority by top management.

Amid revenue pressures caused by the COVID-19 pandemic, the national airline was implicated in cost inflation (mark-up) practices related to aircraft leasing contracts that exceeded market prices. Investigations by the Corruption Eradication Commission (KPK) identified conflicts of interest in fleet procurement, where illegal commissions were channeled to certain officials. The impact of these inefficiencies and fund misappropriation was highly destructive, with estimated losses reaching IDR 22 trillion. This phenomenon underscores that without transparency and robust internal control systems, state-owned enterprises (SOEs) remain highly vulnerable to corruption and budget manipulation. Collectively, these two cases reinforce the urgency of strengthening accounting information systems and enhancing the effectiveness of internal controls as preventive mechanisms against future asset misappropriation.

Internal control is not merely an administrative procedure but a systemic oversight mechanism that is crucial for organizations in managing resources optimally. In addition to ensuring transaction accuracy and the reliability of financial reporting, internal controls serve as the frontline defense against asset misuse and flawed decision-making. The effectiveness of internal controls is directly correlated with stakeholder trust, as it provides assurance of transparency and operational accountability. Therefore, strengthening internal control systems is a fundamental requirement for organizations seeking to build credible and sustainable decision-making foundations.

The implementation of COSO dimensions within organizations transforms into a systemic defense mechanism against fraud threats. Through proactive risk assessment, entities can design corrective actions to prevent abuses of authority before losses escalate. Recent studies indicate that rigid internal controls significantly reduce deviations in asset management and operational activities (Saputri, 2023) dan (Arsyika Dwi, A. S., & Wulandari, I., 2024) Transparent information and communication systems support decision-making accuracy while facilitating early detection through measurable monitoring. (Yusuf Dani, R., & Sulaiman, H., 2023) caution that without strong integration into organizational culture, the COSO framework cannot achieve its optimal potential in fostering fraud-free governance.

Previous literature presents varied perspectives on the effectiveness of the COSO framework in mitigating fraud. (Saputri, 2023) asserts that strengthening COSO dimensions—particularly through ethical internalization and proactive risk assessment—can suppress fraud probability and enhance managerial transparency. This is supported by (Arsyika Dwi, A. S., & Wulandari, I., 2024), who argue that COSO functions optimally when integrated with advanced information systems and continuous human resource competency development. However, a contrasting perspective is offered by (Pohan, 2024), who found

that partial implementation of COSO in the banking sector does not significantly impact fraud prevention. These findings suggest that internal control effectiveness does not operate in isolation but is heavily influenced by regulatory dynamics and organizational culture. Accordingly, (Yusuf Dani, R., & Sulaiman, H., 2023) conclude that synergy among the COSO framework, rigid audit mechanisms, and structured supervision is necessary to achieve a comprehensive fraud prevention system.

Beyond COSO-based internal controls, accounting information systems (AIS) also serve as vital instruments in fraud mitigation by ensuring transparency, accuracy, and accountability of financial data. The strategic role of AIS in preventing fraud lies in its ability to integrate oversight throughout every accounting cycle. With reliable AIS support, organizations can maintain the integrity of financial reporting through controlled data management (Wahyuni, 2023). These systems distribute authority proportionally to prevent the concentration of control in a single party during transaction processes. (Fadzil Haron, H., & Jantan, M., 2024) highlight that the use of technology for automated monitoring enables auditors to detect data inconsistencies at an earlier stage. This is reinforced by systemic validation controls that proactively prevent transactions that conflict with organizational policies (Lestari, 2023). As an integrated instrument, AIS effectively closes opportunity gaps that could otherwise be exploited for information manipulation and personal gain.

Several empirical studies indicate that the role of AIS in fraud prevention is highly dependent on organizational context. On one hand, AIS has been proven to be a robust preventive tool in enhancing system quality and transparency (Grahita Dwi, A. S., & Wulandari, I., 2025). On the other hand, functional limitations exist where AIS predominantly focuses on technical transaction controls rather than comprehensive audit oversight (Darmayanti et al., 2021). Moreover, (Pohan, 2024) notes the insignificant influence of AIS in the banking sector, reinforcing the argument that accounting technology sophistication must be synergized with internal factors such as an anti-fraud organizational culture. Collectively, these findings suggest that while AIS is a vital component, its success in eliminating fraud is ultimately determined by its integration with the organization's internal control environment..

2. Methods

2.1 Research Object

The object of this research is KJA Risa Bur, located at Jln. Pemuda No. 43E, Olo, West Padang District, Padang City, West Sumatra 25117.

2.2 Research Design

Research design refers to a systematic and objective plan for data collection, processing, analysis, and

presentation, aimed at solving research problems or testing hypotheses in order to develop general principles. In this study, a descriptive research design is employed. According to (Sugiyono, 2019), descriptive research is conducted to identify the existence of independent variables, whether consisting of one or more variables, without making comparisons or examining relationships with other variables. Descriptive research serves to describe or provide an overview of the object under study based on the data obtained. This approach does not emphasize causal relationships but allows researchers to conduct a broader examination of the research object (Sugiyono, 2019). Through this descriptive method, the researcher is expected to obtain an accurate depiction of the influence of COSO-Based Internal Control (X1) and Accounting Information System Quality (X2) on Fraud Prevention (Y).

2.3 Research Variables and Operational Definitions

2.3.1 Research Variables

According to (Sugiyono, 2019), a research variable is an attribute, characteristic, or value of a person, object, or activity that has certain variations determined by the researcher to be studied and subsequently drawn into conclusions. This study uses dependent and independent variables.

2.3.1.1 Dependent Variable

The dependent (bound) variable is a variable that is influenced or becomes the result of the independent variable (Sugiyono, 2019). In this study, the dependent variable is Fraud Prevention (Y).

2.3.1.2 Independent Variables

According to (Sugiyono, 2019), independent (free) variables are variables that influence or cause changes in the dependent variable. In this study, the independent variables are COSO-Based Internal Control (X1) and Accounting Information System Quality (X2).

2.3.2 Operational Definition of Variables

2.3.2.1 COSO-Based Internal Control (X1)

COSO-Based Internal Control is used as an independent variable and is defined as a process designed and implemented by management and all organizational personnel to provide reasonable assurance regarding the achievement of organizational objectives, particularly in terms of the reliability of reporting, operational effectiveness and efficiency, and compliance with applicable regulations. COSO-based internal control is measured through five main components: control environment, risk assessment, control activities, information and communication, and monitoring. The COSO framework emphasizes that the effectiveness of internal control is strongly influenced by the integration of systems, policies, and

organizational behavior in preventing risks and fraud ((COSO), 2013)(Nguyen & Nguyen, H. T., 2021).

2.3.2.2 Accounting Information System Quality (X2)

In this study, Accounting Information System Quality is used as an independent variable and is defined as the degree to which an accounting information system is capable of producing financial information that is accurate, relevant, timely, and reliable to support decision-making and organizational control. The quality of an accounting information system is reflected in system reliability, timeliness of information delivery, data accuracy, ease of use, and system security. A high-quality accounting information system serves as a supporting tool for the implementation of internal control; however, its effectiveness largely depends on how the system is utilized by users and supported by organizational policies (Romney & Steinbart, P. J., 2021) and (Susanto Meiryani, & Sudrajat, D., 2022).

2.3.2.3 Fraud Prevention (Y)

Fraud Prevention is used as a dependent variable and is defined as a set of policies, procedures, and control mechanisms designed to prevent the occurrence of fraud within an organization. Fraud prevention is measured using indicators such as segregation of duties, monitoring systems, enforcement of sanctions, the existence of a whistleblowing system, and the implementation of an ethical and integrity-based organizational culture. International studies indicate that fraud prevention is a key element in strengthening internal control, as it is capable of reducing both the opportunity and motivation for fraudulent behavior (Albrecht Albrecht, C. O., Albrecht, C. C., & Zimbelman, M. F., 2020) (ACFE), 2024).

2.4 Population and Research Sample

2.4.1 Research Population

According to (Sugiyono, 2019), a population is a generalized area consisting of objects or subjects that possess certain quantities and characteristics determined by the researcher to be studied and from which conclusions are drawn. The population in this study comprises all employees of KJA Risa Bur, totaling 42 individuals.

2.4.2 Research Sample

According to (Sugiyono, 2019), a sample is a subset of the total number and characteristics of a population. When the population is large and it is not feasible for researchers to study all members due to limitations of time, cost, and effort, a sample may be selected from the population. In this study, the sampling technique used is saturated sampling, also known as a census sampling technique. According to (Sugiyono, 2019), saturated sampling is a technique in which all members of the population are used as the research sample, and it is commonly applied when the population size is

relatively small. Therefore, the sample size in this study is equal to the population size, namely 42 respondents.

2.5 Data Sources and Data Types

2.5.1 Data Source

The data source used in this study is primary data. According to (Sugiyono, 2019), primary data are data sources that directly provide data to the data collector. These primary data were specifically collected by the researcher to address the research questions.

2.5.2 Type of Data

Quantitative research is defined as a research method based on the philosophy of positivism, used to examine specific populations or samples, with data collection conducted using research instruments and data analysis performed using quantitative or statistical techniques, aimed at testing predetermined hypotheses (Sugiyono, 2019). Accordingly, this study adopts a quantitative approach to ensure a more structured, precise, and systematically controlled data collection process, enabling clear hypothesis testing through statistical calculations.

2.6 Research Instruments and Instrument Blueprint

2.6.1 Research Instrument

According to (Sugiyono, 2019), a research instrument is a tool used to measure observed natural or social phenomena. In this study, a questionnaire is employed as the research instrument. According to (Sugiyono, 2019), a questionnaire is a data collection technique conducted by providing a series of questions or statements to respondents for them to answer. The questionnaire contains several items related to the research problem, and responses are measured using a Likert scale for hypothesis testing purposes. According to (Sugiyono, 2019), the Likert scale is used to measure the attitudes, opinions, and perceptions of individuals or groups regarding social phenomena.

2.7 Data Analysis Methods

Data analysis is a stage of data processing in which the collected data are analyzed according to the data analysis techniques applied in the study. According to (Sugiyono, 2019), data analysis is defined as the activity of grouping data based on variables and respondent characteristics, presenting data for each research variable, performing calculations to address the research questions, and conducting statistical tests to examine the proposed hypotheses after all data from respondents or other data sources have been collected. In this study, data processing was conducted using the Statistical Package for Social Sciences (SPSS) version 25.

2.7.1 Descriptive Statistical Analysis

Descriptive statistics refer to analytical techniques used to describe and examine the organization and presentation of data collected in a research study. Descriptive statistics are used to analyze data by describing the data as they are, without the intention of making generalized conclusions or inferences.

2.7.2 Research Instrument Testing

2.7.2.1 Validity Test

A validity test is a measure that indicates the degree of accuracy of a research instrument. Each statement or question in the questionnaire serves as an instrument used to measure the validity of each item. A valid instrument has a high level of validity, whereas an instrument with low validity is considered less valid.

2.7.2.2 Reliability Test

Reliability testing is used to determine the consistency of a measurement instrument that employs a questionnaire. The purpose of this test is to assess whether the measurement remains consistent when repeated. The reliability measurement tool used in this study is Cronbach's Alpha, a method applied to assess the reliability of instruments measuring attitudes or behaviors.

2.7.3 Classical Assumption Tests

2.7.3.1 Normality Test

According to (Ghozali, 2018), the normality test aims to examine whether the independent and dependent variables in a regression model are normally distributed. A good regression model is one in which the data distribution is normal or approximately normal, meaning that it does not deviate significantly to the left or right of the normal curve. The normality of the data is tested using the Kolmogorov-Smirnov test in SPSS with a significance level of 0.05.

Another method used to assess the normality of residuals is the Normal Probability Plot, which compares the cumulative distribution of the data with the normal distribution. If the residual data are normally distributed, the plotted points will follow the diagonal line (Ghozali, 2018).

2.7.3.2 Multicollinearity Test

The multicollinearity test aims to determine whether there is a correlation among independent variables in the regression model. A good regression model should not exhibit correlations among independent variables; in such cases, the independent variables are considered non-orthogonal.

These two measures indicate the extent to which an independent variable is explained by other independent variables. A commonly used cutoff value to indicate multicollinearity is a tolerance value of less than 0.10 or a VIF value greater than 10 (Ghozali, 2018).

2.7.3.3 Heteroscedasticity Test

The heteroscedasticity test aims to determine whether there is inequality in the variance of residuals across observations in the regression model. The presence of heteroscedasticity results in inefficient estimators, both in small and large samples. One method used to detect heteroscedasticity is by examining a scatterplot graph. If a specific pattern appears—such as points forming a regular pattern (wavy, widening, then narrowing)—this indicates the presence of heteroscedasticity. Conversely, if no clear pattern is observed and the points are randomly dispersed above and below zero on the Y-axis, heteroscedasticity is not present.

2.7.4 Multiple Linear Regression Analysis

Multiple linear regression analysis is employed to examine the effect of more than one independent variable on a single dependent variable. This regression model is used to explain the relationship and the magnitude of the influence of each independent variable on the dependent variable (Ghozali, 2018).

2.7.5 Hypothesis Testing

According to (Sugiyono, 2019), hypothesis testing is a statistical procedure used to test the validity of hypotheses formulated by researchers based on sample data. These hypotheses are essentially temporary answers to the research problem statements that must be empirically proven through data collection and analysis.

2.7.5.1 Partial Test (t-test)

The t-test is used to determine the extent to which an independent variable individually influences the dependent variable (Ghozali, 2018). The partial test (t-test) is used to determine the extent to which each independent variable individually influences the dependent variable. This test evaluates whether an independent variable has a statistically significant effect on the dependent variable when examined separately. The decision criteria are based on the comparison of significance values and calculated t-values. If the significance value (sig.) is less than 0.05, or if the calculated t-value is greater than the critical t-table value, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted, indicating that the independent variable has a significant partial effect on the dependent variable. Conversely, if the significance value is greater than 0.05, or if the calculated t-value is less than the t-table value, the null hypothesis is accepted and the alternative hypothesis is rejected, indicating that the independent variable does

not have a significant partial effect on the dependent variable.

2.7.5.2 Simultaneous Test (F-test)

(Ghozali, 2018) states that the F-statistical test is basically used to determine whether all independent variables included in the model simultaneously have an effect on the dependent variable. The simultaneous test (F-test) is conducted to examine whether all independent variables included in the regression model jointly influence the dependent variable. This test assesses the overall significance of the regression model by evaluating the combined effect of the independent variables. The decision criteria are based on the comparison of calculated F-values and significance levels. If the calculated F-value is greater than the F-table value or if the significance value is less than or equal to 0.05, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted, indicating that the independent variables simultaneously have a significant effect on the dependent variable. Conversely, if the calculated F-value is less than the F-table value or if the significance value is greater than 0.05, the null hypothesis is accepted and the alternative hypothesis is rejected, indicating that the independent variables do not simultaneously have a significant effect on the dependent variable.

2.7.5.3 Coefficient of Determination Test (R^2)

According to (Ghozali, 2018), the coefficient of determination (R^2) essentially measures how far the model is able to explain the variation of the dependent variable. In this study, the coefficient of determination is assessed using the Adjusted R^2 value. The value of the coefficient of determination ranges between zero and one. A small Adjusted R^2 value indicates that the ability of the independent variables to explain the variation of the dependent variable is very limited. Conversely, an Adjusted R^2 value close to one indicates that the independent variables provide nearly all the information required to predict the variation of the dependent variable.

3. Result and Discuss

3.1 Result

3.1.1 Descriptive Statistics

Table 1. Descriptive Statistics

	Descriptive Statistics				
	N	Minimum	Maximum	Mean	Std. Deviation
Fraud Prevention	39	56,00	115,00	95,4359	11,49095

COSO-Based Internal Control	39	118,00	220,00	185,4359	20,78182
Accounting Information System Quality	39	61,00	100,00	82,4615	8,16877
Valid N (listwise)	39				

The results of the Descriptive Statistical Analysis can be explained as follows:

1. Fraud Prevention (Y) variable has a minimum value of 118.00 and a maximum value of 220.00, with a mean of 185.4359 and a standard deviation of 20.78182.
2. COSO-Based Internal Control (X1) variable has a minimum value of 61.00 and a maximum value of 100.00, with a mean of 82.5641 and a standard deviation of 8.11041.
3. Accounting Information System Quality (X2) variable has a minimum value of 56.00 and a maximum value of 115.00, with a mean of 95.4359 and a standard deviation of 11.49095.

3.1.2 Classical Assumption Test

3.1.2.1 Normality Test

Based on the table above, the normality test shows a significance level greater than 0.05, which is 0.060. Therefore, the data can be considered normally distributed, and it is appropriate to proceed with the next stage of testing.

Table 2. One-Sample Kolmogorov-Smirnov Test

One-Sample Kolmogorov-Smirnov Test		Unstandardized Residual
N		39
Normal Parameters ^{a,b}	Mean	,0000000
	Std. Deviation	3,85830718
	Most Extreme Differences	
	Absolute	,138
	Positive	,127
	Negative	-,138
Test Statistic		,138
Asymp. Sig. (2-tailed)		,060 ^c

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Based on the Normal P-P Plot of Regression Standardized Residual graph above, it can be observed that the points are scattered around the diagonal line, and the distribution follows the diagonal line. This graph indicates that the regression model is suitable for use as it meets the normality assumption.

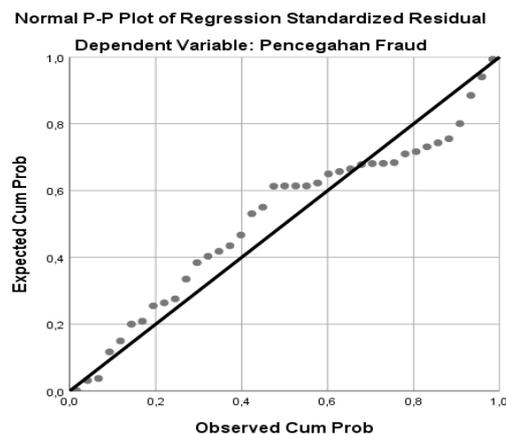


Figure 1. Normal P-P Plot of Regression Standardized Residual

3.1.2.2 Multikolinieritas Test

Table 3. Coefficients

Coefficients ^a		
Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
COSO-Based Internal Control	,379	2,641
Accounting Information System Quality	,379	2,641

a. Dependent Variable: Fraud Prevention

Based on the table above, it can be seen that the VIF value is less than 10 and the tolerance value is greater than 0.1. Therefore, it can be concluded that this regression model does not have multicollinearity issues.

3.1.2.3 Heteroskedastisitas Test

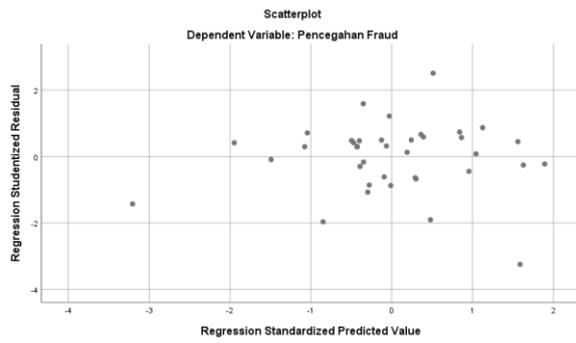


Figure 2. Scatterplot

From the graph above, it can be observed that there is no clear pattern. This is evident as the points are scattered above and below the zero mark and do not form any specific pattern. Therefore, it can be concluded that heteroscedasticity is not present.

3.1.3 Multiple Linear Regression Test

Table 4. Coefficients (Multiple Linear Regression Test)

Model		Coefficients ^a						Collinearity Statistics	
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Tolerance	VIF	
		B	Std. Error	Beta					
1	(Constant)	-9,276	6,789		-1,366	,180			
	COSO-Based Internal Control	,382	,052	,691	7,386	,000	,379	2,641	
	Accounting Information System Quality	,411	,132	,292	3,120	,004	,379	2,641	

a. Dependent Variable: Fraud Prevention

The interpretation based on this equation can be explained as follows:

$$Y = -9,276 + 0,382X_1 + 0,411X_2 + e$$

1. The constant value of -9.276 means that if both COSO-Based Internal Control (X1) and Accounting Information System Quality (X2) are zero, then Fraud Prevention (Y) will remain constant at -9.276.
2. The regression coefficient of 0.382 means that if COSO-Based Internal Control (X1) increases by one unit, while assuming Accounting Information System Quality (X2) remains constant, it will result in an increase in Fraud Prevention (Y) by 0.382.
3. The regression coefficient of 0.411 means that if Accounting Information System Quality (X2) increases by one unit, while assuming COSO-Based Internal Control (X1) remains constant, it will result in an increase in Fraud Prevention (Y) by 0.411.

3.1.4 Hypothesis Testing

Hypothesis testing is a statistical procedure used to test the validity of a hypothesis or statement regarding a population parameter based on sample data, allowing researchers to make objective and scientific decisions. According to (Sugiyono, 2019), hypothesis testing is a method used to determine whether the proposed hypothesis can be accepted or rejected based on empirical data. State that hypothesis testing is a decision-making rule that uses the concept of probability to assess the truth of a claim about the population. Therefore, hypothesis testing is a crucial step in quantitative research, as it helps researchers draw logical, measurable, and scientifically accountable conclusions

3.1.4.1 Partial Test (t-test)

The **t-test** is used to determine the extent to which an independent variable individually influences the dependent variable (Ghozali, 2018) This analysis is based on the comparison of the calculated t-value with a significance level of 0.05. The decision criteria are as follows: if the calculated t-value is greater than or equal to the t-table value, and the significance value (sig.) is less than or equal to 0.05, then H0 is rejected and Ha is accepted, meaning that the independent variable has a significant effect on the dependent variable, and vice versa.

Table 5. Coefficients (Partial Test)

Coefficients ^a		
Model	t	Sig.

1	(Constant)		-1,366	,180
	COSO-Based Internal Control		7,386	,000
	Accounting Information System Quality		3,120	,004

a. Dependent Variable: Fraud Prevention

The t-table value is obtained from the t-distribution table, where the degrees of freedom (df) are calculated as $n - k$ (sample size minus the number of variables), which in this case is $39 - 3 = 36$, with a probability level of 0.05. Therefore, the t-table value is 2.028. The results of the partial hypothesis test can be seen in the table above. Based on the table, the following conclusions can be drawn:

1. COSO-Based Internal Control (X1) on Fraud Prevention(Y)

The t-test results show that the COSO-Based Internal Control (X1) variable has a calculated t-value of 7.386 and a t-table value of 2.028 (i.e., $7.386 > 2.028$), with a significance level of $0.000 < 0.05$. Therefore, it can be concluded that H_0 is rejected and H_a is accepted. This means that COSO-Based Internal Control (X1) has a significant partial effect on Fraud Prevention (Y).

2. Accounting Information System Quality (X2) on Fraud Prevention (Y)

The t-test results show that the Accounting Information System Quality (X2) variable has a calculated t-value of 3.120 and a t-table value of 2.028 (i.e., $3.120 > 2.028$), with a significance level of $0.004 < 0.05$. Therefore, it can be concluded that H_0 is rejected and H_a is accepted. This means that Accounting Information System Quality (X2) has a significant partial effect on Fraud Prevention (Y).

3.1.4.2 Simultans Test (F-test)

According to Ghozali (Ghozali, 2018), the F-statistic test essentially determines whether all the independent variables included in the model jointly influence the dependent variable. This analysis is based on the comparison between the calculated F-value and the significance level of 0.05. The decision criteria are as follows: if the calculated F-value is greater than the F-table value, then H_0 is rejected and H_a is accepted; or if the significance value is less than or equal to 0.05, it indicates that the independent variables have a significant joint (simultaneous) effect on the dependent variable, and vice versa. The degrees of freedom for the numerator are calculated as $k-1=3-1=2$, $k - 1 = 3 - 1 = 2$, and for the denominator, $n-k=39-3=36$, $n - k = 39 - 3 = 36$. Therefore, the F-table value obtained is 3.26

Table 6. Anova (Simultans Test)

ANOVA^a

Model		F	Sig.
1	Regression	132,883	,000 ^b
	Residual		
	Total		

From the table above, it can be seen that the calculated F-value is 132.883, which is greater than the F-table value, i.e., $132.883 > 3.26$, and the significance level is 0.000, which is less than the probability of 0.05. Therefore, H_0 is rejected and H_a is accepted, meaning that COSO-Based Internal Control (X1) and Accounting Information System Quality (X2) have a positive and significant joint effect on Fraud Prevention (Y).

3.1.4.3 Coefficient of Determination (R²) Test

According to (Ghozali, 2018), the coefficient of determination (R^2) essentially measures how well the model explains the variation in the dependent variable. The value of the coefficient of determination ranges from zero to one, where the larger the R^2 value, the greater the independent variables' ability to influence changes in the dependent variable. Below is the table for the coefficient analysis.

Table 7. Model Summary (Coefficient of Determination (R²) Test)

Model Summary ^b			
Model	R	R Square	Adjusted R Square
1	,938 ^a	,881	,874

Based on the table above, the Adjusted R^2 value is 0.874, which indicates that the contribution of the variables COSO-Based Internal Control (X1) and Accounting Information System Quality (X2) to Fraud Prevention (Y) is 0.874, or 87.4%, while the remaining 12.6% is explained by other variables outside the model that were not included in this study.

3.2 Disucussion

3.2.1 COSO-Based Internal Control (X1) on Fraud Prevention (Y)

The results of this study indicate that COSO-Based Internal Control has a significant effect on Fraud Prevention, as evidenced by the significance value of $0.000 < 0.05$, which leads to the acceptance of the hypothesis. This confirms that strong internal control based on the COSO framework is effective in reducing the chances of fraud occurring. These findings are consistent with contemporary research that shows well-implemented internal control systems can minimize fraudulent practices in various organizations, as evidenced by (Arsyika Dwi, A. S., & Wulandari, I.,

2024), who found that the implementation of the COSO framework helps minimize fraudulent actions, although increased supervision and monitoring are still necessary for greater effectiveness. However, not all studies find significant effects; for example, (Ansar, 2025) reported that internal control and internal audit did not have a direct significant effect on fraud prevention in government institutions, indicating that besides internal control, other factors, such as organizational culture, can play an important role in fraud prevention efforts. Therefore, the results of this study strengthen the empirical evidence that COSO-based internal control generally contributes to fraud prevention, but the organizational context and integration with other complementary factors continue to affect its effectiveness.

3.2.2 Accounting Information System Quality (X2) on Fraud Prevention (Y)

In this study, Accounting Information System Quality (X2) was found to have a significant effect on Fraud Prevention (Y), with a significance value of 0.004, which is smaller than 0.05, leading to the acceptance of hypothesis H2. This result indicates that a good accounting information system, which includes accuracy, timeliness, and relevance of information, plays an important role in improving transparency and control over financial transactions within the organization. This finding is consistent with research by (Grahita Dwi, A. S., & Wulandari, I., 2025), which found that a quality accounting information system can prevent fraud by providing accurate and timely information that supports decision-making and enhances oversight. However, research by (Pohan, 2024) suggests that the quality of AIS does not have a significant partial effect on fraud prevention in the banking sector, indicating that besides AIS, other factors such as strong internal control and organizational culture also play a key role in preventing fraud. Additionally, (Dani Sulaiman, H., & Yusuf, S., 2025) confirm that AIS helps identify and prevent access abuse and suspicious transactions, which contributes to reducing fraud within organizations. Overall, these findings emphasize that the quality of the accounting information system has a significant effect on fraud prevention, although other factors such as internal control and organizational culture should also be considered to ensure effective fraud prevention.

4. Conclusions

Based on the results of the research that has been conducted, it can be concluded that COSO-Based Internal Control and Accounting Information System Quality have a significant effect on Fraud Prevention within organizations. Internal control that is properly implemented in accordance with the COSO framework is effective in reducing opportunities for fraud by enhancing transparency and supervision. In addition, high-quality accounting information systems—which

encompass accuracy, timeliness, and relevance of information—also play an important role in strengthening control over financial transactions, thereby helping to prevent fraudulent activities. Nevertheless, other factors such as stronger internal control mechanisms and organizational culture continue to play a crucial role in fraud prevention, particularly in certain sectors. Overall, the findings of this study confirm that COSO-based internal control and high-quality accounting information systems make a significant contribution to fraud prevention; however, their effectiveness is also strongly influenced by integration with complementary factors such as stricter supervision and an organizational culture that supports transparency and accountability.

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