Effectiveness of Internal Control, Employee Competence, Information Technology on Fraud Tendency in Sales Accounting System

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ABSTRACT

The purpose of this study is to analyze the effect of internal control effectiveness, employee competence, and information technology on the tendency of fraud in the sales accounting system at gas stations. Data were collected from 236 respondents who work at various gas stations in Mataram City. The data analysis technique used Partial Least Squares-Structural Equation Modeling (PLS-SEM). The results of the study show that the effectiveness of internal control and employee competence have a significant effect in reducing the tendency of fraud. The stronger the control system and the higher the employee competence, the less likely fraud is to occur. However, information technology does not significantly affect the tendency of fraud, which indicates that the application of technology needs to be balanced with a tighter supervision system. This study provides implications that reducing fraud in the sales accounting system at gas stations can be achieved by strengthening **internal control** and increasing **employee competence** , while the implementation of information technology requires **strict supervision** because it does not automatically reduce fraud.

Keywords: Internal Control; Employee Competence; Information Technology; Accounting Fraud; Sales Accounting System; Gas Station.

Efektivitas Pengendalian Internal, Kompetensi Karyawan, Teknologi Informasi terhadap Kecenderungan Kecurangan dalam Sistem Akuntansi Penjualan.

ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh efektivitas pengendalian internal, kompetensi karyawan, dan teknologi informasi terhadap kecenderungan kecurangan dalam sistem akuntansi penjualan di SPBU. Data dikumpulkan dari 236 responden yang bekerja di berbagai SPBU di Kota Mataram. Teknik analisis data menggunakan Partial Least Squares-Structural Equation Modeling (PLS-SEM). Hasil penelitian menunjukkan bahwa efektivitas pengendalian internal dan kompetensi karyawan berpengaruh signifikan dalam menekan kecenderungan kecurangan. Semakin kuat sistem pengendalian dan semakin tinggi kompetensi karyawan, maka semakin kecil kemungkinan kecurangan terjadi. Namun, teknologi informasi tidak berpengaruh signifikan terhadap kecenderungan kecurangan, menunjukkan bahwa penerapan teknologi perlu diimbangi dengan sistem pengawasan yang lebih ketat. Penelitian ini mengimplikasikan bahwa pengurangan kecurangan dalam sistem akuntansi penjualan SPBU dapat dicapai dengan memperkuat pengendalian internal dan meningkatkan kompetensi karyawan, sedangkan penerapan teknologi informasi memerlukan pengawasan yang ketat karena tidak serta merta mengurangi kecurangan.

Kata Kunci: *Internal Control; Employee Competence; Information Technology; Accounting Fraud; Sales Accounting System; Gas Station.*

Artikel dapat diakses : https://ojs.unud.ac.id/index.php/Akuntansi/index

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INTRODUCTION

Fraud case accounting , or *fraud* , in system accountancy sale the more become spotlight on various sector business , including at the Station Public Fuel Filling Stations (SPBU). Some study previously take notes that practice cheating at gas stations can covers sales data manipulation , deletion transactions and embezzlement of assets, which are not only harm company financially , but also lowers trust customer to integrity service (Arianto et al., 2022) , (Agung et al., 2019) Several factors are considered to contribute increase risk the occurrence fraud accountancy among others the weakness internal control , low competence source Power humans , and Not yet optimal utilization technology information (Sunaryo, 2019) , (Mazaya et al., 2025) . Conditions This show that prevention fraud No can only rely on one aspect only , but need a comprehensive and integrated approach . Therefore that's important for gas stations to strengthen system internal control , improve competence source Power humans , and optimize use technology information use prevent potential deviation in the process of recording and reporting finance (Nurhayati , 2022) , (Mugiyantiningsih, 2023) .

In understanding phenomenon fraud accounting , research This based on the Fraud Triangle Theory developed by Donald R. Cressey (1953), (Agung et al., 2023) . Pressure can appear from demands financial or high performance targets ; opportunities appear consequence weakness internal control that provides room For act without easy detected ; and rationalization happen moment individual try justify his actions morally . Researches previously also confirmed that third factor This become reason dominant in practice accounting (Sánchez-Aguayo et al, 2021) , (Kagias et al., 2022) , (Fidianatun, 2023) . Pressure can originate from demands finance individual or high performance targets ; opportunities appear consequence weakness internal control that allows individual do fraud without easy detected ; and rationalization happen when individual look for moral justification for his actions . With Thus , *Fraud Triangle Theory* Lots used in research accountancy For understand root reason fraud and prevention strategies .

In addition , various studies has show that system effective internal control can lower risk the occurrence of fraud with increase transparency and accountability in the process of recording and reporting finance (Kurniawan & Purwati, 2021) , (Fernandhytia & Muslichah, 2020) , (Pattiasina et al., 2022) . However, the effectiveness of internal control does not always have a significant impact on reducing fraud cases if it is not supported by other factors, such as organizational culture and a stricter supervisory system (S. Setiawan, 2018) , (Rachmah & Rahmawati, 2020) , (Toja et al., 2024) . In addition competence employees also play role important in prevent fraud , where employees who have good understanding to system accounting and internal rules tend to more obedient and have level ethics more work tall Bastian & Nurfaliani (2023) , (Kurniawan & Purwati, 2021) . On the other hand , the progress technology information give opportunity For increase transaction data accuracy so that can reduce the occurrence of fraud (Novianti & Firmanto, 2022) , (Sumayyah, 2022) , (Haliah et al., 2025) . Although Thus , the utilization technology just No Enough if No accompanied by with adequate supervision (Choirunnisa, 2022) . Therefore, a more comprehensive approach is needed by integrating the three main factors of internal control effectiveness, employee competence, and utilization of

information technology to create a more transparent and accountable accounting system and reduce the risk of fraud.

This study has a novelty in combining these variables in one analysis model to measure their influence on the tendency of fraud in the sales accounting system at gas stations. Unlike previous studies that only highlighted one or two factors, this study seeks to see how the interaction of these three elements in forming a reliable system in preventing *fraud* . In addition, the focus on the gas station environment as the object of research is also an added value, considering that this sector is still rarely studied in the context of sales accounting fraud, so it is expected to contribute to the management of the accounting system in this sector. Thus, the results of this study are expected to contribute to strengthening accounting management and monitoring systems in the gas station sector.

Internal control is a system designed by a company to safeguard assets, prevent misuse, and ensure that operational activities run according to procedures. This mechanism plays an important role in detecting and preventing fraud, especially in accounting systems that are prone to manipulation. The more effective internal control is implemented, the smaller the chance of fraud occurring within the organization. In other words, there is a negative relationship between the effectiveness of internal control and the tendency of accounting fraud (Sudaryati et al., 2019) , (Ayu et al., 2016) . This framework is also in line with *the Fraud Triangle Theory proposed by Cressey (1953) which states that fraud occurs due to a combination of three factors* , namely pressure, opportunity and rationalization. Among all three , opportunities is the most influential factor Because related direct with weakness internal control that allows somebody commit fraud without easy detected (Sánchez-Aguayo et al., 2021) , (Kagias et al., 2022) . Because that , strengthening system internal control is step important For close gap the occurrence cheating .

Weakness internal control does not only increase risk cheating , but also creates room for individual For justify action the fraud he committed . The company needs to apply principles base control like separation clear tasks , internal audits are periodically , and implementation transparency and accountability in recording finance use strengthen supervision . In addition , the environment structured and supervised work in a way systematic participate play a role in prevent justification on behavior potential deviation harm organization .

H_1 : The effectiveness of internal control influences the tendency of fraud in the sales accounting system.

Employee competence is one of the main factors in preventing fraud in the sales accounting system. Employees who have good knowledge, skills, and understanding of accounting procedures and internal controls tend to be more obedient to the rules and have high work integrity, and are able to carry out responsibilities professionally. In this context, adequate competence not only encourages efficient performance , but also to be fortress beginning in prevent occurrence of fraud. Previous studies have shown that the higher the level of employee competence, the lower the tendency. In other words, there is a negative relationship between employee competence and fraudulent behavior (Fazini, 2018) , (Philep Njonjie, 2019) , (AB Setiawan et al., 2022) . Findings This strengthen importance role source Power man in guard integrity system accountancy . This

matter in line with *Fraud Triangle Theory* which states that fraud triggered by three factor main , namely pressure , opportunity , and justification (Cressey, 1953). Individuals with good competence generally own awareness to risk , understanding implications law from action cheating , and own capacity For reject justification on behavior deviate . With Thus , competence employee contribute in narrow down opportunity for do fraud (Sánchez-Aguayo et al., 2021) , (Kagias et al., 2022) .

Based on explanation said , can formulated hypothesis that there is influence negative between competence employees and tendencies fraud accounting . This means that the more tall competencies possessed employees , increasingly low possibility they involved in practice cheating . Therefore that , company need push improvement competence employee through training , certification and education sustainable as part from fraud prevention strategies in system accountancy sale .

H_2 : Employee competence influences the tendency of fraud in the sales accounting system.

Information technology plays an important role in reducing the tendency of accounting fraud. Along with development system information digital based , company own more opportunities big For build system more accounting accurate , transparent , and efficient . Some study show that use technology information in a way significant impact to effort prevention and detection fraud (Supriati et al., 2020) , (Sumayyah, 2022) , (Aris Astuti et al., 2024) . System based on integrated technology can repair reliability of the recording process transactions , increase audit speed , and support tracking activity finance in real time. This is allow identification early to activity deviate , so that fraud become more difficult For done without detected . Within the framework *The Fraud Triangle Theory* developed by Cressey (1953) states that that fraud happen Because existence three factor main , namely pressure , opportunity , and justification . One of the most likely factor For controlled by the organization is *opportunity* , namely conditions that allow individual do fraud Because weakness supervision and systems control . In the context of this , utilization technology information can functioning as instrument For close gap chance the with strengthen system internal supervision and control (Sánchez-Aguayo et al., 2021) , (Kagias et al., 2022) .

Reliable technology capable minimize data manipulation through system automatic tracking , limiting access information to the authorities , as well as provide record digital footprint of every activity finance . With Thus , the implementation technology information optimally can functioning as tool effective control For prevent and suppress risk fraud in system accounting . Based on description said , can assumed that the more tall level utilization technology information in system accounting , then the more low trend the occurrence fraud accountancy .

H_3 : Information technology influences the tendency of fraud in sales accounting systems.

The relationship between the variables tested in this study is illustrated in Figure 1 below.
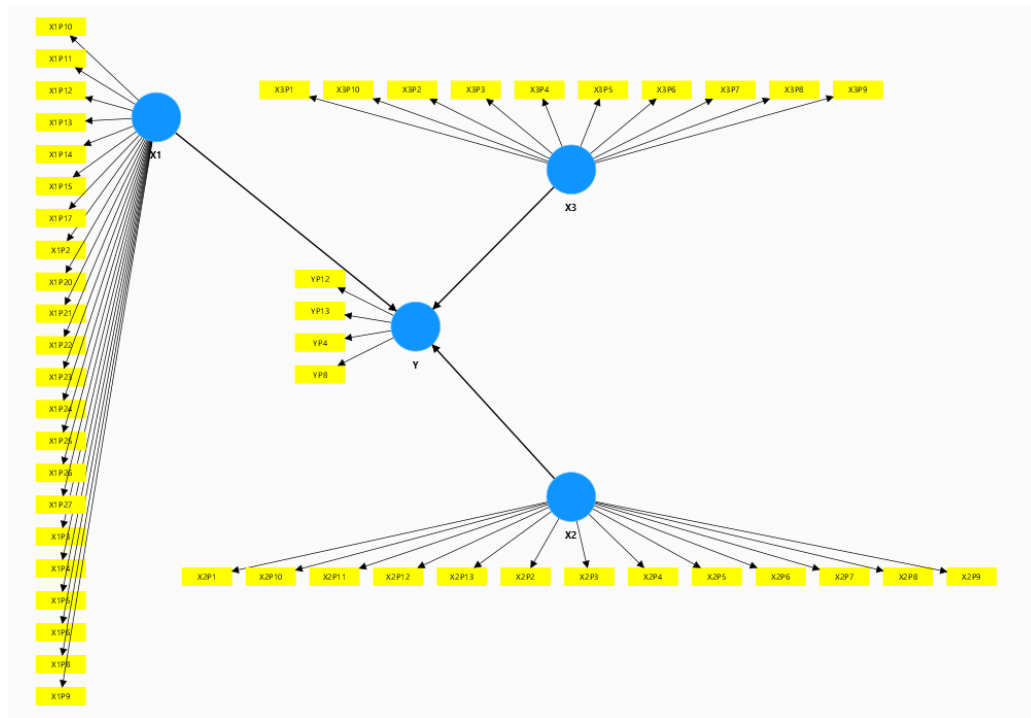
Figure 1. Structural Model Design

Source: Research Data, 2024

RESEARCH METHODS

This research is quantitative research, because it uses data in the form of questionnaires. The population in this study includes all employees working at the Mataram City Gas Station, totaling 236 employees and involved in the operations and sales accounting systems. The sample in this study was obtained by the census method, where all employees of the Mataram City Gas Station were used as research respondents.

This study collected data through a questionnaire adapted from previous studies and adjusted to the needs of the study. The questionnaire used a Likert scale of 1–5 as a measure of respondent perception. Validity and reliability tests were also carried out to ensure that the research instrument was accurate and suitable for use.

The independent variables used in this study are the effectiveness of internal control, employee competence, and information technology. While the dependent variable used in this study is the tendency of fraud in the sales accounting system. In quantitative research, the correlation between independent and dependent variables is analyzed in order to determine the extent to which the independent variable influences the dependent variable.

Table 1. Research Variables and Variable Operationalization

Variables	Definition Operational	Indicator	Source
Effectiveness Internal Control (X1)	The ability of the internal control system to ensure transactions run according to procedures and prevent fraud.	- System information management - Coordination and reporting - Security assets & stocks - Identification & mitigation risk - Periodic control & audit	(Shaqour & Benchikh, 2023) , (Nibeza, 2024)
Competence (X2)	The level of skills, experience and ability of employees to carry out their duties effectively.	- Ability work & completion task - Work motivation The same - Communication & resolution conflict - Impact training	(Arifin et al., 2023) , (Irwan Kusumah & Nurnilasari, 2023) , (Prahasyila et al., 2024)
Technology Information (X3)	Use system technology in support recording and control accountancy sale .	- Utilization device soft - Efficiency services & integration system - Security & constraints technology	(Medina-García et al., 2021) , (Lai et al., 2022)
Trend Fraud in System Accountancy Sales (Y)	Possibility existence action data manipulation or deviation in recording and reporting finance .	- Abuse time Work - Pressure work & competition - Opportunities & policies supervision - Rationalization & satisfaction Work - Ethical values in work	(Sahla & Ardianto, 2023)

Source: Research Data , 2024

Processing and testing in this study were carried out using Smart PLS 4, a software based on Partial Least Squares-Structural Equation Modeling (PLS-SEM) which is effective in processing data with complex models, measuring relationships between latent variables, and testing hypotheses more accurately (Savitri et al., 2021) . This approach was chosen because of its ability to handle data with a relatively small sample size, models with reflective and formative indicators, and overcome multicollinearity problems.

The research model applied in this research is :

$$Y = \alpha + \beta 1 PI + \beta 2 KK + \beta 3 TI + \varepsilon \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(1)$$

Information:

Y = Fraud Tendency in Sales Accounting System

PI = Internal Control Effectiveness

KK = Employee Competence

IT = Information Technology

α = Constant

$\beta_1 - \beta_3$ = Regression coefficient that shows the influence of independent variables on dependent variables

ε   = Error rate

RESULTS AND DISCUSSION

The results of data analysis in this study describe the influence of internal control effectiveness, employee competence, and utilization of information technology on the tendency of fraud in the sales accounting system. Data presentation is carried out systematically to answer the formulation of the problem and test the established hypothesis. Further discussion is carried out by comparing research findings with theories and previous study results in order to obtain a more comprehensive understanding of the relationship between variables in the context of the sales accounting system.

Table 2. *Characteristics Respondents*

Category	Sub- Category	Frequency (n)	Percentage (%)
	< 20 Years	21	8.90%
	21 - 30 Years	112	47.46%
Age	31 - 40 Years	69	29.24%
Respondents	41 - 50 Years	22	9.32%
	51 - 60 Years	12	5.08%
	> 60 Years	0	0.00%
	< 1 Year	29	12.29%
Length of work	13 years old	78	33.05%
	3 - 5 Years	93	39.41%
	> 5 Years	36	15.25%
Marital status	Married	155	65.68%
	Not married yet	81	34.32%
	Don't Have Children Yet	95	40.25%
Number of children	Child 1	54	22.88%
	Child 2	49	20.76%
	Child 3	30	12.71%
	Child 7	8	3.39%
	JUNIOR HIGH SCHOOL	10	4.24%
Education	SENIOR HIGH SCHOOL	66	27.97%
	S1	61	25.85%
	Vocational School	54	22.88%
	D3	45	19.07%
	< 1 km	35	14.83%
	1 km	41	17.37%
Distance from	2 km	68	28.81%
Home to	3 km	44	18.64%
Workplace	4 km	23	9.75%
	5 km	15	6.00%
	> 5 km	10	4.24%
Experience	Own	149	63.14%
Work	No	87	36.86%
	Total	236	100%

Source : Research Data , 2024

Table 1. presents the characteristics of respondents by referring to the distribution of gas station locations, age, length of service, marital status, number of children, education level, distance from residence to gas station, and work experience. These data provide insight into the profile of the workforce at gas stations.

As a measuring tool for the accuracy of the indicator value against the variable, a validity test is carried out. Research This use *convergent validity* as well as *discriminant validity* For test the data that has been obtained .

Table 3. *Convergent Validity with outer loading/loading factor with X1*

	X1
X1P10	0.785
X1P11	0.607
X1P12	0.860
X1P13	0.624
X1P14	0.572
X1P15	0.690
X1P16	0.659
X1P17	0.782
X1P18	0.838
X1P19	0.822
X1P2	0.558
X1P20	0.625
X1P21	0.710
X1P22	0.766
X1P23	0.745
X1P24	0.726
X1P25	0.866
X1P26	0.730
X1P27	0.756
X1P3	0.553
X1P4	0.580
X1P5	0.765
X1P6	0.613
X1P8	0.836
X1P9	0.761

Source : Research Data , 2024

Table 4. *Convergent Validity with outer loading/loading factor with X2*

	X2
X2P1	0.681
X2P10	0.731
X2P11	0.625
X2P12	0.641
X2P13	0.794
X2P2	0.760
X2P3	0.778
X2P4	0.736
X2P5	0.640
X2P6	0.691
X2P7	0.767
X2P8	0.783
X2P9	0.779

Source : Research Data , 2024

Table 5. *Convergent Validity with outer loading/loading factor with X3*

	X3
X3P1	0.706
X3P10	0.820
X3P2	0.794
X3P3	0.685
X3P4	0.692
X3P5	0.670
X3P6	0.732
X3P7	0.648
X3P8	0.703
X3P9	0.770

Source : Research Data , 2024

Table 6. *Convergent Validity with outer loading/loading factor with Y*

	Y
YP12	0.705
YP13	0.846
YP4	0.722
YP8	0.692

Source : Research Data , 2024

Based on the results of the convergent validity test indicated by the loading factor value, all indicators in the variables of Internal Control Effectiveness (X1), Employee Competence (X2), Information Technology (X3), and Fraud Tendency in Sales Accounting Systems (Y) have values exceeding 0.500. This shows that each indicator has a strong relationship with the variables it measures.

Convergent validity can be accepted if the *loading factor value* of each indicator is above the threshold of 0.500. The test results in this study indicate that all indicators have met these criteria, so it can be concluded that the convergent

validity requirements have been met (Santoso, 2019) . This means that these indicators can effectively represent the constructs measured in this research model. This strengthens the belief that the instruments used in this study are good enough in measuring the variables studied.

There is *a cross loading* containing the results of *discriminant validity* in the following table.

Table 7. *Discriminant Validity with Cross Loadings*

	X1P2	X2P1	X3P1	YP12
X1P10	0.785	0.472	0.458	0.428
X1P11	0.607	0.41	0.366	0.365
X1P12	0.86	0.565	0.594	0.512
X1P13	0.624	0.347	0.361	0.443
X1P14	0.572	0.288	0.319	0.301
X1P15	0.69	0.364	0.503	0.366
X1P16	0.659	0.376	0.422	0.268
X1P17	0.782	0.59	0.557	0.515
X1P18	0.838	0.476	0.575	0.439
X1P19	0.822	0.541	0.655	0.461
X1P2	0.558	0.247	0.381	0.369
X1P20	0.625	0.404	0.516	0.248
X1P21	0.71	0.495	0.459	0.363
X1P22	0.766	0.584	0.594	0.432
X1P23	0.745	0.603	0.529	0.341
X1P24	0.726	0.501	0.462	0.441
X1P25	0.866	0.526	0.64	0.493
X1P26	0.73	0.391	0.513	0.38
X1P27	0.756	0.441	0.44	0.415
X1P3	0.553	0.364	0.263	0.14
X1P4	0.58	0.266	0.143	0.176
X1P5	0.765	0.567	0.443	0.504
X1P6	0.613	0.42	0.413	0.26
X1P8	0.836	0.592	0.711	0.621
X1P9	0.761	0.528	0.439	0.526
X2P1	0.441	0.681	0.301	0.397
X2P10	0.507	0.731	0.521	0.472
X2P11	0.441	0.625	0.56	0.32
X2P12	0.493	0.641	0.617	0.481
X2P13	0.63	0.794	0.557	0.604
X2P2	0.59	0.76	0.522	0.384
X2P3	0.431	0.778	0.52	0.467
X2P4	0.368	0.736	0.508	0.507
X2P5	0.452	0.64	0.56	0.383
X2P6	0.476	0.691	0.52	0.469
X2P7	0.289	0.767	0.397	0.484
X2P8	0.524	0.783	0.412	0.5
X2P9	0.438	0.779	0.542	0.396
X3P1	0.588	0.421	0.706	0.478
X3P10	0.56	0.646	0.82	0.556
X3P2	0.565	0.535	0.794	0.501
X3P3	0.458	0.478	0.685	0.457
X3P4	0.497	0.446	0.692	0.392
X3P5	0.428	0.532	0.67	0.229
X3P6	0.433	0.484	0.732	0.303
X3P7	0.318	0.463	0.648	0.242
X3P8	0.435	0.458	0.703	0.287
X3P9	0.459	0.529	0.77	0.31
YP12	0.382	0.333	0.376	0.705
YP13	0.438	0.546	0.342	0.846
YP4	0.492	0.52	0.526	0.722
YP8	0.387	0.448	0.397	0.692

Source: Research Data, 2024

Referring to the results of the discriminant validity test presented in the table, it can be seen that the correlation value between the indicator and the construct it measures is higher than its correlation to other constructs. This indicates that each indicator has a good ability to distinguish one construct from another.

Specifically, the indicators in variable X1 have the highest correlation value with variable X1 compared to other variables such as X2, X3, and Y. The same pattern is also seen in other variables, where each indicator shows a stronger correlation with the construct it measures than with other constructs. Thus, it can be concluded that the discriminant validity criteria of each variable in this study have been met.

Good discriminant validity indicates that each construct in the research model actually measures significantly different concepts (Budhiasa & Yasa, 2016) , (Santoso, 2019) . Success in meeting this discriminant validity also supports the reliability of the research model and ensures that the indicators used do not overlap in measuring different variables. Thus, the results of this study strengthen that each variable in the model has a clear concept that is well defined and can be trusted in measuring the aspects that are the focus of the research.

next test is done using Average Variance Extracted (AVE). The results of the AVE test can be observed in the following table.

Table 8. *Average Variance Extracted (AVE)*

Variables	AVE		Information
	Score	*Rule of Thumb*	
X1	0.518	0.500	Valid
X2	0.527	0.500	Valid
X3	0.524	0.500	Valid
Y	0.553	0.500	Valid

Source : Research Data, 2024

The Average Variance Extracted (AVE) value that exceeds 0.5 shows that the indicators used have met the convergent validity standards. A high AVE value reflects that the indicators in a construct are able to explain latent variables optimally. The higher the AVE value, the greater the proportion of indicator variance that can be explained by the construct in question (Santoso, 2019) , (Hamid et al., 2019) . In addition, an AVE value above 0.5 indicates that the research instrument has good measurement quality (Savitri et al., 2021) .

It can be concluded that the measurement model used is relevant and reliable. Therefore, if the AVE value exceeds the recommended minimum limit, the research instrument can be considered to meet good validity criteria and is worthy of use in further analysis.

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Cronbach alpha and *composite* reliability tests can be observed in the following table:

Table 9. *Cronchbach Alpha and Composite Reliability*

Variables	Cronbach Alpha		Composite Reliability		Information
	Score	Rule of Thumb	Score	Rule of Thumb	
X1	0.960	0.700	0.963	0.700	Reliable
X2	0.925	0.700	0.935	0.700	Reliable
X3	0.901	0.700	0.916	0.700	Reliable
Y	0.730	0.700	0.831	0.700	Reliable

Source: Research Data, 2024

Cronbach's Alpha and Composite Reliability values are used to measure the internal consistency of the indicators that form a variable. A variable can be declared reliable if the Cronbach's Alpha and Composite Reliability values exceed 0.7 (Santoso, 2019) , (Hamid et al., 2019) , (Savitri et al., 2021) . The test results found that all variables in this study, namely X1, X2, X3, and Y, had Cronbach's Alpha and Composite Reliability values that exceeded 0.7. Thus, it can be concluded that all variables in this study have reliable properties , which means that the research instrument is able to provide consistent results in measuring the intended construct. A high level of reliability in each variable indicates that the indicators used have good ability to explain the variables being measured.

The R -*Square results* in this study are presented in the following table.

Table 10. *R-Square*

Variables	R-square	Information
Y	0.457	Weak

Source: Research Data, 2024

The R-Square value is categorized as strong if it is more than 0.70, moderate if it is more than 0.50, and weak if it is more than 0.25 (Hamid et al., 2019) , (Savitri et al., 2021) . The results of table 10. state the interpretation of the R-Square value, which is 0.447 which is included in the weak category. This value shows that the independent variables in the model are able to review 42% of the variations that occur in the Y variable, while the remaining 58% are influenced by other factors outside this research model. This indicates that the ability of the independent variables to review the dependent variables is still limited, so it is necessary to

This study uses the t-test to test the hypothesis partially, in order to analyze the extent to which independent variables affect the dependent variable (Hamid et al., 2019) , (Savitri et al., 2021) . Hypothesis testing is carried out to determine the p-value as a basis for assessing the significance of the relationship between independent and dependent variables.

The decision-making criteria in this test include: if the p-value > 0.05, then the hypothesis is accepted, which means that the independent variable does not have a significant effect on the dependent variable. The opposite applies , if the p-value < 0.05, then the hypothesis is rejected, so it can be concluded that the independent variable has a significant effect on the dependent variable. Thus , this test method is an important tool in evaluating the relationship between variables in this study.

The results of the t-test in this study can be observed in the following table:

Table 11. *T-test*

Variables	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Information
X1 -> Y	0.239	0.240	0.057	4.208	0.000	Influential
X2 -> Y	0.394	0.394	0.089	4.448	0.000	Influential
X3 -> Y	0.124	0.130	0.085	1,470	0.142	No effect

Source: Research Data, 2024

Testing hypothesis to influence effectiveness internal control (X1) against trend cheating on the system accountancy sales (Y) shows that variable X1 in partial influential significant against Y. Based on criteria testing , H1 is accepted If *p-value* < 0.05 and rejected If *p-value* > 0.05. The results of the study showed a significance value of 0.000 or less than 0.05, so H1 was accepted. This finding contradicts the view that good internal control is very important to prevent fraud, especially in gas station operations (Farochi & Nugroho, 2022) . In this context, *the Fraud Triangle Theory* , proposed by Cressey (1953) becomes relevant , namely that fraud triggered by three factor main factors : pressure , opportunity , and rationalization . Although Pertamina has apply system strict internal control at gas stations, results study show that effectiveness system This precisely correlated positive to trend cheating . That is, the system control that is of a nature administrative No necessarily capable prevent practice cheating, even potential create gap new If no supported by culture integrity and comprehensive supervision. Control that is only focus on aspects technical without notice ethics Work precisely can utilized by individuals who have knowledge and access to weakness system (S. Setiawan, 2018) , (Toja et al., 2024) . This finding is not relevant to a number of previous studies showing that effective internal control can suppress the tendency of fraud (Fernandhytia & Muslichah, 2020) , (Ratna Sari & Rifas, 2024) , (Pamungkas, 2023) , (Putri & Laksmi, 2019) , (Taufik, 2019) . Therefore that , the findings This emphasize importance evaluation repeat to effectiveness implementation internal control , in particular in context operational Gas Station. Control No Enough only nature structural and administrative, but rather must accompanied by with planting mark integrity, strengthening culture ethical, and supervision of a nature participatory and comprehensive. With approach holistic said, efforts prevention fraud can walk more optimal and harmonious with objective true internal control.

Hypothesis testing shows that employee competency variable (X2) partially has a significant effect on fraudulent tendencies in sales accounting system (Y). This study uses the hypothesis acceptance criteria if the *p-value* <0.05. The results of the analysis show that variable X2 has a *p-value* of 0.000, which means it is smaller than 0.05. Thus, H2 is accepted, which means that employee competency is proven to have an effect on fraudulent tendencies . Research results This show that there is influence positive competence to trend cheating . This means that the more tall skills and knowledge possessed employees , in fact the more big opportunity they do cheating . This is can happen Because competent employees own better understanding in to system, procedure work, and weakness

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in internal control, so that they capable utilise gap the for do fraud in a way more neat and difficult detected. Situation This generally appear in weak organization in supervision, no to plant mark integrity, as well as No own system strict rewards and sanctions. In conditions Thus , employees who feel No under surveillance or No valued tend use his competence For interest personal . Therefore that , improvement competence need accompanied with coaching ethics work and strong supervision so that it does not misused .

Competence employee seen from ability they in understand system recording , running procedure internal control , and implementing principle accountancy in a way precise and consistent . In the context gas station operations, competence this is very important Because transaction fuel sales are underway every day in amount large and very vulnerable to manipulation, good in recording and cash receipts. According to the Fraud Triangle Theory (Cressey, 1953), fraud happen Because existence pressure, opportunity, and justification. Employees who have competence basically high can narrow down opportunity for the occurrence cheating, because they more obedient to rules and able recognize signs deviation. Findings This reinforced by research previously which shows that competence employee can increase compliance to standard accounting and lowering risk data manipulation
(Wirakusuma & Setiawan, 2019) , (Kurniawan & Purwati, 2021) . Other studies also confirm this . that good understanding to system accountancy help employee in detect and prevent fraud (Fazini, 2018) , (PHILEP NJONJIE, 2019) . However Thus, competence just No enough. Other factors such as internal control , culture organization , and systems incentives also play a role important in prevent the occurrence fraud (Yufitrianisa et al., 2022) , (Agung et al., 2023) . Therefore that , improvement competence employees at gas stations must accompanied by with support other systems such as strong internal controls , procedures clear work , and culture organization that upholds tall integrity so that the system control accountancy can walk more effective and capable prevent the occurrence cheating .

Hypothesis testing H3 was conducted to determine the effect of information technology variables (X3) on the tendency of fraud in the sales accounting system (Y). Based on the testing criteria, H3 is accepted if the *p-value* is <0.05 and rejected if >0.05. The results of the analysis show that variable X3 has a significance value of 0.142, which means it is greater than 0.05. Thus, H3 is rejected, and it can be concluded that partially information technology does not have a significant effect on the tendency of fraud in the sales accounting system. Information technology is not automatically able to reduce the risk of fraud. This can be explained through *the Fraud Triangle Theory* , which states that fraud occurs due to three main factors, namely pressure , opportunity , and rationalization (Cressey, 1953). Information technology should help reduce the opportunity factor by strengthening supervision and control over transactions. However, technology alone is not enough to prevent fraud without the support of an internal control system, employee competence, and organizational ethical culture (Choirunnisa, 2022) . In practice at gas stations, the information technology used is often not optimally utilized or not integrated with existing control systems. For example, there is still manual recording, limited digital reporting systems, or lack of real-

time data usage, all of which open up opportunities for perpetrators to manipulate. Therefore, even though technology is available, without adequate policy support, training, and supervision, its effectiveness in preventing fraud will remain low.

CONCLUSION

Based on the research conducted, the effectiveness of internal control and employee competence have been proven to have a positive effect on the tendency of fraud in the sales accounting system at gas stations. The stronger the internal control system and the higher the employee competence, the more fraud occurs. However, information technology does not significantly affect the tendency of fraud, which shows that the application of technology needs to be supported by a tighter monitoring system to be effective in preventing fraud.

This study has limitations, namely that respondents only come from one region, so the results cannot be generalized to all gas stations in other regions. In addition, this study has not explored in depth non-technical factors that can also trigger fraud, such as an organizational culture that is permissive of deviations, pressure from superiors to achieve sales targets, or the lack of a fair incentive system. These factors can trigger the emergence of pressure and rationalization in *the Fraud Triangle Theory* . Therefore, gas station managers are advised not to rely solely on technology as a tool to prevent fraud. Investment in technology needs to be balanced with strengthening the internal control system, establishing a work culture that upholds integrity, and regular training for employees on accounting procedures, work ethics , and early detection of fraudulent practices. These efforts are important so that control over the sales accounting system becomes more effective and the risk of fraud can be minimized as a whole.

REFERENCE

Agung, A., Pratiwi, M., & Suryanawa, IK (2023). The Influence of Internal Control, Human Resources Competence and Organizational Ethical Culture on the Tendency of Accounting Fraud in LPD Badung Regency. In *Management Studies and Entrepreneurship Journal* (Vol. 4, Issue 5). http://journal.yrpipku.com/index.php/msej

Agung, A., Sukranatha, K., Made, I., & Priyanto, D. (2019). Consumer Protection Against Fuel Refueling Fraud at Public Fuel Filling Stations in Bali.

Arianto, B., Tinggi, S., & Dwimulya, IE (2022). Tracking Whistleblowing-Based Fraud Detection (Vol. 2, Issue 2). www.jurnal.akuntansi.upb.ac.id

Arifin, A., Fitri Suyuthi, N., & Author, C. (2023). *The Effect of Competency Development and Work Creativity on Employee Performance* . https://doi.org/10.37899/journallabisecoman.v4i4.1535

Aris Astuti, W., Kurnia Rahayu, S., & Azahra Angelina, S. (2024). Technology Audit and Ethical Culture for Fraud Prevention in the Digital Era. *Economics, Social Sciences, and Humanities* . https://m.bisnis.com/

Ayu, G., Rencana, K., & Dewi, S. (2016). The Influence of Individual Morality and Internal Control on Accounting Fraud (Experimental Study on the Regional Government of Bali Province). In *Jurnal Ilmiah Akuntansi* • (Vol. 1, Issue 1).

Bastian, E., & Nurfaliani, SI (2023). The Influence of Human Resources, Accounting Information Systems, and Information Technology on the Tendency of Accounting Fraud. *JAK (Jurnal Akuntansi) Kajian Ilmiah Akuntansi* , *10* (2), 296–309. https://doi.org/10.30656/jak.v10i2.6303

Budhiasa, S., & Yasa, M. (2016). Social Capital Network And Capabilities As Instruments of The Poor Household Reduction Strategy: Case Study of North Bali Province Indonesia. *European Journal of Business, Economics and Accountancy* , *4* (7). www.idpublications.org

Choirunnisa, R. (2022). The Influence of Auditor Competence and Utilization of Information Technology on Fraud Detection. *Trisakti Accounting Journal* , *9* (1), 119–128. https://doi.org/10.25105/jat.v9i1.10294

Farochi, MFF, & Nugroho, AHD (2022). The Influence of Internal Control and Good Corporate Governance on Fraud Prevention. *Journal of Research and Development of Science and Humanities* , *6* (1), 86–92. https://doi.org/10.23887/jppsh.v6i1.46071

Fazini, HN (2018). The Influence of Human Resources and Internal Control on Accounting Fraud Study at PT Pegadaian (Persero) in Banda Aceh City. *Journal of Accounting Economics Students (JIMEKA)* , *3* (4), 625–637. www.bpkp.com

Fernandhytia, F., & Muslichah, M. (2020). The Effect of Internal Control, Individual Morality and Ethical Value on Accounting Fraud Tendency. *Economics And Management Media* , *35* (1), 112. https://doi.org/10.24856/mem.v35i1.1343

Fidianatun, Animah. Yusli. Mariadi. (2023). Fraud Tendency in BUMDes "Semangat Pemuda" Village of Giri Sasak, Kuripan District, West Lombok Regency. *Valid Scientific Journal* , *20* (2), 33–41.

Haliah, Hasan, H., Syamsuddin, Fatmawati, Dewi, ARS, Oemar, MAFI, & Razak, LA (2025). The Effect Of Political Will, Information Technology, And The Quality Of Financial Reporting Information On Fraud Prevention. *Public and Municipal Finance* , *14* (1), 13–22. https://doi.org/10.21511/pmf.14(1).2025.02

Hamid, RS, Anwar, SM, Snow, Rahmawati, Hastuti, & Lumoindong, Y. (2019). Using the triple helix model to determine the creativity of a capability of innovative environment. *IOP Conference Series: Earth and Environmental Science* , *343* (1). https://doi.org/10.1088/1755-1315/343/1/012144

Irwan Kusumah, A., & Nurnilasari, N. (2023). The Effect of Competency on Employee Performance at PT. FSCM Manufacturing Indonesia Cirebon Filter Plant. *Original Article* . https://doi.org/10.24815/Riwayat.v7i1.37252

Kagias, P., Cheliatsidou, A., Garefalakis, A., Azibi, J., & Sariannidis, N. (2022). The fraud triangle – an alternative approach. *Journal of Financial Crime* , *29* (3), 908–924. https://doi.org/10.1108/JFC-07-2021-0159

Kurniawan, F., & Purwati, AS (2021). *The Influence of Internal Control, Compensation Suitability, Corporate Ethical Culture, Competency, Organizational Justice, Standard Enforcement, Asymmetric Information on Fraud Trends in Banking Article Information* (Vol. 2, Issue 1). https://journal.unsika.ac.id/index.php/IJATB

Lai, J. W. M., De Nobile, J., Bower, M., & Breyer, Y. (2022). Comprehensive evaluation of the use of technology in education – validation with a cohort of global open online learners. *Education and Information Technologies* , *27* (7), 9877–9911. https://doi.org/10.1007/s10639-022-10986-w

Mazaya, S., Ar, F., & Pratama, D. (2025). The Effect Of Organizational Commitment, Internal Control, And Religiosity on Fraud Prevention In Opd Of Pekanbaru City With Employee Competence As A Moderating Variable. *Journal of Economic Appreciation* , *13* (1), 196–209.

Medina-García, M., Higueras-Rodríguez, L., García-Vita, M. ª . M., & Doña-Toledo, L. (2021). Ict, disability, and motivation: Validation of a measurement scale and consequence model for inclusive digital knowledge. *International Journal of Environmental Research and Public Health* , *18* (13). https://doi.org/10.3390/ijerph18136770

Mugiyantiningsih, Y. (2023). *Analysis of the Implementation of Internal Control Systems for the*

Financial Effectiveness of Gas Station Digitalization in Cash Receipt and Expenditure Accounting .

Nibeza, S. (2024). *Effectiveness of Internal Control Systems on the performance of Hospitality Industry Management. A Case of Moriah Hill Resort* . https://www.researchgate.net/publication/382529596

Novianti, N., & Firmanto, Y. (2022). Implementation of Information Technology, Opportunity, and Tendency of Fraud. *Asia Pacific Fraud Journal* , *7* (1), 65. https://doi.org/10.21532/apfjournal.v7i1.255

Nurhayati, E. (2022). The Influence of Internal Control Effectiveness, Compensation Suitability, Accounting Rule Compliance and Unethical Behavior on the Tendency of Accounting Fraud (Empirical Study of Retail Companies in Kuningan Regency). *JRKA* , *8* (1), 70–84.

Pamungkas, G. (2023). The Influence of Internal Control Systems and Compensation on Fraud Tendencies in the Fraud Triangle Perspective. *ProBusiness : Journal of Management* , *14* (5), 170–176.

Pattiasina, V., Sutisman, E., Patiran, A., & Yohanis Tamaela, E. (2022). The Effect of The Effectiveness of Internal Controls, Accounting Rules Compliance, Appropriate Compensation, Management Morality, and Organizational Ethical Culture toward Accounting Fraud Trends in Jayapura District Government. In *March 2022* (Vol. 20, Issue 1). http://jurnalnasional.ump.ac.id/index.php/kompartemen/

PHILEP NJONJIE, GNHG (2019). The Influence of Management Competence, Internal Control Effectiveness and Compensation Suitability on the Tendency of Accounting Fraud in BUMDes Fund Management. *JIMAT (Scientific Journal of Accounting Students) Ganesha University of Education* , *12* (1), 2614–1930.

Prahasyila, TA, Tanuwijaya, J., & Gunawan, AW (2024). The Role of Work Motivation, Workload, and Competency in Influencing Employee Performance through Job Satisfaction. *Syntax Transformation* , *5* (8).

Putri, ML, & Laksmi, AC (2019). *Analysis of the Effect of Internal Control Effectiveness, Appropriateness of Compensation, and Apparatus Morality toward Unethical Behavior and Tendency of Accounting Fraud* .

Rachmah, S., & Rahmawati, T. (2020). The Influence of Individual Morality, Internal Control Effectiveness, Compensation Suitability and Information Asymmetry on Accounting Fraud. in *August* (Vol. 7).

Ratna Sari, I., & Rifas, H. (2024). *Considerations of Religion and Situational Factors, Internal Control on the Occurrency of Fraud Trends: An Experimental Study of the Financial Services Sector in Indonesia* (Vol. 1, Issue 2).

Sahla, WA, & Ardianto, A. (2023). Ethical values and auditors fraud tendency perception: testing of fraud pentagon theory. *Journal of Financial Crime* , *30* (4), 966–982. https://doi.org/10.1108/JFC-04-2022-0086

Sánchez-Aguayo, M., Urquiza-Aguiar, L., & Estrada-Jiménez, J. (2021). Fraud detection using the fraud triangle theory and data mining techniques: A literature review. In *Computers* (Vol. 10, Issue 10). MDPI. https://doi.org/10.3390/computers10100121

Santoso, B. (2019). Influence of System Quality, Information Quality, Service Quality on User Acceptance and Satisfaction and Its Impact on Net Benefits (Study of Information System Users Lecturer Performance Load (BKD) in Malang State University). In *HOLISTICA* (Vol. 10).

Savitri et al. (2021). *Empirical Research Methods of Path Analysis Model and Analysis Using SmartPLS* .

Setiawan, AB, Program, H., & Akuntansi, S. (2022). Effect of The Human Resource Competency, Individual Morality And Internal Control System of Fraud Prevention of Village Fund Based on The Perspective of The Village Aparature. In *Karimah Tauhid*

(Vol. 1, Issue 1). http://www.sukabumiupdate.com

Setiawan, S. (2018). The Effect of Internal Control and Individual Morality on the Tendency of Accounting Fraud. *Asia Pacific Fraud Journal*, *3* (1), 33. https://doi.org/10.21532/apfj.001.18.03.01.04

Shaqour, S., & Benchikh, H.H. (2023). *Effectiveness of Internal Control Units in the Palestinian Public Sector*. https://www.researchgate.net/publication/377020262

Sudaryati, E., Agustia, D., & Pratama, MI (2019). *The effect of morality intensity and internal control regarding the accounting fraud tendency Sección General The effect of morality intensity and internal control regarding the accounting fraud tendency 35* (Vol. 4).

Sumayyah, IZ and MH (2022). The Influence of Information Technology and Compensation Suitability on Accounting Fraud. *Fiscal: Journal of Accounting and Taxation*, *1* (1), 45–54.

Sunaryo, K. (2019). The Influence of Compensation Suitability, Accounting Information Systems and Internal Control Effectiveness on the Tendency of Accounting Fraud. *Journal of ASET (Accounting Research)*, *11* (1), 71–84. https://doi.org/10.17509/jaset.v11i1.16031

Supriati, D., Ristiyani, R., & Rangga Bawono, I. (2020). *The Effect of Information Technology and Internal Control of Accounting Fraud (Case Study at PT. Sugih Makmur Eka Industri Indonesia)*.

Taufik, T. (2019). *The Effect Of Internal Control System Implementation In Realizing Good Governance And Its Impact On Fraud Prevention*. www.ijstr.org

Toja, VR, Riharjo, IB, & Handayani, N. (2024). The Effect of Internal Control, Professionalism, Pressure, and Anti-Fraud Awareness on Fraud Prevention. In *Indonesian Interdisciplinary Journal of Sharia Economics (IIJSE)* (Vol. 7, Issue 3).

Wirakusuma, IGB, & Setiawan, PE (2019). The Influence of Internal Control, Competence and Locus of Control on the Tendency of Accounting Fraud. *E-Journal of Accounting*, 1545. https://doi.org/10.24843/eja.2019.v26.i02.p26

Yufitrianisa, Wahyuningsih, E., Apriliani, M., Shaddiq, S., Zulkarnain, I., & Anggraini, N. (2022). The Influence of Human Resource and Marketing Competence, Morality, Whistleblowing, and Internal Control System on the Prevention of Fraud in Village Financial Management in Karimun Regency. *International Journal of Latest Technology in Engineering, Management & Applied Science*, *11* (12), 01–07. https://doi.org/10.51583/ijltemas.2022.111201