TECHNOLOGY AUDIT AND ETHICAL CULTURE FOR FRAUD PREVENTION IN THE DIGITAL ERA

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ABSTRACT

This research aims to empirically test the effect of information technology audits on fraud prevention efforts, as well as examine how ethical culture moderates the relationship between information technology audits and fraud prevention in companies. In this research methodology, a quantitative approach was used using primary data by distributing questionnaires via Google Form to 39 respondents who were employees at the company. Data analysis was carried out using a simple linear regression method with the help of SPSS version 2.3 software. The research results show that information technology audits have a significant influence on fraud prevention efforts. In addition, in this research, it was found that ethical culture plays an important role by strengthening the relationship between information technology audits and fraud prevention efforts. These findings emphasize the importance of integration between information technology, audit practices, and ethical culture in maintaining company security and integrity from potential fraud. This research makes an important contribution to the understanding of how these factors interact with each other in the context of corporate fraud prevention.

Keywords: Information technology audit, fraud prevention, ethical culture

INTRODUCTION

Fraud can be defined as an intentional unlawful act, carried out with a specific purpose, both by internal and external parties to the organization. [karyono, 2013]. Although fraud cannot be completely eliminated, efforts to minimize it are very important. Failing to prevent and detect fraud can have serious consequences for an organization. According to research results from the Association of Certified Fraud Examiners in 2019 in Indonesia, BUMN is the institution that suffers the most losses due to fraud, reaching 31.8%, followed by private companies with 15.1%, non-profit organizations with 2.9%, and other groups. as much as 1.7%. From the results of this research, it can be concluded that the BUMN sector experienced a significant impact due to fraud, which reached 31.8%. This figure reflects the magnitude of losses experienced by BUMN as a result of fraudulent acts. This is an interesting topic for further research regarding fraud prevention efforts.

Prevention is very important to avoid greater losses and reputational damage for both institutions and individuals [Festi et al, 2014]. In addition, when fraud is not immediately handled and revealed due to slow handling, this can provide an opportunity for the perpetrator to hide the fraudulent act from others. [Wahyuni et al, 2021] Therefore, effective and targeted prevention efforts are needed to prevent fraud. In this way, all forms of fraudulent practices can be anticipated as early as possible, helping organizations to avoid the risk of possible losses. [Astuti et al 2023).

Case of PT Asuransi Jiwasraya and PT Social Insurance of the Armed Forces of the Republic of Indonesia (Asabri). Indonesia Corruption Watch (ICW) highlights two main problems that cause corruption or fraud in

public asset management institutions. The first is political pressure, where the organization or institution becomes a "cash cow" for politicians or public officials. Second, internal governance issues, especially in terms of the internal control system. This problem is considered serious because the existing system is not sufficient to prevent criminal acts of corruption, especially because fraud occurs. This phenomenon shows that fraud prevention in companies is still not effective. This is caused by the company's existing system being unable to fully prevent fraud. Apart from that, deficiencies in fraud prevention efforts are also influenced by the omission of fraudulent acts by decision makers [https://m.bisnis.com/ Accessed March 10, 2022].

Information technology audit is a technique to assist internal auditors in managing organizational information systems that can be used to prevent fraud within the company. Information technology can be used to conduct audits more efficiently and effectively. This shows that information technology can increase the effectiveness and efficiency of audits and help prevent fraud [Samagaio et al, 2022]. [Juhendi et al, 2022]. Several previous researchers conducted by [Islam et al, 2022])stated that information technology audits affect the quality of auditing and also help companies prevent fraud attempts. This is different from research conducted by [Sujana et al, 2020] showing that the whistleblowing system has no effect on preventing fraud in village financial management. [Tang et al, 2019] explain that computer-based audit techniques have no effect in preventing fraud.

Coulter, [2012] suggests that a strong ethical culture can help organizations prevent fraudulent practices, build a good reputation, and create a healthy and productive workplace. Employees who are in an ethical work environment tend to act in a more responsible and ethical manner, which in turn can reduce the frequency of fraud. Research conducted by (ferina et al., 2021) strengthens this view by finding that a strong ethical culture can strengthen the relationship between the use of information technology in preventing fraud. However, other research by Djatmiko et al., (2020) shows different results, finding that organizational ethical culture does not play a role as a moderating variable in the relationship between the use of information technology and fraud prevention.

This research aims to test, analyze and provide empirical evidence of the influence of information technology audits in preventing fraud which is moderated by ethical culture. This research is expected to provide a comprehensive view of the use of information technology audits and ethical culture in fraud prevention, as well as help organizations develop strategies to increase the effectiveness of fraud prevention and strengthen ethical culture within the company.

LITERATURE REVIEW

Fraud Prevention

Fraud prevention is a preventive effort that is carried out intensively and integrated with the aim of preventing and minimizing factors that can cause fraud to arise. Until now, fraud is a phenomenal thing, both in developing and developed countries. According to [Tunggal 2013] states that fraud prevention is an integrated effort that can reduce the occurrence of fraud prevention with systems and procedures that have been designed. Thus, fraud prevention is an effort or endeavor to prevent unlawful acts or fraudulent acts committed by employees, thereby causing a detrimental impact on the organization.

The objectives of effective fraud prevention include: a) prevention, namely preventing actual fraud from occurring in all lines of the organization; b) deterrence, namely preventing potential perpetrators from even attempted actions; c) disruption, which makes it difficult for fraud perpetrators to move; d) identification, namely identifying high-risk activities and control weaknesses; and e) civil action prosecution, namely making demands and imposing appropriate sanctions for acts of fraud on the perpetrators.

Information technology audit

Audits in general are very important for companies. The audit process will help companies identify problems, risks and system weaknesses that have the potential to endanger company assets. From the findings of these problems, companies can take preventive and corrective actions.In information systems, the biggest risk that can occur is data and information security. IT audits are used to investigate if there is an information security leak. Data and information are very valuable for companies, including hardware, software, and more. Ensuring the security and reliability of this data is the company's obligation. Hardware can be damaged due to crime or accident. Software and data can be stolen or misused. IT audits also help prevent or detect fraud by company

management, which can harm the company financially [https://integrasolusi.com/blog]. Information technology-based audits are increasingly important in helping companies manage and respond to risk. [Halbouni et al 2016]. Information technology-based audits are tools that help auditors achieve audit objectives. Furthermore, [Marshall et al. 2014] states that information technology-based audit is a computer software program to carry out audit functions that can simplify the audit stages. This shows that the presence of information technology-based audits has a positive impact on the implementation of financial report audits carried out by auditors to become more effective and efficient.

Ethical Culture

Ethical culture is an understanding regarding employees' views on various ethical actions of superiors who pay more attention to the importance of ethics in the company which leads to rewards and punishment for every immoral act. The ethical culture embedded in an organization, related to moral concepts that differentiate good and bad behavior, has a direct influence on individual motivation to behave. Therefore, all parties involved in the organization need to maintain and maintain an ethical culture, in order to prevent immoral behavior that could threaten the achievement of the organization's programs and goals. [Putra et al, 2021]. In preventing fraud, it is important to develop and maintain a strong ethical culture within the organizational context. With a strong ethical culture, employees and management will continue to adhere to ethical values and integrity principles, so as to prevent fraud in the organization [Afiah et al, 2019]

RESEARCH METHODS

This research is a causal research using a survey method with random and purposive sampling techniques through descriptive and verification methods. To test the effectiveness of information technology audits in preventing fraud with an ethical culture as moderation, researchers sent questionnaires via Google Form to 39 companies. In this study, researchers carried out tests using the SPSS application with a simple regression test method used to test the relationship between independent variables. what will be tested is an information technology audit. The dependent variable to be tested is fraud prevention. Meanwhile, the moderating variable is ethical culture. The population and saturated sample used as objects in this research are auditors and employees at the company, according to Sugiyono (2019). Saturated sampling is a sample selection technique when all members of the population are sampled. The sampling technique in this study used the Saturated Sampling Technique, where all the population in this study was sampled

RESEARCH RESULTS AND DISCUSSION

Respondent Demographics

Respondent characteristics can describe the distribution of respondents based on gender, education level and age. Table 1 shows that male respondents outnumber female respondents by 56%. Respondents with a Bachelor's level of education were greater than other levels of education at 59% and respondents with an age range above 30 years were more at 46%.

Table 1. Respondent Demographics

Demographics		Amount	Presentations
Gender	Man	22	56%
	Female	17	44%
Education Level	D3	11	28%
	S1	23	59%
	S2	5	13%
Age	20-25	6	15%
	25-30	15	38%
	>30	18	46%

Source: data processed in 2023

The results of the validity test show that the Pearson correlation coefficient for each item of this research statement shows the total score value of the fraud prevention variable, information technology-based audit, and ethical culture shows a t table value of 39-2 = 37 with an alpha of 5%, namely 0.316. Thus it can be concluded that each The instrument indicator items in this research are valid. Furthermore, regarding the results of the reliability test calculations, the Cronbach alpha (α) value for each variable was greater than 0.7 (Ghozali, 2018:46). Thus it can be concluded that the instrument for each variable is reliable.

Descriptive Analysis

In this research, respondents' responses to each statement will be presented in the form of frequency distribution tables and percentages, making it easier for researchers to explain the results of respondents' responses Pressman, Roger S. (2010). stated that the descriptive analysis formula to determine the percentage description of respondents' responses to each question asked is as follows:

Information:

1. The actual score is the answers of all respondents to the questionnaire that has been submitted.
2. The ideal score is the highest score or all respondents are assumed to choose the answer with the highest score.

The criteria table for the percentage of response scores to the ideal score is:

Table 1 Criteria for Classifying Respondents' Response Score Percentage

No	% Total Score	Criteria
1	20.00% - 36.00%	Very Poor/Very Low
2	36.01% - 52.00%	Poor/Low
3	52.01% - 68.00%	Less
4	68.01 – 84.00%	Good/High
5	84.01% - 100%	Very Good/Very High

Descriptive Analysis of Information Technology Audits

Table 2 Summary of Respondent Response Scores
On Information Technology Audit

No	Question		Distribution of Answers						Total	Scor Index		%	Criteria
			6	5	4	3	2	1		Actual	Ideal		
1	P1	F	1	14	21	3	0	0	39	169	234	72%	Good
		%	2%	36%	54%	8%	0%	0%	100%				
2	P2	F	10	20	5	4	0	0	39	192	234	82%	Good
		%	26%	51%	13%	10%	0%	0%	100%				
3	P3	F	3	16	19	1	0	0	39	177	234	76%	Good
		%	8%	41%	49%	2%	0%	0%	100%				
4	P4	F	3	5	25	6	0	0	39	161	234	68%	Good
		%	8%	13%	64%	15%			100%				
Total										**699**	**912**	**75%**	**Good**

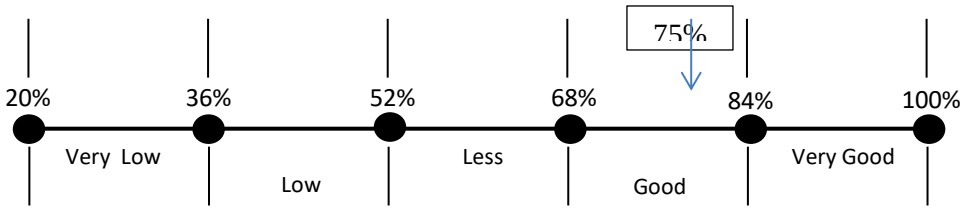

Figure 1 Information Technology Audit Continuum

From the recapitulation above of respondents' responses regarding information technology audits, the continuum line shows a presentation value of 75% which is in the interval 68.01% - 84%, which is included in the good category. So it can be concluded that overall the information technology audit in the company is classified as good or good, but there are still deficiencies in the monitoring and maintenance indicators which received the lowest presentation, namely 68%. This shows that there is room for improvement in terms of monitoring and maintaining information technology in the company.

Table 3 Summary of Respondent Response Scores
On Fraud Prevention

No	Question		Distribution of Answers						Total	Score Indexs		%	Criteria
			6	5	4	3	2	1		Actual	Ideal		
1	P1	F	1	12	20	6	0	0	39	164	234	74%	Good
		%	4%	30%	51%	15%	0%	0%	100%				
2	P2	F	6	22	8	3	0	0	39	187	234	80%	Good
		%	15%	56%	21%	8%	0%	0%	100%				
3	P3	F	7	22	9	1	0	0	39	191	234	82%	Good
		%	18%	56%	23%	3%	0%	0%	100%				
4	P4	F	10	18	10	1	0	0	39	193	234	82%	Good
		%	26%	46%	26%	2%	0	0	100%				
5	P5	F	6	19	13	1	0	0	39	186	234	79%	Very Good
		%	15%	49%	33%	3%	0%	0%	100%				
6	P6	F	6	25	6	2	0	0	39	191	234	82%	Good
		%	15%	64%	15%	6%	0%	0%	100%				
Total										**1.112**	**1.404**	**79%**	**Good**

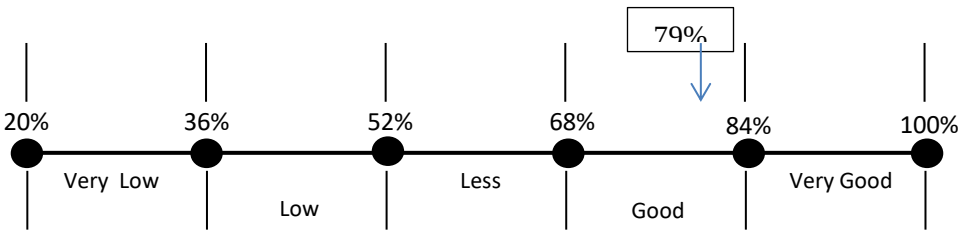

Figure 2 Fraud Prevention Continuum

From the recapitulation above of respondents' responses regarding fraud prevention, the continuum line shows a presentation value of 79% which is in the interval 68.01% - 84%, which is included in the good category. So it can be concluded that overall fraud prevention in the company is classified as good or good, but

there are still deficiencies in the policy indicators which received the lowest presentation, namely 72%. This shows the importance of evaluating and improving policies that have been implemented in efforts to prevent fraud in companies. Corrective steps and adjustments to these policies may be necessary to strengthen the overall fraud prevention system.

Table 4 Summary of Respondent Response Scores
On Ethical Culture

No	Question		Distribution of Answers						Total	Score Indexs		%	Criteria
			6	5	4	3	2	1		Actual	Ideal		
1	P1	F	6	22	11	0	0	0	39	190	234	81%	Good
		%	15%	57%	28%	0%	0%	0%	100%				
2	P2	F	0	0	4	32	3	0	39	118	234	50%	Less
		%	0%	0%	10%	82%	8%	0%	100%				
3	P3	F	5	20	14	0	0	0	39	186	234	79%	Good
		%	13%	51%	36%	0%	0%	0%	100%				
4	P4	F	4	23	12	0	0	0	39	187	234	80%	Good
		%	10%	59%	31%	0%	0	0	100%				
5	P5	F	4	24	11	0	0	0	39	188	234	80%	Good
		%	10%	62%	28%	0%	0%	0%	100%				
6	P6	F	8	19	12	0	0	0	39	191	234	82%	Good
		%	20%	49%	31%	0%	0%	0%	100%				
7	P7	F	4	25	10	0	0	0	39	189	234	80%	Good
		%	10%	64%	26%	0%	0%	0%	100%				
8	P8	F	8	19	12	0	0	0	39	191	234	82%	Good
		%	20%	49%	31%	0%	0%	0%	100%				
Total										**1.440**	**1.872**	**77%**	**Good**

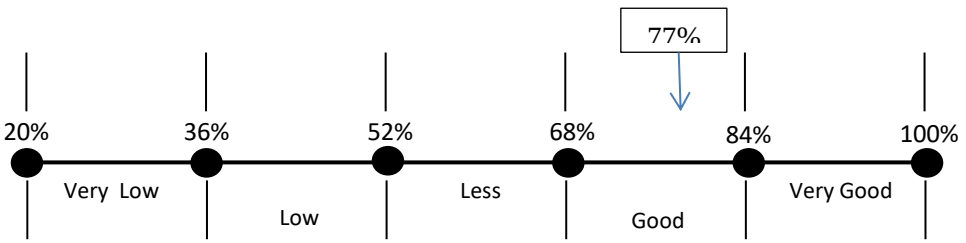

Figure 3 The Ethical Culture Continuum

From the recapitulation above of respondents' responses regarding ethical culture, the continuum line shows a presentation value of 77% which is in the interval 68.01% - 84%, which is included in the good category. So it can be concluded that overall the ethical culture in the company is classified as good or good, but there are still weaknesses in the supervisory suitability indicator which received the lowest presentation, namely 50%. This raises concerns about the effectiveness of the monitoring system implemented in maintaining an ethical culture in the company. Therefore, there needs to be an in-depth evaluation of the role and performance of supervisors as well as corrective steps that need to be taken to improve their conformity with expected ethical standards.

Simple Regression

Table 5 Coefficient of Information Technology Audit on Fraud Prevention

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.579	3.694		2.593	.014
	ATI	1.056	.204	.647	5.168	.006
a. Dependen Fraud Prevention						

Based on the table above, the simple regression model for information technology audits on the factors that influence fraud prevention is as follows:

$$Y = 0.647ATI$$

The information technology audit variable has a positive regression coefficient direction or is directly proportional to fraud prevention. This shows that information technology audits have a positive influence on fraud prevention.

Table 6 Ethical Culture Coefficient Moderating the Effect of Information Technology Audits on Fraud Prevention

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	15.927	2.093		7.611	.000
	BE*ATI	.019	.003	.711	6.150	.000
a. Dependen Fraud Prevention						

Based on the table above, the simple regression model for ethical culture moderates the influence of information technology audits on factors that influence fraud prevention, as follows:

$$Y = 0.711ATI*BE$$

The ethical culture variable moderating the influence of information technology audits has a positive regression coefficient direction or is directly proportional to fraud prevention. This shows that ethical culture moderates information technology audits which have a positive influence on fraud prevention.

Correlation Analysis

Correlation analysis shows the direction and strength of the relationship between two or more variables, the direction is expressed in the form of a positive or negative relationship, while the strength or weakness of the relationship is expressed in the magnitude of the correlation coefficient.

Table 7 Correlation Coefficient
Ethical Culture Moderates Technology Audits For Fraud Prevention

		Technology Audits	Fraud Prevention	Ethical Culture
Technology Audits	Pearson Correlation	1	.647	.610
	Sig. (2-tailed)		.000	.000
	N	39	39	39
Fraud Prevention	Pearson Correlation	.647	1	0.647
	Sig. (2-tailed)	.000		.000
	N	39	39	39
Ethical Culture	Pearson Correlation	.610	.647	1
	Sig. (2-tailed)	.000	.000	
	N	39	39	39

data processed in 2023

Based on the correlation coefficient value of 0.647 between information technology audits and fraud prevention, these results fall within the score interval of 0.60 - 0.799. This indicates that there is a significant relationship between information technology audits and fraud prevention efforts. The higher the correlation value, the stronger the relationship between the two variables. Thus, if information technology-based audits are carried out better within the company, it will increase the effectiveness of fraud prevention efforts.

Ethical culture has a correlation or strong relationship with information technology audits on fraud prevention of 0.610, this shows that there is a significant relationship between ethical culture and information technology audits, indicating that ethical practices in organizations positively influence the effectiveness of information technology audits in detecting and prevent fraud.

Coefficient of Determination

To find out how much influence the independent variable has on the dependent variable expressed in percent, it is necessary to test the coefficient of determination. The coefficient of determination value is determined by R Square or can be calculated based on a formula as can be seen from each variable, which is as follows:

Table 8 Coefficient of Determination Technology Audit for Fraud Prevention

Model Summary

Model	R	R Square	Adjusted R Square	Std.Error of the Estimate
1	,647[a]	,419	,404	2,954

a. Predictors (Constant), Audit Information Technology

Based on the table above, the coefficient of determination of information technology audits on fraud prevention is 0.419 or 41.9%, which means that information technology audits have an influence on fraud prevention of 41.9% while the remaining 57.1% is influenced by other factors not examined in this research.

Table 9 Coefficient of Determination
Ethical Culture Moderates Information Technology Audits Against Fraud Prevention

Model Summary

Model	R	R Square	Adjusted R Square	Std.Error of the Estimate
1	,711[a]	,505	,492	2,725

a. Predictors (Constant), XM
b. Dependent Variable, Farud Prevention

Based on the table above, ethical culture strengthens the influence of information technology-based audits on fraud prevention by 0.505, which means that ethical culture can strengthen information technology audits on fraud prevention by 50.5%, while the remaining 49.5% is influenced by other factors not examined in this research.

Hypothesis testing

1. Information Technology Audit and Fraud Prevention

   From the results of the hypothesis test, it can be seen that information technology audits have an effect on fraud prevention with a positive or directly proportional coefficient value, this shows that information technology audits have a positive influence on fraud prevention. Where the tcount value is 5.168 and the ttable value is 2.021, this shows that tcount is greater than ttable (5.168 > 2.021) with a significance level of 0.00 < 0.05 so it can be concluded that H0 is rejected and Ha is accepted, which means that Information Technology Audit has a significant effect on Fraud Prevention.

   The first hypothesis states that information technology audits have a significant positive effect on fraud prevention, meaning that the company has implemented information technology audits in an effort to prevent fraud well. The better the implementation of information technology audits, the better the company's efforts to prevent fraud. The results of this study are in accordance with research. carried out by [Akbar 2019]: [Samagaio 2023]: [Juhendi et al, 2020] where information technology audit is a technique to assist internal auditors in managing organizational information systems which can be used to prevent fraud in the company. Information technology can be used to conduct audits more efficiently and effectively. This shows that information technology can help in preventing fraud by collecting sufficient data and allowing auditors to carry out more accurate analysis. As a company's business grows and its information needs increase, companies typically upgrade their information technology systems to efficiently manage a large number of complex business transactions.

2. Information Technology Audit, Ethical Culture and Fraud Prevention

   From the results of the hypothesis test, it can be seen that an ethical culture strengthens information technology audits on fraud prevention, with a coefficient value of 0.19 and a calculated t value of 6.150 with a ttable of 2.021. because the t value is greater than the t table value and the significance value is <0.05 then Ho is rejected and Ha is accepted, it can be concluded that ethical culture can strengthen the influence of information technology audits on fraud prevention, the stronger the ethical culture implemented by the company, the better the implementation of technology audits. information in efforts to prevent fraud. .

   The second hypothesis states that an ethical culture strengthens the influence of information technology audits in efforts to prevent fraud. This shows that the existence of an ethical and honest culture in an organization can support the process of implementing audit application systems to be more effective, which also becomes the foundation for efforts to prevent fraud. The results of this research support research conducted by Ferina et al., (2021), (Toro et al, 2022) (Putra et al., 2022) that ethical culture can play an important role in preventing fraud and the influence of information technology-based audits on prevention. Fraud can be improved through a strong ethical culture. In this case, organizations must ensure that an ethical culture is well internalized and promoted throughout all levels of the organization. In addition, organizations must also utilize audit technology wisely and ensure that the technology is well integrated into existing internal control systems, to increase the effectiveness of fraud prevention.

CONCLUSION AND RECOMENDATION

Information technology audit is a technique that helps internal auditors in managing organizational information systems that can be used to prevent fraud within the company. Information technology can be used to conduct audits more efficiently and effectively. This shows that information technology can help in preventing fraud by collecting sufficient data and allowing auditors to carry out more accurate analysis. As a company's business grows and its information needs increase, companies generally upgrade their information technology systems to efficiently manage large amounts of complex business transactions.

Ethical culture can play an important role in preventing fraud and the influence of information technology-based audits on prevention. Fraud can be improved through a strong ethical culture. In this case, organizations must ensure that the ethical culture is well internalized and promoted at all levels of the organization. In addition, organizations must also use audit technology wisely and ensure that the technology is well integrated into existing internal control systems, to increase the effectiveness of fraud prevention.

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