

Research.

The Impact of Digital Audit Technology and Auditor Competence on Internal Audit Effectiveness

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Abstract. This study empirically examines how digital audit technology and auditor competencies influence the effectiveness of internal audit in Regional-Owned Enterprises (BUMD) and the Cirebon City Inspectorate. It is grounded in Agency Theory, which emphasizes the synergistic role of technology and human resource capabilities in enhancing oversight functions. The study uses a quantitative, associative design. Primary data were collected via a questionnaire administered to 45 respondents using a census technique and analyzed using multiple linear regression in SPSS. The results indicate that, when considered individually, the use of digital audit technology does not significantly affect the effectiveness of internal audits; in contrast, auditor competencies have a positive and significant effect. However, when considered together, both variables have a significant effect on the effectiveness of internal audits. These findings indicate that digital audit technology is not yet optimal without adequate auditor competencies. This study is important because it provides empirical evidence that the effectiveness of internal audits in the local public sector is determined by the integration of digital information and the quality of human resources, thereby laying the foundation for strengthening technology-based oversight policies.

Keywords: *digital audit technology; auditor competencies; internal audit effectiveness*

INTRODUCTION

Background

The internal audit function plays a strategic role in strengthening Good Corporate Governance (GCG) and public accountability, particularly in the local public sector, which manages public resources. In public organizations such as Regionally Owned Enterprises (BUMDs), internal audit is a vital mechanism for ensuring effective controls, transparency, and compliance with applicable regulations. However, the effectiveness of internal audit remains a critical issue in many regions, including the City of Cirebon, where several BUMDs and local government units face challenges related to governance, financial performance, and alleged asset misappropriation. This indicates that internal oversight mechanisms are not yet functioning optimally to detect and prevent risks early.

The digital transformation within the public sector has substantially altered the role of internal audit. Digital audit technologies, including local government financial management systems (SIPD, SIMDA, ERP BUMD), cloud-based data analytics, and digital dashboards for monitoring audit results, present significant opportunities to enhance efficiency, accuracy, and the depth of audit analysis. Nevertheless, the adoption of these technologies does not inherently ensure improved oversight effectiveness, as outcomes are largely contingent upon auditors' ability to operate, interpret, and strategically utilize them. Therefore, auditor competencies are essential for maximizing the benefits of digital audit technology. Auditors must possess digital literacy, analytical skills, and a comprehensive
Meliana Febriyanti; Ida Rosnidah. The Impact of Digital Audit Technology and Auditor Competence on Internal Audit Effectiveness.

understanding of risk to transform internal audit from an administrative function into a proactive, risk-based oversight mechanism.

According to Agency Theory (Jensen & Meckling, 1976), internal audit serves as a monitoring mechanism to reduce information asymmetry and conflicts of interest between the principal (the local government) and the agent (locally owned company management). In a digital context, audit technology can provide poor information—but it can only function optimally if supported by competent auditors. According to research (Alqudah et al., 2023) Effective internal auditors can help organizations achieve their goals and protect their assets and funds. However, to be effective, internal auditors need to be empowered with relevant resources. This is in line with research (Azizah & Farid, 2021), which states that the use of information technology does not significantly impact audit effectiveness unless accompanied by adequate auditor competence. Conversely, research by (Nugroho, M.I., Fernando.V.F., 2025) and (Suci,B.M., Kuntadi, C., Pamukty, 2023) states that the auditor's technical and professional competence positively influences the quality of audit results. The differences in previous research findings create empirical anomalies regarding the simultaneous relationship between the use of digital audit technology and auditor competence on internal audit effectiveness, particularly in the context of BUMD and regional inspectorates.

This study contributes to the literature by analyzing the synergy between digital audit technology and auditor competencies in influencing the effectiveness of internal audits at regionally owned enterprises (BUMD) and the Cirebon City Inspectorate. The research is distinctive in its focus on the local public sector, which is marked by complex governance structures, and in its integration of technological and human capital as extensions of the Agency Theory framework in the digital era. Academically, the study advances understanding of internal audit effectiveness within the context of public-sector digitization. In practice, the findings are expected to inform efforts to strengthen local internal control systems through targeted investment in digital audit technologies and the *ongoing* development of auditor competencies.

Problem Formulation

1. Does the partial use of digital audit technology affect the effectiveness of internal audits at BUMDs and the Cirebon City Inspectorate?
2. Do auditor competencies partially affect the effectiveness of internal audits at BUMDs and the Cirebon City Inspectorate?
3. Does the simultaneous use of digital audit technology and auditor competencies influence the effectiveness of internal audits at BUMDs and the Cirebon City Inspectorate??

Research Objectives

1. To analyze and empirically test the partial effect of the use of digital audit technology on the effectiveness of internal audits at BUMDs and the Cirebon City Inspectorate.
2. To analyze and empirically test the partial effect of Auditor Competence on the effectiveness of internal audits at BUMDs and the Cirebon City Inspectorate.
3. To analyze and empirically test the simultaneous effect of the use of digital audit technology and Auditor Competence on the effectiveness of internal audits at BUMDs and the Cirebon City Inspectorate.

Research Benefits

1. Theoretical Benefits

This study is expected to enrich the literature on accounting and internal auditing, particularly in the context of implementing Good Corporate Governance (GCG) in the local public sector. By examining the influence of digital audit technology and auditor

Meliana Febriyanti; Ida Rosnidah. The Impact of Digital Audit Technology and Auditor Competence on Internal Audit Effectiveness.

competencies on the effectiveness of internal audits, this study reinforces modern audit theories that emphasize the synergistic role of technology and human resources in improving the quality of oversight. As stated by Agency Theory (Jensen & Meckling, 1976), the internal audit function serves as a control mechanism to mitigate conflicts of interest between management (the agent) and owners (the principal); thus, its effectiveness is significantly influenced by the auditors' capabilities and the availability of adequate technological support.

2. Practical Benefits

This study makes a direct contribution to the Cirebon City-Owned Enterprises (BUMD) and the Cirebon City Inspectorate in improving the quality and effectiveness of internal audit functions.

- For the management of the BUMD and the Cirebon City Inspectorate, the research findings can serve as a basis for formulating policies to strengthen auditor capacity through digital audit training, enhancing technology-based competencies, and developing a more modern, risk-based oversight system.
- For internal auditors of BUMDs and auditors of the Cirebon City Inspectorate (APIP), this research provides insights into the importance of adopting digital audit technology and enhancing multidisciplinary expertise to perform oversight functions more effectively, preventively, and with added value.
- For the Cirebon City Government and external supervisors (BPKP/BPK), this research can serve as a basis for evaluating the readiness of internal oversight—both within BUMDs and the Inspectorate—to meet the demands of public sector governance in the digital era. Thus, the research findings are expected to support the comprehensive strengthening of the regional internal control system.

3. Academic and Public Policy Implications

Academically, this study serves as a reference for future research on the digitization of public sector audits and the development of local auditors' competencies.

From a policy perspective, the study's findings can support the formulation of technology-based oversight guidelines within BUMDs and the Cirebon City Inspectorate as part of local financial management reform.

LITERATURE REVIEW

This study is grounded in Agency Theory (Jensen & Meckling, 1976), which explains the relationship between owners and management and how information asymmetry can lead to conflicts of interest. In this context, internal audit serves as a control mechanism to ensure that management acts in the owners' best interests.

The effectiveness of internal audit reflects the success of this oversight function. Digital audit technology enables auditors to obtain data quickly and accurately, thereby strengthening oversight. Meanwhile, auditor competence is a critical factor that determines the quality of audit assessments, analyses, and recommendations.

The Use of Digital Audit Technology

Information technology is defined as a tool that helps people create, store, process, modify, and disseminate information. The application or use of information technology today has become a critical factor in management decision-making (Azizah & Farid, 2021).

Theoretically, the use of digital audit technology is expected to improve the effectiveness of internal audits by enhancing auditors' ability to analyze data, detect irregularities, and generate more relevant and accurate recommendations.

Research (Nugroho, M.I., Fernando, V.F., 2025) explains that auditors with competencies in digital technology can improve the effectiveness of internal audit. Additionally, Suyudi &

Meliana Febriyanti; Ida Rosnidah. The Impact of Digital Audit Technology and Auditor Competence on Internal Audit Effectiveness.

Wijaya (2024) Note that the presence of this technology significantly impacts auditor performance.

Auditor Competence

Auditor competence is the combination of knowledge, skills, and experience an auditor possesses to perform audit tasks professionally and effectively in accordance with applicable standards. Competence relates to expertise, knowledge, and experience; therefore, a competent auditor is one who possesses sufficient knowledge, training, skills, and experience to successfully perform audit work (Suci,B.M., Kuntadi, C., Pamukty, 2023).

Highly competent auditors can understand the audited entity, apply audit standards correctly, gather sufficient evidence, and draw valid conclusions. This directly enhances the quality and credibility of audit results, which is the core of internal audit effectiveness.

Research (Nugraha & Kuntadi, 2024) and (Oktavian et al., 2023) indicates that competence influences the effectiveness of internal audits. This underscores that human factors (competence) are key to performing audit functions.

Effectiveness of Internal Audits

The effectiveness of internal audits can be explained by Agency Theory (Jensen & Meckling, 1976), which emphasizes that internal audits serve as a monitoring mechanism to reduce information asymmetry between management (the agent) and owners (the principal). Effective internal audits help ensure that organizational activities align with established policies and objectives, thereby minimizing conflicts of interest and enhancing accountability.

Internal audit is a key element of corporate governance that serves to ensure compliance with applicable policies, procedures, and regulations. In addition, the internal audit assesses the effectiveness of internal control systems and identifies potential risks that could negatively impact company operations. With technological advancements, the internal audit process has undergone a significant transformation, as conventional, manual, and physical-document-based methods are increasingly being replaced by more modern and automated systems(Salihi, 2024)

Internal audit serves as a critical internal control tool within an organization. According to the IIA (Institute of Internal Auditors), internal audit aims to provide objective assurance and consulting to help organizations achieve their objectives in a systematic and structured manner. An effective internal audit can help identify risks and improve processes. Internal audit aims to assess the efficiency of the internal control framework, risk mitigation strategies, and institutional management processes (Meilani et al., 2025).

The effectiveness of internal auditing is a measure of whether the internal audit system achieves its established objectives through various possible options. An effective internal control system can be established if it is supported by a positive control environment, in which the support of an organization's leadership is essential, as employees will implement applicable rules in accordance with leadership directives (Nugroho, M.I., Fernando, V.F., 2025)

RESEARCH METHODS

Research Design

This study employs a descriptive and associative quantitative approach with the aim of testing the influence of independent variables on the dependent variable. As stated by (Sugiyono, 2023),who explains that quantitative research methods can be defined as research methods grounded in the philosophy of positivism, used to study a specific population or sample, data collection using research instruments, and quantitative/statistical data analysis, with the aim of testing established hypotheses.

Population and Sample

Meliana Febriyanti; Ida Rosnidah. The Impact of Digital Audit Technology and Auditor Competence on Internal Audit Effectiveness.

The population for this study consists of all internal auditors at BUMDs and the Cirebon City Inspectorate, with a sample size of 45 auditors and key oversight stakeholders directly involved in internal audit functions. Because this population is relatively small and specific, the sample will be selected using a census method, meaning that all members of the population will serve as research respondents.

Data Types and Sources

The data used consists of primary data collected via a questionnaire. The questionnaire was designed to measure the research variables, namely: Use of Digital Audit Technology (X1), Auditor Competence (X2), and Internal Audit Effectiveness (Y). The variables were operationalized using a 5-point Likert scale, where each respondent rated a series of statements reflecting the indicators of each variable on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree). Before use, the instrument was tested for validity and reliability.

Data Analysis Techniques

The data analysis method used is Multiple Linear Regression Analysis, preceded by a frequency distribution analysis to describe the characteristics of the respondents and the variables.

1. Frequency Distribution Analysis

Frequency distribution analysis is used to provide an initial overview of the characteristics of the research data obtained from the questionnaires completed by the respondents. This analysis aims to determine the distribution of respondents' answers for each research variable indicator, thereby revealing general trends in respondents' attitudes, perceptions, and evaluations.

2. Validity Test

A validity test is used to determine the suitability of items in a questionnaire (construct) for defining a variable. The validity of a questionnaire item can be seen in the SPSS output in the Item-Total Statistics table. To assess the validity of each questionnaire item, the calculated r (value of the Corrected Item-Total Correlation) is compared with the table r at a specific significance level. If the calculated $r >$ table r , it can be concluded that the item is valid.

3. Reliability Test

Reliability is a measure of the consistency of respondents' answers to the questionnaire. The reliability test can be conducted simultaneously with the validity test. The guideline used in the reliability test is that if Cronbach's $\alpha > 0.70$, the instrument (questionnaire) can be considered reliable.

4. Classical Assumption Tests

The purpose of conducting classical assumption tests is to determine whether a multiple regression model satisfies classical statistical assumptions such as data normality, multicollinearity, and heteroscedasticity. A multiple regression model can be considered a good model if it satisfies these classical assumptions.

5. Multiple Regression Analysis

Regression analysis is used to determine how the dependent variable (Y) can be predicted through the independent variables/predictors (X). The goal of increasing or decreasing the dependent variable can be achieved by increasing or decreasing the independent variables.

Multiple regression is used when a researcher intends to predict the state (increase or decrease) of the dependent variable using two or more independent variables as predictors. The form of the multiple regression equation is as follows:

$$Y = a + b_1X_1 + b_2X_2 + \dots + b_nX_n$$

Meliana Febriyanti; Ida Rosnidah. The Impact of Digital Audit Technology and Auditor Competence on Internal Audit Effectiveness.

6. t-Test: To test Hypotheses 1 and 2, namely the effect of each independent variable (X1 and X2) separately on (Y).
7. F-Test: To test Hypothesis 3, namely the combined effect of (X1 and X2) on (Y).
8. Analysis of the Coefficient of Determination

The coefficient of determination (R^2) is used to determine the extent to which the independent variables explain the dependent variable. For simple regression, R^2 is used, and for multiple regression, adjusted R^2 is used, as it is adjusted for the independent variables used in the study.

RESULTS AND DISCUSSION

Results

Validity Test Result

Table 1 Validity Test Result

Variable	Number of Items	r-count	r-table	Information
Digital Audit Technology Utilization (X1)	9	0.624 – 0.781	0.294	Valid
Auditor Competences (X2)	10	0.714 – 0.806	0.294	Valid
Internal Audit Effectiveness (Y)	11	0.416 – 0.792	0.294	Valid

Validity testing was conducted using SPSS software by comparing the calculated R value with the R table. With degrees of freedom (df) = $N-2 = 45 - 2 = 43$, the corresponding r value in the table was determined to be 0.294. Table 1 shows that the Corrected Item-Total Correlation (r) for this variable has a calculated value of 0.294, which is greater than the table R value; therefore, it can be concluded that the statements in each variable in this questionnaire are valid.

Reliability Test Result

Table 2: Reliability Test Result

Variable	Cronbach Alpha	Critical Values	Information
Digital Audit Technology Utilization (X1)	0,910	0,70	Reliable

Meliana Febriyanti; Ida Rosnidah. The Impact of Digital Audit Technology and Auditor Competence on Internal Audit Effectiveness.

Auditor Competences (X2)	0,941	0,70	Reliable
Internal Audit Effectiveness (Y)	0,902	0,70	Reliable

The reliability test results showed that all variables had Cronbach's Alpha values exceeding the minimum threshold of 0.70. Specifically, Digital Audit Technology Utilization obtained a value of 0.910, Auditor Competence 0.941, and Internal Audit Effectiveness 0.902. These findings indicated that all research instruments were reliable and demonstrated high internal consistency, thereby confirming their suitability for further analysis.

Normality Test Results

Table 3 Normality Test Results

One-Sample Kolmogorov-Smirnov Test		Unstandardized Residual
N		45
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	3.14333267
Most Extreme Differences	Absolute	.110
	Positive	.107
	Negative	-.110
Test Statistic		.110
Asymp. Sig. (2-tailed) ^c		.200 ^d
Monte Carlo Sig. (2-tailed) ^e	Sig.	.186
	99% Confidence Interval	Lower Bound .176
		Upper Bound .196

- a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.
e. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 957002199.

Source: IBM SPSS Data Analysis Results, 2026

Table 3 shows a test statistic of 0.110 and a p-value of 0.186, which is > 0.05. Therefore, the residual data are normally distributed.

Multicollinearity Test Results

Table 4 Multicollinearity Test Result

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	18.456	5.231		3.528	.001	
	X1	.049	.182	.045	.268	.790	.475
	X2	.643	.170	.632	3.784	< .001	.475

a. Dependent Variable: Y

Source: IBM SPSS Data Analysis Results, 2026

Table 4 presents the relevant data, showing that the Tolerance value is not below 0.10 and the VIF value does not exceed 10. Therefore, it can be concluded that the regression model does not contain multicollinearity among its independent variables.

Heteroscedasticity Test

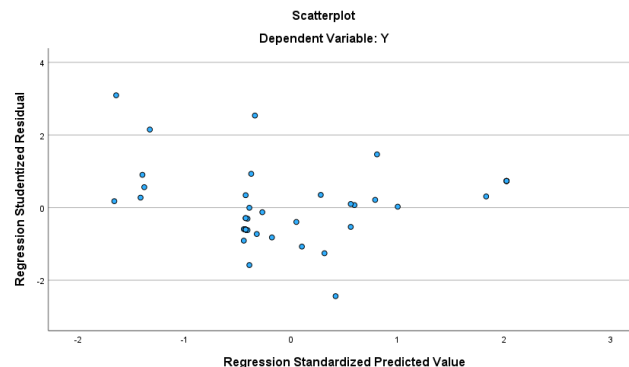


Figure 1: Heteroscedasticity Test Result

Source: IBM SPSS Data Analysis Results, 2026

The scatterplot shown in Figure 1

Illustrates the random distribution of data points, which extend below and above zero along the Y-axis. Given the absence of heteroscedasticity in the regression model, the model is suitable for predicting Internal Audit Effectiveness when the independent variables are used as inputs. Utilization of Digital Audit Technology and Auditor Competencies.

Results of Multiple Linear Regression Analysis

After completing the classical assumption tests, a multiple linear regression analysis was conducted to test the hypotheses. This analysis included the following variables: Internal Audit Effectiveness (Y), Utilization of Digital Audit Technology (X1), and Auditor Competence (X2). After analyzing the data using SPSS 29, the following multiple linear regression model was obtained:

Table 5 Results of Multiple Linear Regression Analysis

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1							
	(Constant)	18.456	5.231	3.528	.001		
	X1	.049	.182	.045	.268	.475	2.106
	X2	.643	.170	.632	<.001	.475	2.106

a. Dependent Variable: Y

Source: IBM SPSS Data Analysis Results, 2026

Based on the results presented in Table 5, the following multiple linear regression equation can be formulated:

$$EAI = 18.456 + 0.049 \text{ Utilization} + 0.643 \text{ Competence} + e$$

This regression equation can be interpreted as follows:

1. The test results show that the constant term is 18.456 with a significance level of 0.001 < 0.05, meaning that if all independent variables are held constant or set to zero, the internal audit effectiveness is 18.456.
2. The Digital Audit Technology Utilization variable has a positive regression coefficient of 0.049, indicating that for every 1-unit increase in the level of digital audit technology

Meliana Febriyanti; Ida Rosnidah. The Impact of Digital Audit Technology and Auditor Competence on Internal Audit Effectiveness.

utilization, the internal audit effectiveness value will increase by 0.049, assuming that the values of the other independent variables remain constant.

3. The Auditor Competence variable has a positive regression coefficient of 0.643, indicating that for every 1-unit increase in auditor competence, the internal audit effectiveness value will increase by 0.643, assuming that the values of other independent variables remain constant.

Results of the t-Test

The t-test is used to examine the partial effect of each independent variable used in this study on the dependent variable. To determine whether the independent variables affect the dependent variable, the following analytical steps can be taken:

1) Formulate the hypotheses:

H_0 : The use of Digital Audit Technology does not affect the Effectiveness of Internal Audits

H_1 : The use of Digital Audit Technology affects the Effectiveness of Internal Audits

Testing Criteria

If Sig < 0.05 or 5%, then H_0 is rejected and H_1 is accepted

If Sig > 0.05 or 5%, then H_0 is accepted and H_1 is rejected

Table 6 Results of the t-Test

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	18.456	5.231		3.528	.001	
	X1	.049	.182	.045	.268	.790	.475
	X2	.643	.170	.632	3.784	<.001	.475

a. Dependent Variable: Y

Source: IBM SPSS Data Analysis Results, 2026

1. The Digital Audit Technology Utilization variable (X1) has a calculated t-value of 0.268, with a significance level of 0.790 > 0.05; therefore, it can be concluded that Digital Audit Technology Utilization does not have a significant effect on Internal Audit Effectiveness. This indicates that the implementation of digital audit technology has not yet directly improved the internal audit's effectiveness. Thus, H_0 is accepted, and H_1 is rejected.

2. The Auditor Competence variable (X2) has a t-value of 3.784, with a significance level of < 0.001 < 0.05; therefore, it can be concluded that Auditor Competence has a positive and significant effect on Internal Audit Effectiveness. This means that the higher the auditor's competence, the greater the effectiveness of internal audit implementation. Thus, H_1 is accepted, and H_0 is rejected.

F- test result

Table 7: F-test result

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	345.701	2	172.850	16.699	<.001 ^b
	Residual	434.744	42	10.351		
	Total	780.444	44			

a. Dependent Variable: Y

b. Predictors: (Constant), X2, X1

Source: IBM SPSS Data Analysis Results, 2026

Based on the ANOVA results, the calculated F-value was 16.699, with a significance level of 0.001 (Sig. < 0.05). This indicates that the regression model used in this study is appropriate (fits the data) and can be used to explain the relationship between the independent and dependent variables.

Since the p-value is less than 0.05, H1 is rejected, and H2 is accepted. Thus, it can be concluded that variables X1 and X2 have a significant simultaneous effect on Y.

Results of the Coefficient of Determination Test

Table 8 Results of the Coefficient of Determination Test

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.666 ^a	.443	.416	3.21730	1.625

a. Predictors: (Constant), X2, X1

b. Dependent Variable: Y

Source: IBM SPSS Data Analysis Results, 2026

The adjusted R-squared value, as shown in Table 8, is 0.416. This indicates that the use of digital audit technology (X1), auditor competence (X2), and internal audit effectiveness (Y) together account for 41.6% of the variance.

Discussion

The Impact of Digital Audit Technology Adoption on Internal Audit Effectiveness

Based on the results of the statistical test, the variable "Utilization of Digital Audit Technology" (X1) has a calculated t-value of approximately 0.268 and a significance level of 0.790 (> 0.05). These results indicate that the effectiveness of internal audits at BUMDs and the Cirebon City Inspectorate is not significantly influenced by the partial use of digital audit technology. Therefore, the first hypothesis in this study is rejected. Although digital audit technology falls into the high category, it has not yet consistently improved the effectiveness of internal audits. This situation indicates a gap between the level of technology adoption and the technology's ability to provide clear information about audit performance. In other words, digital audit technology remains an administrative tool and has not yet been fully integrated into risk-based auditing and strategic planning.

According to the Agency Theory perspective (Jensen & Meckling, 1976), digital audit technology should enhance oversight mechanisms by reducing information asymmetry between principals and agents. However, the results of this study indicate that technology is not yet sufficiently advanced to enhance monitoring functions unless aligned with auditors' ability to use it methodically and analytically. This study demonstrates that

technology is not yet sufficiently advanced to enhance monitoring functions unless aligned with auditors' ability to use it analytically and strategically.

These findings are consistent with those of Azizah and Farid, who state that the use of information technology does not significantly affect the effectiveness of internal audits unless it is integrated with human resources and audit processes. This is also supported by Suyudi & Wijaya, (2024), who argue that audit technology can increase procedural reliance without necessarily improving audit quality if used mechanically.

Thus, these results confirm that the use of digital audit technology is not the primary determinant of internal audit effectiveness; rather, it requires support from other factors to have a significant impact.

The Effect of Auditor Competence on Internal Audit Effectiveness

The statistical results show that the Auditor Competence variable (X2) has a t-value of 3.784 and a significance level of <0.001 (<0.05). This result indicates that auditor competence has a positive and significant impact on the effectiveness of internal audits at BUMD and the Cirebon City Inspectorate. As a result, the second hypothesis in this study is proven true. This shows that an internal auditor with technical expertise, analytical skills, and experience can carry out internal audit tasks more effectively. Adequate analytical skills and experience can help carry out internal audit tasks more effectively. Not only can they carry out audit procedures in accordance with standards, but they can also accurately identify risks, analyze data clearly and concisely, and offer recommendations for improvements that benefit the organization as a whole.

This is empirically consistent with research by Sirajuddin & Ravember (2020), Suci,B.M., Kuntadi, C., & Pamukty (2023), and Nugraha & Kuntadi (2024), which shows that auditor competence has a significant impact on the effectiveness of internal audit. Research by Nugroho, M.I.,Fernando,V.F. (2025) shows that auditors with strong technical and analytical skills can also significantly improve internal audit standards.

From an Agency Theory perspective, competent internal auditors act as an effective control mechanism to reduce conflicts of interest and information asymmetry between management and principals. Therefore, auditor competence has been shown to be a dominant factor in determining the effectiveness of internal audit at Regional-Owned Enterprises (BUMD) and the Cirebon City Inspectorate.

The Impact of Digital Audit Technology Adoption and Auditor Competence on Internal Audit Effectiveness

Based on the F-test results, the calculated F-value is approximately 16.699 with a significance level of 0.001 (<0.05). These results indicate that the simultaneous use of digital audit technology and auditor competence significantly impacts the effectiveness of internal audit. Based on this, the third hypothesis in this study is accepted. The results show that although the use of digital audit technology does not have a significant direct impact, it does contribute when combined with auditor expertise. This indicates that internal audit effectiveness is not the result of a single factor, but rather the synergy between auditor skills and digital audit technology.

Conceptually, digital audit technology will only provide optimal benefits if used by auditors with adequate competence. Competent auditors can use technology to support risk-based audit planning, in-depth data analysis, and follow-up monitoring of audit recommendations. Without auditor competence, digital audit technology tends to be procedural in nature and does not provide significant added value.

This finding aligns with research (Alqudah et al., 2024) ,which states that an auditor's digital skills strengthen the influence of technology on internal audit effectiveness. Research (Meilani et al., 2025) also confirms that information technology will have an optimal impact on the internal audit function when integrated with auditor competency.

Within the Agency Theory framework, the combination of auditor competence and the use of digital audit technology strengthens the role of internal audit as a supervisory mechanism that reduces information asymmetry and increases agent accountability. Thus, the results of this study confirm that auditor competency is a key factor, while digital audit technology plays a supporting role in enhancing the effectiveness of internal audit at Regional-Owned Enterprises (BUMD) and the Cirebon City Inspectorate.

CONCLUSIONS AND SUGGESTIONS

Conclusions

Based on the data analysis and discussion, several conclusions were drawn. First, the partial use of digital audit technology does not significantly affect the effectiveness of internal audits at BUMDs and the Cirebon City Inspectorate. This finding indicates that the implementation of digital audit technology has not yet directly improved the effectiveness of internal audits. This situation suggests that technology use remains largely administrative and has not been fully integrated into risk-based audit processes. Thus, the mere presence of technology is insufficient to strengthen the internal audit function without deeper integration into strategic audit methodologies and processes.

Second, auditor competence has been shown to have a positive and significant impact on the effectiveness of internal audits. These results confirm that auditors with adequate knowledge, technical skills, analytical abilities, and experience can conduct internal audits more effectively and deliver greater value. Competent auditors not only perform audit procedures in accordance with standards but also accurately identify risks, comprehensively analyze data, and generate relevant recommendations. Therefore, auditor competence is a dominant factor in determining the success of the internal audit function.

Third, the simultaneous use of digital audit technology and auditor competence significantly impacts the effectiveness of internal audits. This finding indicates that the effectiveness of internal audits is not determined by a single factor but rather results from the synergy between technological support and human resource capabilities. Digital audit technology will provide optimal benefits when used by competent auditors who can apply it strategically and analytically. Thus, the effectiveness of internal audit is achieved through the integration of technological tools and auditor expertise.

Theoretically, the findings of this study support Agency Theory, which views internal audit as a control mechanism that reduces information asymmetry between principals and agents. Auditor competence and the use of digital audit technology serve as complementary tools for strengthening governance and enhancing accountability in the public sector.

Suggestions

1. For BUMDs and the Cirebon City Inspectorate, it is recommended that they not only focus on procuring digital audit technology but also ensure it is fully integrated across all stages of the audit process, from risk-based planning to the follow-up of recommendations. The use of technology should be directed toward strategic and analytical functions, rather than merely administrative ones, to significantly enhance the effectiveness of internal audits.
2. For internal auditors, continuous competency development is of utmost importance. Auditors are advised to participate in training, pursue professional certifications, and enhance their digital literacy, particularly in using local government financial applications such as SIPD, SIMDA, or ERP. Additionally, strengthening analytical skills and risk-based understanding is necessary to ensure that digital audit technology is used optimally to detect irregularities and support decision-making.

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