ASSESSMENT OF THE EFFECTS OF INTERNAL CONTROL SYSTEMS ON INTERNAL AUDIT EFFECTIVENESS

NETSANET BIBISSO[1]
Research scholar, Department of Commerce and Management Studies, Andhra University
Email: netsanetbibisso@gmail.com
Dr. K.V. RAMANA MURTHY[2]
Research Director, Department of Commerce and Management Studies, Andhra University
Email: ramanakudumula@gmail.com

Abstract

This study endeavors to elucidate the impact of internal control systems on the effectiveness of internal audits within Ethiopian public higher education institutions. The study utilized probability sampling methods to choose a representative sample of 292 participants from essential operational departments, specifically Internal Audit, Finance, Procurement, and Stores. The study employed descriptive and explanatory research design, using questionnaires for data collection. The regression analysis of the collected data demonstrated a statistically significant positive correlation between ICS and IAE. This implies the robustness of the internal control system has a noticeable impact on the efficiency of internal audits. In light of the findings, the study suggests that these institutions should develop a strong control environment, risk assessment, information communication and follow-up.

Key word: Control, Internal audit, risk assessment, Effectiveness

Introduction

Contemporary businesses are increasingly complex and focused on development, necessitating robust internal controls to assess the efficacy of their operations in accomplishing objectives(Nguyen et al., 2023). As noted by Ronald et al. (2025), internal controls encompass the policies, procedures, and processes established by the bank to protect assets, guarantee the accuracy and reliability of financial reporting, enhance operational efficiency, and promote compliance with relevant laws and regulations. An internal control system has become a critical issue in corporate governance because of the recent increase in prominent fraud instances. It constitutes a framework of regulations and procedures that assist firms in establishing systems to identify and mitigate risks(Länsiluoto et al., 2016). Any entity relies on systems to operate. An organization's internal control system aims to guarantee that assets are secure, financial reports are accurate, rules and regulations exist, processes are efficient, and operations are continuous. Moreover, the system incorporates techniques for auditing and financial reporting. Includes protocols for evaluating programs and staff and standards for handling conflicts of interest. The duty of developing, executing, and overseeing an organization’s system of internal controls lies squarely with the management team. A company’s ability to reach its goals depends on how well it handles internal controls(Adagye, 2015). The internal control system

is essential for ensuring the completeness and reliability of information, aiding stakeholders in evaluating business performance and mitigating asymmetric information(Ningsih & Laksito, 2014).

An effective internal control system is crucial for a promising audit of a company's financial statements and maintaining a system of checks and balances between management and employees. Fiscal responsibility necessitates the implementation of a robust system of internal controls and audits are a methodical and structured way to assess and improve the efficacy of procedures for managing risks, controlling risks, and governing. Every firm needs an audit since it checks its internal controls and finds out how susceptible they are to possible risks. Besides, profitability may depend on the policies and procedures put in place by the highest levels of management. Stakeholders will have some degree of certainty that the organization's goals will be achieved thanks to this procedure. There is a robust and beneficial connection between auditing and internal control systems(Diya, 2022).

There was a strong correlation between the internal control metrics and the ability to detect fraud: control environment, risk assessment, information communication, control activities, monitoring, and follow- up (Ghanem & Awad, 2023). The internal control system plays a crucial part in fraud prevention since a quantifiable system tailored to the company's objectives facilitates the prevention of fraudulent activities and significantly hampers performance(Rahmah Yulianti & et.al, 2024).

According to Ponomareva (2021), internal control systems affect financial data users' decisions and businesses' health. How internal control system is designed, executed, and maintained determines the technique it uses to guarantee its stability. According to (Haryanto & Ardillah, 2022), study internal audits, controls, and the whistleblower system concerning their roles in combating fraud. The study found that whistleblowing systems, internal audits, and controls all contribute positively to preventing fraud. Internal control and auditing are the two most important factors.

The study by Pakpahan et al.(2022), examines the influence of deficiencies in internal control systems and audit quality on the quality of financial reports in Indonesian district and city governments. They employed the Smart PLS analytical method for statistics. The findings indicate that deficiencies in the internal control system adversely and significantly impact audit quality and governance as a moderating factor.

The investigation by Dedek Handoko et al.(2023) examined the relationship between the internal control system and audit quality in Jakarta and the findings indicate that the internal control mechanism significantly enhances audit quality. Another study in Indonesia emphasized that internal control activities influence audit quality(Sofia & Avianti, 2019).
According to Karagiorgos et al. (2011), internal control influences the success of internal audits. The Control Environment is the most significant of the five components, while the Monitoring component is the least. The study was conducted in the Greek hotel industry. Internal control influences IA effectiveness(M. S. Badara, 2013)

Nguyen et al.(2018), examine the interconnections among risk assessment, environmental control, and control activities inside the internal control system in their analysis of the audit program's efficacy in Vietnamese firms. Exploratory factor analysis indicates that all IC system components play a big role in how well an audit program works. Lack the necessary experience to manage the present internal control evaluation instruments. Ineffective implementation of internal control is a significant factor contributing to compliance violations of regulations, which result in state or regional losses that require recovery(Purnayuda & Tjakrawala, 2024). SOLOGHASHVILI & UDESIANI (2021)assert that deficiencies exist within the internal control systems of Georgian municipalities, hindering the prevention of embezzlement or misappropriation of budgetary resources. These issues are associated with the inefficacy of internal audits.

The effectiveness of internal audits is influenced by various factors, including communication, independence, audit work, and competence (Setyaningrum & Kuntadi, 2019), as well as management support, relationships among auditors, the control environment, AIS, audit planning, and organizational culture (Sedigheh Garmsiri & et .al, 2024). Numerous studies evaluate various factors; however, there is a scarcity of research focusing specifically on internal control. Therefore, this study aims to address the knowledge gap by assessing the effects of the internal control system on the effectiveness of internal audits.

General objective

- To assess the effect of internal control system on internal audit effectiveness.

Specific objective

- To examine the effects of internal control effectiveness on internal audit effectiveness

Hypothesis

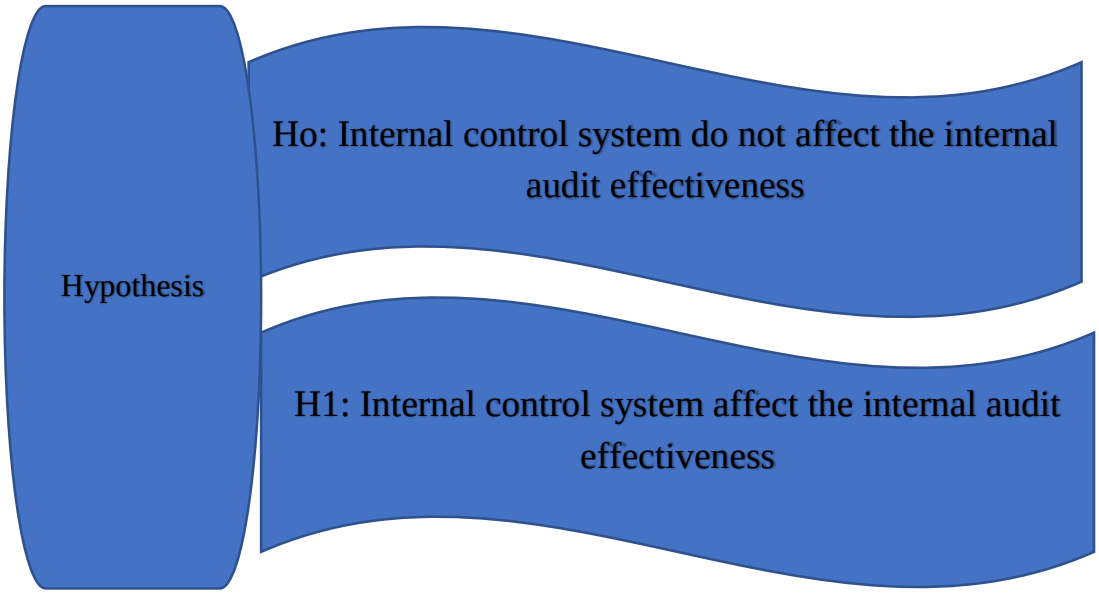

Figure 1- Research assumption

Literature review

Concepts of Internal control

COSO (2013) defines internal control as "*a process implemented by an entity board of directors, management, and other personnel, aimed at providing reasonable assurance concerning the attainment of objectives related to operations, reporting, and compliance and the primary aim of internal control is to guarantee that an organization operates effectively and efficiently, that financial reporting is timely and trustworthy, and that the organization adheres to applicable rules, laws, and regulations"*.

Internal Audit effectiveness

Efficiency is crucial for all control functions, as its absence undermines one of the primary reasons for their existence. The internal audit function serves one of these functions (Saleh M.S. Mahdawi, Abdullah Mohammed Ahmed Ayedh, Khairil Faizal Bin Khairi, 2018).

The Institute of Internal Auditors defines internal audit effectiveness as the degree to which an internal audit function achieves its objectives and promotes the institution's goals. It includes both the quality of the audit process and the beneficial effects of its findings on risk management, control, and governance(IIA, 2012).

The effectiveness of internal audits is affected by the quality of work(Mihret, D. T., & Tekle, 2010), competence(Kadim et al., 2021), management support, coordination between external and internal auditors, independence, and extrinsic rewards(Alqudah et al., 2023), the internal audit process, and resources (Abdelrahim & Al-Malkawi, 2022), as well as the control environment and internal controls (S. Badara, 2017; MEKDES, 2021).

Research methodology

This investigation utilized mixed research approach with descriptive and an explanatory research strategy to examine the relationships between IDV and DV. The target sample frame encompassed critical operating units, specifically internal audit, finance, procurement, and the store. Probability sampling methods were employed to guarantee a representative selection. The sample size was determined using the Yemane formula, yielding two hundred ninety-two respondents. The primary data collection was made using Likert scale questionnaires, which functioned as the tool for evaluating both the dependent and independent variables. Following this, the gathered data underwent thorough statistical examination using linear regression methods to determine the characteristics and intensity of the relationships among the variables of interest.

Model specification

$$Y = \beta_0 + \beta_1 * ICS + \varepsilon$$

Where,

Y is dependent variable (IAE)

β_0 = intercept

ICS = Internal Control System

ε= error term

Reliability and validity

The study employed alpha to check the validity of survey instrument and the value is 9.550 according to the Table 1. This shows that the instrument is highly valid and reliable as recommended by rule of thumb.

Table 1. Reliability Statistics of IC

Cronbach's Alpha	N of Items
.955	4

Descriptive Statistics

The efficacy of the internal control system was assessed by a series of inquiries rated on a five-point Likert scale. The average score for each query concerning the internal control system was computed to assess the overall perception of its many features. The mean values indicate the central trend of respondents' judgments on the presence and strength of various control elements within the organization.

Figure 2 illustrates the computed mean scores for each item evaluated within the internal control system. By analyzing the height of each bar in the graphic, which denotes the mean value, we can easily compare the perceived strength or presence of various control components. Higher mean values indicate that most respondents agree that the specific control element is strong and effective, lower mean values suggest that people feel it is not as effective or has some issues in the internal control system. This visual depiction facilitates a clear and immediate comprehension of the domains where the internal control system is robust and those that may want additional focus or enhancement.

According to the following bar diagram, the mean value for management demonstrating a commitment to ethical value and integrity is 4.49, the highest average score. The graph indicates that respondents generally express strong agreement with the idea.

The mean value of 4.00 in the graph shows the respondents agreed that respondents typically concur that the company possesses delineated structures, encompassing well-defined internal hierarchies and explicit lines of authority and responsibility. This transparency is essential for accountability and efficient oversight. With a mean score of 2.26, respondents clearly do not agree that internal and external elements are regularly and comprehensively assessed in relation to risk. Given the importance of proactive risk assessment in minimizing problems, the outcome could indicate a possible weakness in the risk assessment.

The bar demonstrates a low mean score (2.16), similar to the previous one. It indicates that respondents largely oppose the implementation of effective and transparent mechanisms for reporting suspected control weaknesses or abnormalities. It hinders the swift identification and resolution of any concerns.

The participants were requested to provide their opinions on internal control systems that are consistently monitored and assessed. The findings indicate a minimal average score of 2.10, signifying that the respondents do not concur with the statement.

The average score of 1.59 indicates that respondents do not concur that the firm employs a thorough risk assessment methodology.

The result is associated with the problem indicated by the reduced score in Bar 3 and reveals a significant deficiency in the organization's proactive risk management plan.

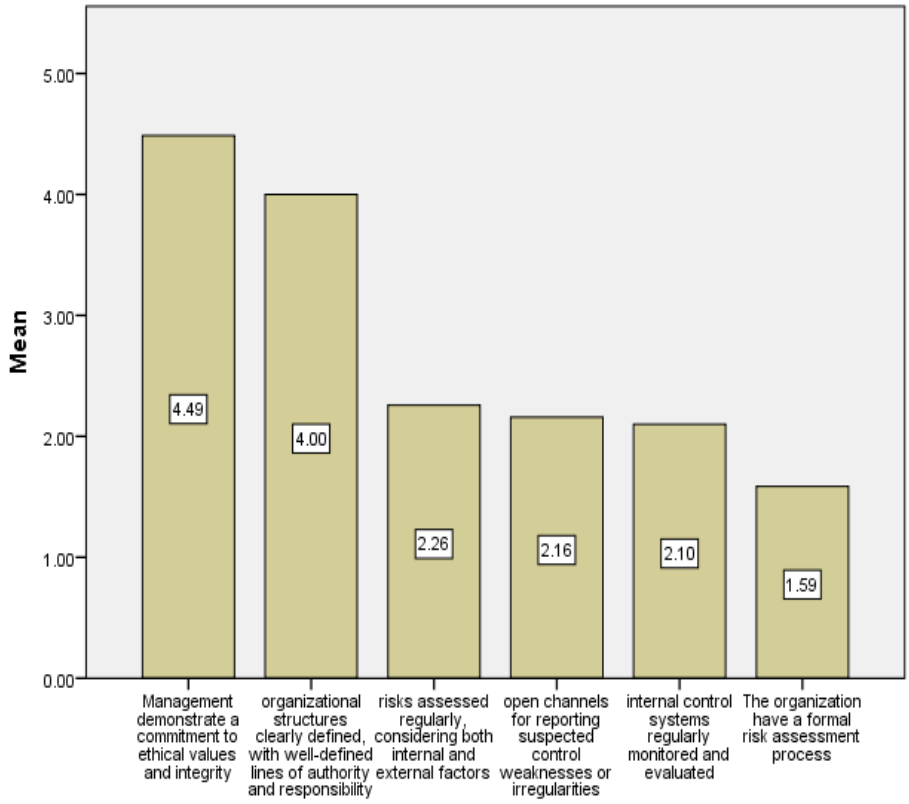

Fig 1- Bar graph of mean score

Regression Analysis

Table 1 Model Summary										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.325[a]	.105	.102	.86437	.105	35.595	1	302	.000	2.011
a. Predictors: (Constant), ICS										
b. Dependent Variable: IAE										

The model summary Table demonstrates that a significant correlation between IC and IAE ($p < 0.001$). According to the R-squared value of 0.105, IC accounts for 10.5% of the variation in IAE.

The Durbin-Watson statistic indicates that the residuals exhibit no significant autocorrelation. The standard error of the estimate reveals a broad dispersion of the estimates around the regression line. While the model does explain some variation in the dependent variable, it does so to a limited extent. This assertion is true despite the model's statistical significance. Hence, it is probable that additional variables contribute to IAE.

Table 2 ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.004	1	24.004	21.913	.000[b]
	Residual	129.261	291	1.095		
	Total	153.265	292			
a. Dependent Variable: IAE						
b. Predictors: (Constant), ICS						

The ANOVA table, presented as Table 2, provides critical insights into the statistical significance and overall adequacy of the regression model, which aims to predict the dependent variable “IAE” using the independent variable “IC.” This table enables us to ascertain the overall statistical significance of the model by effectively partitioning the total variability of IAE into components associated with residual error and the regression mode. The paramount element of the above table is the “Sig.” The notably low p-value ($p < 0.001$) signifies that the regression model is statistically significant overall. Although IC is a statistically significant predictor, it lacks strength as an independent predictor.

Table 3 Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.		
		B	Std. Error	Beta			Tolerance	VIP
1	(Constant)	2.497	.344		7.252	.000		
	IC	.407	.087	.396	4.681	.000	1	1
a. Dependent Variable: IAE								

The coefficients table indicates that IAE has a statistically significant positive association with the predictor, IC. We expect IAE to increase by 0.407 units for each unit increment in IC.

The value of **.396** for **IC** represents the change in the dependent variable (IAE) in terms of standard deviations for a one standard deviation increase in the independent variable (IC). Standardized coefficients allow for a direct comparison of the *relative strength* of different predictor variables in explaining the variance in the dependent variable. In this simple linear regression model, the absolute value of Beta also reflects the strength and direction of the relationship. Therefore, a Beta of .396 suggests a moderately strong positive relationship between IC and IAE. A one standard deviation increase in IC is associated with a .396 increase in IAE.

The model is strong because the p-values for the intercept and the information criterion (IC) are statistically significant (p=0.00). The model illustrates no multicollinearity issues, as proven by tolerance and VIF values = 1.0. Accordingly, the null hypothesis rejected and accepted the alternative hypothesis that signifies the internal control system has effect on internal audit effectiveness was accepted

Conclusion and recommendations

The results of descriptive statistics indicate that the organization possesses a robust ethical foundation and a clear structure; however, substantial enhancements are required in its risk assessment practices, reporting mechanisms, and the continuous monitoring of its internal control systems to establish a genuinely effective control environment. Statistical evidence illustrates the influence of robust internal control on IAE. Enhancing internal controls is essential for optimizing the effectiveness of internal audits.

Organizations should refine their internal control systems to increase productivity. The analysis underscores the critical role of thorough internal controls in enabling effective auditing and recommends ongoing evaluation of these controls to ensure they adequately support the necessary audit procedures. Organizations are advised to prioritize the enhancement of their internal control frameworks to guarantee that independent audits are more effective, along with

the frequent examination of these controls to confirm their adequacy in meeting auditing requirements.

Limitation of the study

The study focused on a selected segment of the public sector's findings regarding the impact of internal control on independent audit efforts (IAE) might not be directly generalizable to other segments, such as private or non-profit organizations, which operate under different regulatory and operational environments. The specific characteristics and complexities of the public sector in the studied context could have influenced the observed relationships.

Further study

The study focused on the correlation between internal control (IC) and independent audit effort (IAE). Future research could fruitfully explore a wider array of factors that may influence the effectiveness and extent of IAE. Beyond the foundational role of IC, subsequent investigations could delve into the impact of auditor-specific expertise and experience, the evolving landscape of relevant regulations and compliance requirements, the degree of commitment demonstrated by both the auditing team and organizational management towards the audit process, and the overarching influence of corporate culture on audit practices and outcomes.

References

Abdelrahim, A., & Al-Malkawi, H. A. N. (2022). The Influential Factors of Internal Audit Effectiveness: A Conceptual Model. *International Journal of Financial Studies*, *10*(3). https://doi.org/10.3390/ijfs10030071

Adagye, I. D. (2015). Effective Internal Control System in the Nasarawa State Tertiary Educational Institutions for Efficiency: A Case of Nasarawa State Polytechnic, Lafia. *International Journal of Educational and Pedagogical Sciences*, *9*(11), 3902–3907. http://waset.org/publications/10002940/effective-internal-control-system-in-the-nasarawa-state-tertiary-educational-institutions-for-efficiency-a-case-of-nasarawa-state-polytechnic-lafia

Alqudah, H., Amran, N. A., Hassan, H., Lutfi, A., Alessa, N., alrawad, M., & Almaiah, M. A. (2023). Examining the critical factors of internal audit effectiveness from internal auditors' perspective: Moderating role of extrinsic rewards. *Heliyon*, *9*(10), e20497. https://doi.org/10.1016/j.heliyon.2023.e20497

Badara, M. S. (2013). Impact of the Effective Internal Control System on the Internal Audit Effectiveness at Local Government Level. *Journal of Social and Development Sciences*, *4*(1), 16–23. https://doi.org/10.22610/jsds.v4i1.731

Badara, S. (2017). The Relevant of Contingency Theory and Stewardship Theory on the

Internal Audit Research. *Journals of World Economic Research*, *6*(2), 17–22. https://doi.org/10.11648/j.jwer.20170602.11

Dedek Handoko, Juaniva Sidharta, & Fenny B.N.L. Tobing. (2023). the Effect of Internal Control System on Audit Quality in Public Accounting Offices in Jakarta. *Fundamental Management Journal*, *8*(1), 21–30. https://doi.org/10.33541/fjm.v8i1.4791

Diya, L. (2022). The Impact of Audit Culture and Internal Control Systems on Audit Quality: The Case of Lebanese Banks. *European Journal of Business and Management Research*, *7*(5), 255–261. https://doi.org/10.24018/ejbmr.2022.7.5.1675

Ghanem, M. G., & Awad, G. (2023). Impact of Internal Control Systems on Minimizing Fraud: The Case of Lebanon. *European Journal of Business and Management Research*, *8*(5), 69–75. https://doi.org/10.24018/ejbmr.2023.8.5.2160

Haryanto, K., & Ardillah, K. (2022). The Impact of Internal Audit, Internal Control and Whistleblowing System on Fraud Prevention in the Indonesia Banking Companies during the COVID-19 Pandemic. *Jurnal Ilmu Manajemen & Ekonomika*, *14*(1), 27. https://doi.org/10.35384/jime.v14i1.290

IIA. (2012). International standards for the professional practice of internal auditing. *International Standards for the Professional Practice of Internal Auditing (Standards)*, *October 2008*, 1–22. https://scholar.google.com/scholar?q=International+standards+for+the+professional+practice+of+internal+auditing+2004&btnG=&hl=en&as_sdt=0,5#0

Kadim, J. R., Sabti, Y. M., Ali, G., Khdair, W. A., & Shaltag, K. H. (2021). The Impact of the Professional Competence of the Internal Auditor in Improving the Quality of Accounting: Analytical Study. *South Asian Journal of Social Sciences and Humanities*, *2*(5), 85–99. https://doi.org/10.48165/sajssh.2021.2506

Karagiorgos, T., Drogalas, G., & Giovanis, N. (2011). Evaluation of the Effectiveness of Internal Audit in Greek Hotel Business. *International Journal of Economic Sciences and Applied Research*, *4*(1), 19–34.

Länsiluoto, A., Jokipii, A., & Eklund, T. (2016). Internal control effectiveness – a clustering approach. *Managerial Auditing Journal*, *31*(1), 5–34. https://doi.org/10.1108/MAJ-08-2013-0910

MEKDES. (2021). *By: MEKDES FIKADU ID: SGS/0620/2012/A JUNE, 2021 ADDIS ABABA*. 73.

Mihret, D. T., & Tekle, A. (2010). The impact of structural factors on internal audit effectiveness: Empirical evidence from Ethiopia. *Journal of Accounting and Auditing*

Research, *3*(1), 2010.

Nguyen, T. Q., Pham, T. T. H., Tran, M. D., Pham, V. H., & Nguyen, T. L. (2023). Impact of Internal Control on the Performance of Non-Financial Listed Firms in an Emerging Country. *Corporate Governance and Organizational Behavior Review*, *7*(2), 178–189. https://doi.org/10.22495/cgobrv7i2p16

Nguyen, T. Q., Tran, M. D., & Ha Hoang, T. V. (2018). Impact of Internal Control on Audit Program Effectiveness: The Case of Vietnam. *International Journal of Economics and Finance*, *10*(9), 1. https://doi.org/10.5539/ijef.v10n9p1

Ningsih, M. W., & Laksito, H. (2014). Pengaruh Karakteristik Komite Audit Terhadap Pengungkapan Modal Intelektual. *Diponegoro Journal of Accounting*, *3*(1), 1. https://doi.org/10.22225/kr.11.1.1134.90-99

Pakpahan, R., Murwaningsari, E., & Mayangsari, S. (2022). Influence Of Internal Control System Weaknesses And Audit Quality On The Quality Of Local Government Financial Reports In Indonesia With Good Government Governance As Moderating. *International Journal of Science, Technology & Management*, *3*(2), 461–474. https://doi.org/10.46729/ijstm.v3i2.463

Ponomareva, L. (2021). Investigation of the Influence of Internal Control System Factors on the Financial Stability of Companies (Review). *Journal of Corporate Finance Research*, *15*(2), 66–76. https://doi.org/10.17323/j.jcfr.2073-0438.15.2.2021.66-76

Purnayuda, M. K., & Tjakrawala, F. X. K. (2024). *International Journal of Current Science Research and Review Analysis of the Effectiveness of Internal Control as Fraud Prevention in the Kupang City Government*. *07*(15), 8859–8865. https://doi.org/10.47191/ijcsrr/V7-i12-25

Rahmah Yulianti & et.al. (2024). The Role of Internal Control Systems and Good Corporate Governance in Fraud Prevention Efforts : A Literature Review. *Frontiers in Business and Economics*, *3*(April), 39–54. https://doi.org/10.56225/finbe.v3i1.325

Ronald, W., Agaba, M., & Jack, R. (2025). Internal Control Systems And Cash Flow Management In Commercial Banks In Rwanda. *Asean International Journal of Business*, *4*(2), 107–119.

Saleh M.S. Mahdawi, Abdullah Mohammed Ahmed Ayedh, Khairil Faizal Bin Khairi. (2018). Effectiveness of Internal Audit With Management. *International Journal of Science and Research*, *April*, 34. https://doi.org/10.21275/ART20179790

Sedigheh Garmsiri & et .al. (2024). Presenting the Structural Model of Factors Affecting the Quality of Internal Audit in the Framework of the Corporate Governance System. *Nternational Journal of Finance and Managerial Accounting*, *9*(34), 157–171.

Setyaningrum, D., & Kuntadi, C. (2019). The effects of competence, independence, audit work, and communication on the effectiveness of internal audit. *Journal of Economics, Business, & Accountancy Ventura*, *22*(1), 39–47. https://doi.org/10.14414/jebav.v22i1.879

Sofia, P., & Avianti, I. (2019). Influence of Internal Control Activities And Characteristics Of Audit Committee On The Quality Of Audit Implementation By A Public Accounting Firm. *Jurnal Akuntansi*, *23*(1), 97–112. http://dx.doi.org/10.24912/ja.v23i1.465

SOLOGHASHVILI, D., & UDESIANI, T. (2021). Internal Control System Problems, Challenges and Issues of Its Improvement. *Globalization and Business*, *12*(December 2021), 166–172. https://doi.org/10.35945/gb.2021.12.023