

Proactive Fraud Audit, Whistleblowing System, and Internal Control on Fraud Prevention in Bos Fund Management: Evidence from Elementary Schools in Palu

Eusebius Alfonsus Rumengan*, Jamaluddin, Ridwan, Ernawaty Usman, Muhammad Ansar

Accounting Department, Tadulako University

* Email: eusebiusalfonsus01@gmail.com

ABSTRACT

This study examines the proactive fraud audit, whistleblowing system, and internal control on fraud prevention in the management of School Operational Assistance (BOS) funds in elementary schools across Palu City. The issue of BOS fund irregularities remains a relevant challenge in Indonesia, particularly in post disaster regions where administrative capacity fluctuates, and oversight mechanisms are strained. Using a quantitative approach with structured questionnaires distributed to treasurers, operators, and administrative officers directly involved in BOS management, the study employs PLS-SEM analysis to generate reliable empirical findings. The results reveal that proactive fraud audit and internal control significantly enhance fraud prevention, while the whistleblowing system shows no significant effect. These findings highlight the importance of strengthening structural and procedural controls within school financial governance, with novelty lying in the empirical integration of fraud audit practices and internal control mechanisms as key determinants of fraud prevention in post-disaster educational contexts.

Keywords: BOS fund, fraud prevention, proactive fraud audit, whistleblowing system, internal control.

1. INTRODUCTION

The management of School Operational Assistance (BOS) funds plays a strategic role in supporting the operational continuity of basic education in Indonesia, particularly in regions affected by disaster recovery, such as Palu City, where governance systems have experienced structural disruptions. Issues related to financial misreporting, irregular procurement, mark-up pricing, and undocumented expenditures have frequently been highlighted in various audit summaries by BPK and evaluations conducted by the Ministry of Education, reflecting vulnerabilities in school-level financial accountability. Existing studies have examined fraud tendencies in educational institutions, yet many have focused on general internal controls, leaving limited empirical insight into the combined influences of proactive fraud audit practices, formal whistleblowing mechanisms, and internal control strength within BOS governance, specifically at the elementary level. In Palu City, the persistence of administrative inconsistencies, gaps in procurement verification, and limited reporting channels further underscore the need to assess fraud prevention determinants not only at the procedural but also at the behavioral and oversight levels. This research addresses these issues by analyzing whether proactive fraud audits, whistleblowing systems, and internal control collectively contribute to the reduction of fraud risk in BOS fund management. The study formulates its core problem as the need to empirically validate the effectiveness of these three governance mechanisms in strengthening fraud prevention within school finance. The objective is to provide evidence-based insights that are concise and relevant to current accountability demands, while offering novelty by positioning proactive fraud audit and internal control as primary structural safeguards within the unique administrative landscape of post-disaster educational environments.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Research on fraud prevention in public finance emphasizes the need for integrated control mechanisms that combine proactive auditing, reporting channels, and internal procedural safeguards. Recent studies (e.g., Hidayat & Suryanto, 2021; Afiah, 2021; Indrawati, 2020) suggest that proactive fraud audit through routine verification, cross-checking of financial documents, and early detection tools can significantly reduce opportunities for fraud, although its application in elementary school BOS management remains underexplored. Similarly, whistleblowing systems have been widely discussed as reporting tools, yet their effectiveness

often depends on organizational culture, protection assurances, and the perceived safety of reporting, which many schools in Palu lack due to cultural and structural limitations. Internal control is consistently shown to be the dominant predictor of fraud mitigation. Still, limited research integrates all three variables simultaneously within BOS fund management in post-disaster regions, where administrative vulnerabilities are heightened. Thus, this study addresses the gap by examining these variables together, proposing that proactive fraud audit and internal control positively contribute to fraud prevention, while whistleblowing effectiveness may vary contextually. The hypotheses developed are that proactive fraud audit strengthens fraud prevention; the whistleblowing system contributes positively. Still, it may be less effective depending on organizational readiness, and internal control has the strongest influence on fraud prevention within the BOS governance framework.

3. RESEARCH METHOD

This study adopts a quantitative explanatory research design aimed at assessing the causal relationships among proactive fraud audits, whistleblowing systems, internal control, and fraud prevention. The data used are primary data obtained from structured questionnaires distributed to treasurers, BOS operators, and administrative staff at elementary schools across Palu City who were directly involved in BOS fund planning, procurement, and reporting. The sampling technique uses purposive sampling with inclusion criteria based on active involvement in BOS financial administration. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) through WarpPLS to evaluate both the measurement model (validity and reliability) and structural model (path coefficients, R-square, and model fit indices). This approach allows for robust predictive modeling suitable for small organizational samples such as elementary school units.

4. RESULTS AND DISCUSSION

The assessment of the measurement model shows that all variables meet the criteria for internal consistency. Composite Reliability values range from 0.851 to 0.917, while Cronbach's Alpha values range from 0.763 to 0.895, indicating that all constructions are reliable and able to measure their respective dimensions consistently.

Table 1. Composite reliability and Cronbach's alpha.

Variable	Composite Reliability	Cronbach's Alpha	Description
PFA (X1)	0.851	0.763	Reliable
WBS (X2)	0.895	0.861	Reliable
IC (X3)	0.912	0.885	Reliable
FP (Y)	0.917	0.895	Reliable

Overall model fit indices demonstrate that the structural model satisfies statistical requirements. APC = 0.277 ($p = 0.010$), ARS = 0.476 ($p < 0.001$), and AARS = 0.438 ($p < 0.001$) indicate acceptable predictive accuracy. AVIF (1.416) and AFVIF (1.692) fall well below the threshold of 5.0, confirming the absence of multicollinearity issues.

Table 2. Model fit indices.

Index	Value	Description
APC	0.277 ($p = 0.010$)	Fit
ARS	0.476 ($p < 0.001$)	Fit
AARS	0.438 ($p < 0.001$)	Fit
AVIF	1.416	Fit
AFVIF	1.692	Fit

The structural model results show that proactive fraud audit and internal control have significant positive effects on fraud prevention, whereas the whistleblowing system shows no significant effect.

The significant effect of proactive fraud audit on fraud prevention demonstrates that preventive auditing practices such as detailed document verification, evaluation of budget realization, cross-checking between planned and actual expenditures, and monitoring the coherence of procurement transactions are highly effective in reducing opportunities for fraudulent behavior. These activities function not only as detection mechanisms but also as deterrent controls, as school staff become aware that financial activities are continuously reviewed and evaluated. This process aligns closely with the operational realities in elementary

schools across Palu, where frequent administrative inconsistencies and gaps in procurement documentation are more easily identified when proactive monitoring is embedded into routine financial management. In several schools, early-stage reviews have been shown to uncover unusual price differences, incomplete documentation, and delays in reporting before they escalate into more serious irregularities. This reinforces the theoretical argument that proactive auditing is more impactful than reactive, complaint-driven oversight, particularly in small organizational units such as schools, where resources and financial literacy vary significantly.

The lack of significance in the whistleblowing system's effect indicates that the existence of reporting mechanisms alone is insufficient to encourage fraud disclosure. Although schools may have informal or formal channels for reporting, these mechanisms tend to be underutilized due to sociocultural dynamics within school environments. Staff often work closely with one another, and strong interpersonal relationships may discourage individuals from reporting colleagues, especially if they fear social tension, stigma, or backlash. Additionally, limited institutional policies regarding whistleblower protection further weaken the perceived safety of submitting reports. This pattern is consistent with evidence from public sector institutions, where whistleblowing systems are frequently symbolic rather than functional, reducing their contribution to fraud prevention. In the case of Palu, the post-disaster administrative restructuring has created uncertainty in reporting lines and made staff even more hesitant to report irregularities. As a result, the whistleblowing system remains an underdeveloped and underutilized component of governance, explaining its lack of statistical significance despite its conceptual importance.

Internal control emerges as the most dominant and statistically significant factor affecting fraud prevention, confirming that strong structural safeguards provide a solid foundation for reducing opportunities for irregularities in BOS fund management. Segregation of duties ensures that no single individual oversees multiple stages of the transaction cycle, authorization procedures ensure validation at each financial step, and periodic monitoring by school principals or BOS committees creates continuous oversight. These mechanisms function cohesively to create a controlled environment that minimizes opportunities for manipulation, unauthorized transactions, and falsification of documents. In the context of Palu's post disaster recovery, where administrative processes experienced disruption, strengthened internal control becomes even more crucial. Schools that successfully re-established clear documentation procedures, improved the transparency of procurement activities, and implemented systematic

monitoring were less likely to experience discrepancies or delays in financial reporting. This finding also aligns with COSO's framework, which asserts that internal control is the backbone of effective governance and the principal determinant of fraud risk reduction in public institutions.

Overall, the model explains approximately 48% of the variance in fraud prevention, indicating a moderately strong predictive power in the context of social science research. While the three variables included in this study demonstrate substantial effects, the findings also point to the possibility that additional factors such as organizational ethical climate, leadership integrity, staff competence, and levels of financial literacy may further influence fraud prevention but were not captured within the scope of this study. Future research that incorporates these dimensions may provide a more comprehensive understanding of fraud dynamics in school financial management, especially in regions experiencing administrative transitions or socio-economic vulnerability.

5. CONCLUSION

This study concludes that proactive fraud audit and internal control significantly enhance fraud prevention in BOS fund management within elementary schools in Palu City, while the whistleblowing system does not contribute significantly due to cultural and procedural limitations. These findings answer the research objective by demonstrating that structural mechanisms particularly audit practices and strong internal control frameworks serve as key determinants of fraud prevention in school financial governance. The study contributes novelty by empirically integrating these three governance mechanisms in a post disaster educational environment. Strengthening reporting channels, reinforcing audit routines, and improving administrative capacity at the school level remain essential steps for sustainable BOS fund accountability.

Future studies are encouraged to incorporate additional variables that may enrich the predictive model, such as staff integrity, treasurer competence, work pressure, or organizational ethical culture, all of which may significantly influence fraud prevention. Subsequent research may also employ mixed methods approaches by combining questionnaires within depth interviews to gain a more comprehensive understanding of behavioral dynamics and BOS fund governance practices. Furthermore, expanding the research area to other districts in Central Sulawesi, such as Sigi, Donggala, or Parigi Moutong, would enable comparative analysis

across regions and improve generalizability. Utilizing actual audit documents or financial records is also recommended to minimize perception bias. Longitudinal research that tracks changes in the effectiveness of internal control and proactive auditing over time following updates to BOS regulations provides valuable insights for strengthening educational financial governance in Indonesia.

REFERENCES

- Afiah, N. N. (2021). Internal control and fraud prevention in public education institutions. *Jurnal Akuntabilitas Publik*, 9(1), 45–57.
- Ananda, P. R., & Maharrani, P. (2022). Fraud risk management in BOS fund distribution. *Journal of Public Sector Governance*, 5(2), 122–134.
- Association of Certified Fraud Examiners. (2020). Report to the Nations: Global Study on Occupational Fraud and Abuse. ACFE.
- Dinas Pendidikan dan Kebudayaan Provinsi Sulawesi Tengah. (2021). Evaluasi Pengelolaan Dana BOS pada Satuan Pendidikan Dasar. Disdikbud Sulteng.
- Ghani, E. K., Said, J., & Ahmad, S. (2019). Whistleblowing intention among public employees. *Journal of Financial Crime*, 26(2), 496–510.
- Hidayat, R., & Suryanto, T. (2021). Fraud tendencies in Indonesian education. *Jurnal Governansi*, 7(3), 167–180.
- Ikhsan, A., & Supriyati. (2018). Auditing sektor publik. Salemba Empat.
- Indrawati, S. (2020). Internal audit and fraud detection in education financing. *Jurnal Akuntansi & Kebijakan Publik*, 5(1), 77–89.
- Kamaliah, E. (2022). Effectiveness of proactive fraud audit. *Journal of Education Finance Review*, 4(2), 54–66.
- Kementerian Pendidikan dan Kebudayaan. (2023). Petunjuk Teknis Dana BOS Reguler. Kemdikbudristek.
- Lestari, S., & Nugroho, T. (2021). Proactive fraud audit and irregularity prevention. *Jurnal Governansi*, 8(3), 301–312.
- Mardiasmo. (2018). Akuntansi sektor publik. Andi.
- Putra, Y. K. (2023). Internal control mechanisms in education. *Jurnal Manajemen Publik*, 7(2), 140–155.
- Rosyidah, N., & Wibowo, A. (2022). Factors influencing whistleblowing effectiveness. *Jurnal Integritas*, 8(1), 61–74.



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Widodo, A. (2020). Internal control and misuse of public funds. Jurnal Integritas, 6(1), 15–27.