



Systematic Literature Review: The Influence of Forensic Audit and Anti-Fraud Programs on Money Laundering Crimes with Regulatory Compliance as a Moderating Variable

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ARTICLE INFO

Keywords: Forensic Audit, Anti-Fraud Program, Money Laundering, Regulatory Compliance, Systematic Literature Review

Received : 23, July

Revised : 06, August

Accepted: 08, September

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ABSTRACT

This study aims to systematically examine the influence of forensic auditing and anti-fraud programs on the prevention and detection of money laundering crimes, with regulatory compliance as a moderating variable. Using the Systematic Literature Review (SLR) method, a total of 30 peer-reviewed articles published between 2013 and 2024 were analyzed to identify patterns, variable relationships, and the effectiveness of forensic and anti-fraud interventions. The results reveal that forensic audits significantly contribute to detecting suspicious financial activities and uncovering money laundering schemes. Meanwhile, well-structured anti-fraud programs enhance internal control systems and reduce fraud risks. Regulatory compliance – particularly with Know Your Customer (KYC), Anti-Money Laundering (AML) protocols, and mandatory reporting of suspicious transactions – was found to strengthen the relationship between forensic audits, anti-fraud programs, and the effectiveness of money laundering prevention. This study provides strategic implications for regulators, auditors, and financial institutions in reinforcing a comprehensive and proactive approach to combating financial crimes.

INTRODUCTION

Money laundering has become one of the most serious threats to the stability of both the global and national financial systems. This crime not only undermines the integrity of financial institutions but also has broad implications for national security, the economy, and legal legitimacy. According to the Financial Action Task Force (FATF, 2023), global money laundering transactions are estimated to account for 2–5% of the world's Gross Domestic Product (GDP) annually, equivalent to trillions of US dollars. This figure demonstrates that money laundering is not a marginal phenomenon but rather a structured, systematic practice conducted across borders. It is also closely linked to organized crimes such as corruption, drug trafficking, terrorism, and cybercrime.

In Indonesia, this phenomenon has become increasingly prominent. The Financial Transaction Reports and Analysis Center (PPATK) has consistently reported a steady rise in Suspicious Transaction Reports (STRs) over the years. This trend highlights two critical points: first, the growing sophistication and complexity of money laundering schemes in Indonesia; and second, the increasing awareness among financial institutions in detecting suspicious activities. Nevertheless, despite the rising number of reports, the effectiveness of prevention and enforcement efforts continues to face significant challenges. These challenges stem from technological limitations, the capacity of human resources, and weak coordination between law enforcement agencies and financial institutions.

To address these challenges, traditional audits are deemed insufficient. Routine audits typically focus on procedural compliance and formal financial reporting, which are often incapable of penetrating the complex layers of transactions designed to obscure the origins of illicit funds. Therefore, a more in-depth approach through forensic auditing is required. Forensic auditing is not merely the examination of documents but rather an investigative process that applies specialized techniques to trace anomalies, map fund flows, and uncover hidden ownership structures. In the context of money laundering, forensic auditing plays a strategic role as both legal evidence and an instrument to reveal crime patterns that often involve multiple actors across sectors.

In addition to forensic auditing, the implementation of anti-fraud programs within organizations has become a vital component in fostering a culture of integrity. These programs may include whistleblowing mechanisms, employee training, fraud risk assessments, and the use of artificial intelligence-based software to detect abnormal transaction patterns. Anti-fraud programs function as early warning systems and internal deterrents, ensuring that individuals within organizations do not become complicit in practices that may contribute to money laundering. Without a strong anti-fraud culture, efforts at detection and investigation through forensic auditing will remain reactive and limited.

However, the effectiveness of forensic audits and anti-fraud initiatives cannot be separated from regulatory compliance. International standards such as Anti-Money Laundering (AML) regulations and Know Your Customer (KYC) policies are essential for ensuring transparency in customer identities and

accountability in financial transactions. In Indonesia, the primary legal framework is Law No. 8 of 2010 on the Prevention and Eradication of Money Laundering, which governs reporting obligations, whistleblower protection, and sanctions for involved parties. Regulatory compliance serves as a moderating factor: it can strengthen the effectiveness of forensic audits and anti-fraud programs if implemented consistently, or conversely, weaken these efforts if treated merely as a formality.

Although numerous studies have examined forensic auditing, anti-fraud programs, and regulatory compliance individually, there remains a lack of integrative research exploring how these three elements interact in preventing money laundering. Most existing studies focus either on individual case investigations or compliance evaluations, without analyzing the synergy between these variables. In fact, because money laundering is inherently multidimensional, its prevention also requires an integrated and risk-based approach.

Based on this research gap, the present study seeks to conduct a Systematic Literature Review (SLR) to explore the relationship between forensic auditing, anti-fraud programs, and regulatory compliance in the context of anti-money laundering efforts. This study is expected to provide a comprehensive overview of success factors, barriers, and strategic recommendations for regulators, auditors, and financial institutions in strengthening Anti-Money Laundering (AML) systems. Accordingly, the findings of this research not only offer academic contributions through a synthesis of current literature but also practical contributions in supporting the integrity of both national and international financial systems.

This paper contributes to academic and practical understanding by:

1. Synthesizing current literature on forensic audit, anti-fraud programs, and regulatory compliance in the context of money laundering;
2. Identifying critical success factors and common barriers in implementation;
3. Offering insights for regulators, auditors, and financial institutions on adopting a more integrated and risk-based approach.

THEORETICAL REVIEW

Forensic Audit and Its Role in Detecting Money Laundering

Forensic auditing is defined as a specialized audit process that involves the application of accounting, auditing, and investigative skills to examine financial records for use in legal proceedings. According to Singleton et al. (2010), forensic audits are crucial in detecting fraud, corruption, and financial crimes such as money laundering, as they enable auditors to identify red flags, trace financial flows, and provide reliable evidence in litigation processes.

Several studies have established a positive relationship between forensic auditing and the detection of money laundering crimes. Zainuddin et al. (2019) emphasize that forensic auditors can uncover complex layering techniques used by money launderers to obscure the origin of illicit funds. Forensic tools such as transaction mapping, financial statement analysis, and forensic data mining

significantly increase the chances of identifying suspicious activities that conventional audits might overlook.

Anti-Fraud Programs and Organizational Risk Control

Anti-fraud programs refer to structured organizational strategies aimed at preventing, detecting, and responding to fraud risks. These typically include components such as fraud risk assessments, employee ethics training, internal reporting systems (e.g., whistleblowing hotlines), and a formal fraud policy framework. According to Wells (2014), organizations with mature anti-fraud programs are more likely to prevent fraud at an early stage and reduce its overall financial and reputational impact.

Research by Arif and Nugraha (2020) supports this, indicating that comprehensive anti-fraud strategies significantly lower fraud incident rates, especially when coupled with strong internal controls. Moreover, organizations that promote a strong ethical culture are more likely to experience higher compliance and transparency, two elements that are closely tied to anti-money laundering efforts.

Regulatory Compliance as a Moderating Variable

Regulatory compliance involves the adherence to laws, guidelines, and standards established by regulatory authorities to ensure lawful and ethical conduct, particularly in financial institutions. Compliance with Anti-Money Laundering (AML) regulations and Know Your Customer (KYC) requirements plays a critical role in reducing the opportunities for money laundering.

According to the Financial Action Task Force (FATF, 2023), effective compliance mechanisms are essential in enabling the early detection of suspicious financial behavior. Organizations with high compliance scores are generally more equipped to integrate forensic audits and anti-fraud programs into their risk management frameworks.

As a moderating variable, regulatory compliance strengthens the relationship between forensic auditing and the effectiveness of fraud prevention. In organizations with poor compliance, even robust audit or anti-fraud measures may fail to deter or detect money laundering, due to weak enforcement or poor reporting culture.

Theoretical Framework and Conceptual Linkages

This study is grounded in the Fraud Triangle Theory (Cressey, 1953), which identifies pressure, opportunity, and rationalization as key factors that drive fraudulent behavior. Forensic auditing and anti-fraud programs aim to eliminate or reduce these elements, particularly by minimizing opportunity and increasing the perceived risk of detection.

In addition, the Agency Theory (Jensen & Meckling, 1976) supports the role of monitoring mechanisms, such as audits and regulatory oversight, in mitigating principal-agent conflicts that may lead to financial misconduct.

Forensic Audit & Anti-Fraud Program
↓
(Influence on Prevention of Money Laundering)
↑
Moderated by Regulatory Compliance

METHODOLOGY

Research Design

This study employs a Systematic Literature Review (SLR) methodology to comprehensively synthesize existing research findings related to the role of forensic auditing and anti-fraud programs in combating money laundering, while assessing the moderating influence of regulatory compliance. The SLR approach is suitable for capturing theoretical patterns, identifying gaps, and understanding the strength of variable relationships across multiple studies.

The review process followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework to ensure transparency, replicability, and methodological rigor.

Data Sources and Selection Criteria

Databases Used:

1. International Databases: Scopus, ScienceDirect, SpringerLink, ProQuest
2. Open Access Sources: Google Scholar, DOAJ
3. National Repositories: SINTA, Garuda Ristekbrin

Keywords Used:

The literature was searched using the following keyword combinations:

1. "Forensic Audit" AND "Money Laundering"
2. "Anti-Fraud Program" AND "Financial Crime"
3. "Regulatory Compliance" AND "Anti-Money Laundering"
4. "Moderating Role" AND "Audit Fraud Prevention"

Inclusion Criteria:

1. Peer-reviewed journal articles, conference proceedings, and government reports
2. Published between 2013 and 2024
3. Articles written in English or Indonesian
4. Studies that include at least two of the core variables: forensic audit, anti-fraud, regulatory compliance, money laundering

Exclusion Criteria:

1. Opinion papers or non-empirical articles
2. Studies focusing solely on private sector fraud with no regulatory context
3. Duplicate publications or inaccessible full texts

Data Extraction and Analysis Procedure

The selected articles were screened in three stages:

1. Title and abstract screening
2. Full-text eligibility assessment
3. Content analysis and synthesis

A total of 30 studies were finalized after applying inclusion/exclusion filters. Each article was coded based on:

1. Research objectives and variables
2. Methodology used (qualitative, quantitative, or mixed-method)
3. Key findings and theoretical contributions
4. Context of regulatory compliance (mandatory or voluntary)

Thematic analysis was applied to identify common threads and relationships between forensic auditing, anti-fraud practices, and money laundering outcomes.

Quality Assessment and Validity

To ensure validity, only peer-reviewed sources and government-recognized reports were included. A cross-validation technique was used to compare findings from multiple sources with similar themes. Additionally, publication bias was minimized by including articles from both developed and emerging markets, ensuring a diverse sample.

Inter-rater reliability was applied in the screening process, with two independent reviewers assessing article eligibility. Discrepancies were resolved through discussion or third-party review.

Limitations of the Study

Although this SLR provides rich insight into the literature, several limitations must be acknowledged:

1. Lack of quantitative synthesis due to heterogeneous methodologies across studies
2. Limited access to internal corporate audit reports that may have provided deeper insight
3. Potential language bias, as the review focused mainly on English and Indonesian sources

RESULTS AND DISCUSSION

Overview of Literature Findings

From the final pool of 30 peer-reviewed studies analyzed through the Systematic Literature Review (SLR) method, a strong thematic convergence emerged, indicating that both forensic audit and anti-fraud programs are significantly associated with the detection and prevention of money laundering activities. Furthermore, regulatory compliance consistently appeared as a moderating factor that strengthens or weakens these relationships, depending on its level of implementation and enforcement.

Forensic Audit and Its Effect on Money Laundering Prevention

A total of 23 out of 30 studies confirmed that forensic auditing has a direct and positive impact on the ability of organizations – particularly financial institutions – to detect suspicious transactions and trace illegal fund flows.

Example finding:

Zainuddin et al. (2019) reported that organizations employing forensic audit techniques detected an average of 45% more suspicious activity than those using traditional audit methods.

Forensic audit tools such as digital forensics, transaction tracing, and document verification were found to be instrumental in uncovering layering techniques, shell entities, and false invoicing schemes, all of which are typical in money laundering.

Impact of Anti-Fraud Programs on Risk Reduction

18 studies highlighted the effectiveness of anti-fraud programs in reducing the incidence of fraud-related behavior that may contribute to money laundering. Programs that include regular fraud risk assessments, employee fraud awareness training, and anonymous whistleblower systems showed measurable reductions in fraud risk exposure.

Example:

Arif & Nugraha (2020) found that companies with a comprehensive anti-fraud framework were 35% less likely to be involved in regulatory violations related to money laundering.

These programs not only function as preventive mechanisms but also reinforce a culture of integrity, making it more difficult for fraudulent schemes to occur unnoticed.

Role of Regulatory Compliance as a Moderating Variable

One of the most significant findings of this study is the role of regulatory compliance in moderating the relationship between forensic audit/anti-fraud programs and money laundering prevention.

Compliance Level	Impact on Forensic Audit & Anti-Fraud Effectiveness
High compliance (AML/KYC integrated)	Strong impact; detection improves; risk of TPPU decreases
Moderate compliance	Moderate impact; gaps remain in reporting and monitoring
Low compliance	Weak impact; audits may detect issues, but follow-up is lacking

Studies by FATF (2023) and Wulandari (2021) show that institutions with strict adherence to AML regulations and mandatory Suspicious Transaction Reports (STRs) experience higher deterrence effects and greater cross-border cooperation, which amplifies the benefits of audit and anti-fraud systems.

Summary of Empirical Evidence

Variable	Number of Studies	Supporting Effect Direction
Forensic Audit → TPPU	23	Strong Positive

Variable		Number of Supporting Studies	Effect Direction
Anti-Fraud Program TPPU	→	18	Moderate Positive
Compliance Effect)	(Moderating	17	Strengthens Both Paths

These findings confirm the conceptual model proposed in the study: the effectiveness of forensic audit and anti-fraud programs in combating money laundering is significantly enhanced when embedded within a regulatory-compliant environment.

Theoretical and Practical Implications

Theoretical Implications:

The findings reinforce the Fraud Triangle Theory by demonstrating how institutional controls (audit and compliance) effectively eliminate “opportunity” for fraud. In addition, the results extend the Agency Theory, as both forensic audits and compliance systems serve as governance tools that align management behavior with organizational and legal expectations.

Practical Implications:

For policymakers, these findings highlight the importance of integrating compliance mandates with financial audit systems. For organizations, especially in the banking and fintech sectors, adopting a risk-based audit approach combined with anti-fraud strategies and regulatory compliance creates a three-tiered defense mechanism against financial crime.

CONCLUSION

Based on a systematic literature review of 30 scholarly articles, this study concludes that both forensic auditing and anti-fraud programs play a significant role in preventing and detecting money laundering crimes. Forensic auditing enhances the ability to trace suspicious transactions and uncover illicit financial structures, while anti-fraud programs serve as an organizational safeguard against internal fraud risks. Importantly, regulatory compliance is identified as a moderating factor that strengthens these relationships. Institutions with strong adherence to Anti-Money Laundering (AML) laws, Know Your Customer (KYC) policies, and Suspicious Transaction Reporting (STR) systems are more successful in implementing forensic audits and anti-fraud strategies effectively. This study underscores the importance of developing an integrated governance model that connects audit practices, internal fraud controls, and external regulatory frameworks.

RECOMMENDATION

1. Theoretical Development

Future research should expand theoretical models by integrating forensic auditing, anti-fraud programs, and regulatory compliance within a single

conceptual framework. Incorporating behavioral and technological perspectives (e.g., the role of artificial intelligence in fraud detection) could enrich the academic discourse.

2. Empirical Validation

While this study relies on literature review findings, subsequent research should employ empirical methods such as case studies, surveys, or econometric modeling to validate the combined effects of forensic auditing and anti-fraud initiatives on anti-money laundering outcomes.

3. Comparative Studies

Further studies could compare the effectiveness of forensic auditing and anti-fraud programs across different jurisdictions, particularly between developed and emerging economies. This would provide valuable insights into how regulatory environments shape institutional effectiveness.

4. Longitudinal Approach

Researchers are encouraged to adopt longitudinal designs to examine how the implementation of forensic audits and anti-fraud programs evolves over time, especially in response to changing regulations and technological advancements.

5. Policy-Oriented Research

Future studies should also focus on providing actionable policy recommendations, particularly for regulators and financial supervisory authorities, on how to foster a more robust, integrated, and risk-based anti-money laundering framework.

FURTHER STUDY

Based on the conclusion, future research could focus on expanding the scope of forensic auditing and anti-fraud programs across different sectors and jurisdictions to examine their varying levels of effectiveness under diverse regulatory environments. Further studies may also explore the integration of advanced technologies such as artificial intelligence, blockchain, and data analytics in strengthening forensic audits and fraud detection systems. Additionally, longitudinal studies are recommended to assess how continuous improvements in regulatory compliance and evolving AML frameworks influence the long-term success of fraud prevention strategies. This would provide deeper insights into building a more adaptive and resilient governance model for combating money laundering.

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