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AFFILIATION:
Master of Accounting, Directorate of Postgraduate Program, Universitas Muhammadiyah Yogyakarta, Special Region of Yogyakarta, Indonesia

***CORRESPONDENCE:**
arina.anjani.psc23@mail.umy.ac.id

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The puzzle of money laundering: a literature review of regulations and implications

Arina Anjani and Harjanti Widiastuti

Abstract

Research aims: This study intends to investigate how Anti-money laundering (AML) regulations work and assess their effectiveness on a global level. Additionally, it also consigns to explain how technology has been adopted to prevent and treat money laundering.
Design/Methodology/Approach: This study employed a systematic literature review method. The data, encompassing 63 reviewed articles, were derived from the Scopus database. This research underwent three phases: extraction, analysis, and synthesis process.
Research findings: Archival emerged as the predominant method applied in the reviewed articles. These articles significantly impacted the effectiveness of AML regulations and the preparedness of all entities to put them into practice. However, in addition to the positive effects of AML, there existed adverse effects and risks. Accordingly, the utilization of technology could lessen negative impacts.
Theoretical contribution/Originality: Notwithstanding the significance of worldwide AML regulations, there existed a lack of literary research on compliance and technological trends. The findings of this study are expected to impact policymakers, practitioners, and the public on the enhancements to the AML system and the augmentation of global security.
Practitioner/Policy implication: Banks and other financial institutions implemented AML to prevent money laundering.
Research limitation/Implication: This study focused solely on the effectiveness of AML, compliance with AML regulations, challenges, and the application of technology in AML.
Keywords: AML; Regulation; Compliance; Technology

Introduction

Anti-money laundering (AML) is a critical concern for preserving the integrity of the global financial system (Mekpor, 2019). In a constantly changing world, financial management methods enhance economic stability, national security, and overall well-being in many nations. Unfortunately, technological advancements will escalate the possibility of money laundering. Moreover, new payment methods and expedited fund transfers may elevate dangers for financial institutions (Jaffery & Mughal, 2020). Leuprecht et al. (2023) unveiled that cryptocurrency launderers typically utilize Bitcoin. Money laundering is the act of converting “dirty money” into “clean money” to enhance its appearance (Mekpor, 2019).

The revenues from money laundering can finance terrorism, drug trafficking, and other organized criminal operations. Owing to inadequate or inefficient AML regulations, money launderers frequently prefer countries or industries with a diminished chance of discovery (Mugarura, 2020). Research conducted by Issah et al. (2022) points out that AML regulations have enhanced the stability of African nations. In regard to this issue, Indonesia mandates that all financial service providers supervised by Bank Indonesia adhere to an AML-CFT program (Meiryani et al., 2023). This scenario underscores the significance of law enforcement in worldwide efforts to prevent money laundering (D'Avino, 2023).

The international standards for addressing money laundering pertain to regulations established by the Financial Action Task Force (FATF). The FATF guidelines provide the standard for global AML initiatives (Leuprecht et al., 2023). Adherence to these AML regulations fosters trust among nations and encourages worldwide collaboration in preserving and mitigating money laundering. Accordingly, implementing comprehensive, evidence-based standards to prevent global money laundering is crucial (Rowe, 2021). Countries should consciously combat money laundering by enacting robust AML regulations, fostering a transparent public sector, scrutinizing public sector corruption, and instituting policies that promote transparency and financial standards (Ofoeda, 2022). Salehi et al. (2020) asserted that the majority of respondents concur that AML regulations are essential and advantageous to them.

Specifically, banks are a type of financial institution highly associated with the community and its financial transaction operations; as such, they are required to adhere to AML regulations. The prevention of unlawful spending and the preservation of the stability of the financial system are two other critical functions performed by banks. One of the most crucial components in combating money laundering is the implementation of Know Your Customer (KYC) (Juntunen & Teittinen, 2023). RegTech plays a pivotal role in AML regulations by offering safe, cost-effective, and reliable regulatory solutions to businesses (Meiryani et al., 2023). Consistent with the results of Naheem (2020), who discovered that AML regulations are crucial, Morocco has established a solid theoretical foundation through the implementation of AML regulations and other structural reforms in response to shifting security concerns and economic opportunities.

Considering the events mentioned earlier, this study aims to gain a better understanding of the factors influencing compliance with AML regulations and to assess the effectiveness of these regulations on an international scale. What part does technology play in facilitating AML compliance initiatives? When it comes to preventing and countering money laundering, this AML study could expand knowledge, regulations, and the application of recommended procedures. This study aims to identify any shortcomings or flaws in current AML regulations by conducting a thorough literature review on the topic using a systematic literature review. The review focuses on regulations and their implications. The significance of technological innovation in fighting against financial crime is demonstrated by this study, which also emphasizes the role of technology in assisting with the implementation of AML regulations. This way, stakeholders involved can evaluate the situation and make the necessary adjustments or enhancements.

Section 2 presents the paper's structure, covering an organization of articles according to publishing quality, year, journal, and research background. The analysis of companion terms is also included to assist with identifying the study themes explored in this literature review. The most recent research for each highlighted subject was reviewed and discussed. The process outlined in section 3 was utilized to evaluate the articles. Section 4 explains the results and discussion. Lastly, section 5 reveals the study's conclusions.

Literature Review and Hypotheses Development

Anti-Money Laundering (AML)

AML is a framework of standards, regulations, and procedures governing a nation's methods for preventing, detecting, and managing money laundering offenses (Alexander, 2001). Amrani (2014) elucidated that international conventions establish a global AML framework for universal implementation. The objective of AML is to mitigate the criminal activities that facilitate money laundering, including corruption, terrorism, drug trafficking, and other offenses. AML measures to safeguard financial and banking institutions against the influence of illicit money (Amrani, 2014). Ofoeda (2022) asserted that AML regulations enhance the stability and integrity of the financial system by obstructing the infiltration of criminal organizations. Suspicious behavior must be reported to the appropriate authorities, enabling law enforcement to conduct additional investigations and adopt preventive actions if required. Adherence to FATF standards is crucial for nations globally, as money laundering poses significant threats to economic stability and international security. Furthermore, to safeguard a nation's reputation and global ties, AML employs technology to detect financial transactions.

Previous research by Durguti et al. (2023) uncovered that the stability of the banking system is favorably and statistically substantially influenced by the enforcement of stringent AML regulations. According to the research conducted by Issah et al. (2022), AML regulations enhance the stability of African nations, and the efficiency of AML regulations in a country will persistently exert a positive impact on the stability of its national banking system. Haq et al. (2022) elucidated that in order to execute FATF guidelines, a jurisdiction must establish an AML regulatory framework or allow financial institutions to utilize several AML components, including customer due diligence (CDD). Customer knowledge is a critical element in combating money laundering, particularly within the banking sector. Furthermore, technological advancements and payment services have facilitated the emergence of new money laundering methods.

Nonetheless, technology will also aid in monitoring cash flow, implementing risk-based strategies, and ensuring accountability (Juntunen & Teittinen, 2023). Nevertheless, a study by Mekpor (2019) revealed that global AML compliance remains inadequate, mostly due to the substantial costs associated with adhering to FATF guidelines, with higher compliance levels predominantly observed in prosperous nations. Informed by the findings of these investigations, this research addresses the following questions.

RQ$_1$: How effective is AML regulation?

RQ$_2$: How is AML implementation compliance?

RQ$_3$: What is the role of technology in supporting AML?

Research Method

This section delineates the methodology for the literature review and the search technique employed. This research adheres to the approach of Hoque (2014), with some modifications, including the application of companion word analysis to map themes (Poje & Zaman Groff, 2022). Two fundamental considerations underlie the implementation of this method. To begin with, the research problems necessitate a descriptive review approach comprising three distinct stages: extraction, analysis, and synthesis (Xiao & Watson, 2019). Additionally, Fisch and Block (2018) posited that a systematic literature review must ascertain the motivation for the topic and research question, employ screening criteria, balance breadth and depth (relevance criteria in this study), concentrate on concepts, offer a synthesis and interpretation of the analysis, and maintain an organized structure. The procedure of Hoque (2014) aligns with the three-stage descriptive review methodology and the six principles for executing a successful systematic literature review. Figure 1 illustrates the implementation of Hoque's (2014) procedure in this research.

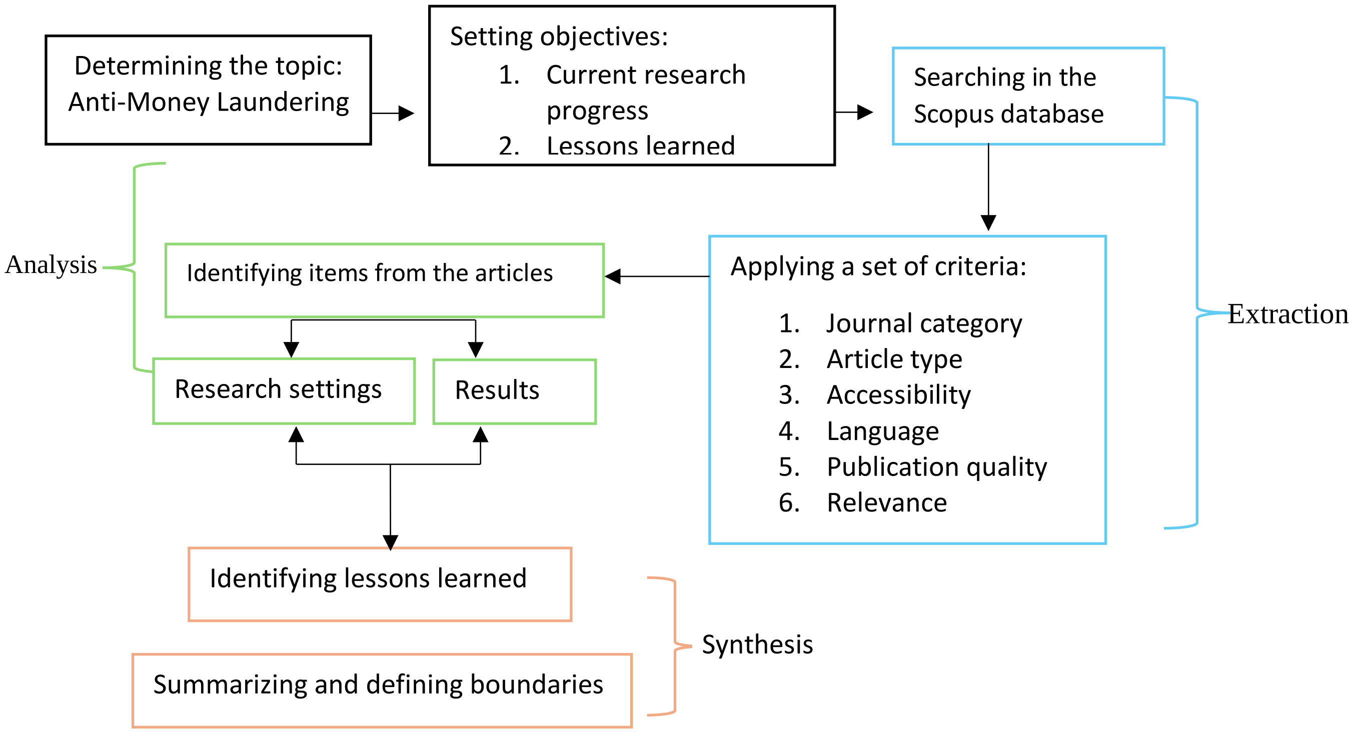

Figure 1 Systematic literature method

Ensuring the quality of knowledge mapping necessitates the acquisition of reputable sources. This literature review utilized data from Scopus obtained using the keywords “anti-money laundering” and “regulation.” Scopus was selected because of its esteemed quality standards and global recognition. Panel data were employed to analyze additional elements and periods, as well as to investigate the dynamic evolution of variables and their interrelationships from 2019 to 2023. The subject areas encompassed business, management, accounting, economics, econometrics, and finance.

A systematic literature review strategy was adopted to provide a thorough examination of the literature. This method denotes a comprehensive literature evaluation, enabling researchers to delineate existing study topics and suggest prospective research directions (Tranfield, Denyer, & Smart, 2003). This study adopted the framework established by Tranfield *et al.* (2003). To discover relevant article databases, the research questions were initially formulated and followed by identifying bibliographic article databases corresponding to the keywords. The criteria for determining the inclusion of relevant articles were subsequently selected for examination. A systematic review technique was eventually developed and put into effect for the selected articles. Finally, the results were integrated to synthesize the findings.

Result and Discussion

Distribution of articles by publication quality and year

Based on Figure 2 about illustrates the distribution of articles according to the quality of publishing, 63 articles reviewed, one was published in a top-tier publication indexed as Q1 by Scimago. A total of 52 articles were collected from Q2 journals, and nine articles were derived from Q3 journals. Q4 featured only one article. Q2 journals are not quite as powerful as Q1 journals. However, they are nonetheless of excellent quality and add to the body of scientific knowledge.

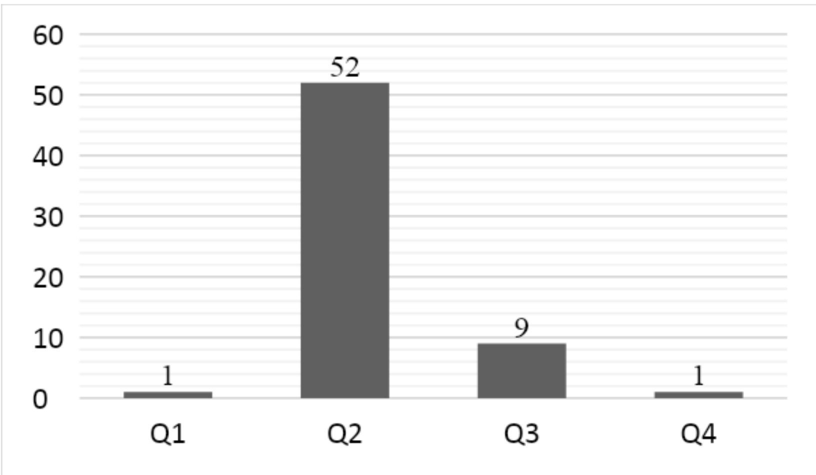

Figure 2 Articles based on publication quality

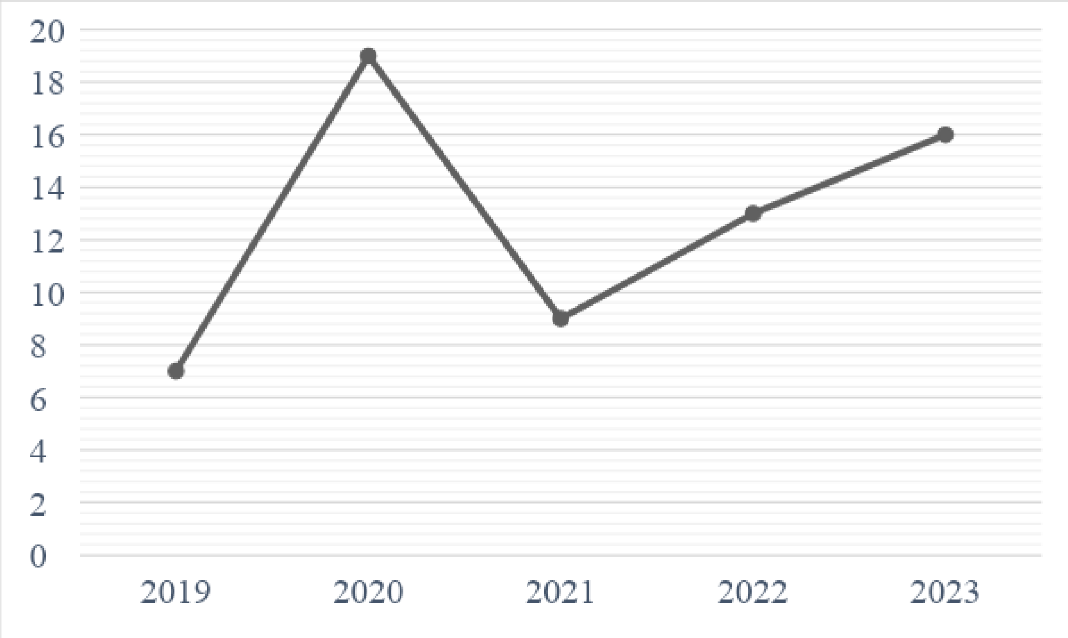

Figure 3 Articles by year

Figure 3 exhibits the annual distribution of articles. In 2020, a greater number of articles were published compared to past years. Among the examined articles, seven were published in 2019, 19 in 2020, eight in 2021, 13 in 2022, and 16 in 2023. Another notable trend observed in Tables 1 and 2 is that from 2019 to 2023, the highest quantity of publications, totaling 52, was classified under Q2 publishing quality. It not only indicates an enhancement in publishing quality but also reflects the growing attention and significance attributed to this issue, evidenced by the high standard of each journal and its impact factor.

Distribution of articles by journal

Table 1 displays the division of articles across several journals. The *Journal of Money Laundering Control* emerged as the publication reviewing the highest number of articles in this study, totaling 44 out of 63 articles. It may result from the journal's emphasis on research addressing contemporary and emerging concerns in the domain of money laundering. Simultaneously, articles published in *Cogent Economics and Finance* and the *Journal of Financial Crime* each totaled four, acknowledging that money laundering poses concerns affecting the integrity of the financial system. Additionally, two articles were evaluated in the *Journal of Risk and Financial Management* and one in other journals. The analyzed articles provide a broader viewpoint on money laundering and related regulations. The discourse encompasses not merely governmental laws across many nations but also technical advancements, including the emergence of digital currency or cryptocurrency, as addressed in several articles.

Table 1 Articles by journal

Journal	N
Cogent Economics and Finance	4
Danube	1
Economics and Sociology	1
European Journal of Law and Economics	1
European Studies: The Review of European Law, Economics and Politics	1
International Journal of Management and Sustainability	1
International Organisations Research Journal	1
Journal of Financial Crime	4
Journal of Financial Regulation and Compliance	1
Journal of Money Laundering Control	44
Journal of Risk and Financial Management	2
Law and Development Review	1
Law and Financial Markets Review	1
N	63

Distribution of articles by country settings

This study categorized the country settings of the analyzed articles into several classifications, depicted in Table 2. Articles featuring several country settings were classified as "international," totaling 13 articles. The other 12 articles lack any specified country context, signifying that the subject of money laundering warrants discussion in all countries.

Table 2 Articles by country

Country	N	Country	N
Africa	3	Morocco	1
United States	1	Pakistan	2
Saudi Arabia	1	Palestine	1
Bahrain	1	Poland	1
Bangladesh	2	Qatar	1
Indonesia	1	Samoa	1
Canada	1	Sri Lanka	1
Finland	1	Syria	1
Iran	1	United Arab Emirates	5
Kenya	2	Uganda	1
Cayman Islands	1	United Kingdom	1
Kuwait	1	European Union	1
Lebanon	1	Western Balkans	1
Lithuania	1	International	13
Malaysia	1	No state	12
Malta	1		

Distribution of articles based on theory

Table 3 demonstrates the frequency distribution of publications categorized by theory. Among the 63 articles examined, agency theory was the predominant theoretical framework utilized by researchers. This theory was extensively utilized as it aligns with the setting or subject matter of the study undertaken by researchers, leading to its widespread application. The second theory frequently employed by previous researchers was the crying wolf. In several articles, the employed theory remained unidentified, including 38 articles, whereas 13 articles adopted a specified theory.

Table 3 Articles based on the theory

Theory	N
Bank capital theory	1
Agency theory	6
Efficient market theory	1
Game theory	1
Network theory	1
Regulatory dialectic theory	1
Transparency stability theory	1
The crying wolf theory	2
The law of finance theory	1
Systems theory	1
The transparency-stability theory	1
Regulation reporting theory	1

Distribution of articles by method

Table 4 illustrates the frequency distribution of journal methodologies. Of the 63 reviewed articles, the predominant method employed by prior researchers was archival, as evidenced by 45 articles. Archival research was recurrently utilized as it facilitates the gathering and analysis of historical material to comprehend the events or phenomena under investigation. Archival research encompasses the utilization of archives, documents, and various data sources to elucidate the behaviors of individuals, groups, institutions, and governments. These data can enhance the external validity of the primary study findings and assist researchers in generalizing the results and corroborating hypotheses. Each of the six articles adopted either the survey technique or a combination of surveys and interviews as their research methodology. Three publications deployed both literature review and interview methods. The survey and interview methods enable researchers to acquire data directly from respondents, yielding more precise insights into their opinions, beliefs, and behaviors. The literature review method can enhance the validity of the research by reinforcing the theoretical foundation.

Table 4 Articles by method

Method	N
Archival	45
Survey	6
Interview	3
Literature review	3
Mix method	6

VOSViewer

Figure 4 showcases the outcomes of co-word analysis utilizing author keywords from 83 reviewed articles. The size of the circle in which a term appears in an article's keywords denotes the frequency of that word. The color represents the categorization that reflects the frequency of co-occurrence of terms inside an article's keywords. The proximity and density of the lines linking the words indicate the strength of the relationship. Of the total 83 articles, 15 were unavailable, four did not correspond to the keywords, and one was not indexed, resulting in 63 articles reviewed.

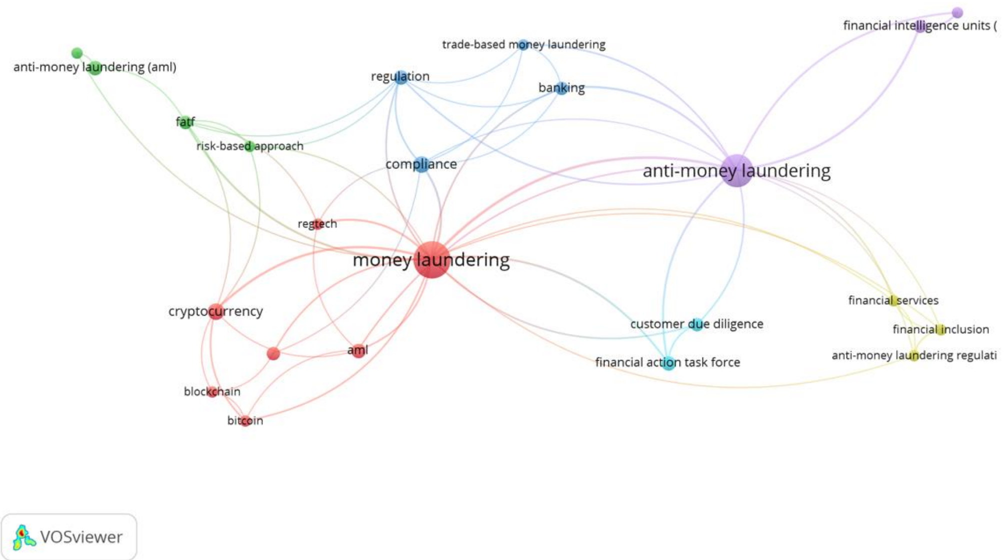

Figure 4 VOSViewer

The varying colors signify that VOSViewer has discovered six clusters pertaining to AML regulations. The categorization of these groups included policy, AML compliance, supervision, information technology, internal control, and human resources. The initial cluster pertains to policy, primarily focusing on research that examined policies or processes aimed at preventing money laundering in both financial and non-financial entities. The existence of AML regulations mandates that all organizations report suspicious transactions or acts, whereas the second cluster emphasizes compliance. The third cluster addresses supervision, the entity responsible for enforcing laws against money laundering. The fourth cluster elucidates how technological advancements facilitate the prevention of money laundering risks, particularly inside financial institutions that engage directly with the public. The fifth and sixth clusters address internal control and human resources in their capacity to facilitate AML efforts.

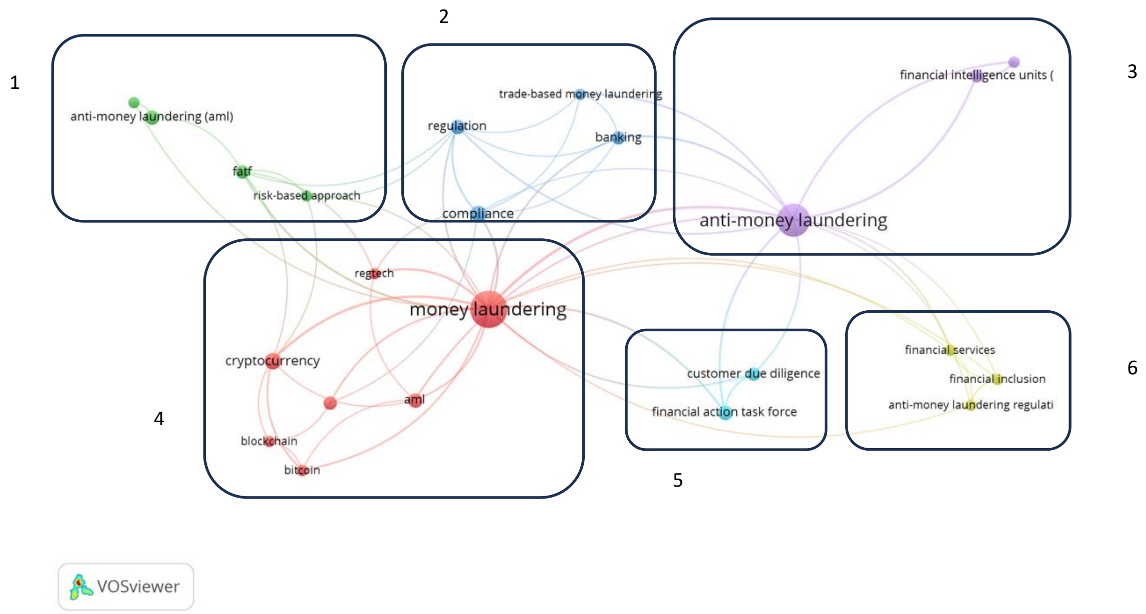

Figure 5 Cluster

VOSViewer's analysis categorized six themes, as depicted in Figure 5. The initial theme was policy. Countries and international institutions collaborate globally to establish standards and regulations aimed at preventing and eradicating money laundering. Certain worldwide AML regulations encompass multinational entities like the FATF. The FATF establishes uniform regulatory standards and permits, allowing nations and regions to adopt them based on their circumstances and challenges (Al-Tawil, 2023). Countries may utilize FATF principles and laws to formulate their AML regulations; subsequently, the FATF must evaluate progress and compliance according to the distinct circumstances of each nation to modify AML measures (Al-Tawil, 2023). Furthermore, Al-Tawil (2023) asserted that the FATF framework needs to have stipulations that assist nations in enhancing their ability to tackle issues present in both national and worldwide financial systems.

The second theme pertains to AML compliance. Jayasekara (2020) asserted that a nation's AML compliance level is a crucial determinant of its financial inclusion rate. A favorable correlation exists between AML and financial inclusion; hence, authorities should enhance AML regulations and improve their clarity (Jayasekara, 2020). AML compliance refers to the adherence of an institution or individual to the regulations and standards established to prevent and detect money laundering. A method of compliance in banking or financial organizations involves the utilization of KYC to optimize data collecting (Laurinaitis, Štitilis, & Verenius, 2021). Furthermore, this may be achieved through the use of Customer Due Diligence (CDD) (Haq et al., 2022). Entities that contravene measures to combat money laundering will face substantial penalties (Laurinaitis et al., 2021). This punishment aims to promote adherence and safeguard the financial system against the threat of money laundering.

In addition, AML supervision encompasses a range of operations executed by supervisory authorities and regulatory organizations to guarantee that financial institutions and other business entities adhere to established policies and procedures aimed at preventing money laundering and terrorism financing. Mathuva *et al.* (2020) claimed that corporate governance and the influx of capital into the economy are primary determinants of banks' AML disclosures. Given that money laundering constitutes a criminal offense, board members must actively ensure the robustness of current AML regulations to safeguard both corporations and individuals. Consequently, the board of directors and the audit committee have the responsibility for executing AML compliance as a means of oversight. Furthermore, advancements in technology and payment services have facilitated the emergence of novel money laundering methods. Nevertheless, technology has concurrently enhanced the ability to monitor cash movements through diverse monitoring systems (Juntunen & Teittinen, 2023). Technology can enhance accountability and mitigate money laundering (Juntunen & Teittinen, 2023). This technology assists financial institutions and other entities in the successful and efficient implementation of AML. In banking, technology may facilitate customer identification (CDD) and automate customer verifications to enhance the precision and efficiency of handling client data. Jaffery and Mughal (2020) mentioned that CDD and emerging technologies could mitigate the danger of money laundering in Pakistan. Kurum (2023) stated that artificial intelligence (AI) emerged as the most effective tool for financial institutions in the fight against financial crime. Zigo and Vincent (2021) asserted that China's technology capabilities enable far more efficient data entry and verification in the beneficial owner record compared to present practices in Western nations.

Moreover, internal control in the context of AML pertains to the measures and protocols established by an organization or financial institution to safeguard against money laundering concerns. A crucial component is the AML risk assessment, which features a robust and thorough risk audit methodology that facilitates the execution of suitable risk audits (Naheem, 2019). It enables AML internal control to guarantee adherence to AML requirements and assist in averting legal infractions. Authorities must establish internal control by regulating their policies. Naheem (2020) determined that authorities can assess legislation that criminalizes terrorism financing, establish a Financial Intelligence Unit (FIU), and promote internal reporting systems.

Finally, the human resources department has been tasked with executing AML regulations. All these systems need internal audit personnel, front office workers, and AML units to have comprehensive training in money laundering schemes (Naheem, 2019). Establishing an AML team enables firms to mitigate the risk of financial crime and ensure adherence to relevant AML regulations. Training programs should be tailored to the specific requirements of each institution instead of utilizing generic methods and programs (Naheem, 2019). This results from the continuous evolution of international standards and technology.

Effectiveness of AML Regulations

This section explores the findings from the analysis of articles about the effectiveness of AML regulations across different nations, adherence to compliance, the application of technology to facilitate AML, and the many problems encountered in AML implementation. It includes education for all stakeholders, particularly regulators, to aid them in their endeavors to combat money laundering. Various studies concerning compliance and the effectiveness of implementing AML regulations in institutions or organizations were identified in the reviewed literature. Mugarura and Ssali (2020) discovered that the recent surge in money laundering and cybercrime is attributable to deficiencies in both global and national regulatory frameworks. Although several nations possess cybercrime and AML regulations, they have failed to effectively thwart international criminal activities. Mugarura and Ssali (2020) noted that it is attributable to the inadequacy of many law enforcement authorities to effectively execute regulations, stemming from insufficient infrastructure, systems, and regulatory capacity in some nations.

The global execution of AML regulations differs by nation due to political and economic factors (Gaviyau & Sibindi, 2023). It encompasses the definition of money laundering, references to the stages of money laundering, methods of penalizing infractions, technical advancements, shifts in regulatory paradigms, security, and data privacy (Gaviyau & Sibindi, 2023). The disparities led to the establishment of the FATF, creating an international framework for AML (Naheem, 2020). Various nations, including Qatar, have enacted the FATF recommendations. Qatar has imposed robust regulations to prevent money laundering, established autonomously and informed by recommendations from international organizations (Naheem, 2020). Notwithstanding the recommendations from the FATF, this nation persists in formulating AML regulations that encompass measures such as cybercrime prevention, verification, and supervision, as well as investigations into the activities of prominent companies (Naheem, 2020). The legislation implemented by Qatar has led to substantial and ongoing changes in AML regulations (Naheem, 2020).

Variations exist in the execution of AML regulations, including initiatives to combat money laundering in Pakistan. The State Bank of Pakistan has vigorously pursued reforms and processes to combat money laundering; nevertheless, the policies have not been properly enforced due to inadequate coordination between regulators and the banking industry. The research indicated that while the AML regulations have been extensive and clearly articulated, their enforcement remained insufficient and problematic (Hassan, Hussain, & Sajid, 2022). Nevertheless, Lebanon is among the nations that have successfully confronted the hurdles of implementing AML regulations. Despite its banking secrecy law providing substantial safeguards by prohibiting banks from disclosing information to the judiciary and relevant authorities without the commission's approval following an investigation, Lebanon's AML framework has been highly effective, allowing both systems to function collaboratively before the Special Investigation Commission (SIC). In its endeavor to mitigate money laundering, Morocco has adopted a principal strategy of identifying laundering activities within the trade and collaborating with international institutions to conduct regulated shipments for enhanced investigation. The Customs

Agency has intensified border surveillance, ultimately yielding the most favorable outcomes (M A Naheem, 2020).

AML Compliance

While the enforcement of AML regulations often yielded beneficial outcomes in combating money laundering, they might also pose challenges in some nations. Several issues have been recognized, including challenges with Arabic nomenclature, difficulties in identifying Beneficial Owners (BOs), obstacles in determining the source of wealth and funds, complications concerning Politically Exposed Persons (PEPs), and heightened compliance costs, alongside strain on banking relationships due to individuals' cultural inclinations toward privacy and confidentiality in financial dealings with bank employees (ElYacoubi, 2020). Compliance levels in affluent nations have exceeded those in impoverished nations (Mekpor, 2019). Consequently, adherence to AML regulations becomes a primary criterion for evaluating the effectiveness of AML regulations in each country in the fight against money laundering. The laws in the UK have presented challenges for attorneys, including expenses, mindset, and commercial matters. Although protections exist to promote honesty, UK legislation has posed difficulties for industry experts, containing potential violations of customer cooperation and the preservation of customer information, compelling them to align with the customer (Çelik, 2023). Attorneys will diligently strive to adhere to rules while preserving business value (Svenonius & Mörth, 2020). Lababidi (2020) determined that the Central Bank of Syria underwent a reduction in autonomy, attributed to the pressures stemming from the war inside the Syrian financial system. Lababidi (2020) noted that the Central Bank of Syria incurred losses yet managed to sustain substantial and effective advancements in the Syrian AML system, aligning it with the international standards advocated by the FATF. However, persistent institutional discrepancies indicated that the Central Bank of Syria remained deficient in certain areas, adversely impacting its capacity to execute a more efficient AML framework. This instance exemplifies the discrepancy in AML compliance, as every organization is mandated to adhere to these requirements.

The existing AML regulations impose significant operational expenses for banks in achieving compliance, with penalties for infractions (Balani, 2019). Consequently, authorities must guarantee the cost-effective and efficient execution of AML regulations (Ofoeda, 2022). Naheem (2019) contended that financial expenditures associated with AML compliance pose a danger; the sole method to mitigate these costs is to establish an AML framework and strategy that necessitates minimal alterations to handle evolving AML threats. Policymakers must confront this issue and devise strategies to incentivize all parties to report signs of money laundering and assess AML regulations (Siddique et al., 2022).

The disclosure or reporting of money laundering is a critical component in assessing the effectiveness of a country's AML regulations. To promote such disclosure, it is essential to adopt a risk-based methodology, conduct risk assessments, engage in national collaboration, and coordinate AML actions (Siddique et al., 2022). Grima et al. (2020) asserted that to optimize risk mitigation, it is essential to achieve an appropriate equilibrium in risk management that does not compromise business requirements, necessitating proportional and balanced regulations. Naheem (2021) identified substantial advancements in executing AML regulations in the Kingdom of Bahrain, consistently aligning its AML regulations with worldwide standards to mitigate risks inside the financial system. Bangladesh, akin to other nations in South Asia, has been significantly susceptible to money laundering and has encountered difficulties in adhering to global standards (Zafarullah & Haque, 2023). The findings of Haq et al. (2022) revealed that AML regulations concerning gambling and cryptocurrency activities in Bangladesh are governed not by a risk-based approach but rather by a passive wait-and-see policy. It demonstrates the inadequacy of financial regulations in Bangladesh and the regulators' insufficient comprehension of money laundering risks. Consequently, rules are necessary to implement a risk-based strategy to alleviate possible dangers (Haq et al., 2022).

The Role of Technology in Supporting AML

Research undertaken in Africa and Mauritius has elucidated the significance of a risk-based strategy in combating money laundering. The AML mechanism adopted in Africa and Mauritius employs a risk-based strategy (Beebeejaun & Dulloo, 2023). The risk approach is a crucial step in minimizing money laundering operations; risk assessment enables organizations to make timely and effective choices. Technological support is essential for risk identification in an era of swift worldwide advancement. Technological advancements can enhance risk assessments to identify problematic regions (Podrugina & Tabakh, 2020). Extensive money laundering and undetected cryptocurrency utilization may arise from demographic shifts and technical advancements (Dupuis & Gleason, 2021). Their anonymous character, online transactions, and lack of stringent laws render cryptocurrencies susceptible to exploitation for money laundering operations. Gaviyau and Sibindi (2023) have pointed out that technological innovation has heightened the danger of money laundering and induced volatility in the banking industry. Durguti et al. (2023) mentioned that rigorous enforcement of AML would markedly enhance the stability of the banking industry. AML regulations in banking require frequent evaluation and updates, particularly concerning technological advancements (Bahrin et al., 2022).

Experts identified AI and cloud computing as crucial technologies expected to influence AML compliance over the next decade, while respondents also advocated for enhanced transaction monitoring using RegTech (Kurum, 2023). Technology is anticipated to enhance efficiency by automating monitoring, reporting, regulatory responses, and financial analyses capable of identifying questionable transactions (Meiryani et al., 2023), for instance, through the implementation of CDD (Haq et al., 2022). CDD not only supplies critical information to law enforcement authorities when required but also facilitates the evaluation of money laundering risks associated with customers (Shust & Dostov, 2020). Pakistan is one of the nations that employs CDD, with Pakistani banks taking preventative measures using CDD, effectively mitigating the risk of money laundering (Jaffery & Mughal, 2020). CDD is a customer identification program that authenticates an individual's identity during onboarding. Customer identification programs are complex methodologies that provide difficulties for developing nations and financial institutions in doing due diligence on their clients, particularly when they aim to utilize new technology to enhance financial inclusion (Shust & Dostov, 2020). Furthermore, AML regulations mandate the execution of KYC activities within the financial sector. In accordance with FATF Recommendation No. 10, every financial institution is obligated to utilize credible papers or data to identify and authenticate customer identities (Ghozi, 2022).

In most cases, CDD procedures are laborious, requiring financial institutions and clients to engage in in-person meetings for face-to-face identification and verification of customer data, which is deemed inefficient. A potential solution to this issue is the incorporation of electronic technology to streamline CDD processes. This process is referred to as Electronic Know Your Customer (eKYC) (Ghozi, 2022). Kumar (2020) demonstrated that participants in his study perceived that efficient KYC and CDD protocols might alleviate AML. Islamic Banks in the UAE have utilized KYC and CDD. Respondents indicated a comprehensive understanding of KYC and CDD monitoring techniques and concurred that TPPU dangers may be alleviated by effective monitoring via KYC and CDD (Kumar, 2020). Technology could be utilized to combat money laundering through the implementation of eKYC, Transaction Management (TM), and Business and Time Efficiency (CTE) within the Indonesian banking sector (Meiryani et al., 2023). Research by Meiryani et al. (2023) has confirmed that eKYC, TM, and CTE influence AML CFT in Indonesia.

The implementation of technology in AML initiatives necessitates human resources, including stakeholders and staff, directly interacting with customers. Bahrin et al. (2022) determined that banks must undertake proactive and strategic measures to enhance their staff's comprehension of AML regulations and procedures. The proficiency of employees enhances the effectiveness of the AML system, indicating that personnel with specialized AML knowledge augment the success of the program (Bahrin et al., 2022). Offering pertinent training and international experience from proficient individuals could enhance employee proficiency in combating money laundering, aligning with the primary goal of the International Monetary Fund (IMF) to promote financial education for policymakers and economic compliance officers globally. This initiative could facilitate the establishment of a distinctive policy forum for the exchange of information and experiences (Teichmann & Wittmann, 2023). Grima et al. (2020) underscored the necessity of enhancing awareness, understanding, and proficiency in derisking inside Malta; hence, professionals must obtain training in derisking and AML.

This literature review identified weaknesses in AML regulations across many nations. Alshaer et al. (2021) demonstrated that the governance structure of the Palestinian Monetary Authority (PMA) for specialized lending institutions and the currency exchange industry has been deficient, owing to the absence of comprehensive procedural standards. Moreover, the PMA's initiatives to address money laundering were limited to standard inspection visits and the implementation of surveillance cameras at currency exchange offices; these deficiencies might jeopardize the effectiveness of the Palestinian legal system in combating money laundering and facilitating exploitation by money launderers. Furthermore, Naheem (2020) discovered that although adequate AML regulations have been in place, the Kuwaiti regulatory authority has failed to furnish exhaustive guidelines for supervised institutions and companies. This shortcoming has been prevalent in numerous countries and should not be overlooked by the state.

According to the report of Gikonyo (2020), a vacuum has existed in Kenya since the primary AML regulations lack guidance for addressing numerous concerns, potentially exposing banks to litigation from consumers for failing to uphold confidentiality requirements. Naheem (2023) noted that, notwithstanding the advancements achieved by the UAE, certain vulnerabilities remain that can be exploited by criminal and terrorist organizations. The UAE should legislate against AML offenses in light of advancements in internet technology, including cryptocurrency and trade-based money laundering activities.

Furthermore, Ofoeda (2022) asserted that the influence of AML regulations on financial inclusion manifests only beyond a specific threshold; beyond this barrier results in adverse effects on financial inclusion. Antwi et al. (2023) discovered that the beneficial effects of AML regulations on financial sector development in Africa diminished and turned negative, as the regulations surpassed a threshold that proved costly and resource-intensive for African financial institutions, rendering them significantly uncompetitive compared to developed nations. In contrast, wealthy countries like North America, Oceania, and Europe have comparatively greater levels of compliance than impoverished ones (Mekpor, 2019). The impact of AML regulations on promoting financial inclusion will diminish if such regulation surpasses a certain level. According to Al-Tawil (2023), AML regulations have a positive impact below the threshold and a negative effect beyond it. However, Ofoeda et al. (2023) claimed that the impact of AML regulations on financial inclusion is contingent upon the financial inclusion proxy employed.

Conclusion

This research on AML utilized data from Scopus gathered using the keywords “anti-money laundering” and “regulation.” The selected timeframe was from 2019 to 2023, focusing on two fields: economics and accounting. During that period, 83 articles pertaining to AML were reviewed. Following the application of several criteria to the intended item, 63 articles remained. Archival was the predominant method among the 63 articles. The articles elucidated that several nations were endeavoring to enhance the effectiveness of AML regulations and promote compliance among all organizations in their implementation. The AML regulations in each country have been aligned with international standards or FATF guidelines. Numerous nations have persisted in enhancing and revising AML regulations to combat money laundering, with technological advancements being one of the elements utilized by offenders.

Nonetheless, with the beneficial effects of adopting AML, there exist adverse implications, obstacles, and vulnerabilities. Comprehension and proficiency in human resources about AML are crucial for alleviating the adverse effects of AML regulations. Comprehending human resources will motivate organizations to enhance their efforts in regulating organizational governance and conducting risk assessments for potential money laundering.

The application of technology, governance, and risk management strategies could achieve the effectiveness of AML. The utilization of technology is crucial, particularly with the emergence of digital currencies like cryptocurrency, which money launderers may manipulate. The research of Naheem (2019) has advocated for banks to be assisted in comprehending blockchain technology and participating in new platforms to tackle the AML ramifications of virtual currency technology. Naheem (2019) asserted that virtual currency technology can enhance AML frameworks in banking if these frameworks are comprehensively understood.

Therefore, researchers are recommended to utilize risk and governance strategies to mitigate money laundering. The study alone offers insight into the effectiveness of AML, AML compliance, and technological support for worldwide AML implementation. No perspective on these variables has been presented in a specific country; hence, future studies should examine the effectiveness of AML, AML compliance, and the role of technology in facilitating AML implementation in certain nations, particularly in developing countries or those with elevated corruption levels. Future studies may undertake comparative analyses of other nations' methodologies and achievements in enforcing AML regulations while also examining the determinants affecting disparities in compliance rates.

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About the Authors

Arina Anjani (A.A.) is a student from Master of Accounting, Directorate of Postgraduate Program, Universitas Muhammadiyah Yogyakarta, Special Region of Yogyakarta, Indonesia. Email: arina.anjani.psc23@mail.umy.ac.id

Harjanti Widiastuti (H.W.) is lecturer from Master of Accounting, Directorate of Postgraduate Program, Universitas Muhammadiyah Yogyakarta, Special Region of Yogyakarta, Indonesia. Email: widyas@umy.ac.id

Author Contributions

Conceptualisation, A.A. and H.W.; Methodology, A.A.; Investigation, A.A.; Analysis, A.A.; Original draft preparation, A.A. and H.W.; Review and editing, A.A. and H.W.; Visualization, A.A.; Supervision, H.W.; Project administration, A.A.

Conflicts of Interest

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