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Rethinking Experts' Perceptions in Money Laundering Risk Assessment

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Abstract

This paper examines the factors that influence experts' risk assessments of money laundering in the context of anti-money laundering (AML) measures. Employing a mixed-methods approach, a survey was first administered to 1497 AML risk assessment experts, followed by semi-structured interviews with nine selected AML experts. The study's findings suggest that AML experts often heavily rely on their organization's established risk response frameworks, sometimes at the expense of not exercising independent judgment. Personal biases, including preconceived notions about risk and fear of facing repercussions for independent judgment, significantly influence risk assessments. Based on these results and guidance from the literature, we propose a new decision framework aimed at shedding light on the mediating strategies employed by AML experts during risk assessment. The proposed framework offers valuable insights into the role of expert judgment in assessing money laundering risk for AML-regulated entities, with a particular focus on financial institutions aiming to enhance their risk assessment frameworks.

Keywords Expert · Money laundering · Risk · Financial institutions · Judgment

Introduction

Money laundering poses a significant challenge to the efficiency of global financial systems (Antwi et al., 2023; Buchanan, 2004; Ofoeda et al., 2022). This challenge is not confined to specific regions; rather, it poses an international challenge that affects a diverse range of financial institutions worldwide. Despite being a criminal activity, money laundering is not an economic anomaly. On the contrary, it thrives within the same commercial and financial transactions conducted by the majority of law-abiding individuals and legitimate businesses (Van Duyne et al., 2018). Similar to routine financial transactions, criminals engage in moving proceeds from crimes between banks, financial instruments, and tangible assets such as businesses and properties

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(Morris-Cotterill, 2001; Nobanee & Ellili, 2018; Schneider, 2020). Banks and other entities subject to anti-money laundering (AML) regulations must manage money laundering risk through appropriate AML risk assessment procedures.

Given the subtle and elusive nature of money laundering risk (Demetis, 2010), coupled with incomplete information (FATF, 2022), and regulatory complexities (Naghi et al., 2023), such risk assessments yield provisional and probabilistic outcomes rather than definitive conclusions (Maurer, 2005). To aid decision-making in this complex landscape, various technology-driven models, such as static rule-based and automated systems, have been developed (Isa et al., 2015). These systems are engineered to fulfil the expectations of enhancing decision accuracy and reducing processing time for large volumes of financial transactions. However, it is noteworthy that most AML systems are susceptible to generating a large volume of false positive alerts, which can constitute up to 95% to 98% of flagged transactions (Lannoo & Parlour, 2021). These systems primarily operate by utilizing predetermined risk parameters as rule sets to detect changes in financial transaction patterns indicative of suspicious activity (Demetis, 2010).

Human expertise continues to hold a pivotal role in scrutinizing system-generated alerts to discern genuine money laundering cases (S. Gao & Xu, 2009; Jamil et al., 2023). Assessing the risk of money laundering demands proficiency and experience, enabling knowledgeable AML experts not only to adeptly interpret complex financial networks but also to effectively communicate the significance of their findings to law enforcement agencies (Greenstein, 2008; Mat-Isa et al., 2021). As part of their daily activities, AML experts make decisions to detect and prevent money laundering, a crime characterized by distinct operational patterns (Darbar, 2019). They grapple with the challenge of balancing sensitivity while minimizing false positives and false negatives during their risk assessments (Maurer, 2005). AML experts are obligated to conduct risk assessments, which to some extent, adhere to standards set by regulatory bodies.

How exactly do AML experts validate their judgments in the process of risk assessment? While researchers have recognized and studied various approaches to risk assessment in the field of money laundering, many of these studies lack a strong theoretical basis for linking human judgment to the quality of money laundering risk assessment (Isa et al., 2015; Jamil et al., 2023). To bridge this gap, this paper aims to develop and present a theoretical model that explains the intricate aspects of money laundering risk assessment, specifically focusing on human judgment. Drawing upon data collected from AML experts through opinion polls and semi-structured interviews, supplemented by insights derived from existing literature, we introduce an integrated framework comprising decision models utilized by AML experts in assessing the risk of money laundering. Our aim is to unveil the guiding principles underlying AML experts' risk assessment decisions and pinpoint the specific factors influencing their decision-making processes.

The subsequent sections of the paper are organized as follows. The Theoretical Background section explains the theory guiding this research, specifically the money laundering risk assessment framework and the role of expert judgment within this framework. The Method section describes the methodological framework used in our study, followed by the research findings in the Results section. Finally, the Discussions and Conclusions section concludes the paper with a discussion of the findings, the contributions of our work to both theory and practice, and directions for future research.

Theoretical Background

Money Laundering Risk Assessment

Money laundering, the concealment of illicit financial gains to appear legitimate, has evolved from the historical association with drug trafficking to encompass a range of contemporary criminal activities, including corruption, human trafficking, and terrorist financing (Ramos & Ashby, 2013; Rusanov & Pudovochkin, 2021; Taylor, 1992; Unger et al., 2006). This criminal practice not only fosters various illicit activities but also undermines economic growth and efficiency globally. Estimates from the United Nations suggest that approximately 2.7% of the global GDP is laundered annually (Dobrowolski & Sułkowski, 2019; Gillespie, 2003). Despite concerted efforts to combat it, money laundering remains a dynamic and elusive adversary, necessitating robust collaboration between public and private sectors (S. Gao & Xu, 2009). Governments require banks and private entities to report suspicious transactions as a way of combating money laundering (Berg, 2020).

The AML requirement emphasizes the critical importance of AML experts in assessing money laundering risk as a means of safeguarding both individual financial institutions and the broader financial system from illicit financial activities (Ferwerda & Reuter, 2019). AML experts encounter a daunting obstacle in risk assessment as they have limited visibility to identify illegal activities that yield laundered funds through monetary transactions. Figure 1 illustrates a well-established three-stage model that serves as a cornerstone in scholarly discourse (Cindori et al., 2013; Levi & Soudijn, 2020). The model encompasses placement, layering, and integration where the placement stage involves introducing illegal proceeds into the financial system through methods such as cash deposits or structured transactions. Subsequently, in the layering stage, funds undergo complex transactions across multiple accounts and jurisdictions to obscure their illicit origins. Finally, in the integration stage, laundered funds are reintroduced into the legitimate economy.

Despite the established nature of this model, ongoing debate surrounds the relevance in light of the evolving landscape of global financial crime (Tiwari et al., 2023). For example, some scholars argue that traditional stages of placement and layering may no longer be crucial, as proceeds from unlawful activities are increasingly being used to compensate accomplices or fund additional illicit ventures (e.g., Levi & Soudijn, 2020). Others note that the current model places too much emphasis on cash, which is becoming obsolete due to new financial innovations like cryptocurrencies (e.g., Gilmour, 2023). Amidst this debate, financial institutions, as highlighted in prior research (Gordon, 2011; Mekpor, 2019), are inherently susceptible to inadvertently facilitating money laundering due to
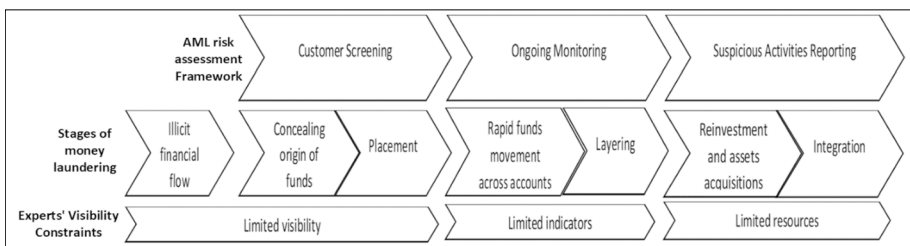

Fig. 1 Money Laundering Risk Response Framework

the inherent nature of their operations. To address this vulnerability, the Financial Action Task Force (FATF) has developed the customer due diligence (CDD) framework, assisting institutions in collecting pertinent information about customers and transactions to make informed decisions (Mugarura, 2014).

However, the distinctive risk assessment environment of CDD prompts critical concerns regarding the efficacy of risk estimation approaches. There are three main methodologies that are commonly used for assessing money laundering risks: rule-based, case-based, and risk-based approaches (Ross & Hannan, 2007). The rule-based approach utilizes formal criteria provided by AML regulatory authorities to predict risks (Dalla Pellegrina et al., 2020; Unger & Van der Linde, 2013). This approach utilizes existing risk knowledge as rules to infer new problems. The assessor determines if a financial transaction or case meets the definition of suspicious activity as outlined in the rule (Bellomarini et al., 2020). Rule-based reasoning is a deductive approach commonly used in the development of automated risk assessment applications (Chi & Kiang, 1991), but is often criticized for being inflexible and bureaucratic (Unger & Van der Linde, 2013) with propensity to generate an excessive number of erroneous suspicious activity reports (Dalla Pellegrina et al., 2020).

In contrast, the case-based approach, grounded in decision-making theory (Gilboa & Schmeidler, 1995), relies on analysing past successful cases to inform current decisions in money laundering trend analysis (Gao & Ye, 2007). The case-based approach applies an inductive reasoning approach that draws inferences for new cases based on the analysis of previous cases (Chi & Kiang, 1991; Watson, 1999), and precedent-based justification (Ashley, 1992). Case-based judgment hinges on experience, necessitating decision-makers with extensive expertise in money laundering activities (Ross & Hannan, 2007). However, excessive reliance on experience in areas of high uncertainty, such as money laundering risk assessment, may lead to dependency on weak cues during judgment (Ogbeide et al., 2023).

Conversely, the risk-based approach, now a contemporary standard, establishes a risk-defined profile targeting money laundering activities (Demetis & Angell, 2007). Unusual transaction behaviour, characterized by complexity, unusually high value, and deviation from known customer patterns, serves as a valuable indicator of criminal proceeds (FATF, 2014). The underlying assumption asserts that a greater prevalence of unexplained activities correlates with criminal behaviour rather than routine transactions (Axelrod, 2017). Despite the widespread adoption of the risk-based approach, concerns persist regarding the practical effectiveness for accurate judgment during money laundering risk assessment (Bergstrom et al., 2011; Demetis & Angell, 2007; Ross & Hannan, 2007). Continued interest in this topic is evident from recent literature (Cociug & Andrusceac, 2020; Gilmour, 2020; Ogbeide et al., 2023).

AML Expert's Judgment and the Risk-Based Decision-Making Paradigm

In the realm of assessing money laundering risks, human expertise plays a vital role within the broader risk management framework (Isa et al., 2015). AML experts utilize their acumen to differentiate between normal and abnormal financial transactions (Amicelle & Iafolla, 2018). However, the lack of complete visibility into the transaction cycle introduces uncertainty into decision-making processes (see Fig. 1). Despite this uncertainty, the judgments rendered by AML experts carry substantial consequences, potentially leading to convictions for negligence, regulatory sanctions, and financial losses (Rose, 2020). To navigate these complexities, integrating risk-based methodologies alongside expert judgment

emerges as a critical element in facilitating informed risk assessments of financial transactions (Maurer, 2005).

Governments' laws and regulations play a vital role in shaping and defining the AML programs that reporting agencies implement (Mugarura, 2014). However, legislative actions are influenced by the framework provided by the FATF's 40 recommendations (Sharman & Chaikin, 2009). These initiatives emphasize specific behavioural standards, such as the integrity and due diligence displayed during the relevant risk assessments (Black et al., 2007). In recent years, there has been a growing conversation around regulatory distortions that strongly impact the identification of suspicious activities, specifically in the area of risk categorization (Gelemerova et al., 2018). When categorizing risks within money laundering assessments, there is a potential for false positives and false negatives. These processes can also introduce systematic biases that may impact the judgments made by AML experts (Ogbeide et al., 2023).

AML experts may use pre-existing typologies and risk indicators integrated into their organizational frameworks to align their risk perception (Hernandez et al., 2019). Consequently, this approach may shift money laundering risk judgments from a rational process to an interplay of reason, emotion, trust, and context (Fedirko, 2021; Rubinson, 2010). This transformation highlights the complexity of decision-making, which is influenced by organizational structures and methodologies shaping the interpretation of facts and contexts. As a result, the integration of selective risk terminology in risk assessment may justify instances of discrimination and exclusion (Amicelle & Iafolla, 2018). This poses a challenge for AML experts in striking an optimal balance in risk judgment.

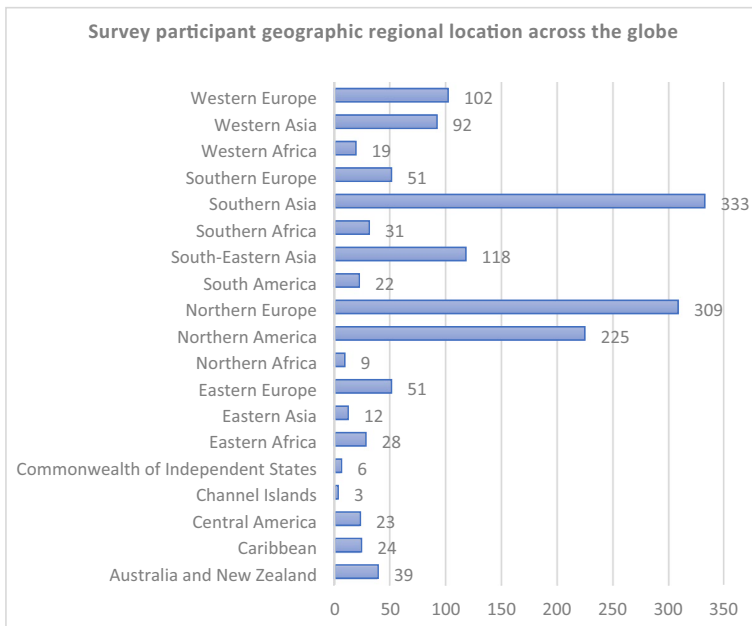### Striking the Balance During Risk Judgment

The literature highlights the pivotal role of internal policies and procedures as control instruments guiding decision-making (Van Duyne et al., 2018). For example, research indicates that well-defined and consistently applied policies contribute to standardized decision processes (Shrestha et al., 2019). In practice, many organizations adopt a hybrid approach, integrating both risk-based and rule-based elements to leverage their respective strengths (Naheem, 2020). This strategy allows organizations to be dynamic and adaptable in unpredictable risk environments while maintaining clear rules and procedures in areas requiring consistency and compliance (Black & Baldwin, 2012). However, despite the significance of organizational factors in shaping AML experts' risk estimates, challenges persist. These challenges include addressing human biases (Haffke, 2023; Ogbeide et al., 2023), navigating complex regulatory landscapes (Mugarura, 2020), and fostering a risk-aware culture (Carretta et al., 2017).

Assessing money laundering risk is a complex task that heavily relies on an individual's knowledge and expertise (Longworth, 2018). Factors such as industry knowledge, historical money laundering trends, and insights from past incidents all play a critical role in conducting a thorough evaluation and determining the level of risk (Fedirko, 2021). To enhance accountability, AML experts are encouraged to adopt a risk-based approach that empowers them with greater autonomy (Bergstrom et al., 2011). However, as noted by Van Duyne et al. (2018), "*the whole approach to AML has incorporated the human biases and social consensus about the precise nature, form and extent of the problem and has designed a response specific to the assumed nature and level of that threat, that suited the political decision makers beforehand*" (p.267).

Effective risk judgment involves understanding and balancing human, organizational, and regulatory factors. Understanding this multifactorial nature can inform the development of resilient risk management frameworks, enabling strategic decision-making amidst evolving money laundering risks. However, the dominance of each factor in experts' risk estimates remains unclear, varying across contexts, industries, and organizations. This paper aims to investigate the extent to which human, organizational, and regulatory factors shape experts' decisions and propose a theoretical framework offering a cohesive view of the decision-making process. Our conceptual risk assessment framework identifies the means by which experts establish evidence to justify money laundering risk threshold judgments.

Method

An AML expert is a professional who specializes in identifying, assessing, and mitigating the risks associated with money laundering. This typically involves both front-line officers who interact with customers and back-end staff, such as AML compliance officers, who analyse flagged cases for potential money laundering (Isa et al., 2015). This study focuses on those professionals within AML entities tasked with assessing money laundering risks daily, spanning both front-end and back-end operations. Our work employs a dual exploratory methodology, comprising expert opinion polls and semi-structured interviews. The opinion polls consist of five short polls, each featuring a single question, and are administered to 1,497 individuals involved in real-world AML risk assessments (see Fig. 2 for a breakdown of participants by geographical region).

Survey participant geographic regional location across the globe

Region	Count
Western Europe	102
Western Asia	92
Western Africa	19
Southern Europe	51
Southern Asia	333
Southern Africa	31
South-Eastern Asia	118
South America	22
Northern Europe	309
Northern America	225
Northern Africa	9
Eastern Europe	51
Eastern Asia	12
Eastern Africa	28
Commonwealth of Independent States	6
Channel Islands	3
Central America	23
Caribbean	24
Australia and New Zealand	39

Fig. 2 Participant by Regional Breakdown

Subsequently, semi-structured interviews are conducted with nine AML experts, covering the main themes that emerge from the analysis of the polls. This flexible approach allowed us to explore participants' perspectives and gain insights that help better understand the context of the opinion poll responses.

Opinion Polls

Opinion mining serves as a valuable tool for gaining insights into the collective thoughts and sentiments of a large group of experts (Chauhan et al., 2021). This method proves particularly advantageous when traditional quantitative data and formal theories exhibit limitations or inconsistencies (Kangas & Leskinen, 2005). In this study, the multifaceted role of AML experts within organizations spans various responsibilities, including compliance monitoring, reporting of suspicious transactions, training, legal matters, and customer due diligence. To ensure relevance to participants' specific roles and experiences, the survey instrument was strategically structured into five distinct sections, administered separately to facilitate focused engagement. The poll questionnaires were hosted on LinkedIn in 23 groups related to AML experts, ensuring a diverse and active participant pool.

We focused on analysing and comparing the impact of regulatory, organizational, and human factors on routine money laundering risk assessment. This study aimed to explore how these factors influence decision-making during risk judgment, using expert opinions. In terms of organizational factors, two key aspects selected that are likely to affect risk judgment are policy and the formalization of risk assessment frameworks, such as predefined money laundering indicators (Hernandez et al., 2019). On the regulatory factors, three critical factors are identified: cash intensiveness, regulatory compliance, and statutory interpretation, which are influenced by legislative factors (Demetis, 2010; Demetis & Angell, 2007; Hamstra et al., 2011). Another relevant factor under consideration is the human expertise and experience in assessing risks. Three factors were identified in this context: similarity with past money laundering crimes, previous decisions, and personal/cognitive factors (Busse et al., 2015; Sinha, 2014).

The poll results showed that different categories of questions received varying degrees of engagement (see Table 1). The participants were not required to answer all the polls, but were free to answer some or all of the poll questions. In total, participants from 109 countries took part in the survey. The highest number of participants came from Asia (37%), followed by Europe (35%), the Americas (20%), Africa (6%), and Oceania (2%). The study involved participants from diverse backgrounds in the AML regulatory sector, including a small number of regulators and law enforcement agents. This diverse representation aimed to enhance the study's credibility and relevance within the AML regulatory context. Of the total participants, 48.8% were from commercial banks, 19.8% from other financial institutions (such as micro-finance banks, institutional banks, credit institutions, etc.), 29.1% from non-financial institutions, and the remaining 2.3% from AML regulators.

In the second part of the data collection, we conducted semi-structured interviews on four key themes related to money laundering risk assessment: the effectiveness of risk assessments, the risk assessment process, factors influencing risk judgment, and opportunities for process improvement. Our main objective was to gain a deeper understanding of the perspectives of AML experts on making decisions related to money laundering risk assessments.

Table 1 Response rates for each of the 5 short poll questions

Surveys	Factors (R1 = Regulation, O2 = Organisation, H3 = Personal)	measurement	Response rate (Participants)
Poll 1. What context is most useful to form a reasonable belief that your customer transactions are potential instances of money laundering (ML)?	Cash intensiveness (R1) Recognition of ML indicators (O2) Similarity with past ML crimes (H3) Negative press report	The threshold for the forming of suspicion	490
Poll 2. What context is most effective to form a reasonable belief that your perceived risk of a transaction is consistent with absolute risk level?	Regulatory compliance (R1) Internal policy compliance (O2) Previous decisions (H3) Something else	Decision accuracy indicator	477
Poll 3. Which factor is the most dominant cause for differences in reasonable belief among AML practitioners to submit a SAR?	Statutory interpretation (R1) Organizational factors (O2) Personal factors (H3) Something else	Cause of decision disparity	250
Poll 4. The quality of your risk assessment decision is most influenced by what context?	Legislative factors (R1) Organizational policy (O2) Personal factors (H3) Something else	Key factor that influences decision outcome	344
Poll 5. What information is the most useful to form a reasonable belief that you know your customer?	Current valid passport Tax ID number Physical address Something else	The threshold for knowing your customer	576

Semi-Structured Interviews

The integration of semi-structured interviews and opinion polls was utilized to provide a comprehensive insight into the risk assessment factors (Husband, 2020; Ruslin et al., 2022). The semistructured interviews were a valuable tool in uncovering the factors that informed the expert opinions. From the initial pool of opinion poll participants, nine AML experts, with an average of 13.4 years of experience in such risk assessment roles within financial institutions (financial services provider engaged in retail and commercial banking), were identified for further exploration. These AML experts came from six different countries and were selected based on their expertise, geographic representation, and willingness to engage in the study. Our selection method ensured that the participants have a significant background in money laundering risk assessment within the commercial banking sector. We targeted individuals with extensive experience in this field to ensure that the insights gathered are highly relevant and applicable to the study's focus, considering the unique challenges and regulatory requirements associated with AML compliance in commercial banks.

Ethical considerations were prioritized to uphold participant rights and confidentiality. Informed consent was obtained from all participants prior to interviews, with measures implemented to safeguard anonymity and confidentiality. Ethical approval was obtained from the Northumbria University Ethics Board to ensure compliance with ethical guidelines. The study was conducted while maintaining ethical integrity, reflecting a commitment to the welfare of the participants and research integrity. For systematic data analysis, the researchers utilized the NVivo software, which helped in managing and analyzing the diverse data types. NVivo is invaluable in managing diverse data types, including unstructured text, audio, video, and image data from sources like interviews, focus groups, surveys, social media, and journal articles (Azeem et al., 2012). Each participant was individually identified by coding them as 'R' followed by a unique serial number generated by NVivo. The thematic analysis approach was employed, involving the assignment of codes as they emerged during analysis.
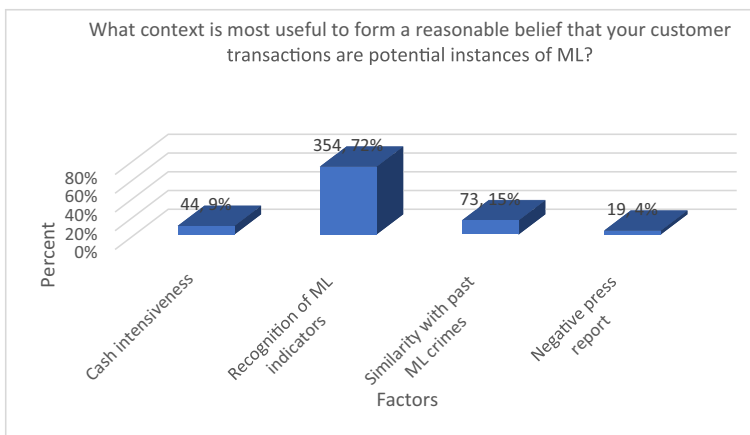
Results

Opinion Polls

Table 1 provides a summary of participant response rates and the specific polls employed to extract insights from AML experts. These short polls focus on five key dimensions of the money laundering risk assessment process. A distinctive feature of our polling methodology is the incorporation of the "something else" option in most of the poll questions. This intentional addition provides participants with the opportunity to contribute additional insights or highlight factors not explicitly outlined in the predefined options. By embracing this open-ended approach, our research methodology recognizes the multifaceted nature of such risk assessment processes (Riccardi et al., 2019) and seeks to capture a comprehensive range of perspectives from practitioners. The ensuing discussions explore the subtle dynamics and interconnected nature of organizational, regulatory, and human factors, highlighting their combined impact on decision-making in AML practices.

First, the study collected responses from a total of 490 participants who responded to the poll question, aiming to identify the 'most useful context for forming a reasonable belief that customer transactions may be potential instances of money laundering'. The participants were presented with options such as cash intensiveness, recognition of money laundering indicators, similarity with past money laundering (ML) crimes, and negative press report. In Fig. 3, the analysis of responses reveals a clear trend, with an overwhelming 72.2% of participants indicating that recognizing money laundering indicators is the most effective method for identifying potential money laundering in customer transactions. Further categorization based on participants' institutional backgrounds highlights consistent preferences across various regulated sectors. Specifically, more than 70% of respondents from each sector, including commercial banks (73%), other financial institutions (70%), non-financial institutions (73%), and AML regulators (69%), identified the recognition of ML indicators as the most influential factor shaping their suspicions.

An additional analysis based on participants' years of experience reinforces this trend. In most of the experience categories, over 70% of respondents expressed that recognizing money laundering indicators is the most significant factor influencing their suspicions. The breakdown includes participants with less than 5 years of experience (70%), 6–10 years (66%), 11–15 years (79%), 16–20 years (77%), and those with more than 21 years of experience (75%). Overall, the findings shows that the participants, despite coming from various institutional backgrounds and varying levels of experience, strongly agree on the importance of recognizing money laundering indicators to form reasonable beliefs about potential money laundering in customer transactions. However, the findings also suggest that relying solely on money laundering risk indicators, which are often based on historical data and known criminal behavioral patterns (Segovia-Vargas et al., 2021), may not be sufficient in identifying new money laundering techniques or adapting to changes in criminal laundering behavior (Demetis, 2010).

In the second poll question of the study, responses were collected from 477 participants who responded to the poll question: 'what context is most effective to form a reasonable belief that the perceived risk of a transaction is consistent with the absolute risk level?' The participants were presented with options such as regulatory compliance, internal policy

Fig. 3 Poll1 Results on Threshold for Forming a Suspicion of Money Laundering
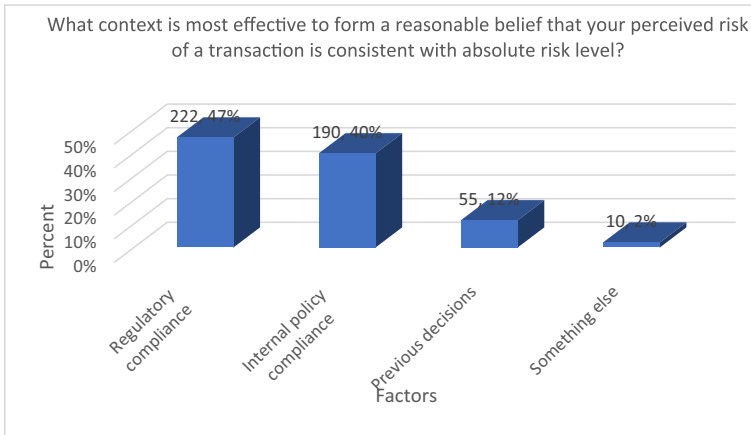
Fig. 4 Poll2 Results on Decision Accuracy Indicator

compliance, previous decisions, and a general "something else" option. In Fig. 4, 47% of experts believe that regulatory compliance is the most crucial factor in assessing accuracy, while 40% prioritize internal compliance within their organization's framework. Categorization based on institutional backgrounds further underscores these trends. Experts from commercial banks (50%), other financial institutions (41%), non-financial institutions (45%), and AML regulators (50%) predominantly identify regulatory compliance as the most crucial factor in determining the accuracy of risk assessment.

Additional analysis based on participants' years of experience reveals a statistically significant positive correlation ($r = 0.175$, $p < 0.001$) between the length of experience and the decision accuracy indicator. Regulatory compliance takes precedence for participants with 0–5 years of experience (50%) and 6–10 years of experience (41%). However, as experience grows beyond 10 years, the majority of participants consider compliance with company internal policies as the most important factor in assessing monry laundering risk, including 44% with 11–15 years of experience, 44% with 16–20 years, and 38% with over 20 years. Consequently, industry experience appears to guide experts toward aligning their decision-making accuracy with both regulatory and organizational perspectives. The findings demonstrate a remarkable level of stability in preferences for regulatory and organizational factors, establishing them as crucial indicators for decision-making in the AML field.

In the third poll question of the study, responses from 250 participants were collected to investigate the 'dominant cause for differences in reasonable belief among AML practitioners regarding the submission of suspicious activity reports (SARs)'. The findings, depicted in Fig. 5, highlight significant insights. In particular, statutory interpretation emerged as the primary reason, constituting 44% of the total responses. The findings suggest that a considerable number of participants in the study viewed variations in reasonable belief as being closely linked to differences in the interpretation of statutes. This implies that the way in which a particular statute is interpreted can significantly influence an individual's understanding of what constitutes a reasonable belief. It is worth noting that this observation held true across a range of institutional backgrounds, indicating that AML experts from diverse backgrounds share this perspective. Notably, it was identified as the main reason for variations in reasonable belief among AML experts from commercial banks (41%),

Which factor is the most dominant cause for differences in reasonable belief among AML practitioners to submit a SAR?
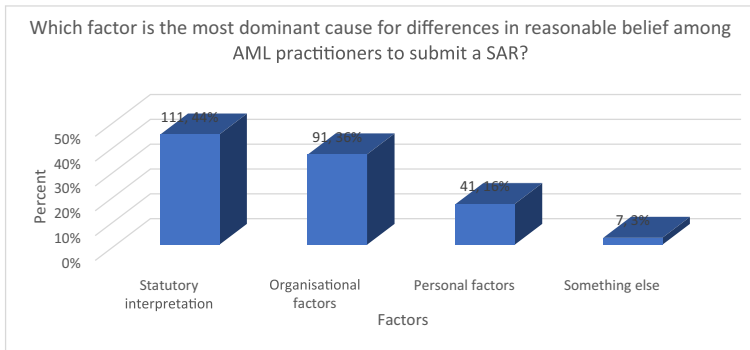
Fig. 5 Poll3 Results on Dominant Causes of Decision Disparity Among AML Professionals

other financial institutions (49%), and non-financial institutions (48%). Regulators, on the other hand, indicated an equal proportion (40%) for both statutory interpretation and organizational factors.

An analysis based on participants' years of experience reveals that statutory interpretation consistently stood out as the most frequently cited factor contributing to differences in reasonable belief across all experience groups. This includes participants with less than 5 years (42%), 6–10 years (43%), 11–15 years (52%), and those with more than 21 years of experience (54%). In the 16–20-year experience group, both statutory interpretation and organizational factors were equally important, each accounting for 39% of the responses. The findings suggest a notable consistency in identifying statutory interpretation as a key factor contributing to differences in reasonable belief among AML experts, irrespective of their institutional background or years of experience. This highlights the crucial need to approach statutory interpretation with care, ensuring that individuals from diverse backgrounds can arrive at a common understanding of the law. Several key factors (complexity of regulations, jurisdictional variations, guidance and enforcement practices, risk tolerance and organizational culture) may contribute to variation in statutory interpretation, and some of these factors were clarified during the semi-structured interviews.

In the fourth poll question of the study, responses were collected from 344 participants to explore the poll question: 'the quality of risk assessment decision is most influenced by what context?' The results, illustrated in Fig. 6, indicate that the majority of respondents (54%) identified organizational policy as the most influential factor in determining risk judgment outcomes. Further categorization based on participants' institutional backgrounds reveals consistent preferences across various regulated sectors. Specifically, 58% of respondents from commercial banks, 48% from other financial institutions, and 54% from non-financial institutions highlighted organizational policy as the most influential factor in these risk assessment decisions.

An additional analysis based on participants' years of experience reinforces this trend. In most experience categories, over 50% of respondents expressed that organizational policy is the most influential factor in determining risk judgment outcomes. The breakdown includes participants with less than 5 years of experience (47%), 6–10 years (57%), 11–15 years (56%), 16–20 years (64%), and those with more than 21 years of experience (52%). These findings underscore a consistent preference for organizational policy as the most significant influence in determining the outcome of risk assessment decisions across

Fig. 6 Poll4 Results on Key Factors Influencing Quality of Risk Assessment Decision

participants with diverse backgrounds and lengths of experience. The result appears consistent with the expectation of this research work, since entities subjected to the AML regulations are required to have in place a documented set of AML internal policies, controls, and procedures, including policies for addressing non-compliance issues (Ai, 2012).

In the fifth poll question of the study, responses from 576 participants were collected to investigate 'what information is the most useful to form a reasonable belief that they know their customer?' The findings, depicted in Fig. 7, highlights valuable insights. A significant majority of AML experts surveyed, 64%, identified a 'current valid passport' as the most useful document for customer identification. Further analysis across institutional background reveals consistent preferences across various institutional backgrounds. Participants from commercial banks (64%), other financial institutions (73%), non-financial institutions (63%), and AML regulators (54%) across all sectors picked 'current valid passport' as the most useful evidence to form a reasonable belief that they know their customers. Similarly, across various experience categories, a current valid passport is consistently the most valuable form of evidence for KYC. Over 60% of respondents expressed this
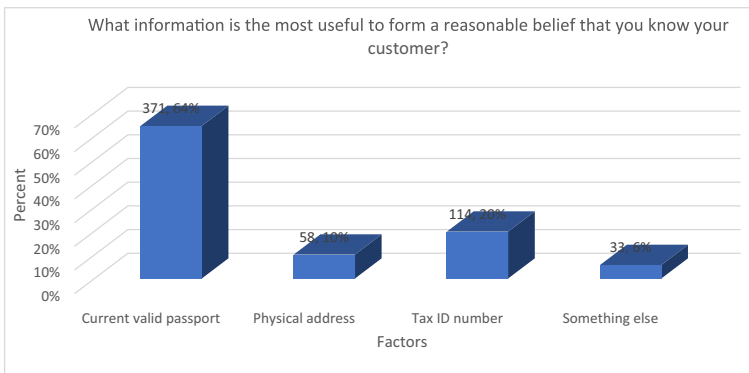

Fig. 7 Poll5 Results on Threshold for Knowing Your Customer

preference, including participants with less than 5 years of experience (70%), 6–10 years (63%), 11–15 years (63%), 16–20 years (61%), and those with more than 21 years of experience (61%).

The poll result highlights a strong consensus among AML experts regarding the significant value of a valid passport in forming a reasonable belief about knowing the customer. While we have anticipated that tax-related information would be more relevant in understanding the economic circumstances of a customer, the preference for a valid passport by participants in this study challenges initial expectations. AML regulated entities face stringent regulatory requirements concerning customer identification and AML efforts. Accepting a valid passport as a form of identification not only aligns with international standards but may also serve as evidence of compliance with these regulations. The results of the poll questions were utilized in creating the semi-structured interview tool, indicating the practical significance of these findings in shaping the subsequent phases of the research.

Interview Analysis Results

The results of the interview data analyses are reported under six subheadings: 1) Risk assessment framework; 2) Customer due diligence; 3) Risk assessment tools; 4) Screening for suspicious transactions/activities; 5) Geographic risk; 6) Suspicion, uncertainty and doubt. These are discussed next.

Risk Assessment Framework

During the analysis of data obtained from semi-structured interviews with AML experts, the theme pertaining to the risk assessment process emerged as the most prominent, garnering the highest number of coding segments. The participants highlighted the significance of adhering to established guidelines and procedures during money laundering risk assessment. They all mentioned during the interview that their organization's risk assessment manuals incorporate relevant AML regulations. Many participants (78%) emphasized that banks enforce stringent risk assessment procedures that are mandatory for every employee. In fact, one of the participants (R4) emphasized that "*there are lay down processes (i.e., rule-based policies and procedures) that everybody goes through for their risk assessment*". This observation resonates with earlier research findings (e.g., Cindori et al., 2013; Hood, 2010) that characterize the money laundering risk assessment system as rule-based, requiring all stakeholders to adhere to explicit and strict rules in accordance with legal requirements.

Although taking a stringent approach to risk management is commendable, further analysis indicates a gap in translating procedural directives into effective money laundering risk assessment practices. For example, most of the participants (e.g., R1, R3, R4, R5, R6, R8, R9) stated that this approach imposed additional burdens on them. They believed these burdens ultimately led to benefits, such as enhancing their reputation or avoiding the reputational risks associated with failing to meet the procedural requirements outlined in their organization's risk management policy documents. However, this approach may result in a failure to detect truly suspicious money laundering related transactions while focusing too much on legitimate transactions that require less scrutiny. As a result, a large number of low-quality intelligence reports may be generated and shared with financial intelligence units. This undermines the fight against money laundering.

Customer Due Diligence (CDD)

The participants in the study agreed that the main objective of CDD is to assess the initial level of money laundering risk associated with each customer. One participant (R2) pointed out that during customers account onboarding process, customers are asked to complete a questionnaire, and their responses to these questionnaires are used to determine their risk levels. These risk levels are assigned based on preconceived risk profiles that reflect the risk tolerance or risk appetite of the organization conducting the assessment. This indicates a meticulous approach to customer profiling, where not all information is treated equally, and some responses are given more importance than others based on their weightage. According to some of the participants (e.g., R3, R6), institutions regulated by AML laws commonly use an interactive tool for calculating risk. This tool takes into account various parameters such as customer location, the products and services offered, and whether the customer is a politically exposed person (PEP). Such tools enable a systematic and data-driven approach to assess and quantify the risks associated with each customer.

One of the participants (R7) emphasized the importance of verifying all customer data collected and ensuring that all necessary steps are taken to complete the process. According to this respondent, personally identifiable data collected from customers must be verified internally. Two participants (R8, R9) mentioned that there are usually policies or statements that govern CDD activities. This helps in maintaining consistency and adherence to regulatory requirements. For example, banks often use a CDD checklist document to streamline the screening process for new customers during the account onboarding stage (R4, R5). This document helps make a unified decision on profiling customers' risk levels and determining whether they should be classified as high or low risk. Most of the participants described effective CDD as a comprehensive process where all necessary steps are taken, and all relevant criteria are satisfied. In fact, one of the participants (R8) specifically noted that satisfaction is achieved "*when you have ticked all the boxes*".

These findings suggests that financial institutions rely on CDD procedures as the primary means of preventing money laundering activities. However, it was found that most AML-regulated institutions only implement the minimum CDD practices required by regulations to avoid sanctions. This finding is consistent with an earlier suggestion by McLaughlin and Pavelka (2013). Additionally, the analysis shows that gathering comprehensive and up-to-date data on customers, transactions, and other key factors can be challenging. Poor data quality or insufficient data can lead to flawed risk assessments (Binder & Schumacher, 2014). When faced with incomplete data, the participants agreed that subjective assumptions become a viable tool. However, subjective risk assessment can lead to inconsistencies in decision-making and compromise the accuracy of decisions (Xin et al., 2024).

Risk Assessment Tools

The majority of the participants (60%) emphasized the necessity for banks to leverage technology, particularly software, in client screening during risk assessments. They highlighted the critical importance of ensuring the software's proper functionality in this process (e.g., R1, R2, R3, R6, R7). According to R5, banks use predefined rules in their monitoring systems during transaction screening and account onboarding stages. These rules are generated based on triggers provided by the country's central or reserve bank, as well as

internally generated rules (R1). All participants agreed that monitoring systems are configured to flag any unusual transactions that fall outside the customer's risk appetite. These flagged transactions are then subject to further manual review by designated officers (R1, R4). Some participants (e.g., R1, R2, R6) also mentioned that automated monitoring solutions significantly help improve risk assessment efficiency.

All participants noted that the use of technological resources can assist in simplifying certain aspects of risk assessment, resulting in more efficient decision-making. However, the analysis reveals that institutions regulated by AML have varying degrees of access to technological resources. For example, one of the participants (R2) noted that while larger institutions may have the necessary tools to track and assess risks in ongoing operations or transactions, smaller companies may not have access to all the required tools. For entities with limited access to technological resources, one of the participants (R4) noted that "*You are going to base your judgment on your intuition, geographical location, hearsay, or your knowledge about the person. Perception now forms the basis of your judgment*". The study participants frequently pointed to budgetary constraints and proximity to technology centres as the predominant factors influencing the varying levels of access to technological resources among institutions. When certain organizations encounter technological barriers that prevent the implementation of robust AML measures, there is a concern that the fight against money laundering may become fragmented, enabling criminals to launder funds through less rigorous channels.

Screening for Suspicious Transaction/Activity

According to one of the participants (R3), the level of experience of a compliance officer is crucial in determining what is truly suspicious, as they have access to useful tools that may not be available to branch staff. Respondent (R1) describes the screening process flow as "*there are specific sections, checkboxes, and triggers used to identify if something is a repeated occurrence*". That is, some checklists can be followed throughout the entire risk assessment of a transaction (R2). Respondents (R1, R5, R9) stressed that the screening process for suspicious transactions or activities primarily centres on aligning financial transactions with predetermined money laundering risk indicators. This alignment serves as crucial evidence justifying the suspicion. To achieve this, institutions must have both a suitable monitoring solution and staff with the necessary skills and knowledge (R3).

Identifying suspicious transactions or activities is subjective and depends on the information available (R5, R9). In fact, one of the participants (R8) noted "*when I don't have complete information, it makes me highly suspicious of that person (customer) and their transactions*". Similarly, another participant (R5) noted that "*to be honest with you, AML topic like in terms of making judgment is subjective. It ultimately depends on the individual making the decision*". AML experts have a sense of intuition that allows them to recognize patterns that may be concerning (R6). A customer transaction becomes suspicious when the inflow of funds does not align with the nature of the business (R5). One participant (R2) emphasizes that certain red flags immediately raise suspicion, such as inconsistencies between the transaction description and the actual transaction, or errors in the transaction request form. However, during money laundering risk assessment, it is appropriate to contact customers through their relationship managers to clarify any unusual activities (R5).

The findings in this section also reveal some subjective biases in decision-making during money laundering risk assessment. Here, the operating environment subtly compels risk judgment to be influenced by overly conservative risk assessments. In an attempt to

err on the side of caution, the participants displayed evidence suggesting that they apply a blanket approach and flag transactions or activities as potentially suspicious, even if they lack clear indicators of illicit behaviours. This cautious approach can result in a higher rate of false positive reports, placing strain on compliance resources that undermine the overall effectiveness of AML efforts.

Geographic Risk

During the risk assessment procedure, the participants emphasized the importance of understanding and evaluating the geographic location of customers. This is due to the fact that AML measures differ across various jurisdictions, which leads to a geographic risk (R3) that should be taken into consideration. This indicates a recognition among experts that the regulatory and enforcement landscape of a country can significantly impact the risk associated with customers and transactions from that location. According to respondent R4, they prioritize significant resources in screening customers and transactions from countries designated as high-risk by FATF. For example, respondent R4 explained that if an inflow of money comes from a designated high-risk country and is followed by another inflow from a perceived low-risk country, the questions asked about the transactions originating from the high-risk country could become so intense that one may start to doubt whether any good business can come from designated high-risk countries. On the other hand, transactions originating from perceived low-risk country are considered acceptable.

Respondent (R7) noted that simply hearing the geographical location of some high-risk countries automatically raises concerns about terrorism financing. R6 stated: "*I believe we are all fearful of our legislation because it dictates our actions. If a person is born and resides in a high-risk area, they should be considered high-risk. It is assumed that the institutions in that area lack proper AML safety controls, which is why they are included on the list. At the end of the day, even after conducting a thorough review, I would still lack confidence in the documents I have received. It is challenging to explain because I have clients from high-risk jurisdictions*". Overall, the findings underscore the complex interplay between geographic risk, regulatory frameworks, and risk perceptions among experts involved in risk assessments.

Participants' responses provided valuable insights into the money laundering risks that are associated with geographical risk assessments. However, there were some indications that there might be discriminatory practices during risk judgment. AML experts tend to rely on pre-existing risk perceptions about certain regions which may lead to confirmation bias. Confirmation bias is the tendency to look for information that supports existing beliefs while disregarding information that contradicts them (Kappes, et al, 2020; Peters, 2022). Biases can impact the quality of judgment by strengthening preconceived notions and disregarding important risk factors (Kassin, et al, 2013). Therefore, it can create a misleading sense of security among decision-makers in the realm of money laundering risks, leading them to undervalue risks in certain regions or overemphasize risks in others. This can lead to complacency and inadequate risk mitigation measures, which can compromise the quality of judgment and leave institutions vulnerable to financial crime.

Suspicion, Uncertainty, and Doubt

Respondent R6 acknowledges the role of intuition but highlights the challenge of making definitive judgments without sufficient evidence, sometimes feeling pressured to merely

"*tick the box*". According to respondent R9, "*if my instincts and the information gathered do not give me complete assurance that the transaction is genuine, I will file a suspicious transaction report (STR). Even though the information provided is not directly linked to money laundering, [and] I am still not convinced of the transaction's authenticity, I believe it would be safer for me to file STR and be on the safer side with the regulators*".

All respondents strongly believe in the importance of reporting any transaction they do not fully understand. In some cases, they even report unusual transactions despite receiving satisfactory evidence from the customer. For example, R1 stated that "*I will send to the regulator, if I think it is still suspicious because it is the responsibility for the regulator to complete the investigation*". However, respondent (R2) noted that "*when I choose not to report, I always include a document in the client account that outlines the entire process and all the checks I have conducted on the transaction. This document explains why I am confident that the transaction aligns with the customer's activity and is legitimate.*"

These findings highlight the complex decision-making dynamics and the meticulous processes involved in risk assessments. High-profile decision-making settings, such as those involving subjective customer risk determinants, often create uncertainty for AML experts when making judgments. In face of uncertainty, experts may be more inclined to make judgments necessary to protect their organizations against sanctions or fines as well as the risk of practitioners engaging in defensive practices.

Discussions and Conclusions

Upon retrospective analysis, it becomes evident that money laundering risk assessment is not always a linear and conclusive process (Fedirko, 2021). Given the subjective nature of money laundering detection and the absence of physical indicators (Sinha, 2014), understanding the motives and considerations that inform experts' risk assessments is paramount. Therefore, this study aimed to identify the guiding principles underlying experts' decisions and explore the specific factors influencing their decision-making processes. The conclusions drawn from our investigation are delineated below.

First, respondents in our study regarded money laundering indicators as the most useful evidence for identifying potential money laundering crimes in customer transactions. This perception was shared across all respondents, irrespective of their tenure in the industry. The absence of physical indicators underscores the significance of risk indicators generated through motivation, reasoning, and the definition of normal and abnormal transactions. While supervisory bodies sometimes provide sets of indicators, their involvement may lead to an administrative definition of normality and abnormality (Zavoli & King, 2021), diverging from the risk-based approach advocated by FATF (FATF, 2014). Despite providing clarity to decision-makers, administrative definitions may foster an over-reliance on predefined criteria in a sanction-driven compliance environment. This could result in the misclassification of legitimate transactions as suspicious, elevating false positive rates in AML systems. Also, a static definition may fail to capture emerging trends or sophisticated evasion techniques, as money launderers proficiently adapt their tactics to evade detection.

Second, AML experts tend to align their risk assessments with perceived regulatory frameworks, often favouring risk assignment without individual interpretation when parameters are well-documented and widely accepted. In fact, respondents prioritize written procedures and policies in risk assessments, emphasizing a tendency towards box-ticking rather than case-by-case judgment, even when economic rationality would

suffice. Despite the emphasis on written procedures and policies in risk assessments, this approach may lead to a false sense of security among experts, fostering complacency towards money laundering risks. Although regulatory guidelines play a central role in the AML experts' risk assessment processes, the more experienced experts tend to adjust their perception of risks to comply with their organization's specific standards or requirements. This adjustment may suggest a refinement in their ability to make accurate decisions regarding risk assessment.

Thirdly, insights gathered from our interviews suggest that transactions originating from countries designated as high-risk by FATF may indeed carry a risk of money laundering due to less stringent AML measures in place. This practice reflects a visible implementation of the theoretical foundations (FATF, 2014; Sharman & Chaikin, 2009) laid out by FATF recommendations. However, indications of discriminatory practices during risk judgment were also observed, as AML experts often rely on pre-existing risk perceptions about certain regions, potentially leading to confirmation bias. Even though AML experts may adopt this cautious approach to prevent non-compliance issues during money laundering investigations, this may also result in automatic exclusion of customers or entities from specific financial services, which could be unfair and unjust. Therefore, AML experts should adopt a more comprehensive and holistic approach to risk assessment, taking into account all available information, including the specific circumstances and context of each transaction, to ensure that they comply with AML regulations while also avoiding discrimination or unjust treatment of customers or entities.

Finally, we propose a comprehensive risk assessment and decision-making framework, outlined in Fig. 8, to shed light on mediating strategies employed by AML experts during risk assessment. This framework incorporates guidance and criteria from relevant literature on suspicious transactions (Lannoo & Parlour, 2021; McLaughlin & Pavelka, 2013; Mugarura, 2014), money laundering indicators (FATF, 2014; Pocher & Veneris, 2021), risk assessment approach (Amicelle & Iafolla, 2018; FATF, 2014; Ross & Hannan, 2007), outliers assessment (Demetis, 2010; Hawkins, 1980; Raza & Haider, 2011; Zhu, 2006), and context (Amicelle & Iafolla, 2018; Vigh, 2018). The framework reflects the diverse pathways used by AML experts to make informed risk judgments. Through our research that included short poll questions and semi-structured interviews
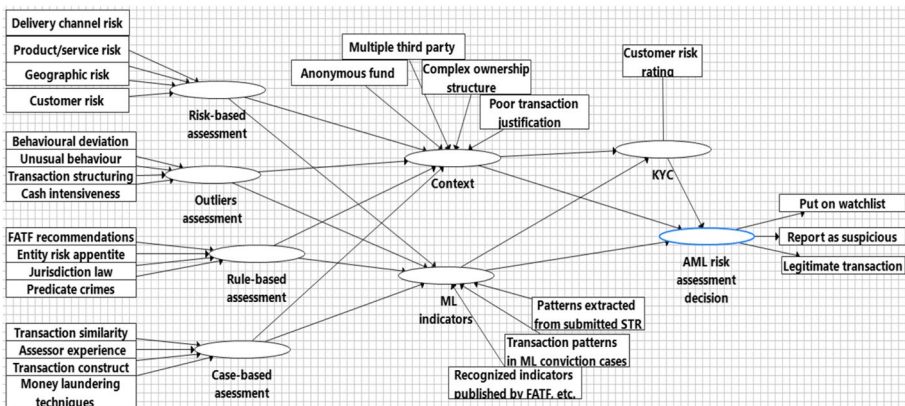

Fig. 8 An Integrative View of the AML Risk Assessment Decision Model

with AML experts, we refined the framework to reflect the factors that influence decision-making processes encapsulating money laundering risk judgment.

The framework consists of three main components: KYC (know your customer), ML (money laundering) indicators, and context. These components are interlinked and not distinct. The KYC component involves assessing the authenticity of provided identification documents and corroborating customer information through reliable sources to arrive at a perceived customer risk rating. Under ML indicators, various factors (including transactional patterns, customer behaviours analysis, and regulatory compliance history) are considered. Finally, context involves the assessment of identified transaction structures, justifications, and ownership structures based on their severity, likelihood, and potential impact on the institution. Overall, in evaluating these three main components, AML experts use case-based analysis, rule-based criteria, risk-based analysis, and outlier detection techniques to enhance their understanding of customer behaviours and to identify potential risks.

Implications for Practice and AML Related Policies

The study's findings unveil critical concerns regarding the efficacy of suspicious activity reports (SARs) within the AML framework. First, the results reveal a potential bias among AML experts towards overly conservative risk judgments, influenced by external pressures. These pressures may stem from the fear of regulatory scrutiny or fines, compelling experts to err on the side of caution and report activities as suspicious even when not warranted. Consequently, this inclination can result in a proliferation of false positives, undermining the quality and reliability of SARs, thus impacting law enforcement activities significantly. SARs serve as pivotal instruments for intelligence and investigative purposes by law enforcement agencies (Sharman & Chaikin, 2009; Takats, 2011). However, a high volume of SARs, driven by a culture of conservative risk assessment, may misguide law enforcement efforts. Law enforcement agencies may allocate resources based on SAR volume, assuming a higher volume correlates with increased money laundering activity (Amicelle & Iafolla, 2018). However, the prevalence of false positives could redirect resources away from genuine cases, inhibiting effective investigations and potentially hindering the pursuit of justice.

There is also another concern arising from the reliance on templates for CDD documentation by banks for risk assessment. This practice raises doubts about the accuracy and comprehensiveness of the information provided, hindering AML experts' ability to conduct thorough risk assessments. While templates can enhance efficiency, their rigidity and potential oversimplification pose inherent risks (Saukkonen et al., 2018). AML experts must strike a delicate balance between leveraging templates for efficiency gains and employing their expertise to address the dynamic and complex nature of money laundering risks effectively. These findings highlight the need for a balanced approach to AML practices, emphasizing the importance of mitigating biases in risk assessment, enhancing the accuracy of customer information, and fostering a culture of flexibility and expertise among AML experts. Only through such measures can the AML framework evolve to effectively combat the dynamic challenges posed by money laundering activities.

In conclusion, we recommend that AML stakeholders in organizations and regulatory bodies take specific actions to promote flexibility and discretion in risk assessments while ensuring regulatory compliance. The risk-based approach should be extended to adopt a contextual analysis framework, rather than focusing on predesignated risk profiles. For

example, there should be more focus on understanding transaction specifics such as the trust dynamics that exist in any given transactions. Assessing the levels of trust and reliance among individuals involved in transactions can highlight vulnerabilities to manipulation or exploitation for money laundering purposes. This approach may allow for greater flexibility in decision-making while still ensuring compliance with regulatory requirements.

Limitations and Future Studies

Future investigations are needed to validate the proposed framework by assessing the interrelationships among the variables outlined in Fig. 8. If validated, this framework has the potential to significantly enrich both theoretical understanding and practical implementations of human judgment in AML, thereby bolstering decision-making processes and fortifying strategies for more effective risk management.

Another avenue for future research lies in exploring the utilization of emerging technologies, such as distributed ledger systems (DLS), as a solution for assessing AML risk. DLS, an innovation related to blockchain technology, ensures data integrity, and holds promise for enhancing data integration and intelligence sharing among AML stakeholders (Wong et al., 2023). By leveraging a distributed ledger, customer background and identification information from various sources can be securely stored on a single blockchain network. This comprehensive financial transaction trail may facilitate informed judgment during the CDD process and enable effective monitoring of transactions for potential money laundering activities. The application of distributed ledger technology in money laundering risk assessment presents a compelling venue for future exploration.

Declarations

Conflicts of interest The authors have no conflicts of interest to declare. All co-authors have seen and agree with the contents of the manuscript and there is no financial interest to report. We certify that the submission is original work and is not under review at any other publication.

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