Factors Reducing Money Laundering to Strengthen the National Security of Bangladesh

S. M. Zobaer Alam[1]

[1]Associate Professor, Department of Business Administration – General, Bangladesh University of Professionals, Mirpur Cantonment, Dhaka-1216, Bangladesh

ABSTRACT

Money laundering is a critical global issue undermining financial integrity and national security by legitimising proceeds from criminal activities such as draft trafficking and terrorism. This paper studies the complexity of combating money laundering in Bangladesh, highlighting the economic and security threat it poses. The study investigates key factors including focusing on intense monitoring, adoption of communication technology, coordination among bordering agencies and convenient banking channels that reduce money laundering. A sample of 517 government officials involved in anti-money laundering efforts, data was collected through a structured survey and analysed using SmartPLS and SPSS25. The findings indicated intense monitoring and advanced communication technology substantially reduce money laundering while coordination among agencies showed less significant impact. Convenient banking channels also proved effective in mitigating money laundering operations. This paper underscores the requirement for solid monitoring mechanisms and inter-agency coordination to put a bar on money laundering. This paper also discusses the rapid growth of the digital economy as a new challenge for strategies. Moreover, the research provides valuable insight for policymakers and financial institutions, focusing on a comprehensive and coordinated approach. Future researchers need to consider broader stakeholder involvement, explore additional influences, and adopt a longitudinal approach to account for technological and regulatory change.

Keywords: *Money Laundering, intense monitoring, adoption of communication technology, coordination among bordering agencies and convenient banking channel*

1. INTRODUCTION

Money laundering is a pervasive global problem that significantly undermines the financial system's integrity and creates trade for national security. It works in the process of making large amounts of money generated by criminal activities such as drug trafficking or terrorist funding that appear to have come from legitimate sources [1]. The repercussions of money laundering extend beyond the financial sector, including effective economic stability, social structure, and national security [2]. International bodies such as the Financial Action Task Force (FATF) have developed a comprehensive anti-money laundering Framework to combat global money laundering [3]. In Bangladesh, money laundering is specifically critical due to its economic and national security implications. Bangladesh's financial system has historically been susceptible to different forms of financial crimes that include money laundering and terrorist financing. The Financial Action Task Force (FATF) has positioned Bangladesh under enhanced monitoring several times, urging the country to solidify its anti-money laundering regulation. These susceptibilities are exacerbated by factors such as weak regulatory oversight, high levels of corruption and insufficient technology enforcement of anti-money laundering policies [4]. The Bangladeshi government has taken substantial steps to address these challenges and improve the enactment of the Money Laundering Prevention Act (MLPA) in 2002, which was later amended in 2012 to strengthen its effectiveness [5]. Establishing the Bangladesh Financial Intelligence Unit (BFIU) within the central bank is another critical measure to improve the detection and reporting of suspicious financial activities [6]. Despite the support, money laundering remains a substantial issue, signifying the need for a comprehensive and coordinated approach to combat these threats efficaciously.

The primary challenge in preventing money laundering in Bangladesh is the complexity of the financial system and the sophistication of the laundering technique. The criminals exploit gaps in the regulatory framework and utilise advanced technology, making their illicit fund transactions ambiguous. The situation is compounded by the rapid growth of the digital economy, which introduced risks and challenges to the anti-money laundering strategy [7]. These challenges stabilise the financial sector, create a substantial strip to national security, and exacerbate financial disparity, facilitating terrorism financing and other forms of organised crime [8]. The primary research question for the study is: what are the key factors that reduce money laundering, and how do they mitigate the threat to the national security of Bangladesh? The study aims to identify and examine key factors contributing to the reduction of money laundering in Bangladesh. This paper also endeavours to evaluate the impact of this factor on mitigating money laundering efforts. Extensive research has been less on money laundering and the major to combat it. While existing literature offers valuable insight into interior laundering measures, there is a lack of focus research on the impact of specific factors such as monitoring, adoption of communication technology, coordination among bordering agencies, and convenient baking channels reducing money laundering in Bangladesh. The paper focuses on filling the gap by providing a detailed analysis of these factors and outlining actionable suggestions for policymakers.

2. LITERATURE REVIEW AND DEVELOPMENT OF CONSTRUCTS

2.1 Money Laundering

Money laundering is the consignment and transfer of funds from one source to another. Money laundering is specified as the consummate of originally captured money and the subsequent attempt to convert that money into legal money [9]. There are two methods for laundering money. The initial method of money laundering is the use of legitimate corporate companies. While illegally obtained funds are concealed in such estimate organisations as part of entities' legal earnings and revenues. The second is the utilisation of financial institutions [10]. Money laundering operations cause or threaten harm, therefore justifying prosecution, and money laundering creates a substantial gap for a country [10]. The majority of illegal acts are criminal in nature and do not include civic wrongdoing. Money launders can transfer illegal gains abroad more quickly and safely due to the development of technologically advanced modes of transportation and advanced financial transaction systems insurance of the process and protecting themselves from suspicion, investigation, and seizure [11]. Money laundering is a big issue for any country's economy, regardless of status. According to Morshed and Rahman [12], money laundering crime has increased substantially over the years in Bangladesh. The authors added that based on the ranks of Global Financial Integrity, the total amount of money laundered from Bangladesh in the last ten years was 6500 billion taka [13]. According to the Basel AML Index 2020 report, Bangladesh ranks 38 among 141 countries, with a score of 5.88. According to Global Financial Integrity's most recent report, around 18% of Bangladesh's total trade value is off-balance with all the trading partners [14].
According to the 2023 United Nations Office on Drugs and Crime report, around Tk 51.47 billion is laundered annually through the drug trade in Bangladesh, with the highest amount of Tk 3.05 billion when on phensedyl. The report also states that yaba purchased from Myanmar accounted for Tk 11.05 billion, heroin for Tk 6.62 billion, and injectable drugs for Tk 6.75 billion [15]. According to the Department of Narcotics Control, the investigation was hampered by a lack of training and directors on money laundering, making it difficult to identify perpetrators The Bangladesh Economic Association (BEA) The accumulated money laundering from FY1972-73 to FY2022-23 is estimated at Tk1,192,815 crore [16].

2.2 Intense monitoring through government intelligence agencies

An authorized agency under Home Ministry is designated and empowered by the government to manage specific tasks. Often referred to as an appointed authority, these agencies are a permanent part of the government structure, overseeing and administering particular functions [7]. Different agencies have essentially distinct roles based on departments, ministries, and other government-established public bodies. An agency role is an executive, and many serve in advisory capacities. In Bangladesh, different agencies and units within Bangladesh police work to combat money laundering and related offenses. The term intelligence community encompasses the diverse security and intelligence agencies dedicated to safeguarding the nation's internal stability and external security. Since Bangladesh's independence in 1971, successive governments have established four primary categories of intelligence agencies, frequently overlapping responsibilities. These categories include 1) national security, 2) defence services, 3) law enforcement, and 4) financial crime. The fourth group of intelligence focuses on analysing financial crime [17]. This involves the Bangladesh Bank (BB) and National Board of Revenue (NBR) taking on the road in collecting intelligence. The Bangladesh Bank functions as the central bank and monitor authority in Bangladesh, while the National Board of Revenue serves as the country's primary tax administration. Historical financial crimes like money laundering and terrorism financing received little attention until 2002 when a new money laundering law was enacted.

This legislation was late in establishing the Anti-Money Laundering Department (AMLD) within the central bank [18]. Later, in 2012, the Anti-Money Laundering Department (AMLD) was rebranded as the Bangladesh Financial Intelligence Unit (BFIU) with an expanded mainly to detect and analyse terrorist financing and money laundering activities. On the other hand, the Central Intelligence Cell (CIC) was founded by NBR to identify large tax fraud and related financial crimes [19].

The leading investigation unit in Bangladesh police is known for its high-quality investigation [7]. The CID has evolved to be proactive, technologically advanced, and responsive to societal concerns, establishing itself as the leader in criminal investigation. Under the Money Laundering Prevention (MLPR) 2019 rule, CID is the sole authorised agency within Bangladesh. Specifically, CID is empowered to investigate 8 out of 27 predicate offices listed in class 2 of the Money Laundering Prevention Act 2012. According to clause 54, CID can address six more predicate offices in collaboration with other intelligence agencies. From 2015 to 2022, CID investigated 331 money laundering cases, resulting in 198 charges, which set the resolution of 229 cases and a final report for 31 cases [7]. Currently, CID is investigating 102 ongoing money laundering cases. Out of 477 cases, 345 have been concluded following inquiries, and 132 remain under investigation [20].

According to the Money Laundering Prevention Rules (MLPR) 2019, the Anti-Corruption Commission (ACC) is also authorised to combat money laundering in Bangladesh. Bangladesh into Corruption Act of 1974, which established the Bureau of Anti-Corruption, is a significant major against corruption in the country [21]. Lately, the ACC has signed the inspection and handling of money laundering issues in relation to banking and financial institutions to a dedicated money laundering unit, transferring reliable documents from special investigations and investigation divisions. Bangladesh Securities and Exchange Commission (BSEC) is also vital in combating money laundering. Over the years, Bangladesh's finance sector has grown, encompassing banks, non-bank financial institutions (NBFIs), capital market intermediate and insurance companies and microfinance institutions (MFIs). The Bangladesh Securities and Exchange Commission (BSEC), established on June 18 1993, under the Bangladesh Security and Exchange Commission Act 1993, regulates securities instruments and capital activities. Its mission is to protect investor interest, develop the securities market, and create related regulations [22] The commission, comprising a chairman and four full-time commissioners appointed by the government, is empowered by The Money Laundering Prevention Rules (MLPR) 2019 to act against money laundering.

As a founder member of Asia Pacific Group (APG) on money laundering, Bangladesh has supported anti-money laundering legislation since 2002. The first anti-money laundering act was enacted in 2002 but did not classify money laundering as an offence. The 2009 act rectified a gap, initially an ordinance in 2008. Since then, periodic tax amnesties have repatriated and edited a significant amount [13]. The Money Laundering Prevention Rules (MLPR) 2019 empowered the National Board of Revenue to combat money laundering.

On the other hand, The Directorate of Narcotics Control (DoNC) under the Ministry of Home Affairs is also authorised to combat money laundering [23]. Its main responsibilities include preventing the flow of illegal drugs, regulating the legal use of drugs, ensuring proper drug testing, and providing treatment and rehabilitation for addicts. DoNC works nationally and internationally to build resistance against drugs by fostering close working relations and raising public awareness about the dangers of drug abuse. The Department of Environment (DoEn) is another essential agency that fights against money laundering in Bangladesh [23]. In environmental conservation, a critical Global issue was addressed in Bangladesh at the Stockholm Conference on the Human Environment in 1972. Following the conference, the government initiated a project under the Department of Public Health Engineering to control water pollution, marking the beginning of environmental protection efforts in the country. Established under the National Board of Revenue through the Customs Act in 1972, Bangladesh customs plays a crucial role in combating money laundering [12]. In 1916, it joined Operation IRENE to curb the illegal trafficking of small arms and drugs. The customs intelligence division is tasked with preventing smuggling and tariff evasion. In the same year, Bangladesh customs began operations to reclaim cars purchased and sold without proper tax payment. These vehicles were frequently acquired by foreign officials from International agencies like the World Bank and various other agencies. Customs intelligence is empowered to take legal action against traders who undermine the national economy and local market through custom evasion and smuggling, ensuring compliance with prevailing customs laws [24]. Bangladesh's extensive porous border on the west, east, and north, along with this open Sea access in the south, make it vulnerable to illegal activities like smuggling and trafficking. Despite White spread corruption and the presence of Preventive and corrective measures, Ineffective enforcement has hindered any significant positive outcome [11]. The author stressed that Funds generated by money laundering originate from illegitimate sources that include evaded tax, misappropriating funds, smuggling, arms dealing, Counterfeiting, and trafficking in trucks, wildlife, and people, all of which Finance other criminal activities. Ahmed [25] discussed the serial issues of money laundering illegal arms

trade and human trafficking, drug trafficking, terrorism, and severe crime in Bangladesh, outlining that money laundering is fuelled by corruption, smuggling, and tax evasion, posing significant economic and security threats. The author added that the porous border of Bangladesh facilitates the trafficking of ARM drugs and humans exhibiting the problem. The paper also highlights the strategic location of Bangladesh between major drug-producing regions increases its vulnerability to drug trafficking, noting that terrorist groups open finance their activities through elicit trades, signifying the rise of cybercrime and adding suffering to the existing issues of trafficking.

2.3 Adoption of Communication Technology

The adoption of communication technology by law enforcement agencies in Bangladesh has been designated in combating money laundering. According to Bangladesh's report on AML/CFT Strategy, a number of technological tools have been integrated into international strategy to improve the efficiency and effectiveness of anti-money laundering reports [26]. In this regard, the CND thematic discussion highlights the utilisation of encrypted communication by law enforcement agencies to secure data and ensure confidentiality during investigation [27]. The customs-FIU corporation handbook elaborates on the role of technology and communication in facilitating cooperation between customs and financial Units (FIUs) tracking and intersecting listed financial flows [28]. Moreover, in 2003, the National Money Laundering Strategy underscored the crucial impact of a robust communication system in enabling law enforcement officials to effectively lock horns with money laundering schemes and communicate securely during operations [29].

Furthermore, the Digital Transformation of AML/CFT discusses how digital transformation enables law enforcement agencies to use high-level technology such as artificial intelligence and machine learning to detect and examine suspicious activities more effortlessly [30]. The annual report from Bangladesh Bank details training initiatives for judges, prosecutors, and law enforcement officials to make the country immune to money laundering and terrorist financing, highlighting the role of technology in training programs [17]. Moreover, the ethical frontier suggests that while surveillance technologies are crucial for combating money laundering, they also raise ethical concerns regarding privacy and the potential for misuse [22]. Mahida [31] stated that money laundering needs effective technology to be controlled and eliminated. The author focused on technology-driven solutions, such as machine learning blockchain technology and advanced data analytics, to tackle money laundering. Machine learning algorithms are essential as they pose extensive data sets to detect patterns and anomalies indicators of illegal activities, allowing financial institutions and law enforcement agencies to automate transaction analysis and enhance both speed and accuracy in the deduction of money laundering [32]. The author also stressed the use of blockchain technology that offers an immutable record of financial transactions. Moreover, advanced technology is also pivotal to systematically analyse large volumes of economic data to uncomfortable hidden patterns and collection, and such as network and link analysis helps investigators, especially law enforcement agencies, to map out intricate transaction waves essential in detecting and understanding the full scope of criminal activities [33]. Furthermore, Sentiment analysis within data analytics helps enforcement agencies obtain early warning by monitoring transactions and shifts in communication that indicate illicit plans.

Effective technology, such as automated systems such as biometric identification and surveillance technology, including radar (Radio Detection and Ranging) and Sonar (Sound Navigation and Ranging) for object detection, and intelligent and attended ground sensors for comprehensive ground surveillance, is necessary for border guard security [34]. The author added that underground movement sensors are used for stealth parameter defence, and ground facilities such as command and control centres, fusion centres, and observation towers help coordination and long-range monitoring. This paper also recommended the utilisation of a Remote Video Surveillance System (RVSS). It Fixed Wide-Area Persistence Surveillance (FWAPS) to provide continuous surveillance in transborder areas while incorporating real-time assured communication to secure communication among law enforcement agencies. The integration of Advanced Surveillance is highly essential in monitoring and preventing transborder money laundering. The integrated implementation of tracking devices and biometric identity is highly required to enhance surveillance capacity, such as technology offering real-time tracking, which is essential for identifying and intersecting illicit financial flow across borders [35].On the other hand, Advani [36] emphasizes the significance of technology in national security, especially advanced tracking systems and infra-red technology, in enhancing border security and monitoring suspicious transactions. While Abeyratne and Abeyratne [37] discuss security issues related to data privacy and the use of body scanners and infrared technology, highlighting the need for uniform privacy laws to manage to transfer data flow effectively, ensuring surveillance Technology to combat money laundering.

In addition, Bangladesh like most other South Asian countries is highly vulnerable to money laundering and struggles to comply with global standards [11]. The study points out that weak institutions, bureaucracy, inefficiency, lack of

transparency and accountability, suspicious regulatory environment and high-level corruption substantially hinder anti-money laundering (AML) performance. The study also highlights that e-policing to initiatives such as online GDs, lost passports, certificates, and other digital services improve the efficiency and responsiveness of law enforcement and agencies.

In another study, Abdullah-Al-Faruk [38] highlighted the significance of the digitalisation of citizen service in Bangladesh, which is crucial in improving security measures. The study also underscores that the use of digital systems for feeling FIRs, managing case dockets, and executing policing and GIS mobile prime mapping substantially contribute to prime reduction and effective law enforcement. Moreover, Kutubi [39] analyses the challenges experienced by financial institutions in Bangladesh regarding money laundering. The author argues that the effectiveness of this institution is highly inhibited by weak governance poo regulatory framework and high levels of corruption. These studies add that these challenges compel the adoption of advanced communication technology to improve oversight and reporting mechanisms. According to Kutubi, integrating robust communication is able to substantially improve the capacity of financial institutions to identify and report suspicious financial transactions by assisting broader money laundering efforts

2.4 Coordination among bordering agencies to combat money laundering in Bangladesh

The National Coordination Committee (NCC) (2015-2017) in Bangladesh takes part in a central role to fight against money laundering and terrorist financing. The committee facilitates coordination among different ministries divisions and stakeholders, focusing on streamlining anti-money laundering (AML) efforts across the nation [40]. This coordination is crucial as it ensures that all relevant parties are aligned in their strategies and actions against money laundering.

Bhattacharjee [41] discusses the role of border hearts in the management of the India-Bangladesh border to stop the border market not only to promote economic development and generate essential opportunities but also to curb cross-border illegal activities. The India-Bangladesh coordinated border management plan (CBMP) was signed in 2011 and intended to synergise and combat cross-border crimes through coordinated patrolling, intelligence sharing and joint exercise. The author also focused on the cooperative approach between the India-Bangladesh border security forces in enhancing the effectiveness of border Management and reducing the chance of money laundering activities slipping through the cracks. Nuñez-Neto [42] explodes the Crucial Technology, such as the integration of surveillance and communication technology to enhance the effectiveness of Border Security operations employed by US border Control and their coordination with Federal Land management agencies. Gabryšová and Ciechomski [43] examine the role of technological advancement to support the work of the border guard and Customs service, focusing on emergency crisis management with the utilisation of effective Border Security operations. Koslowski (2003) states that coordinating border control activities within the individual state and increasing cooperation among border control functions are crucial. The paper underscores the role of information technology in integrating Border Management practices and improving inter-agency coordination. Cozine [44] addresses the coordination of various laws in force when ages and use of common Information Technology systems, Biometric identification systems, Surveillance Technologies, Automated border control gates, geographic information systems (GIS), mapping, radar and infrared systems, and satellite communication. While Hubanova, Shchokin, and Hubanov [45] discuss the role of information technology in improving coordination and introduction between border security and law enforcement Agencies, such as electronics surveillance system training simulators rather than Infrared systems. Martins and Jumbert [46] stressed the use of identification and management of security issues as well as the development of solutions to integrate water control and law enforcement activities. Glouftsios (2021) focuses on infrastructure and administrative aspects of managing large-scale information systems crucial for border security. Brigadier General Syed Ahmed Ali [47] focused on the enhancement of cooperation and understanding of law enforcement agencies, such as combining training and exchange of training packages involving BGB, police, customs and immigration officers, coordination between representatives of BGB not below the rank of Colonel maybe deputy to concerned ministry (MOHA). The author also stresses that appropriate members of every law enforcement agency should be constituted and that intelligence sharing and direct, special operations should be ensured to counter money laundering threats.

On the other hand, the Bangladesh Financial Intelligence Unit (2019-2021) highlights the role and obligation of various agencies involved in Bombay laundering and terrorist financing in the Bangladesh Report on AML/CFT Strategy [17]. This paper emphasises the requirement for comprehensive coordination to effectively outline the multifaceted nature of money laundering activity.

According to GLO.ACT-Bangladesh [48] specialised workshop combats money laundering in the context of human trafficking and showcases the significance of inter-agency corporations. These workshops bring together different

agencies to disseminate knowledge, technology strategies, and best practices, noting a collaborative environment necessary for handling complex crimes [17]. Bangladesh's commitment to strengthening Anti-Money (AML) and Combating the Financing of Terrorism (CFT) is underscored by the national strategy for preventing money laundering in 2021[22]. The strategy outline asserts the need for coordinated action among different government and non-governmental entities to create a stringent defence against money laundering activity. Kutubi [39] underscores the challenge experienced by financial institutions in Bangladesh In response to money laundering. The author highlights that the effectiveness of the institution is trampled by different issues such as poor regulatory framework, high levels of corruption, and commonness. The author states that all these challenges necessitate the utilisation of advanced communication technology to improve reporting mechanisms. It also highlights that the integration of robust communication systems among different agencies can enhance the capacity of financial institutions to detect and report suspicious transactions.

Agreeing with Kutubi, Scanner [49] discusses the initiative and challenges in combating money laundering in Bangladesh, underscoring the need for coordinated efforts. The report stresses the significance of having a unified approach among different agencies to address the issue comprehensively. In other studies, Joveda et al. [50] explore the Nexus between corruption in banks, the local economy, and money laundering scandals, emphasising the need for the creation of a cyber security system to detect money laundering as this threat significantly affects the Bangladeshi economy. Moreover, the Bangladesh report on AML/CFT strategy 2019-2021 further details the roles and obligations of involved agencies in tackling money laundering and terrace financing in Bangladesh, focusing on the comprehensive approach to ensure all the relevant agencies working together towards a common goal in dealing with the overall effectiveness of anti-money laundering efforts [21].

2.5 Convenient Banking Channel to Facilitate Customer

The incorporation of a convenient banking channel is essential to facilitate customers and combat money laundering in Bangladesh. One feasible approach that can be utilised to prevent money laundering is mobile banking, which is an accrual tool for financial inclusion that has been substantially affecting the banking sector. According to the digital financial service [51], the integration of mobile banking eases the onboarding process and improves compliance with anti-money laundering regulations by incorporating digital IDs and financial services. Similarly, another study on factors impacting the adaptor of mobile banking in Bangladesh showcases the significance of user trust, perceived ease of use, and perceived usefulness [52]. However, the utilisation of informal channels such as hundi poses a substantial challenge to internment laundering efforts. Maisha Tabassum Anima et al. [53] discuss how these channels facilitate money laundering by allowing the transfer of funds outside the formal banking system. The study underscored the necessity of formalised limited channels that result in the enhancement of monitoring mechanisms to ensure the legitimacy of transactions.

Several guidelines and strategies have been designed to prevent money laundering and combat terrorism in Bangladesh. The money laundering and terrorism financial risk management guidelines stressed the financial institution's role in implementing strong money laundering measures and stress the responsibility to identify and report suspicious activity [13]. On the other hand, Union Bank Limited has also developed a detailed guide for preventing trade-based money laundering, outlining the significance of monitoring trade transactions and implementing risk-based approaches [33]. According to BFIU [55], it is necessary to continuously monitor and evaluate antimony laundering practices to ascertain compliance and address emerging threats. Despite progress, a number of challenges remain in the effective implementation of anti-money laundering practices to convenient banking channels. Kutubi [39] identified different challenges, such as governance, poor regulatory framework and high-level corruption, accentuating the need for financial institutions to incorporate advanced technology in health internal control and this management practice. Further, the study of customer perception of alternative delivery channels (ADC) in a bank in Bangladesh by SADIQUE et al. [56] shed light on customer perspective regarding alternative delivery channels. The study reviews the factors of visibility availability, security confidentiality, confidential transaction ability, and simplicity in the procedure of alternative delivery channels to make it more attractive to the consumer. The finding suggests that changing customer perception and attracting more customers to banking services is not sufficient to make the system easy to interact with. The bank should develop a more secure and private alternative delivery channel to attract customers, which can consequently prevent money laundering. Integrated convenient banking channels to robust anti-money laundering practices are crucial for facilitating customers and preventing money laundering in Bangladesh. By adopting mobile banking, formalising limited channels, implementing comprehensive guidelines, and leveraging digital Services, financial institutions can enhance their anti-money laundering efforts and contribute to more secure financial Services.

3. DEVELOPMENT OF HYPOTHESIS

3.1 Intense Monitoring Through Government Intelligence Agencies and Money Laundering

Bangladesh Financial Intelligence Unit (BFIU) [17] underscores that intense monitoring activities have led to identifying and reporting suspicious transactions by mitigating money laundering activities in Bangladesh. This finding is also complementary to the Bangladesh Financial Intelligence Unit (BFIU) [57], where BFIU activities have enhanced the detection of illegal financial activities, contributing to more effective anti-money laundering measures in Bangladesh. Kutubi [39] highlights the impact of government monitoring in enhancing the effectiveness of anti-money laundering practices within financial institutions. The study complemented by Sultana [25] emphasises effective intelligence and monetary activities, which is critical for identifying and mitigating money laundering risks. On the other hand, the National Money Laundering Risk Assessment [58] found that effective monitoring enables the detection of criminal activities, facilitating law and enforcement action against money laundering. On the contrary, KRECKÉ [59], discussing the challenges and inefficiency of anti-money laundering policy endeavours, emphasises the need for better coordination and monetary, pointing out that current methods are costly, ineffective and excessively controlling, which can limit the impact. Overall, all the findings from these reports and studies strongly support the hypothesis that intense monitoring through government intelligence agencies substantially affects combating money laundering. The following hypothesis has been constructed after analysing this paper.

H1: Intense monitoring through government intelligence agencies has a significant negative impact on money laundering.

3.2 The Adoption of Communication Technology and Money Laundering

The high technological industry and AI integration are instrumental in preventing the misuse of the banking system for money laundering [60]. This suggests that the adoption of communication technology substantially impacts the reduction of such activity related to money laundering. A similar study [61], exploring the utilisation of artificial intelligence in anti-money laundering practice, conducted an integration of artificial intelligence and advanced communication technology in financial monitoring that enhances the detection and prevention of money laundering activities. On the other hand, the direction of fintech and digital banking services supported by communication technology has a positive impact on reducing money laundering by enhancing transparency and monitoring capabilities [62]. In contrast, Babu and Haque [63] state that due to the desperate adoption of various communication technologies, the growth in money laundering remains a serious threat to the economy, suggesting that the impact of this technology on antimony laundering is highly limited. Agreeing with previous findings, Corina [64] suggests that while digital technology has potential benefits in antimony laundering, it also poses a CS race challenge that can undermine its effectiveness, concluding that the adoption of digital technology alone does not guarantee significant improvement in combating money laundering. Upon these findings, the following hypothesis can be formulated :

H2: The adoption of communication technology has a significant negative impact on money laundering.

3.3 Coordination Among Bordering Agencies and Money Laundering

The US Government Accountability Office (GAO) [65] found that effective coordination among federal agencies and financial regulators substantially enhances the deduction and prevention of money laundering. A similar study conducted by Canada's Anti-Money Laundering and Anti-Terrorist Financing Regime Strategy 2023-2026 [66] highlights that combating money laundering and terrorism financing requires a coordinated effort across all levels of government and public-private sectors. On the other hand, effective coordination among agencies, including the Ministry of Foreign Affairs Bangladesh Bank and Anti-Corruption Commission (ACC), substantially in has the detection and prevention of money laundering, highlighting the coordinates report that leads to better information sharing and resource utilisation and thereby improving anti-money laundering measure [22]. In contrast, Sullivan and Smith [67] point out that bureaucratic hurdles and insufficient inter-agency communication limit the effectiveness of coordinator antimony laundering efforts. A similar study [38], indicated that the impact of coordinated efforts among bordering agencies may be limited in significantly reducing money laundering activities. Based on the findings, the following hypothesis has been developed:

H3: Coordination among bordering agencies has a significant negative impact on money laundering.

3.4 Convenient banking channel and Money Laundering

A study [68] found that the adoption of convenient banking children, such as online banking and mobile finance services, substantially enhances the deduction and prevention of money laundering operations. The study emphasises that these convenient channels offer better monitoring and transparency, reducing the risk of money laundering. On the other hand, Saiful Islam et al. [69] analysed the role of electronic money in finance inclusion and its impact on mobile laundering, stating that the direction of convenient banking channels suggests mobile banking and electronic transition substantially enhances the capacity to monitor and prevent money laundering activity in Bangladesh. A similar study [70] showcases that the impact of alternative delivery channels (ADCs) on banking services in Bangladesh reduces the risk associated with money laundering by enhancing transparency and monitoring capacity. However, in another study, Hassan et al. [71] found out that while mobile banking improves access to financial Services, its impact on reducing money laundering activity is highly insufficient, suggesting that the complexity of initial crime and adaptability of the money laundering scheme under mind the effectiveness of mobile banking channels. Similarly, [72] discusses the challenges of banking services at the border and their vulnerability to money laundering, highlighting that despite the adaptation of convenient banking channels, these channels alone are insufficient to substantially car money laundering due to inherent risk and regulatory issues. On the basis of this finance, the following hypothesis has been developed:

H4: Convenient banking channel has a significant negative impact on money laundering.

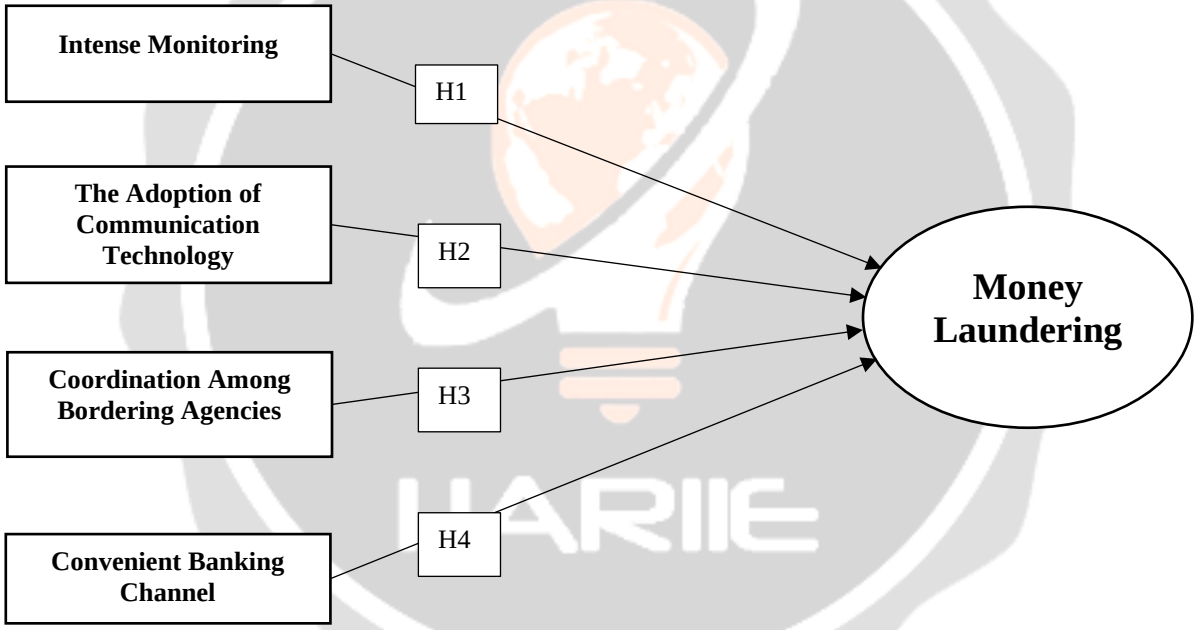

Fig- 1: Research Framework

4. RESEARCH METHODOLOGY

4.1 Data and Sampling

The population of this study consist of the government officials of key institutions that control money laundering in Bangladesh. As the number of government officers engaged in the laundering framework is high, the individuals directly involved in the specific institution in Bangladesh are selected as a total sampling frame for the study. This paper has applied the non-probability convenient sampling method to choose a sample population for data collection. Based on the technique, questionnaires were distributed to 550 respondents attaining their approval. The author received responses from 524 respondents, and 7 responses were inappropriate for data missing and data normality issues [73][74]. Therefore, the paper finally utilises responses from 517 respondents for data analysis and interpretation. 200 sample size is recognised as reasonable regarding sample adequacy, and 517 responses are considered suitable for statistical analysis applied to the Structure Equation Modelling (SEM) [75]. Moreover, the

sample size of 517 is over tenfold that of the endogenous variable deducted arrows and is thereby appropriate for PLS research [76]

4.2 Measurement instrument

In order to execute the research objective in this study, the data were collected by utilising a multi-items measurement of the constructs. A standard structure survey questionnaire has been formulated on the basis of previous research applying a 5-point Likert scale that ranges from strongly disagree to agree strongly. For the measurement of intense monitoring, adoption of communication technology, coordination among bordering agencies and convenient banking channels, the author has referenced six items for each construct.

4.3 Data analysis technique

Two kinds of statistical tools have been incorporated to examine the specific data. Statistical Package for Social Sciences (SPSS25) has been used to formulate descriptive statistics and to prepare data for further analysis, while SmartPLS3 has been applied to obtain results for both measurement and structural models. The study applied a partial least square structural equation modelling PLS-SEM to analyse the significance of the hypothesised relationship presented in the conceptual framework, performing a test of validity. SEM helps in elucidating the relationship between dependent and independent variables [77].

5. DATA ANALYSIS AND RESULTS

5.1 Demographic Analysis

The table shows the demographic characteristics of the respondents. The response includes male and female government officials with an age range between 21 and 50, while most respondents belong to the 21 to 30-year age bracket (72.53%). 85.69% of them completed their graduation. Most of the respondents have work experience between 11 and 15 years, through which it can be concluded that they have sufficient information about the given subject matters.

Table 1: Demographic Analysis

Variables		Frequency N=517	Percent
Age Group	21-30 years	375	72.53%
	31-40 years	111	21.47%
	41-50	20	3.87%
	Above 50 years	11	2.13%
Gender	Female	80	15.47%
	Male	437	84.53%
Education Level	Graduation	443	85.69%
	Post-Graduation	74	14.31%
Experience	1-5 years	123	23.79%
	6-10 years	177	32.24%
	11-15 years	189	36.56%
	16-20 years	20	3.87%
	More than 21 years	8	1.55%

5.2 Measurement Model

5.2.1 Convergent validity

Table 2: Item Loading, Convergent Validity and Reliability

Constructs	Items	Loading Value	CA	rho_A	CR	AVE
Intense Monitoring (IM)	IM1	0.774	0.725	0.727	0.853	0.552
	IM3	0.792				
	IM4	0.813				
	IM5	0.747				
	IM6	0.819				
Adoption of the Communication Technology (ACT)	ACT2	0.779	0.739	0.740	0.865	0.587
	ACT3	0.756				
	ACT4	0.837				
	ACT5	0.798				
	ACT6	0.817				
Coordination Among Bordering Agencies (CBA)	CBA1	0.773	0.723	0.725	0.854	0.577
	CBA2	0.759				
	CBA4	0.787				
	CBA5	0.805				
	CBA6	0.772				
Convenient Banking Channel (CBC)	CBC1	0.763	0.740	0.742	0.795	0.515
	CBC2	0.772				
	CBC4	0.725				
	CBC5	0.785				
	CBC6	0.553				
Money Laundering (ML)	ML1	0.837	0.860	0.862	0.875	0.555
	ML2	0.808				
	ML3	0.767				
	ML5	0.709				
	ML6	0.640				

Convergent Validity was conducted on the basis of loading the items of variables of Cronbach's Alpha (CA), Composite Reality (CR), and the Average Variance Extracted (AVE). The assessment of the loading value brings into being presented that all items have loading value respective construct. The evaluation of the loading value of IM, ACT, CBA, CBC, and ML produced AVEs less than the required threshold of 0.50; hereby, one item from each construct was removed as stressed by Hair et al. [77]. which recommended loading criteria of minimum 0.50.

On the other hand, Cronbach's Alpha (CA) value for the variable is between 0.739 and 0.860, higher than that cut of the value of 0.60, which showcases the significant reliability of the measurement model. Essentially, the CA values for Intense Monitoring (IM), Adoption of Communication Technology (ACT), Coordination Among Agencies (CBA), Convenient Banking Channel (CBC), and Money Laundering (ML) are 0.752, 0.739, 0.723, 0.740, and 0.860 accordingly. All these construct values are strong indicators showing their internal consistency among the items within each construct.

The composite reliability value ranges between 0.795 and 0.875, proving a positive reliability rate of the variable, and all are well above the social criteria of 0.70 validity [78][79]. The composite reliability values of IM, ACT, CBA, CBC, and ML are 0.853, 0.865, 0.854, 0.795, and 0.875, respectively, indicating the construct has a reliability level.

The Average Variance Extracted (AVE) scores for all constructs exceed the threshold value of 0.70, indicating sufficient convergent validity [78]. The AVE values for IM, ACT, CBA, CBC, and ML are 0.552, 0.587, 0.577, 0.515, and 0.555, suggesting each construct explains more than half of the various indicators, confirming the construct convergent validity.

Therefore, the result indicates that the concept used in this study showcases good convergent validity. All the items in the construct loaded significantly on their respective construct, and CA, CR, and AVE achieved values as per the recommended threshold criteria.

5.2.2 Discriminant Validity

Following the analysis of the convergent validity, which suggests the reliability between items and constructs, the discriminant variable was evaluated to showcase the digit to which each construct is discrete from other constructs [79]. The square root of the Average Variance Extracted over the variable should be more than its correlation coefficient with other constructs [80]. The results in Table 3 provide all the values below the diagonal line and less than the value of the diagonal line (square root of AVE), suggesting an acceptable result [81]. The table has two constructs; all the construct words are unique with no serious problems.

Table 3: Correlation among Constructs (Fornell & Larcker)

	IM	ACT	CBA	CBC	ML
IM	**0.752**				
ACT	0.520	**0.749**			
CBA	0.457	0.563	**0.737**		
CBC	0.467	0526	0.345	**0.765**	
ML	0.364	0.481	0.329	0.688	**0.736**

Another measurement for assessing the discriminant validity of the variables is the Heterotrait Monotrait Ratio (HTMT) [79]. The assessment requires the cut-off value to be below 0.85, as recommended by [78][75]. However, in some cases, the threshold value is suggested to be 0.90 [78] [81]. The variables' discriminant validity was quite satisfactory since the HTMT ratio of the variables (Table 4) topped the strict cut-off of 0.85. Therefore, it can be concluded that the assessed variables had sufficient validity and reliability to investigate the structural model further.

Table 4: Heterotrait Monotrait (HTMT) Ratio

	IM	ACT	CBA	CBC	ML
IM					
ACT	0.690				
CBA	0.546	0.655			
CBC	0.499	0.564	0.682		
ML	0.473	0.538	0.675	0.709	

Another measurement for addressing the discriminant validity is Heterotrait Monotrait (HTMT) [79].]. The evaluation requires the cut-off value of the variables to be less than 0.85 [78] [75].On the other hand, in some cases, the threshold value is indicated to be 0.90 [78] [81]. The variable discriminant value is quite reasonable since the HTMT ratio for the construct surpasses the rigid threshold value of 0.85. Consequently, the conclusion can be made that the constructs encompass sufficient validity and reliability, and these constructs can be investigated for the structural model.

5.3 Structural Model

The structural model showcases the relationship between dependent and independent variables in a paper [82]. Table 5 shows all variables and respective β values, standard deviation, t-value, and p-value. The value of p is used to

evaluate the significance of the hypothesised relationship between the independent and dependent variables. The β indicates the degree to which the dependent variable negatively fluctuates when the independent variables deviate. The value of p presence varies between dependent and independent variables, highlighting the significance level of 0.05 (P<0.05). Here, IM (H1: IM →ML β= -0.167, Standard Deviation (SD)= 0.065, t=.432 and p= 0.001) indicates a strong relation between IM and ML, as the significant level is less than the threshold value of 0.05. While ACT (H2: ACT →ML β= -0.163, Standard Deviation (SD)= 0.061, t= 2.899 and p= 0.002) presents a substantial relationship with ML, indicating ACT has an impact on ML and is significant at the level p = 0.5. On the other hand, CBA (H3: CBA →ML β= -0.124, Standard Deviation (SD)= 0.049, t= 0.892 and p= 0.185) is not significantly related to ML as its significant level is more than the required P value 0.05. However, CBC (H4: CBC →ML β= -0.132, Standard Deviation (SD)= 0.053, t = 2.973 and p= 0.003) is statistically significant at the level of p value of 0.05, as the value is more than the substantial level, suggesting that CBC has considerable relation with ML.

Table 5: Results of Path Analysis

	β	Standard Deviation	T Value	P Values	Decision
IM -> ML	-0.167	0.065	7.432	0.001	**Supported**
ACT -> ML	-0.163	0.061	2.899	0.002	**Supported**
CBA -> ML	-0.124	0.049	0.892	0.185	Not Supported
CBC -> ML	-0.132	0.053	2.973	0.003	**Supported**

In addition, R^2 which is the coefficient of the determination, suggests the predictive power of variables in the structural model [82]. The value of R^2 0.75, 0.50 and 0.25 point to the variables' significant, moderate, and weak predictive power [78][83]. The value of R^2 set as 0.78, which denotes independent variables have high predictive power to elucidate the dependent variables of ML.

6. DISCUSSION ON FINDINGS

This paper sets sights on examining the impact of various factors on money laundering in Bangladesh. That is not of the hypothesis testing showcases significant insight into how different constructs influence money laundering activities in Bangladesh. The result of (H1: IM →ML β= -0.167, Standard Deviation (SD)= 0.065, t=.432 and p=0.001) suggests a strong and significant negative impact on intense monitoring on money laundering, suggesting that government intelligence regular monitoring activities substantially reduce money ordering activity. This finding is in alliance with the previous studies by the Bangladesh Financial Intelligence Unit (BFIU) [57] and Kutubi [39], which emphasise the importance of effective monitoring in combating money laundering. Robust monitoring mechanisms facilitate the detection and reporting of suspicious transactions, thereby reducing money laundering operations in Bangladesh. Nevertheless, it is not worthy that this result directly disagrees with the findings of [43] which pointed out the challenges and efficiencies in current anti-money laundering policies, suggesting that while intense monitoring is effective, there is a need for better coordination and cost-effective measure to develop the impact anti-money laundering factors.

On the other hand, the result for (H2: ACT →ML β= -0.163, Standard Deviation (SD)= 0.061, t= 2.899 and p= 0.002) showcase a substantial and significant relationship between the adoption of communication technology and the reduction of money laundering activities. Studies provided by Uddin [60] and Alhajeri and Alhashem [61] support this final highlighting that the integration of advanced communication technology, such as artificial intelligence in financial monitoring, increases the detection and prevention of money laundering. However, the finding contradicts the findings of Babu and Haque [63] and Corina [48], arguing that despite the adoption of various communication technologies, money laundering remains a substantial threat due to weak governance and regulatory challenges.

Nevertheless, (H3: CBA →ML β= -0.124, Standard Deviation (SD)= 0.049, t= 0.892and p= 0.185) indicating the coordination among bordering agents these does not have a significant impact on anti-money laundering in Bangladesh. The result is supported by Sullivan and Smith [67] and Morshed and Rahman [12], who argue that hurdles and insufficient inter-agency communication restrain the effectiveness of coordinated and antimony laundering activities. However, studies have been provided by Bhattacharjee, highlighting the significance of effective coordination among agencies in improving the detection and prevention of money laundering, suggesting that improved conditions have good potential yield and enhanced consequences in handling money laundering challenges.

The result of (H4: CBC →ML β= -0.132, Standard Deviation (SD)= 0.053, t= 2.973 and p= 0.003) showcases a significant negative impact of convenient banking channels on money laundering, suggesting that the adoption of

convenient banking channels such as online banking and mobile financial Service augment the capacity to evaluate and prevent money laundering activities. This finding is highly supported by Capgemini [68] and Saiful Islam et al.[69] who emphasise that all these effective channels offer better monitoring and transfer that can combat money laundering in Bangladesh. Improving access to financial Services has an impact on preventing money laundering, which is highly limited by the complexity of financial crimes and regulatory issues [71][65].

In the context of cross-border security, intense monitoring substantially cartel illegal activities such as drug and arms trafficking through enhanced surveillance technologies and increased intelligence sharing between border control agencies, which can detect and prevent illicit cross-border transactions. Moreover, the adoption of an advanced detection system enabled by communication technology can revolutionise border security by offering real-time tracking of financial transaction. Furthermore, the integration of surveillance and communication technology is highly effective in border security management, supporting the work of border guards and customs services. The incorporation of tracking devices and biometric identity is highly required to put a bar on the illegal flow of operations. In addition, advanced infrared technology can also diminish financial transactions in the trans-border region, improving the prevention of illegal trafficking activities that finance monetary operations. This paper also established that secure banking channels reduce the risk associated with physical cash transactions used in trafficking activities. By adopting transparent and traceable transaction methods, concerned authorities are able to combat the challenges encountered by traffickers who launder money. Enhancing financial inclusion through convenient banking channels also assists more people in the formal financial system, reducing reliance on informal networks that traffickers exploit, such as Hundi. This approach weekends the financial infrastructure supporting drug and human trafficking

The findings from the study draw attention to the significance of intense monitoring, the adoption of communication technology, and convenient banking channels in preventing money laundering in Bangladesh. The study also signifies the need for better coordination among agencies to address anti-money laundering challenges. This inside offered valuable implications for policymakers and financial institutions in their continuous effort to fight against money laundering and develop a regulatory framework. Future research is good for exploring the challenges and limitations identified in the study to formulate more effective strategies for preventing money laundering in Bangladesh.

7. LIMITATIONS AND FUTURE RESEARCH DIRECTION

The first limitation of this paper is the sample composition. Most of the responses that were surveyed from key institutions involved in controlling money laundering in Bangladesh, such as the Bangladesh Financial Intelligence Unit (BFIU), Bangladesh Bank (BB), National Board of Revenue (NBR) and Bangladesh Securities and Exchange Commission (BSCEC) and The Ministry of Finance. This sample may not accurately depict the broader population's perception and experience regarding money laundering as the sample did not consider involved people from the Anti-corruption Commission (ACC), Criminal Investigation Department (CID), and the Directorate of Narcotics Control (DoNC). Future research should extend the sample to include these organisations and a more diverse range of stakeholders, such as individuals from the private sector and non-government organisations and the general public, in order to assert a more comprehensive understanding of the issue. The sample size used in this study is relatively small compared to the overall population involved in the financial transaction and anti-money laundering endeavour in Bangladesh. This limitation might impact the generalisability of the findings. Future studies should consider the collection of data from a larger and more diverse range of samples to improve the credibility and validity of the research results.

Thirdly, the study focuses primarily on closed-ended questions for data collection. This method facilitates quantitative analysis; however, it restricts respondents from offering more detailed qualitative insight into this specific topic. The concerned researcher can utilise open-ended and close-ended questions for future research. This mixed-method approach will enable the researcher to obtain a more comprehensive and insightful understanding of respondents' opinions, suggestions, and recommendations.

Moreover, the study relies highly on constructs such as monitoring, adoption of communication technology, coordination among bordering agencies, and convenient baking channels. These constructs are essential; however, for future studies, researchers should explore more factors that can impact on money laundering activities, such as socioeconomic elements, political stability, and international issues.

In addition, the study hardly accounts for the dynamic nature of technology and regulatory changes. The rapid advancement of financial technology and evolving regulatory framework could significantly affect the effectiveness of anti-money laundering issues. Future studies should incorporate a longitudinal approach to examine progressive changes affecting the relationship between the studied variable and money laundering activities.

8. IMPLICATIONS AND CONCLUSION

The study propounds valuable insight into policymakers, regulatory agencies, financial institutions, and technology developers regarding factors that negatively affect money laundering activities in Bangladesh. The findings have substantial implications for improving anti-money laundering (AML) strategies and developing the effectiveness of financial monitoring systems. The result of this paper showcases that intense monitoring by government intelligence significantly mitigates money laundering activities in Bangladesh, highlighting the importance of robust monitoring mechanisms and the requirement for continuous development of intelligence capacity. Policymakers and regulatory agencies need to invest in advanced surveillance technology in order to ensure that intelligence agencies are sufficiently prepared to identify and combat money laundering effectively inside the border of Bangladesh, which will strengthen Bangladesh's overall security. A significant relationship between the adoption of communication technology and the reduction of money laundering highlights the critical role of technology in financial evaluation and monitoring. Financial institutions need to focus on the integration of advanced communication technology, such as machine learning and artificial intelligence (AI), into their antimony laundering system to enhance their capacity to identify such special transactions and reduce money laundering threats.

IT professionals must continuously be strained to develop secure, user-friendly technology solutions that facilitate AML challenges. The findings on the impact of coordination among bordering agencies or money laundering suggest that while coordination is effective, it is frequently impeded by bureaucratic challenges and insufficient communication. Consequently, this coordination among bordering agencies must be streamlined to retain open communication channels and inter-agency corporations. It is essential for policymakers to focus on enhancing border control measured through the integration of advanced monitoring and communication technologies. It is imperative for the government to actively collaborate and cooperate with neighbouring countries such as India and Myanmar, sharing porous borders and implementing effective strategies to combat money laundering combined. Extending this inside into the trans-border context, especially within the poorest border areas of Bangladesh, India, and Myanmar, underscores the potential for these factors to prevent money laundering associated with drug arms and human trafficking. Enhancing border control regional cooperation and a robust regulatory framework are essential for disrupting the financial network that supports illicit activities. Policymakers and financial institutions need to continue their efforts to fight against money laundering. These insights offer valuable implications for developing more effective strategies and regulatory frameworks. The government needs to establish clear protocols and nurture a collaborative environment among different agencies to strengthen the overall effectiveness of AML measures. In addition, the significant negative impact of convenient banking channels on money laundering indicates that technology like mobile banking and online finance are essential in preventing potential crime. This paper also highlights technology-related challenges, such as the complexity of finisher prime and regulatory issues. Therefore, the financial institution needs to advance its security features and impress alternative banking channels to ensure compliance with AML regulations. Moreover, efforts need to be made to educate customers about using these alternative convenient banking channels to encourage them to conduct transactions through legal banking channels.

The study demonstrates that intense monitoring, adoption of communication technology, and convenient banking channels are critical sectors in preventing money laundering in Bangladesh. The finding comprehensively explains how these factors impact money laundering activities and provides practical suggestions for policymakers and financial institutions to improve their AML strategies. The study focuses on the need for continuous research and adaptation of anti-money laundering strategies to keep pace with evolving financial technology and regulatory changes. Future research needs to focus on other additional factors that can influence money laundering and extending the sample to include diverse demographic groups for more effective analysis. By implementing the recommended strategies, Bangladesh can substantially reduce money laundering activities and promote a more secure and transparent financial system.

9. REFERENCES

[1] *UNODC and Money-Laundering/Countering the Financing of Terrorism*. (2020). United Nations : Office on Drugs and Crime. https://www.unodc.org/unodc/en/money-laundering/index.html

[2] Malik, M. S., & Islam, U. (2019). Cybercrime: an emerging threat to the banking sector of Pakistan. *Journal of Financial Crime*, *26*(1), 50–60. https://doi.org/10.1108/jfc-11-2017-0118

[3] Bangladesh Bank. (2018). *Annual Report 2018-2019*. Bb.org.bd. https://www.bb.org.bd/pub/annual/anreport/ar1819/index1819.php

[4] Ahmed, S. A. (2017). Practical application of anti-money laundering requirements in Bangladesh. *Journal of Money Laundering Control*, *20*(4), 428–450. https://doi.org/10.1108/jmlc-09-2016-0042

[5] BANK , B. (2013). *GUIDELINES ON PREVENTION OF MONEY LAUNDERING AND TERRORIST FINANCING FOR NGO/NPO SECTOR* .

[6] Milon, M. N. U. (2024). Gravitating towards Artificial Intelligence on Anti-Money Laundering A PRISMA Based Systematic Review. *International Journal of Religion*, *5*(7), 303–315.

[7] Mia, M. A., & Supian, K. (2023). THE ROLE AND CHALLENGES OF AUTHORISED AGENCIES IN COMBATING MONEY LAUNDERING IN BANGLADESH: A CONCEPTUAL STUDY. *AMERICAN INTERNATIONAL JOURNAL of ECONOMICS and FINANCE RESEARCH*, *6*(1), 9–14.

[8] Haq, Z. (2013). Improvising: a process of overcoming interagency information sharing deficiency in an AML regime. *University of Wollongong Thesis Collection 1954-2016*.

[9] Ferdousy, L. (2022). Consequences of Money Laundering and Persisting Losses of the Country: A Reference of Bangladesh. *Saudi Journal of Economics and Finance*, *6*(11), 378–387. https://doi.org/10.36348/sjef.2022.v06i11.003

[10] Menezes, K. (2017). To what extent has money laundering affected Financial Institutions and how to mitigate the risks associated with it: A case study of Emirates NBD. Cardiff Metropolitan University.

[11] Zafarullah, H., & Haque, H. (2021). Policies, instrumentalities, compliance and control: combatting money laundering in Bangladesh. *Journal of Money Laundering Control*, *ahead-of-print*(ahead-of-print). https://doi.org/10.1108/jmlc-10-2021-0109

[12] Morshed, M., & Rahman, T. (2021). *"The Phenomenon of Trade-Based Money Laundering in Bangladesh" - A Critical Review*. https://doi.org/10.31235/osf.io/gw9qd

[13] The Daily Sun. Money Laundering: The Dark Secrets. Retrieved from https://www.daily-sun.com/post/319989/Money-Laundering:The-Dark-Secrets-The

[14] The Financial Express. Trade mis-invoicing persists in BD: GFI. Retrieved fromhttps://thefinancialexpress.com.bd/trade/trade-misinvoicing-persists-in-bd-gfi-1583294525

[15] Hassan, A. (2023). *Drug being smuggled into country through 146 unprotected border points*. [online] Prothomalo. Available at: https://en.prothomalo.com/bangladesh/crime-and-law/rry82g817t [Accessed 30 Jun. 2024].

[16] Dhaka Tribune (2024). *BEA: Recovering just 1% of laundered money can add 15,000C to the economy*. [online] Available at: https://www.dhakatribune.com/business/348302/recovering-1%25-laundered-money-can-add-15-000c-to [Accessed 2024].

[17] Ashraf, A. S. M. A. (2014). EXPLAINING RECENT INTELLIGENCE REFORMS IN BANGLADESH. *Journal of the Asiatic Society of Bangladesh*, *59*(1), 65–94.

[18] Johnston, R. (2005). *Analytic culture in the U.S. intelligence community*. Central Intelligence Agency.

[19] Bangladesh Bank. (2012). *Recent reform initiatives* (p. 25). Bangladesh Bank.

[20] CID (2023). About Us. (n.d.). http://ci.gov.bd/AboutUs.aspx. Retrieved on March 10, 2023

[21] Bangladesh Bank. (2019). *Money laundering & terrorist financing risk management guidelines*. Retrieved fromhttps://www.ificbank.com.bd/public/assets/home/antimoney/1571048480_Money%20Laundering%20and%20Terrorist%20Financing%20Risk%20Management%20Guidelines-%202016%20(Amendment%202019).pdf

[22] Mohammad, S., & Uddin. (2023). *Internship report on Corporate Finance Department at Bangladesh Securities & Exchange Commission ORGANIZATION OF ISLAMIC COOPERATION (OIC) In partial fulfillment of the requirements for the degree of BBA in Business and Technology Management (BTM) Approved By*.

[23] Money Laundering Prevention Act (MLPA) (2012). (JS) s. Ministry of Law. Govt. of Bangladesh

[24] Waris, A., & Latif, L. A. (2014). The effect of tax amnesty on anti-money laundering in Bangladesh. *Journal of Money Laundering Control*, *17*(2), 243-255. https://doi.org/10.1108/JMLC-04-2013-0011

[25] Ahmed, G.A. (2021). *Transnational Threat: Bangladesh Perspective*. [online] securityworldbd. Available at: https://securityworldbd.com/details-page/70 [Accessed 30 Jun. 2024].

[26] Bangladesh Financial Intelligence Unit. (2019-2021). *Bangladesh report on AML/CFT strategy*. Retrieved from

[27] CND Thematic Discussion. (2023). Retrieved from CND Blog

[28] Customs - FIU Cooperation Handbook. (2018). Retrieved from https://www.wcoomd.org/-/media/wco/public/global/pdf/topics/enforcement-and-compliance/report/wco_fiu_handbook_sanitised-public-version_wco_en.pdf?la=en

[29] National Money Laundering Strategy. (2003). Retrieved from - https://home.treasury.gov/system/files/136/archive-documents/js10102js1010.pdf

[30] *Digital Transformation of AML/CFT*. (2021). Www.fatf-Gafi.org. https://www.fatf-gafi.org/en/publications/Digitaltransformation/Digital-transformation.html

[31] Mahida, A. (2020). Cross-Border Financial Crime Detection - A Review Paper. *International journal of science and research*, 9(4), pp.1808–1813. doi https://doi.org/10.21275/sr24314131459.

[32] De Busser, E. (2018). EU - US Digital Data Exchange to Combat Financial Crime: Fast is the New Slow. German Law Journal, 19 (5), 1251 – 1267

[33] Lisanawati, G., & Eniola Kehinde, J. (2017). *When Technology Meets Money Laundering, What Should Law Do?* New Products and Payment Systems and Cross Border Courier.

[34] Idoko, N. (2023). *The Role of Technology in Enhancing Nigerian Security Studies*. [online] Disciplines in Nigeria. Available at: https://disciplines.ng/role-of-technology-in-enhancing-nigerian-security-studies/ [Accessed 30 Jun. 2024].

[35] Mladen, C. (2003). *Privacy in Canada*. International Report on Privacy for Electronic. Retrieved from joi.ito.com

[36] Advani, L.K. (2006). *The NDA Regime and National Security*. Retrieved from library.bjp.org

[37] Abeyratne, R., & Abeyratne, R. (2012). Security Issues. In *Air Transport: Legal, Economic and Technical Aspects*. Springer. Retrieved from ncbi.nlm.nih.gov

[38] Abdullah-Al-Faruk, M. (2021). *Security of Citizens of Bangladesh through Digitalization: A Review Security of Citizens of Bangladesh through Digitalization: A Review*. https://globaljournals.org/GJHSS_Volume21/4-Security-of-Citizens.pdf

[39] Kutubi, S. S. (2021). *Combating money-laundering by the financial institutions: An analysis of challenges and efforts in Bangladesh*. Journal of Money Laundering Control, 24(3). doi:10.1108/JMLC-10-2021-0109

[40] Sultana, S. (2020). Role of financial intelligence unit (FIU) in anti-money laundering quest. *Journal of Money Laundering Control*, *23*(4), 931–947. https://doi.org/10.1108/jmlc-01-2020-0003

[41] Bhattacharjee, J. (2020). *Role of Border Haat in Management of India-Bangladesh Border*. https://cuts-crc.org/pdf/briefing-paper-role-of-border-haat-in-management-of-india-bangladesh-border.pdf

[42] Nuñez-Neto (2008). *Blas Nuñez-Neto Analyst in Domestic Security Domestic Social Policy Division*. [online] Available at: https://ecommons.cornell.edu/bitstream/1813/77884/1/RL32562_20081120.pdf [Accessed 30 Jun. 2024].

[43] Gabryšová, M., & Ciechomski, W. (2019). The role of crisis management in the functioning of border regions. Retrieved from https://bibliotekanauki.pl/articles/323658.pdf.

[44] Cozine, K. (2016). Fragmentation and interdependency: Border security intelligence in North America and Europe. Retrieved from:https://www.tandfonline.com/doi/abs/10.1080/23800992.2016.1242268

[45] Hubanova, T., Shchokin, R., & Hubanov, O. (2021). Information technologies in improving crime prevention mechanisms in the border regions of southern Ukraine. Retrieved from :https://jitm.ut.ac.ir/article_80738_71314bf3e092f49bfdbcc338e51c483f.pdf

[46] Martins, B. O., & Jumbert, M. G. (2022). EU border technologies and the co-production of security 'problems' and 'solutions'. Retrieved from :https://www.tandfonline.com/doi/abs/10.1080/1369183X.2020.1851470

[47] Brigadier General Syed Ahmed Ali, N. (2017). EMERGING TREND OF TRANSNATIONAL THREATS IN THE REGION AND THE ROLE OF BORDER GUARD BANGLADESH (BGB). *NDC E-JOURNAL*, [online] 16(1), pp.35–55. Available at: https://ndcjournal.ndc.gov.bd/ndcj/index.php/ndcj/article/view/199 [Accessed 30 Jun. 2024].

[48] ACT. (2023). *GLO.ACT-Bangladesh Takes a Key Step: Pioneering Specialized Workshop to Combat Money Laundering in the Context of Human Trafficking and Migrant Smuggling*. United Nations : Office on Drugs and Crime. https://www.unodc.org/unodc/en/human-trafficking/glo-act3/Countries/glo-act-bangladesh-

takes-a-key-step_-pioneering-specialized-workshop-to-combat-money-laundering-in-the-context-of-human-trafficking-and-migrant-smuggling.html

[49] Scanner, S. (2024). *Anti Money Laundering (AML) in Bangladesh - Sanction Scanner*. Sanctionscanner.com. https://sanctionscanner.com/Aml-Guide/anti-money-laundering-aml-in-bangladesh-431

[50] Joveda, N., Khan, Md. T., & Pathak, A. (2019). Cyber Laundering: A Threat to Banking Industries in Bangladesh: In Quest of Effective Legal Framework and Cyber Security of Financial Information. *International Journal of Economics and Finance*, *11*(10), 54. https://doi.org/10.5539/ijef.v11n10p54

[51] Pazarbasioglu, C., Mora, A., Uttamchandani, M., Natarajan, H., Feyen, E., & Saal, M. (2020). *Digital Financial Services*. https://pubdocs.worldbank.org/en/230281588169110691/Digital-Financial-Services.pdf

[52] Liza, F. Y. (2014). Factors Influencing the Adoption of Mobile Banking: Perspective Bangladesh. *Global Disclosure of Economics and Business*, *3*(2), 199–220. https://doi.org/10.18034/gdeb.v3i2.164

[53] Maisha Tabassum Anima, Nath, N. C., & Sushmita Das Dalia. (2023). Impact of informal remittance channels in Bangladesh: Understanding the role of hundi in financial crime beyond economic aspects. *Journal of Economic Criminology*, *2*, 100030–100030. https://doi.org/10.1016/j.jeconc.2023.100030

[54] Union Bank Ltd. (2019). *Guidelines for prevention of trade-based money laundering and terrorist financing*. Retrieved from https://unionbank.com.bd/pdf/cbr/TBML_Guideline%20_final.pdf

[55] BFIU. (2020). *Annual report 2019-2020*. Retrieved from https://www.bfiu.org.bd/pdf/pub/annual/2019-2020.pdf

[56] SADIQUE , S. B., SHOHROWARDHY, H. S., & HASSAN, H. M. K. (2016). Customer Perception on Alternative Delivery Channel (ADC) of Banks in Bangladesh . *The USV ANNALS OD ECONOMICS and PUBLIC ADMINISTRATION*, *16*(24(2).

[57] Bangladesh Financial Intelligence Unit. (2016). *Annual report 2015-2016*. Retrieved from https://www.bfiu.org.bd/pdf/pub/annual/2015-2016.pdf

[58] U.S. Department of the Treasury. (2024). *National money laundering risk assessment 2024*. Retrieved from https://home.treasury.gov/system/files/136/2024-National-Money-Laundering-Risk-Assessment.pdf

[59] KRECKÉ, E. (2024, February 15). *Why anti-money laundering policies are failing – GIS Reports*. https://www.gisreportsonline.com/r/why-anti-money-laundering-policies-are-failing/

[60] Uddin, M. R. (2023). The Role of the Digital Economy in Bangladesh's Economic Development. *Sustainable Technology and Entrepreneurship*, 100054. https://doi.org/10.1016/j.stae.2023.100054

[61] Alhajeri, R., & Alhashem, A. (2023). Using Artificial Intelligence to Combat Money Laundering. *Intelligent Information Management*, *15*(4), 284–305. https://doi.org/10.4236/iim.2023.154014

[62] Ayoungman, F. Z., Chowdhury, N. H., Hussain, N., & Tanchangya, P. (2021). User Attitude and Intentions Towards FinTech in Bangladesh. *International Journal of Asian Business and Information Management*, *12*(3), 1–19. https://doi.org/10.4018/ijabim.20210701.oa30

[63] Babu , D. K.-E.-K., & Haque, E. (2021, August 23). *Anti-money laundering mechanisms versus the reality of Bangladesh*. The Business Standard. https://www.tbsnews.net/thoughts/anti-money-laundering-mechanisms-versus-reality-bangladesh-291793

[64] Corina, S. (2022). *The influence of digital technology in combating money laundering*. RSEP Conferences.

[65] U.S. Government Accountability Office. (2023). *Combating Money Laundering: Opportunities Exist to Improve the Coordination of Federal Agencies' Efforts*. Retrieved from GAO Report

[66] *Canada's Anti-Money Laundering and Anti-Terrorist Financing Regime Strategy 2023-2026*. (2023, March 28). Www.canada.ca. https://www.canada.ca/en/department-finance/programs/financial-sector-policy/canadas-anti-money-laundering-and-anti-terrorist-financing-regime-strategy-2023-2026.html

[67] Sullivan, C., & Smith, E. (2023). *Public Policy Series 115 Trade-based money laundering: Risks and regulatory responses*. https://www.aic.gov.au/sites/default/files/2020-05/rpp115.pdf

[68] Capgemini. (2017). *The Growing Threat of Money Laundering*. Retrieved from Capgemini Report

[69] Saiful Islam, M., Foysal Hasan, Md., Mashiur Rahman, Md., Md. Azizul Baten, Dr., & Ziaul Islam, M. (2019). Promoting full-fledged electronic money in South Asia: evidence from Bangladesh. *Banks and Bank Systems*, *14*(4), 166–182. https://doi.org/10.21511/bbs.14(4).2019.16

[70] Lovely, S. N., & Akhter, N. (2022). Factors Affecting the Use of Alternative Delivery Channels:A Study on the Customers of Private Commercial Bank in Bangladesh. *BGC Trust University Journal*, *16*.

[71] Hassan, M. K., Ferdous, J., & Banna, H. (2024). Mobile Banking and Access to Public Services in Bangladesh: Influencing Issues and Factors. *Elements in the Economics of Emerging Markets*. https://doi.org/10.1017/9781009447089

[72] Gao. (2024, January 16). *Banking at the Border, Money Laundering, and "Derisking" | U.S. GAO*. Www.gao.gov.https://www.gao.gov/blog/2018/06/12/banking-at-the-border-money-laundering-and-derisking

[73] Hair Jr, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: Updated guidelines on which method to use. International Journal of Multivariate Data Analysis, 1(2), 107–123.

[74] Shan, G., Ma, C., Hutson, A. D., & Wilding, G. E. (2013). Some tests for detecting trends based on the modified Baumgartner–Weiß–Schindler statistics. Computational Statistics & Data Analysis, 57(1), 246–261. https://doi.org/10.1016/j.csda.2012.04.021

[75] Kline, R. B. (2015). *Principles and practice of structural equation modeling* (Fourth). The Guilford Press.

[76] Joe F. Hair, Christian M. Ringle & Marko Sarstedt (2011) PLS-SEM: Indeed a Silver Bullet, *Journal of Marketing Theory and Practice*, 19:2, 139-152, DOI: 10.2753/MTP1069-6679190202

[77] Hair, J., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis : a global perspective*. Pearson Education, Cop.

[78] Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, *31*(1), 2–24. https://doi.org/10.1108/ebr-11-2018-0203

[79] Henseler, J., Ringle, C. M., & Sarstedt, M. (2014). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*(1), 115–135.

[80] Fornell, C., & Larcker, D. F. (1981). Erratum: Structural Equation Models with Unobservable Variables and Measurement Error: Algebra and Statistics. *Journal of Marketing Research*, *18*(1), 39–50. https://doi.org/10.2307/3151335

[81] Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: a review of four recent studies. *Strategic Management Journal*, *20*(2), 195–204. https://doi.org/3.3.co;2-z">10.1002/(sici)1097-0266(199902)20:2<195::aid-smj13>3.3.co;2-z

[82] Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge Management: An Organizational Capabilities Perspective. *Journal of Management Information Systems*, *18*(1), 185–214.

[83] Memon, M. A., Sallaeh, R., Baharom, M. N. R., Md Nordin, S., & Ting, H. (2017). The relationship between training satisfaction, organisational citizenship behaviour, and turnover intention. *Journal of Organizational Effectiveness: People and Performance*, *4*(3), 267–290. https://doi.org/10.1108/joepp-03-2017-0025

[84] Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. *Advances in International Marketing*, *20*. https://doi.org/978-1-84855-469-6

[85] Faysal, A., & Arifuzzaman, Md. (2022). Financial Crimes: Activities that Amount to Money Laundering Offences. *British Journal of Arts and Humanities*, 89–96. https://doi.org/10.34104/bjah.022089096

[86] Recent studies- *Strategic Management Journal*, *20*(2), 195–204. https://doi.org/3.3.co;2-z">10.1002/(sici)1097-0266(199902)20:2<195::aid-smj13>3.3.co;2-z

[87] Journal of Money Laundering Control. (2021). Retrieved from https://doi.org/10.1108/JMLC-10- 2021-0109

[88] Kobir, J., & Samin, T. (2023, May 5). *Reviewing the Money Laundering Prevention Act, 2012*. The Daily Star. https://www.thedailystar.net/law-our-rights/news/reviewing-the-money-laundering-prevention-act-2012-3311551

[89] Menezes, K. (2017). To what extent has money laundering affected Financial Institutions and how to mitigate the risks associated with it: A case study of Emirates NBD. Cardiff Metropolitan University.

[90] Le Nguyen, C. (2014). The International Anti-Money Laundering Regime and Its Adoption by Vietnam. *Asian Journal of International Law*, *4*(1), 197–225. https://doi.org/10.1017/s2044251313000349