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Examining the Factors Increasing Money Laundering Vulnerabilities in Pakistan's Financial Sector

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Abstract

The study is conducted in order to explore the factors enhancing the probability of money laundering in financial institutions of Pakistan. For this, individuals working in financial institutions mostly working in compliance department who understand the phenomenon of money laundering is contacted. Total seven variable is included in the study, one is dependent variable (i.e., money laundering) while six variables are independent (i.e., customer due diligence, employee training, internal control and policies, record keeping, suspicious transaction reporting and usage of technology). The data is gathered in understanding of demographic features such as age, gender, education, and working experience. A sample of total 223 respondents were tested through Smart PLS. Algorithm, Blindfolding and Bootstrapping was run to check the variables consistency, reliability, regression, Q statistics and hypothesis were tested. It is concluded in the study that factors including customer due diligence, employee training, suspicious transaction reporting, and usage of technology are not enhancing whilst and of greater concern are the findings that internal control policies and record keeping are enhancing the probability of money laundering in financial institution of Pakistan. Adequate measures from regulator is needed to make regulations more stringent to control the menace of money laundering activities within financial institutions effectively.

Keywords: *Money Laundering (ML), Customer Due Diligence (CDD), Record Keeping (RK), Suspicious Transaction Reporting (STR), Internal Control Policies (ICP), Technology, Employee Training*

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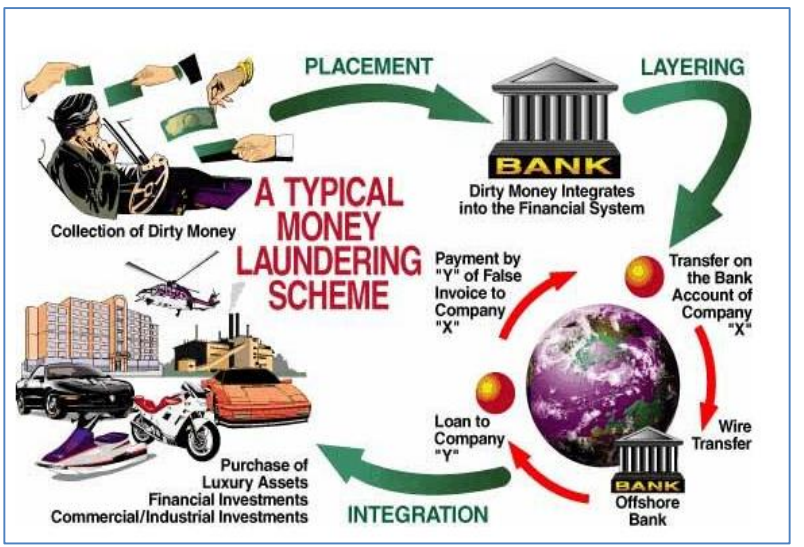
1. INTRODUCTION

The phenomenon of Money Laundering (ML) was first originated by some Mafia groups in order to hide their illegal incomes on early 1940s when the said term was not considered as crime. In 1980s ML got attraction as a crime to disguise the earnings generated through illegal activities such as drug trafficking (International Money Laundering Information Bureau, 2002). Since then rapid development is being seen in this area due to communication and technological advancement. The greater the money laundered through the international banking system the more it becomes difficult to identify. It is roughly estimated that around 2 to 5 percent of funds of the global Gross Domestic Product (GDP) is laundered every year which becomes 800 billion dollars to 2 trillion dollars and only less than 1% seized by authorities (United Nations Office on Drugs and Crime, 2020).

Money Laundering is the source to disguise monetary resources which gained through illegal means or criminal activities and generally categorize into three phases 1. Placement, 2. Layering and 3. Integration. Placement is the process of inserting funds generated through illegal means into the financial system through various mediums such as deposits, transfers. Layering is the splitting of funds into different complex transactions within the financial system which makes it difficult to trace and helps to disguise the illicit funds within the other normal transactions. Integration is the stage where launderers withdraw from the legitimate accounts within the financial system to depict as derived from legitimate businesses into the economy (Mcdowell & Novis, 2001). Money Laundering has serious consequences on social and economic grounds globally and Financial Institutions (FIs) are given preference by Money Launderers for the route of their illicit money to make it legitimate (Nair, 2007).



Source: https://www.unodc.org/unodc/en/money-laundering/laundrycycle.html

The various methods are used by launderers to conduct money laundering now a days due to globalization, communication and technological advancement thus becoming convenient for them to exploit the financial institution systems as financial institutions are engaged to provide the services to meet the needs of many i.e., foreign expatriates who are sending money back to their home or businesses (Levi & Reuter, 2006). This menace is faced by many countries. Therefore, there are many Institutions globally who establish controls and issue guidelines to bar this menace such as FATF, UNODC, WB, IMF, Egmont group and Wolfsburg group and majority of the countries are member of these institution or bodies and following their standards (Shah, Shah, & Khan, 2007).

According to (Teichmann, 2019) it seems that two goals are set for launderers one is to disguise their assets and to make sure that not traced and real beneficiary may not be identified. It was further concluded by him that however huge international efforts have been placed to curb money laundering but still its roots are growing under the umbrella of less-regulated sectors and launderers are using strawman to disguise their illicit funds and assets therefore, it becomes almost impossible to identify the real beneficial owner of transaction.

In Pakistan ATA 1997 (Anti-Terrorism Act) was first introduced for Terrorism where money laundering was first discussed, later on in 2003 and 2007 State Bank of Pakistan issued regulations and guidelines related to money laundering but in 2010 Anti-Money Laundering Act (AMLA) was the first ever act introduced to curb money laundering at national level and later got updated in 2015 wherein international recommendations were duly incorporated (Ali, 2019) and at very recently AML regulations has again updated by SBP with very recent changes recommended by FATF and thus AML act became more stringent due to the external pressure of regional bodies and FATF.

Pakistan survival faces several threats right now due to various elements and one of the biggest is to curb the Money Laundering and Terrorist Financing (Zubair, 2013). Pakistan is the member of Asia Pacific Group (APG) a regional body of Financial Action Task Force (FATF). Pakistan was officially placed on grey list on June 2018 and was given time frame to develop action plan to overcome deficiencies in FATF 40 recommendation which are the key suggestion points to develop strategic controls to curb ML and TF. As of now Pakistan is still in grey list for four more months (Financial Action Task Force, 2020). Pakistan is currently ranked 28 out of 141 with the score of 6.30 in the list of non-compliant in international regulations related to money laundering by Basel AML Index an institution which independently ranks countries based mainly on the quality of Anti-Money Laundering and Counter Financing Terrorism Frameworks (Basel Intitute on Governance, 2020).

FATF has also suggested for preventive measures in detail to curb money laundering such as Customer Due diligence, Customer Record Keeping, Correspondent Banking, Money Value Transfer Services (MVTS), New Technologies, Wire Transfers, Internal Controls, Employee Trainings, and Reporting of Suspicious Transactions. By implementing above one can play an important role in combating of money laundering and terrorist financing (Financial Action Task Force, 2020). SBP has recently introduced AML/CFT regulations for its regulated entities as of September 2020 wherein various regulatory measures have been advised to financial institutions to properly address the money laundering related issues. (State Bank of Pakistan, 2020).

Current researches show that despite alignment with Financial Action Task Force (FATF) standards, emerging countries remain to face persistent money laundering vulnerabilities due to weak institutional enforcement and governance limitations (Channa et al., 2025; Malik, 2025). In Pakistan, regulatory improvements have extended formal compliance requirements; however, empirical evidence suggests that execution gaps and institutional inefficiencies remain serious challenges in mitigating illicit financial activities (Butt & Hadi, 2025).

1.1 Problem Statement

Currently available literature on the topic largely assesses anti-money laundering (AML) practices and their success through regulatory and procedural lenses, offering partial insight into how different institutional practices with in organization influence money laundering exposure. So consequently, there is insufficient empirical evidence describing why there are vulnerabilities exists even though there are enhanced regulatory oversight, especially in Pakistan's financial institutions. (Channa et al., 2025).

1.2 Research Gap

previous research studies on the same topic investigate the Pakistan's AML framework at a regulatory level, limited or very few researches through empirical observation investigates the role of internal controls and record keeping mechanisms in shaping money laundering vulnerabilities. Further the existing research studies are hardly integrate theoretical explanations with empirical findings. In this study researcher tries to fills this gap by applying institutional and deterrence-based perspectives to assess FATF-recommended AML measures, thereby contribution policy-relevant visions for strengthening AML enforcement in Pakistan.

1.3 Research Objectives

- To Examine the key factors enhancing the money laundering in financial institution of Pakistan.
- To find out the impact of these factors to Pakistan financial system.
- To find out the impact of these factors on money laundering in Pakistan.

2. LITERATURE REVIEW

Recently SBP updated its previous regulations for anti-money laundering, combating the financing of terrorism (CFT) and countering proliferation financing (CPF) for its regulated entities up to September 30, 2020 which was in line with AML/CFT sanctions Rules 2020 issued by Ministry of Finance, Pakistan.

FATF in its recent addition which is updated up to October 2020 has recommended certain preventive measures as standards by which complying an organization can deploy adequate controls against the inherent threat posed to them related to ML such as Customer Due Diligence and Record Keeping, Employee Training, Reporting of STRs, Use of Technology, Operational and Internal Control Policies (Financial Action Task Force, 2020).

Methods for concealing the revenue generated from crime including cash movement across the border, operating businesses for channelizing the funds, purchasing valuable assets and using the medium of parallel economy are the main motives of money laundering. Extensive laws and regulations has been made by different regulators, agencies of law enforcement to control the ill-gotten gains mediating within financial institutions systems. However, and of greater concern the fact is that these AML regulations had not impact much to suppress the laundering activities within the system, due to inadequate proceedings and flaws in regulations.

Further, imposing stringent regulation costs obligations on good businesses as well. Therefore, it is better to analysis of their effects before its imposition (Reuter & Levi, 2006).

The study was conducted by (Masciandaro, 1999) on money laundering in two parts in first part it was concluded through theoretical approach which summed up that there is a multiplier effect on money laundering and financial activities of criminals if one is increasing other is also increasing and vice versa and laundered revenues are used to establish monetary assets hence impacting negatively on country's economy and in the second part of the study relationship between variables were studied and was concluded that there is an inverse relationship between regulations of money laundering and the effectiveness of money laundering regime.

Customer Due Diligence (Financial Action Task Force, 2020) FATF recommended certain measure to be taken in order to comply the requirement of CDD and record keeping such as recognizing your customer and confirming his identity through various sources which should be reliable, recognizing the actual owner/beneficiary of the customer, obtaining valid and if needed enhanced due diligence (EDD) may also be performed according the requirement and nature of the transaction. Analysis of the transaction must also be done on ongoing basis noting if any complex transactions are made which may be helpful to identify any

possible ML risk. It is advised by FATF that record should be kept for at least 5 years and in a condition where all its personal identification may swiftly be stored so upon any Law Enforcement Agency (LEAs) enquiry same may be presented to them in good order. AML procedural compliance alone does not significantly reduce money laundering risks without effective institutional enforcement (Butt & Hadi, 2025).

2.1 Employee Training

Training is to be considered as useful coaching in order to get improvement in employee's skills, to enhance their knowledge base and to develop good attitude and behavior to deal with customers. As front-line associates FLAs employees directly interact with customers while conducting the financial transaction therefore, skillful training to employees helps fighting in money laundering crime. It has almost mandatory for professional training and motivated staff as they can easily detect, identify, monitor and report any suspicious activity (Kemal, 2014). It was also concluded in his study that training to employee has significant impact on money laundering. Thus, inadequate training can lead to vulnerability related to money laundering in financial systems.

2.2 Operational and Internal Control Policies

The Study was conducted by (Pavone & Parisi, 2018) on compliance and corporate anti-money laundering regulation where in Italian case study were explored, it was concluded in the study that hypothetical analysis suggests that avoidance of AML regulations, low level compliance with ML laws and regulations and regular incompetence requires certain policies and procedures to be developed at organizational level to reduce money laundering risk, it was also concluded in the study that there is great benefits for organizations who develop, implement and acknowledge AML policies because it not only reduce the ML cases within the organization but also helps to develop better corporate image and helps in to avoid legal and reputational damages. It was also emphasized to change around in internal organizational policies to connect with ML safeguards and enabling them with malleability and suppleness for changes made by evolutionary regulations.

2.3 Record Keeping

According to (Financial Action Task Force, 2020) FIs should maintain its customer record for at least five years for all transactions FIs is conducting with its customer whether locally or globally and there must be a bylaw requirement of record keeping and should be readily available for prosecution of any financial crime activity such as money laundering to the LEAs. The record must contain all valid documents including customer identification documents like identity cards, passports, photo IDs or similar documents, account files, business details and details of analysis if available should also be the part of record. It was suggested

in the study of (Nguyen, 2018) that good and proper record keeping and timely reporting of same helps authorities to conduct fruitful analysis related to money laundering. It also helps to raise suspicious factor within the transactions. Whilst unmanaged or improper record and non-reporting leads LEAs into difficult situation to get accurate information.

2.4 Reporting of Suspicious Transactions (STRs)

According to (Jayantilal, Jorge, & Ferreira, 2017) in the study conducted on Portuguese AML Policy wherein it was concluded that detection of suspicious activity in financial system plays an important role to combat ML and STRs is to be considered as one of the important aspect of AML Policy. It was discussed that results describe the low number of an incidents were recorded when the STRs were effectively generated. The study conducted by (Pellegrinaa, Maiob, Masciandaroc, & Saracenod, 2020) directed to produce a initial valuation in relation to the effectiveness of STR to the financial intelligence units, in order to curb criminal penetration through ML. the study was based on local factors that were significantly describing the events of criminal organizations. It was concluded in the research regarding STRs that increase in number of STR reduces the chances of ML reports to LEAs. It was also interpreted in the study as positive signals for increasing numbers of STRs to curb ML practices in financial systems, however, this may result into slowdown the FIUs investigation processes. Current researches on the same subject emphasizes that technological acceptance and reporting mechanisms enhance AML monitoring but still ineffective in the absence of robust governance and cybersecurity frameworks. Ahmed et al. (2025) and Gelle (2025) prove that AI-driven AML tools enhance the detection accuracy.

3. METHODOLOGY

This study is based on the Quantitative Research approach as this approach comprises of objective oriented, intensive and acceptable. There are also some researches related to the topic which is being conducted in quantitative manner. One of the study was conducted by (Kemal, 2014) on the Anti-Money laundering and its effectiveness and the other study was conducted by (Jaffery & Mughal, 2020) on Money-Laundering risk and preventive measures both the study was conducted on Pakistan context and in quantitative manner. The researcher has used philosophy of post positivism because as stated by (Guba, 1990) that Post-Positivism is viewed as modern paradigm that generated as an outcome of reproach of positivism, as positivists have faith in single reality so does the post positivists is, but they recognize regarding the reality that same cannot be wholly identified and there are limited efforts to recognize the same from human being because there are rational constraints. The researcher is involved in the study at moderate level. The study is conducted in the non-contrived environment which also be stated as natural environment. Unit of Analysis are individuals working in

financial institution of Pakistan mostly working in compliance department of financial institution, they have sound knowledge related to the research topic.

3.1 Method of Data Collection

Cross-sectional method study is used in the study. It is suggested by (Campbell, Machin, & Walters, 2007) that this study defines the present happenings and used to determine the existing features in a population at particular point in time. The data is collected primarily through structured questionnaire.

3.2 Sampling Technique

Convenience judgmental sampling technique is used as this sampling technique supports the nonprobability sampling which eventually supports when response is to get from very large population also help in when we have minimal duration of time, limited means and limited workforce resources. It can also be supported in when the study doesn't target to make generalized results with regard to the whole population. (Etikan, Musa, & Alkassim, 2019).

3.3 Sample Size

The sample size is n=223 and is distributed amongst both male and female employees of financial institutions in Pakistan mostly working in compliance or the experts who are dealing practically with the phenomenon of money laundering in financial institutions to know their perception regarding the variables in order to assess the impact of variables.

3.4 Instrument of Data Collection

As stated that data is collected through structured questionnaire which is adopted from the FATF recommendations and SBP AML/CFT regulations considering the factors where in each variable is engaged up to its best possible strength and the data is tested and analyzed through Structural Equation Modeling (SEM) Smart-PLS to reject or accept the hypothesis.

3.5 Validity and Reliability Tests

Validity and reliability of the data is tested through SEM based Smart PLS software. Validity mentions that how correctly a method measures what it is planned for. The higher the validity of the research is the higher it generates results with related to real, features, properties and distinctions in the existing social world. Reliability shows the consistency of a measure and also predicts regarding the internal consistency of data which indicates whether respondent's responses are consistent with the items or not.

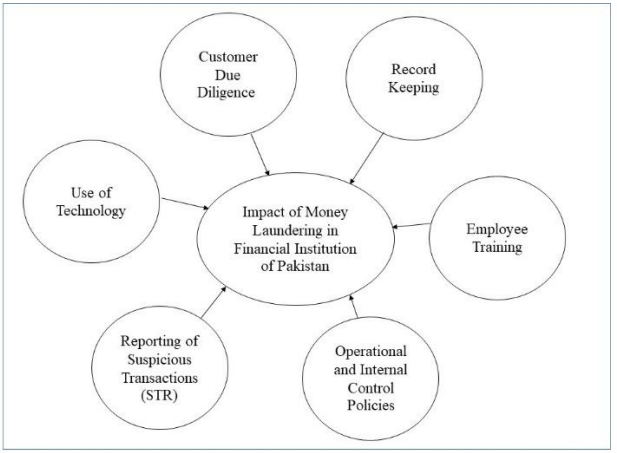


Figure 2: Research Model

3.6 Statistical Technique

In the study Hypothesis are developed, correlation amongst variable is tested, regression test also performed, algorithm, bootstrapping and blindfolding run on Smart PLS as statistical test which is SEM Based and analyzed as statistical analytical technique. Results and findings are discussed in detail of the above tests and hypothesis assessment summary also developed and explained with the tests results in next chapter.

4. RESULTS

The descriptive statistics of 223 participants demography is shown in Table 2 below:

Table 4.1: Construct Reliability and Convergent Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Customer Due Diligence	0.949	0.951	0.967	0.907
Employee Training	0.963	0.963	0.976	0.930
Internal Controls and Policies	0.959	0.959	0.973	0.924
Money Laundering	0.852	0.858	0.910	0.772
Record Keeping	0.945	0.945	0.964	0.901
Suspicious Transaction Reporting	0.958	0.958	0.973	0.923
Technology	0.960	0.961	0.974	0.926

As suggested by (Fornell & Larcker, 1981) and (George & Mallery, 2003) regarding the acceptable value of reliability, any value of Cronbach's alpha equal to or above 0.70 is considered as consistent and acceptable variable. Reliability shows the consistency of a measure and also predicts regarding the internal consistency of data which indicates whether respondent's responses are consistent with the items or not. Validity mentions that how correctly a method measures what it is planned for. The higher the validity of the research is the higher it generates results with related to real, features, properties and distinctions in the existing social world. The indicator that we tested the sample give reliable and accurate results. We can see from above table that all variables are showing acceptable range of consistency (Cronbach's Alpha value is above 0.7), rho_A and composite reliability value is also greater than 0.7. Further, Average Variance Extracted (AVE) is also greater than 0.50 which explains the indicators are valid to answer the latent variable accurately.

Table 4.2 : Discriminant Validity (Fornell-Larcker Criterion)

	Customer Due Diligence	Employee Training	Internal Controls and Policies	Money Laundering	Record Keeping	Suspicious Transaction Reporting	Technology
Customer Due Diligence	0.952						
Employee Training	0.926	0.965					
Internal Controls and Policies	0.923	0.943	0.961				
Money Laundering	-0.776	-0.774	-0.804	0.879			
Record Keeping	0.866	0.877	0.869	-0.683	0.949		
Suspicious Transaction Reporting	0.912	0.928	0.930	-0.775	0.880	0.961	
Technology	0.895	0.929	0.919	-0.773	0.869	0.923	0.962

As suggested by (Campbell & Fiske, 1959) and (Fornell & Larcker, 1981) regarding Discriminant Validity that it discusses the off-diagonal terms of correlation amongst variables because variables are emphasized by indicators. Diagonal values are the values of square root of Average Variance Extracted (AVE) and should be greater than 0.7 and also, they must be greater than off diagonal values and if this condition lies the values are discriminated valid values. Discriminant validity is exhibited with evidences that measurement of constructs that hypothetically may not be greatly interrelated with each other are, indeed, not suggested to be found as greatly correlated to each other.

Considering the above reliability and discriminant validity values which are in acceptable ranges so we assume that our data is reliable and fit to test ahead.

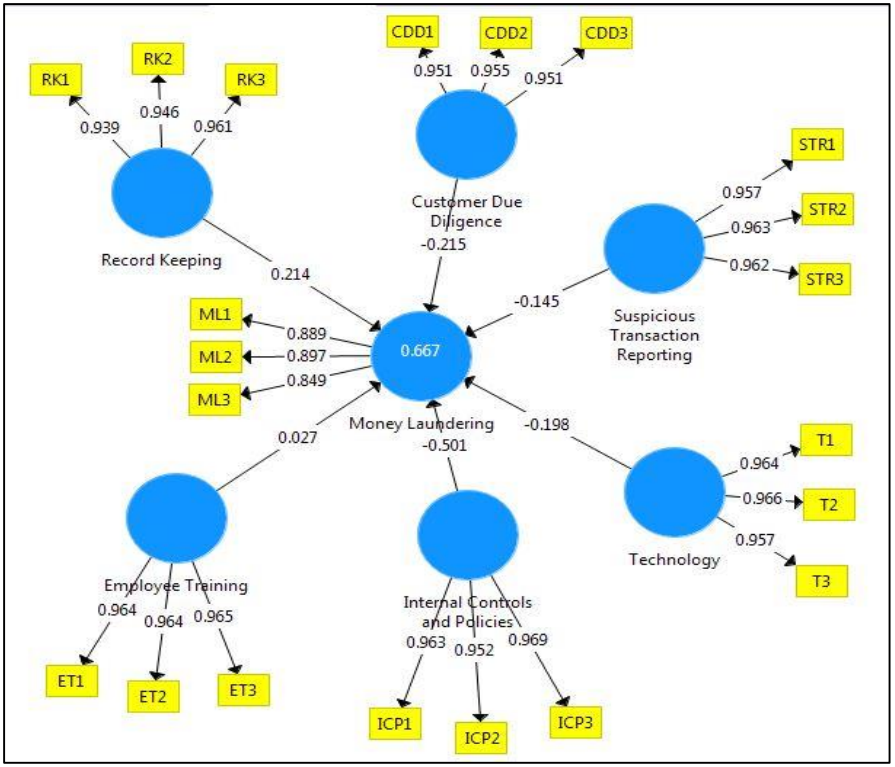


Figure 03: Smart PLS Algorithm

The above figure is constructed through Smart PLS Algorithm which shows the values of factor loading, co-efficient value and R Square value. Factor loading value explains the values of Indicators towards its respective construct ideally the value should be greater than 0.7 but values between 0.4 to 0.7 can also be retained depending upon other criteria. (Hair et al., 2010). The value is depicted from one latent variable to another latent variable is called Co-efficient value which shows the variance amongst variable. The values inside the construct is known as R Square which is the coefficient of determination. As Shown in below Table 5 that R Square Value of the Model is 0.667 and R Square Adjusted Value is 0.658. R-squared testifies the amount of the variation/difference in your DV (Y) described by your IV (X) for a linear regression model. Adjusted R-squared justify the statistical number of IV in the model that is to be considered as goodness of fit in statistics, the acceptable range of R square is 0 to 1 wherein low value of R square is indicated that low power to explain the model whilst higher the R square value will be the good it will consider as prediction power, therefore, greater from 0 to 0.25 is to be considered as weak, 0.26 to 0.50 is to be considered as moderate and

0.51 to 0.75 and greater than 0.75 is to be considered as highly sustainable R square value (Hair et al., 2018).

Table 4.3: R Square

	R Square	R Square Adjusted
Money Laundering	0.667	0.658

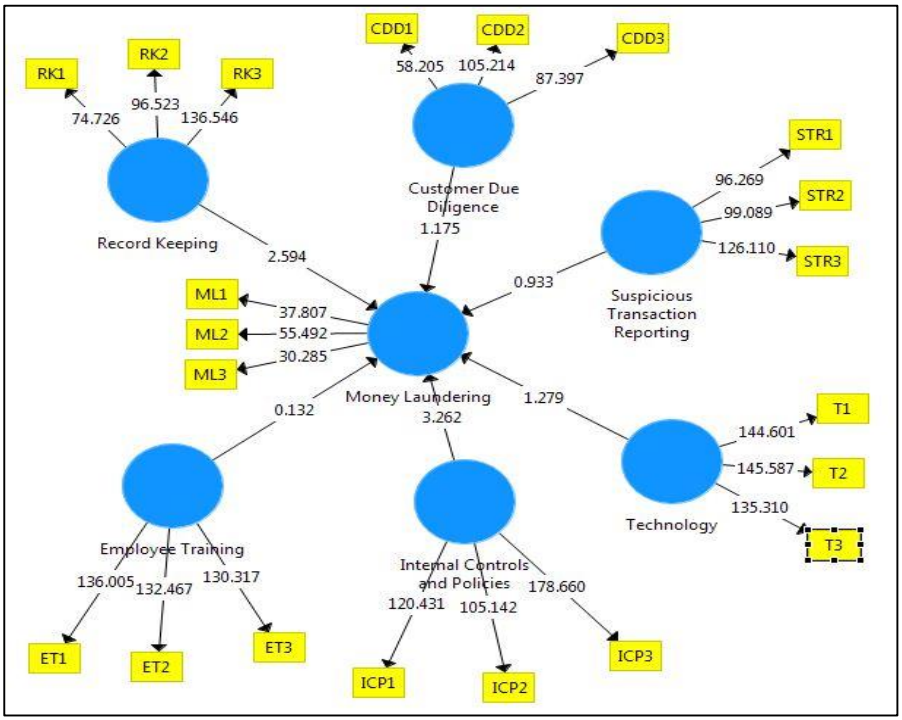


Figure 04: Smart PLS Bootstrapping

The above figure is constructed through Smart PLS after running the Bootstrapping which creates the sub samples and shows the results of original sample and subsamples side by side to demonstrate the robustness, consistency and reliability of data. It also shows T-Values and Co-efficient Values. T-Values are considered for significance or insignificance of Test. Fundamental model was constructed by researcher with Smart PLS Algorithm, Boot Strapping, Blindfolding, Path Co-efficient and cross validated redundancy to justify the hypothesis.

Table 4.4: Blindfolding

Construct Cross validated Redundancy Total	SSO	SSE	Q^2 (=1-SSE/SSO)
Customer Due Diligence	669.000	669.000	
Employee Training	669.000	669.000	
Internal Controls and Policies	669.000	669.000	
Money Laundering	669.000	336.180	0.497
Record Keeping	669.000	669.000	
Suspicious Transaction Reporting	669.000	669.000	
Technology	669.000	669.000	

Blindfolding is run in Smart PLS and constructed the cross validated redundancy wherein Q^2 is showed. Q^2 value is anticipated for the purpose of relevance in which the rule of thumb is Q^2 Value greater than 0 is meaningful, Q^2 value is greater than 0, 0.25 and 0.50 is to be considered as minimal, modest/reasonable and robust. (Hair, Risher, Sarstedt, & Ringle, 2018) and (Ahmed & Khoso, 2020). In the above table no. 05 of construct cross validated redundancy which states the Q^2 value is 0.497 indicating that our model is reasonable to justify the hypothesis.

Table 7: Total Effects / Path Co-efficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Customer Due Diligence -> Money Laundering	-0.215	-0.187	0.183	1.175	0.240
Employee Training -> Money Laundering	0.027	-0.002	0.203	0.132	0.895
Internal Controls and Policies -> Money Laundering	-0.501	-0.516	0.154	3.262	0.001
Record Keeping -> Money Laundering	0.214	0.221	0.083	2.594	0.010
Suspicious Transaction Reporting -> Money Laundering	-0.145	-0.155	0.155	0.933	0.351
Technology -> Money Laundering	-0.198	-0.179	0.155	1.279	0.202

The above table shows the Path Coefficients after running the Bootstrapping on Smart PLS which includes the Original Sample and Sample Mean Side by side which is similar. We can see the sample mean showing the robustness of original mean and similar values. The test is conducted at 95% confidence interval.

In addition to that, T-Statistics and P. Values are also shown to check whether the Null hypothesis rejected or not. The rule of thumb is P. Values greater than 0.05 and T-Statistics less than 1.96 null hypothesis is to be accepted and if P. Values are less than 0.05 and T- Statistics greater than 1.96 null hypothesis is to be rejected (Hair, Risher, Sarstedt, & Ringle, 2018).

In Table No. 07 the first condition where in customer due diligence impact on money laundering is checked, T-Statistics value is 1.175 and P. Value is 0.240 we have to accept the null hypothesis and reject the alternative hypothesis as T-Statistics value is less than 1.96 and P. Value is greater than 0.05. In second condition wherein employee training impact on money laundering is assessed it shows that the T-Statistics Value is 0.132 and P. Value is 0.895 we have to accept the null hypothesis and reject the alternative hypothesis as T-Statistics value is less than 1.96 and P. Value is greater than 0.05. In the third condition wherein internal controls and policies impact on money laundering is checked, Table shows the T-Statistics Value is 3.262 and P. Value is 0.001 so we have to reject the null hypothesis and accept the alternative hypothesis as T-Statistics Value is greater than 1.96 and P. value is less than 0.05. In fourth condition wherein record keeping impact on money laundering is assessed, it shows the T-Statistics value is 2.594 and P. Value is 0.01 again null hypothesis is rejected and accept the alternative hypothesis as T-Statistics Value is greater than 1.96 and P. value is less than 0.05. In fifth condition wherein suspicious transaction reporting impact on money laundering is checked, it shows the T. Statistics value is 0.933 and P. Value is 0.351 so we have to accept the null hypothesis and reject the alternative hypothesis as T-Statistics value is less than 1.96 and P. Value is greater than 0.05. In the sixth and last condition wherein Technology impact on money laundering is checked and T-Statistics value is 1.279 and P. Value is 0.202 the null hypothesis is accepted and alternative hypothesis rejected in the condition as T-Statistics value is less than 1.96 and P. Value is greater than 0.05.

Therefore, in first (CDD->ML), second (ET->ML), fifth (STR->ML) and sixth (Tech->ML) conditions test are insignificant while in third (ICP->ML) and fourth (RK->ML) conditions test are significant.

5. DISCUSSION

The findings from the data analysis suggest institutional and deterrence-based explanations of money laundering vulnerabilities in Pakistan. The irrelevance of customer due diligence, employee training, suspicious transaction reporting, and technological tools indicates that financial institutions have already significantly achieved procedural compliance. (Rashed, 2025; Butt & Hadi, 2025).

To consider the factor employee training on money laundering our result findings states that employee training does not enhance the probability of money laundering as test in the condition is also insignificant due to adequate measures

being taken by financial institution in this area, the result of the study is consistent with (Kemal, 2014) as the research concludes that professional training and motivated staff can provide less chances to launderers to exploit the financial institution systems to launder the money. However, the study results are inconsistent with the study of (Jaffery & Mughal, 2020) wherein study is being concluded that training of employees at Pakistani banks are ineffective at minimizing the money laundering risk and enhancing the money laundering probability within the financial institution. To assess the operational and internal control policies as a factor to enhance the money laundering in financial institution of Pakistan our results states that test in this condition is significant means operational and internal control policies are weak to combat the money laundering and are enhancing the probability of money laundering in financial institution of Pakistan, the study is inconsistent with (Okab, 2014) wherein researcher has gauge the impact of internal control policies on money laundering in Jordanian banks but consistent with the study of (Leong, 2007) wherein he concluded that not only good internal control policies can control the menace of money laundering but requires overall changes in the system. The significant role of internal control policies and record-keeping deficiencies reinforces deterrence theory, which suggests that weak monitoring decreases the perceived risk of detection. This finding bring into line with recent indication that enforce quality, rather than regulatory volume, determines AML effectiveness in Pakistan (Channa et al., 2025).

Considering record keeping as the factor to enhance money laundering in the study, results states that test is significant, according to the study conducted record keeping is helpful in increasing the money laundering in financial institution of Pakistan due to insufficient measures taken by financial institution in this area. The results are in line with (Kemal, 2014) wherein weak impact of record keeping has showed on money laundering however results are not in line with the study (Smet & Mention, 2011).

Studied suspicious transaction reporting as the factor to enhance money laundering, result of the study described that test is insignificant and hence suspicious transaction reporting are properly addressed hence it is not to be considered as enhancing for money laundering within financial institution of Pakistan which is consistent with (Kemal, 2014) and inconsistent with the study of (Jaffery & Mughal, 2020). Technology impact on money laundering is insignificant which means that financial institution are using technology to prevent money laundering the research results are consistent with (Hamdan, et al., 2020) but inconsistent with (Jaffery & Mughal, 2020).

6. CONCUSION

This study examined the determinants using a theory-driven approach of money laundering vulnerabilities in Pakistan's financial institutions. The results of this study specify that formal AML actions such as customer due diligence, training, and technology are widely implemented, softness in internal control policies and record-keeping significantly enhance vulnerability to unlawful financial activities.

This research study also contributes to the literature by integrating institutional and deterrence theories into the empirical analysis of AML efficiency and effectiveness in Pakistan. It also concludes that the need for regulators and financial institutions to prioritize enforcement quality, governance, and internal accountability mechanisms. For enhancing Pakistan's compliance with FATF Strengthening these areas is essential standards and reducing systemic money laundering risks.

6.1 Recommendations

As described in the study that customer due diligence, employee training, suspicious transaction reporting and technology are not to be considered as the factors who may enhance the probability of money laundering. It is to be taken that in the above area financial institutions have taken adequate measures so launders may not exploit the financial institution system of Pakistan. In the contrary and according to the study concluded operational and internal control policies and technology is to be considered as one of the factors who may enhance the chances of money laundering in financial institutions of Pakistan as the measure taken in this area by financial institutions are not strong enough to deter the money laundering activities within financial systems and are vulnerable and easily exploitable to the launderers. As money laundering is the hot issue now a days and one of the key aspects for Pakistan to overcome deficiencies in money laundering as Pakistan has been put in grey list of FATF on 2019 and now has been given time till February 2021 to overcome deficiencies and one of the main concerns of FATF recommendations is to control the money laundering and terrorism financing activities. So, it is suggested to financial institutions to deploy the adequate resources in the grey areas where system lacks controls to deter the money laundering activities. It is also suggested to regulator to develop stringent policies, rules and regulations related to internal control policies and record keeping. It is also suggested to regulator to provide the mechanism of reporting and to provide the capacity building trainings to financial institution's employees so the system of financial institutions may not be exploited for money laundering. In addition to that money laundering has serious impacts on country's economy, drains foreign exchange reserves and encourages the financial and civil crime thus adversely impact on society as well. Not only this, it also provides the way for terrorism financing which result in loss of many innocent lives. It is also suggested on the basis of findings that strengthening internal audits, governance

structures, and accountability mechanisms are more effective ways than expanding procedural AML requirements, is more effective than AML requirements. (Rashed, 2025).

6.2 Need for Future Research

The researcher has conducted the study on selected variables taken from FATF recommendations and previous studies. However, there may be other factors which should be explored to check the impact of same on money laundering. Research is being carried out after collecting the data from financial institutions only, however, it may further be carried by selecting non-banking financial institutions such as securities, real estate, saving schemes and jewelers as these are easily convertible into the cash and lot of black money is parked in these areas by the rich goons who later may also use these mediums to launder their money and get back into the financial system pertaining to be as generated from legitimate source. The study on regulators effectiveness and monitoring on controls to prevent money laundering may also be conducted in future.

Conflict of Interest

The authors declare no conflict of interest.

REFERENCES

Ahmed, I., & Khoso, I. (2020). The Impact of Micro-finance on Self-employment and Poverty Reduction: A case of Sindh Rural Support Organization and Tameer Micro Finance Bank, Sindh. Amazonia Investiga, 9(32), 18-27. doi:https://doi.org/10.34069/AI/2020.32.08.2.

Ahmed, Z., Shah, M. A. R., & Akhtar, K. (2025). Strengthening cybersecurity and anti-money laundering frameworks to combat financial crimes in the digital banking era. Journal of Business and Management Research, 4(2), 973–989.

Ali, I. (2019). Anti-Money Laundering Act 2010: A Critical Analysis. LUMS LAW Journal, 5, 0-0.

Basel Intitute on Governance. (2020, Feb 29). Basel AML Index. Retrieved from www.baselgovernance.org:https://www.baselgovernance.org/basel-aml-index.

Butt, T. A., & Hadi, S. (2025). An analysis of anti-money laundering framework in Pakistan. Qlantic Journal of Social Sciences and Humanities, 6(1), 219–230.

Campbell, D. T., & Fiske, D. W. (1959). CONVERGENT AND DISCRIMINANT VALIDATION BY THE. Psychological Bulletin, 56(2), 81-105. doi:http://dx.doi.org/10.1037/h0046016.

Campbell, M. J., Machin, D., & Walters, S. J. (2007). Medical Statistics, A Textbook for the Health Sciences, 4th Edition (4 ed., Vols. 10.1007/s00362-007-0109-9). Lenz, Tamara. doi:10.1007/s00362-007-0109-9.

Channa, K. A., Khoso, D. H., & Malik, A. H. (2025). Anti-money laundering regulations in Pakistan: A comparative analysis with global best practices. Journal of Money Laundering Control, 28(3), 518–532.

Etikan, I., Musa, A. S., & Alkassim, R. S. (2019). Comparison of Convenience Sampling and Purposive Sampling. American Journal of Theoretical and Applied Statistics, 5(1), 1-4. doi:doi: 10.11648/j.ajtas.20160501.11.

Financial Action Task Force. (2020, 11 12). The FATF Recommendations. Retrieved 11 12, 2020, from www.fatf-gafi.org: http://www.fatf-gafi.org/publications/fatfrecommendations/documents/fatf-recommendations.html

Financial Action Task Force. (2020, Feb 29). FATF Countries MER. Retrieved Feb 29, 2020, from www.fatf-gafi.org: http://www.fatf-gafi.org/countries/#other-monitored-jurisdictions.

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. Journal of Marketing Research, 18(1), 39-50. doi:https://doi.org/10.1177/002224378101800104.

Gelle, V. R. R. (2025). Enhancing financial security: AI-driven anti-money laundering and compliance monitoring in the banking sector. World Journal of Advanced Research and Reviews, 25(1), 2462–2476.

George, D., & Mallery, P. (2003). PSS for Windows step by step: A simple guide and reference (4 ed.). Boston: Allyn & Bacon.

Guba, E. G. (1990). The Paradigm Dialog. Sage Publications, Inc.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate Data Analysis (7 ed., Vol. 7). Upper Saddle River NJ: Pearson Prentice Hal.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2018). When to use and how to report the results of PLS-SEM. European Business Review, 00-00. doi:doi:10.1108/ebr-11-2018-0203.

Hamdan, A., Turki, M., Cummings, R. T., Sarea, A., Karolak, M., & Anasweh, M. (2020, May 26). Regulatory Technology (RegTech) and Money Laundering Prevention: Exploratory Study from Bahrain. Heliyon, 6(10), 349-359. doi:doi:10.1016/j.heliyon.2020.e049.

International Money Laundering Information Bureau. (2002, May 20). Retrieved from www.imlib.org: www.imlib.org/page1_hist.html.

Jaffery, I. H., & Mughal, R. A. (2020). Money-laundering risk and preventive measures in Pakistan. Journal of Money Laundering Control, 23(3), 699-714. doi:https://doi.org/10.1108/JMLC-02-2020-0016.

Jayantilal, S., Jorge, S. F., & Ferreira, A. (2017). Portuguese Anti-money Laundering Policy: a Game Theory Approach. European Jounal on Criminal Policy and Research, 559-574. doi:DOI 10.1007/s10610-017-9347-0.

Kemal, M. U. (2014). Anti-money laundering regulations and its effectiveness. Journal of Money Laundering Control, 17(4), 416-427. doi:http://dx.doi.org/10.1108/JMLC-06-2013-0022.

Leong, A. V. (2007). Chasing dirty money: domestic and international measures against money laundering. Journal of Money Laundering Control, 10(2), 140-156. doi:doi:10.1108/13685200710746857.

Levi, M., & Reuter, p. (2006). Money Laundering. Chicago Journal, Crime and Justice, 289-375. doi:http://doi:10.1086/501508.

Malik, G. M. (2025). Pakistan's anti-money laundering and counter-terrorism financing regime: Strategies, challenges, and future direction in the evolving financial crime landscape. International Journal of Social Sciences Bulletin, 3(8), 702–719.

Masciandaro, D. (1999). Money Laundering: the Economics of Regulation. European Journal of Law and Economics,, 7(3), 225-240. doi:doi:10.1023/a:1008776629651.

Mcdowell, J., & Novis, G. (2001, May). The Consequence of Money Laundering and Financial Crime. An Electronic Journal of the U.S. Department of State, 6(5), 6-8.

Nair, S. V. (2007). Factors affecting money laundering: lesson for developing countries. Journal of Money Laundering Control, 10(3), 352-366. doi:https://doi.org/10.1108/13685200710763506.

Nguyen, C. L. (2018). Preventing the use of financial institutions for money laundering and the implications for financial privacy. Journal of Money Laundering Control , 21(1), 47-58. doi:https://doi.org/10.1108/JMLC-01-2017-0004.

Okab, R. (2014, February). Applying Internal Control Procedures for Detecting and Preventing Money Laundering Operations in Banks: A Field Study in the Hashemite Kingdom of Jordan . Journal of Modern Accounting and Auditing, 10(2), 191-209.

Pavone, P., & Parisi, F. (2018). Compliance and Corporate Anti-Money Laundering Regulation. Jounal of Governance and Regulation, 7(2), 7-14. doi:http://doi.org/10.22495/jgr_v7_i2_p1.

Pellegrinaa, L. d., Maiob, G. D., Masciandaroc, D., & Saracenod, M. (2020, July 01). Organized crime, suspicious transaction reporting and anti-money laundering regulation. Regional Studies, 01-15. doi:doi: 10.1080/00343404.2020.1772963.

Rashed, H. (2025). PRISMA-based systematic review on anti-money laundering: Evidence from a developing economy. Journal of Governance and Regulation, 14(2), 155–165.

Reuter, P., & Levi, M. (2006). Money Laundering. Crime and Justice, 34(1), 289-375. doi:doi:10.1086/501508.

The Quarterly Review of Economics and Finance. (2025). Monetary policy, financial development, and money laundering: International evidence. The Quarterly Review of Economics and Finance, 104, Article 102051.

Shah, S. H., Shah, S. H., & Khan, S. (2007). Anti Money Laundering Mechanism An Application of Principal-Agent Model for Pakistan. International Journal of Human Development , 03(1), 62-82.

Smet, D. D., & Mention, A. L. (2011). Improving auditor effectiveness in assessing KYC/AML practices. Managerial Auditing Journal, 26(2), 182-203. doi:DOI 10.1108/02686901111095038.

State Bank of Pakistan;. (2020, 11 11). Financial Stability. Retrieved from www.sbp.org.pk: https://www.sbp.org.pk/FS/SFS.asp.

Teichmann, F. (2019, August 31). Recent trends in money laundering. (237-247, Ed.) Crime, Law and Social Change, 73(2). doi:https://doi.org/10.1007/s10611-019-09859-0.

United Nations Office on Drugs and Crime. (2020). www.unodc.org. Retrieved from https://www.unodc.org/unodc/en/money-laundering/globalization.html.

Zubair, M. (2013, June). Money Laundering and Financing of Terrorism in Pakistan. International Research Journal of Social Sciences, 20-23.