

Determinants of money laundering: a study among commercial banks in Malaysia

Maitily Parathi Tasan^{1*}, Suresh Balasingam¹, Kahyahthri Suppiah¹, and Dhamayanthi Arumugam¹

¹Asia Pacific University, Jalan Teknologi 5, Taman Teknologi Malaysia, 57000 Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur, Malaysia

Abstract. Banks and other financial institutions are required by law to comply with AML requirements to guarantee they do not facilitate money laundering. However, financial institutions are exceptionally susceptible to money laundering activities in Malaysia. With this concern, this project aimed to identify the determinants which contribute to money laundering activities among commercial banks in Malaysia. Since there are only a few studies have analysed various factors that influence money laundering, this study intends to achieve the aim of the study which is to figure out the level of influence that the factors identified as independent variables on the dependent variable, money laundering. In this study, technology, legal framework, income, and ethical behaviour are acknowledged as the independent variables. A total of 102 survey questionnaires were delivered to commercial bank employees via a convenience sample strategy. Descriptive and inferential statistics were compiled by entering the replies of a total of 102 respondents one by one into SPSS. The results revealed that there is a positive relationship and correlation between all four independent variables; technology, legal framework, income and ethical behaviour towards the dependent variable, money laundering. Consequently, the null hypothesis formulated for this research has been disproved, however, the alternative hypotheses have all been accepted and validated by the data analysis conducted. In addition, this research is claimed to be capable of resolving money laundering difficulties and educating commercial banks on how to identify and prevent money laundering in their organisations. **Key Words:** Money Laundering; Technology; Legal Framework; Income; Ethical Behaviour

1 Introduction

In recent times, money laundering has been severely occurring all around the world. Money laundering is utilizing a progression of monetary exchanges to present illegal or “dirty” funds into the monetary framework. Each transaction masks the source of the cash until it has been housed in a legitimate financial institution or organization, and gives off an impression of being “clean” (Green, 2020). International Monetary Fund (IMF) approximated that almost U.S. \$1-2 trillion is being laundered annually which corresponds to 2 to 5% of global GDP

* Corresponding author: suresh.balasingam@apu.edu.my

(Reganati & Oliva, 2018). In addition to that, there is evidence showing an increase in the risk index score of money laundering in Latin America in 2020. The extract of the statistic is shown in Exhibit 1.



Fig. 1. Extract of risk index score of money laundering, by country, in latin america. Source: statista research department (2021).

According to O'Connel (2019), money laundering has been for 2000 years when Chinese dealers cycled cash through various associations and monetary exchanges to conceal payments from government administrators. In the mid-1900s, criminals purchased laundromats to channel dirty cash from illegal activities and fuse the money with genuine business pay. In the 20th century, law implementation tied money laundering to identifying gangsters, drug dealers, Mafia bosses, and other criminals who masked the source of money acquired illicitly and laundered that money into legitimate and lawful assets. Lately, in the 21st century, the use of cash in money laundering has been declining. However, it gives a drastic increase in internet-based financial vehicles. Apart from that, usage of bank cards like credit cards and payment through handphones increases the act of money laundering and remains problematic for the government, businesses, and law enforcement departments.

The impacts that money laundering brings on an economy are various and perilous to a country. This cycle influences the financial sectors and economy, thus further impacting many different sectors. The significant impact of money laundering is the deformation in consumption as money laundering involves purchasing luxury assets like jewellery and real estate to conceal and clean the money. Next, money laundering increases the crime rate and eventually impacts the growth rate of a country (Gjoni et al., 2015). Laundering money severely impacts the government's income as the government finds it difficult to produce revenue from relevant transactions which are normally from illegal activities. It reduces tax income which ultimately gives a huge impact on the economy (Bhanarkar, 2020).

Money laundering occurs in three main stages. The first stage is a placement where the illegal money will be placed into the financial system. This can be done through deposits, wire transfers, and other mediums. The second stage is layering, which entails dividing huge sums of money into a succession of smaller transactions. Then, the launderer will transfer and constantly move the fund between various nations to avoid detection. In the third stage, integration, the launderer invests the funds into legitimate economies such as the purchase of the real estate, luxury assets, jewels, or other organizations (Reganati & Oliva, 2018).

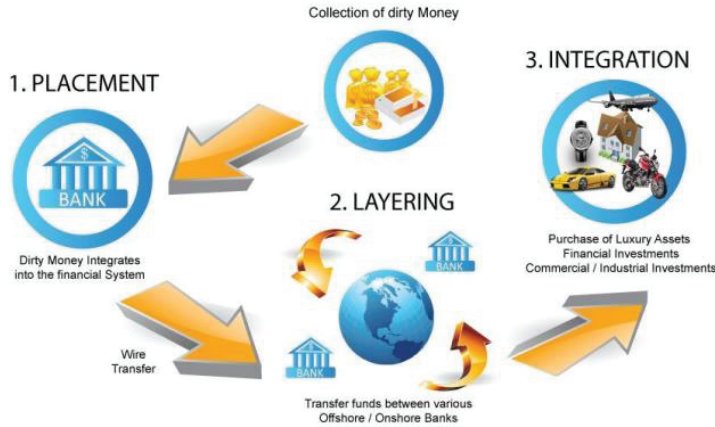


Fig. 2. Stages in money laundering. Source: Tomic et al. (2018).

The Anti-Money Laundering, Anti-Terrorism Financing and Proceeds of Unlawful Activities Act 2001 (AMLA) is the essential rule administering the Anti-Money Laundering and Counter Financing of Terrorism (AML/CFT) system in Malaysia. The AMLA accommodates the offence and the actions to be attempted for anticipation of money laundering and terrorism financing (AML/CFT, 2014).

In the finance field, commercial banks have been the biggest institutions from then till now. Taking into account that commercial banks intervene in a huge number of transactions throughout the day, they are an incredible danger against monetary violations. For evidence, The European Commission labelled Denmark's biggest bank (Danske Bank) as the greatest scandal in Europe after its US\$228 billion money-laundering cases made headlines. Thousands of suspected clients reported using the bank's lax procedures to carry out fraudulent transactions totalling \$228 billion between 2007 to 2015, according to the bank's Estonian office. Next, HSBC bank was fined in 2012 for accommodating inadequate internal control mechanisms, which allowed \$8 billion to be laundered in the seven years. The bank provided banking services and US dollars to Saudi Arabian banks which have direct links to terrorists. They also facilitate transactions with banned nations like Iran and North Korea while evading international sanctions. Among the charges imposed on the bank were insufficient controls at HSBC Mexico, considering the bank's evidence of drug trafficking and money laundering activities (Tookitaki, 2022).

Similarly, in Malaysia, an old bank officer was convicted with 14 charges of money laundering equalling RM3.409 million at the Sessions Court. Between August 2017 till October 2019, the accused claimed trial on 14 money laundering accusations after allegedly involving himself in illicit activities by accepting cash from twelve people at the Malayan Banking Berhad branch in Taman Inderawasih, Prai. On conviction under AMLATFPUAA, the crime entails a maximum sentence of 15 years in prison and a fine of five times the amount earned by money laundering, or RM5 million (Dermawan, 2021).

According to Mohamad Abdul Latif & Abdul-Rahman (2018), Bank Negara Malaysia which is the central bank of Malaysia has obtained six court orders and prosecuted over 182 criminal offences regarding financial illegal activities. In addition, two Islamic banks in Malaysia have been compounded for RM1.05 million as the banks neglected to agree with AMLA orders. Huge amounts of cash have kept on being spent on improving anti-money laundering (AML) action. By 2017, the worldwide spending on AML compliance was more than \$8 billion and is set to develop more in the future. However, money laundering activities are still rising, especially among commercial banks in Malaysia (Mohamad Abdul Latif & Abdul-Rahman, 2018).

Therefore, to make sure that targets are refined and the law concerning money laundering in Malaysia is amplified, it is important to have detailed research on the key determinants of money laundering among commercial banks in Malaysia to guarantee that the bank's working framework occurs securely.

2 Literature Review

This chapter assesses the previous research and works of literature in the area of factors influencing money laundering. It will cover the perception of money laundering and its determinants, technology, legal framework, income, and ethical behaviour. This section will apply a diversity of existing reliable journals to evaluate both dependent and independent variables and the literature gaps will be identified to give a direction to this thesis. Besides, theories are also discussed in this chapter.

2.1 Money Laundering (Dependent Variable)

Rusanov (2020) investigated money laundering in the modern crime system. The authors collected study sentences of the Russian courts and led a survey of law enforcement officials to support their findings. Approximately 15%–20% of money laundered illegally is being invested to finance unlawful actions. Money laundering played the leading part in the construction of current wrongdoing. Accordingly, effective measures must be taken to battle different sorts of crime, deliberately related to money laundering. Isa et al. (2015), assess money laundering risk, by obtaining bankers' and regulators' perspectives to conduct the study. Launderers move unlawful money by transferring accounts or fund remittance with the aid of banks, deliberately or unknowingly, and the origin of illicitly acquired money is fully covered and hidden. For example, Standard Chartered Bank was charged USD\$340 million to the United States supervisory body upon allegations of violating the United States money laundering laws in facilitating illegal transactions for Iranian customers. According to Teichmann & Falker (2020), the main aim of their research paper is to represent how illicitly acquired funds from Austria, Germany, Liechtenstein, and Switzerland are washed through the financial framework in Dubai. Qualitative analysis by interviewing prevention experts of money laundering and a quantitative survey with compliance officers in the financial industry were done to aid this study. In their findings, the researchers mentioned that certain banks are highly fit for all three stages of the money laundering procedures. 40.3% of compliance officers have come across money laundering cases related to financial institutions and banks.

2.2 Independent Variables. Technology

Technology is one of the determinants that has been identified by most researchers. Leite et al. (2019), have conducted research to present the implementation of technological solutions contrary to money laundering. In their research paper, a Systematic Literature Review (SLR) was performed. The researchers concluded that there has been a developing interest in technology development to fight against money laundering. There is a prominent inclination for anti-money laundering arrangements by utilizing technology. For instance, the usage of data mining technology in banks helps to detect suspicious transactions to prevent money laundering. Next, Gilmour (2020), outlines how innovative technology is leading money laundering procedures. The author used his understanding and criminal methodologies from law enforcement agencies and Financial Intelligence Units (FIU) to conduct the thesis. The researcher argued that misuse of developed technologies in money laundering is increasing.

This is due to the criminals are undeniably more modern in their utilization of innovation to perpetrate wrongdoings and conceal their illegal activities. The researcher states that technology is mostly used in enabling money laundering mainly at the layering stage. According to Turki et al. (2020), researchers conducted their research to demonstrate the influence of Regulatory technology (RegTech) on money laundering in banks. The survey instrument has been dispersed to bankers working in Bahrain. The researchers argued that the adoption of technologies such as RegTech can prevent money laundering in banks. RegTech will cause effectiveness in money laundering counteraction through the linkage of analytics of non-structured data with machine learning. These linkages aid banks in checking the enormous volumes of client exchanges and in the reportage of dubious transactions.

H_{A1}: There is a relationship between technology and money laundering among commercial banks in Malaysia.

2.3 Legal Framework

Zolkafilil & Omar (2019) initiated a study to comprehend difficulties faced by the law enforcement offices in leading the money laundering examination. The survey is being conducted on the law enforcement agencies that are in authority for leading money-laundering investigations in Malaysia. The timeframe that has been regulated under the Anti-Money Laundering, Anti-Terrorism Financing and Proceeds of Unlawful Activities Act (AMLATFPUAA) 2001 is short and insufficient to investigate money laundering crimes. The research officials are confronting challenges in collecting adequate data to aid their money laundering examinations. Besides, Malaysia is deficient in having a supportive network to help the law enforcement offices during the examination cycle. The research paper by Nasir (2019), purposes to assess the new stages and enforcement mechanisms to fight money laundering. The researcher uses qualitative research, judicial declaration, and scholarly ideas regarding the anti-money laundering framework to conduct his study. The author concluded that the policies and regulations that have been announced can help prevent money laundering. However, an amendment to the existing arrangements of law is much needed to prevent money laundering in banks. A particular policy to protect whistle-blowers is essential in banks to aid employees in reporting suspicious activities without any fear. Jayasekara (2020), intends a study to evaluate the effect of the anti-money laundering legal framework together with the implementation of the framework in fighting specific crimes. The research comprises a data set of 67 countries and the regression model is also used in this study. Based on the findings, the researcher states that the current Anti-Money Laundering/Combating the Financing of Terrorism (AML/CFT) legal framework alone is not adequate to fight against money laundering. Effective implementation of the legal framework is needed to attain the AML/CFT objectives of the country. Worldwide policymakers additionally need to reinforce the observing system of AML/CFT in insufficient nations to shield the worldwide monetary frameworks from launderers.

H_{A2}: There is a relationship between the legal framework and money laundering among commercial banks in Malaysia.

2.4 Income

Income is another factor that has been found by researchers in affecting money laundering. According to Awwal (2020), the research is conducted by disbursing questionnaires to bank officers to detect the factors of money. Bank employees tend to involve in money laundering because they have an imbalance of income to cover their necessary expenditures. Constantly gaining additional money influences a person to frequently conduct money laundering. This is because, as individuals receive some sort of money or bribe by committing money

laundering activities, their earning tendency is about to incline which makes them commit more to these kinds of unlawful activities. Ba & Huynh (2018) in their research on analyzing risk contribution in the banking system, it is found that there is a correlation between income level and crime. The researchers state that individuals who have higher incomes are less likely to commit unlawful activities due to their employment opportunities. Individuals with low income are desperate for more money, resulting, in involving themselves in money laundering. Based on Nawawi & Salin (2018), by utilizing document analysis and survey questionnaire methods, they conducted a study to recognize the employees' points of view in conducting crime. In their findings, employees in lower-level positions in banks have moderate salaries which they are unhappy about. However, due to their deluxe and expensive lifestyle, they tend to involve in unlawful activities to support their expenditures. Employees who receive an increment in their salary and have sufficient benefits are not likely to involve in illegal activities and thus, reduce the criminal activity in banks.

H_{A3}: There is a relationship between income and money laundering among commercial banks in Malaysia.

2.5 Ethical Behaviour

Suh & Shim's (2019), research is conducted to investigate characteristics of ethical culture in financial sectors. Poor ethical behaviour such as weak integrity is the main cause of internal crimes in banks and financial institutions. As evidence, in Savings Banks Scandal, the bank lost almost \$26 billion which was caused by poor integrity by the workers in the bank. To avoid any criminal activity in banks such as money laundering, ethics education, training and leadership are important to raise bank employees' knowledge of moral concerns while also encouraging them to act ethically. Constantine (2021) in his research explains why money laundering occurs. This researcher's perspective is different from others in that he stated that individuals might slip into a variety of ethical traps that foster unethical actions. Environmental influence usually overpowers the influence of ethical behaviour. He mentioned that any employee which has solid ethical values can act unethically under certain circumstances or pressure from an authority figure. Putting the bank's aims ahead of its own is an ethical pitfall that an authoritative person might undergo. Employees at Danske Bank, for example, hide and ignore money laundering activity that occurred inside their organization because they do not want to ruin the bank's reputation by exposing the matter. Research that examines measures to prevent fraudulent activities like money laundering in banks has been carried out by Dr Enofe et al. (2017). This study utilized primary data by gathering data from 15 commercial banks. The findings of this study stated that employees, as well as outsiders with unethical behaviour, work together in carrying out money laundering. Therefore, setting an ethical code of conduct can allow bankers to express their views on what constitutes immoral and unethical behaviour. These aid the individuals in understanding moral issues and determining acceptable and unacceptable behaviour in banks.

H_{A4}: There is a relationship between ethical behaviour and money laundering among commercial banks in Malaysia.

2.6 Underpinning Theory

The world's leading associations have encountered huge money laundering activities. Fraud and money laundering are interrelated because fraudulent acts generate cash, which needs to be laundered. Therefore, it is essential to have an additional understanding of the principal inspirations of fraud. This paper takes an inside and at a fundamental fraud, theory called fraud diamond theory. An in-depth understanding of the theory is vital to prevent fraud mainly focusing on money laundering in commercial banks (Mansor & Abdullahi, 2015).

Fraud Diamond Theory

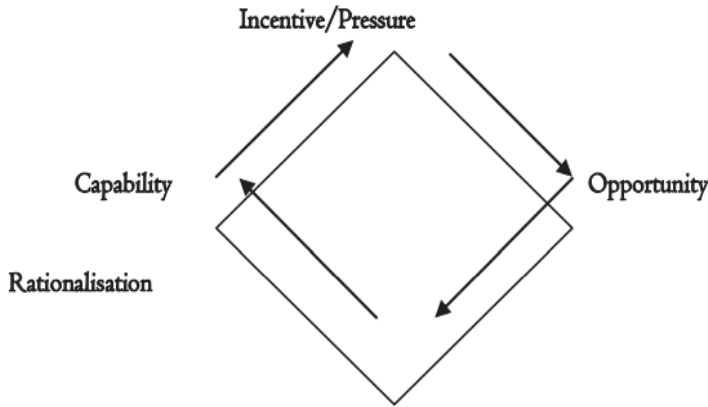


Fig. 3. Fraud diamond theory. Sources: (Abdulrahman, 2019).

Fraud theory is a principle that explains why corporate fraud is occurring in an organization. The theoretical framework underpinning this research is the Fraud Diamond Theory (Christian et al., 2019). The theory was proposed by Wolf and Hermanson to replace Cressy's Fraud Triangle Theory and there are four assumptions on why fraud is occurring in companies. This includes pressure, opportunity, rationalization, and capability (Abdulrahman, 2019).

The first assumption is the pressure, also known as motivation that drives an individual to commit fraud. Usually, people require some type of pressure to conduct an illegal act. It might be close to home, work, or outer pressure or it tends to be monetary or non-monetary pressure (Abdulrahman, 2019). Mansor & Abdullahi (2015), stated that financial pressure can be the main factor influencing a person to commit fraud in an organization. Approximately, 95% of fraudulent cases have been executed because of the fraudster's monetary pressing factors. Next, opportunity. There is an opportunity available for an individual to commit fraud and violate the person's financial trust in his company. In the event of fraud, a momentary scenario frequently emerges when there is a possibility to do the crime without getting discovered. For example, inefficient control and supervision can create opportunities and allow for committing fraud in the workplace (Abdulrahman, 2019). The third assumption is a rationalization in which the person committing fraud gives self-justification to rationalize his fraudulent actions (Abdulrahman, 2019). Examples of rationalization given by fraudsters are "only borrowing money" and "to support the family". Lastly, capability. Capability indicates that the culprit has fundamental characteristics, abilities, or positional power to conduct his wrongdoing act. This theory offers a superior perspective on the components of misrepresentation because numerous crimes and frauds would not have happened without the perfect individual with precise abilities to execute the frauds (Abdulrahman, 2019).

3 Literature Gap

Although there are numerous studies has and have been discussing money laundering, this research scope needs to be further analyzed continuously. This is because it is found that money laundering is not only influenced by the independent variables chosen for this research, there are many other factors contributing to money laundering. Hence, the discussion on the independent variables chosen for this research happened to be limited

causing a literature gap to be investigated by future researchers. Furthermore, the time frame of literature happened to be a gap as well since, over the years, literature on money laundering was found to be limited. Research methodologies of past research also cause a literature gap since the research setting, sample size, type of approach or research tools all vary across the literature found for this research. For an instance, the implementation of quantitative and qualitative approaches, regression model, Systematic Literature Review (SLR), and Double-Tobit Model were varying according to the past studies. Thus, there is a necessity to conduct further research concerning the determinants of money laundering among commercial banks in Malaysia.

4 Methodology

This research employs positivism philosophy as the basic foundation for this study. The approach of this research is deductive. Using the deductive approach, the hypotheses and theory were developed. This study uses a survey strategy to obtain relevant data from respondents to test the hypotheses. Furthermore, this research implements the mono method which is a quantitative study as this research involves collecting and assessing numerical data. Cross-sectional research will be employed to gather primary data by constructing a self-administered questionnaire (SAQ). The SAQ will be created via Google Forms and distributed through links and emails to the respondents. Lastly, data collection will be conducted among commercial bank employees and examples of commercial banks that are chosen in this study are Public Bank, Malayan Bank, RHB Bank, and others. Based on the Roasoft sample size calculator, with a margin error of 10%, a confidence level of 95%, and a population size of 20,000, this study estimates 96 respondents to respond to the questionnaire. Relevant data analysis will be implemented by using various statistical techniques such as descriptive analysis, Cronbach Alpha, Pearson’s Correlation Coefficient and Multiple Regression Model to analyze the numerical data.

5 Results, Findings and Discussions

The findings of the hypothesis test between the dependent and independent variables will be explained in great depth. Additionally, Reliability Test, Pearson's Correlation Coefficient and Multiple Linear Regression results will be analysed below.

5.1 Reliability Test

Table 1. Reliability test for dependent and independent variables. Source: Primary Data.

Variables	Number of Items	Likert Scale	Cronbach’s Alpha
Dependent Variables:			
- Money Laundering	5	1 - 5	0.700
Independent Variables:			
- Technology	5	1 - 5	0.724
- Legal Framework	5	1 - 5	0.843
- Income	5	1 - 5	0.908
- Ethical Behaviour	5	1 - 5	0.797
Overall Cronbach’s Alpha			0.747

For each variable, a reliability test is conducted to assess its consistency (Hair, et al., 2006). For both dependent and independent variables, the Cronbach's Alpha reliability test is shown in Table 4.1. There is a 0-1 range for Cronbach's Alpha reliability test, and the closer

it gets to 1, the more reliable it is with respect to each of the variables measured. In the range of 0.70 to 0.95, Cronbach's Alpha values are acceptable, according to Burns & Burns (2009). Although the item has an unusually high Cronbach's Alpha, the recommended maximum Alpha value is 0.90, since it's judged redundant. Cronbach's Alpha, as previously said, applies to this investigation as well. According to Table 4.1, the Alpha values for each variable, money laundering, technology, legal framework, income, and ethical behaviour, are respectively 0.700, 0.724, 0.843, 0.908, and 0.797, with each variable above 0.7. Therefore, these variables fulfil the regular range of Cronbach's Alpha. The overall Cronbach's Alpha for these factors is 0.747, which is likewise an acceptable value.

5.2 Pearson’s Correlation Coefficient

Between -1 and 1, according to Higgins (2005), are the correlation coefficients (r). The negative relationship between the two variables means that when the value of one variable rises, the value of the other variable falls, as shown by a correlation coefficient of -1. The two variables are positively associated when the correlation coefficient is 1, implying that a rise in one variable is accompanied by an increase in the other. If the correlation coefficient is zero, it means that there is no connection between the two variables at all. The significance of a 2-tailed correlation coefficient is assessed in this research. For H_0 to be rejected and H_A to be accepted, the p-value, or level of significance, must be less than or equal to 0.05 (p-value 0.05). The p-value is employed because, despite the strong correlation, there is no statistical significance.

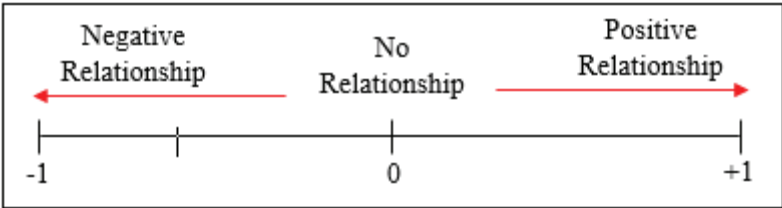


Fig. 4. Range of correlation coefficient. Source: Researcher Own Source.

Table 2 below established the findings of the Pearson’s Coefficient Correlation of the study.

Table 2. Pearson’s coefficient correlation. Correlation is significant at the 0.01 level (2-tailed). Source: Primary Source.

Correlations						
		Money Laundering	Technology	Legal Framework	Income	Ethical Behaviour
Money Laundering	Pearson Correlation	1	.661**	.385**	.077	.297**
	Sig. (2-tailed)		<.001	<.001	.441	.002
	N	102	102	102	102	102
Technology	Pearson Correlation	.661**	1	.479**	.184	.413**
	Sig. (2-tailed)	<.001		<.001	.065	<.001
	N	102	102	102	102	102
	Pearson Correlation	.385**	.479**	1	.474**	.622**

Legal Framework	Sig. (2-tailed)	<.001	<.001		<.001	<.001
	N	102	102	102	102	102
Income	Pearson Correlation	.077	.184	.474**	1	.620**
	Sig. (2-tailed)	.441	.065	<.001		<.001
	N	102	102	102	102	102
Ethical Behaviour	Pearson Correlation	.297**	.413**	.622**	.620**	1
	Sig. (2-tailed)	.002	<.001	<.001	<.001	
	N	102	102	102	102	102

Observations have shown that IV1 (technology) has the greatest link with DV (money laundering), as measured by a correlation coefficient of 0.661. The intensity of the association between these variables was deemed to be moderate, and the correlation coefficient's positive sign indicated that the variables were positively associated. With a sig. value of <0.001, the association between technology and money laundering was highly significant.

With a correlation value of 0.385, IV2 (legal framework) has the second strongest link with DV (money laundering). The moderate strength of the link indicated that the variables were favourably or directly associated, as shown by the correlation coefficient's positive sign. The significance of the association between the legal framework and money laundering was shown by a sig. value <0.001 which indicates extreme significance.

The correlation value of 0.297 between IV4 (ethical behaviour) and DV (money laundering) indicates a modest association between these two variables, while the positive sign of the correlation coefficient indicates that these two variables are positively associated. The correlation was significant at the 0.01 level; hence, the association between IV4 (ethical behaviour) and DV (money laundering) was significant because of the sig. value of 0.002.

Finally, the fourth independent variable was IV3 (income) which shows the weakest relationship with DV (money laundering). There is a low positive correlation of 0.77 between money laundering and income among commercial banks in Malaysia. This illustrates that 7.7% of the dependent variable, money laundering is expressed by the independent variable, income. However, the p-value for this connection is 0.441 which is above the range of 0.05, resulting in an insignificant relationship.

6 Multiple Linear Regression

Table 3. Model summary^b of multiple linear regression. Predictors: (Constant), Ethical Behaviour, Technology, Income, Legal Framework. Dependent Variable: Money Laundering. Source: Primary Data.

Model	R	R ²	Adjusted R ²	Standard Error of the Estimate	Change Statistics				
					R ² Change	F Change	df1	df2	Significant F Change
1	.672 ^a	.451	.429	.32223	.451	19.958	4	97	.000

R in Model Summary is multiple correlation values between the actual and estimated values of the dependent variable (Field, 2000). The range of R values between -1 and 1 demonstrates if the connection is positive or negative. While "R" "2" assess the variance rate of the dependent variable as given by the linear regression model (Frost, 2017). According to Table 4.3, the R-value for the correlation coefficient is 0.672, indicating a positive link

between the dependent variable and independent variables. In addition, the "R"² value in Table 4 is 0.451, which indicates that the four independent factors in this research can explain 45.1% of the dependent variables. Money laundering also has a high correlation with characteristics such as technology, legal framework, income, and ethical behaviour. Other variables may impact or contribute to the remaining 54.9% of the money laundering variable.

Table 4. Analysis of variance (anova^a). Dependent Variable: Money Laundering. Predictors: (Constant), Ethical Behaviour, Technology, Income, Legal Framework. Source: Primary Data.

Model		Sum of Squares	df	Mean Square	F	Significance
1	Regression	8.289	4	2.072	19.958	.000 ^b
	Residual	10.072	97	.104		
	Total	18.361	101			

According to Field (2008), Analysis of Variance is utilised to assess the significance level of the estimated result (ANOVA). It was able to compare samples for numerically dependent variables and determine if the findings are presented simply (O'Donoghue, 2013). In ANOVA, the Regression Sum of Squares is the difference between the Total Sum of Squares and the Residual Sum of Squares, according to Field (2012). In addition, the Total Sum of Squares refers to the sum of variability amount in the response and the Residual Sum of Squares cannot be considered after adopting the regression model, whereas the Regression Sum of Squares refers to the variability amount in the response that is considered by the regression model. The degrees of freedom, represented by df, is the number of independent variables. Subtracting 1 from the number of variables yields the df ($df = n - 1$) (Statistic How To, 2018). In addition, the F ratio is used to explain the differences between the variables. For an ANOVA to be considered significant, the p-value must be less than or equal to 0.05, which means that the null hypothesis must be rejected and that the association between two variables is significant (Minitab Inc, 2016).

According to Table 4.4, the df is 4 ($df = 5 - 1 = 4$) indicating that the degree of freedom created by five factors includes money laundering, technology, legal framework, income, and ethical behaviour. In addition, the residual degree of freedom is proportional to the sample size of 102 replies received. From this sample size of 102, the five variables are subtracted to arrive at 97. Next, the sum of 4 for the degree of freedom calculation and 97 yields 101 for the overall degree of freedom. Therefore, it may be stated that as the sample size rises, so does the degree of freedom. For more information, F-ratio ($2.072299 / .103831 = 19.958$) is derived by dividing the Regression of the Mean Square by the Residual of the Mean Square, as shown in Table 4.4.

There is also a significant association between the dependent variable and the independent variables of technology, regulatory framework, income and ethical behaviour in Malaysian commercial banks as shown in Table 4.4 with a significance level of 0.000, less than 0.05. As a result, hypothesis testing will be undertaken by ruling out null hypothesis and accepting alternate hypothesis.

Table 5. Coefficients and sig.value of multiple regression. Source: Primary Source.

Coefficients ^a						
Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	Constant	1.580	.342		4.616	<.001
	Technology	.586	.085	.605	6.875	<.001
	Legal Framework	.085	.070	.125	1.219	.226
	Income	-.051	.042	-.120	-1.228	.222

	Ethical Behaviour	.028	.073	.044	.391	.696
a. Dependent Variable: Money Laundering						

The table of coefficients that has been shown after the execution of multiple regression. Based on the observation, the outcome of the constant is 1.58, which is a predicted value for the dependent variable. Next, the value of the unstandardized coefficient indicated how much the dependent variable had changed in response to a change in an independent variable, while all other independent variables were kept constant. According to the study, IV1 (technology) produced a result of 0.586. This finding indicates that for every unit improvement in technology, there was an increase of 0.586 in money laundering. The technology is regarded as having one of the highest unstandardized coefficients. Heading forward, each unit increase in IV2 (legal framework) corresponded to a 0.085 rise in money laundering. The coefficient IV4 (ethical behaviour) produces a value of 0.028, making it the third highest unstandardized coefficient. Every unit rise in ethical behaviour correlates to a 0.028 increase in money laundering. IV3 (income) has the lowest coefficient that is not standardised, resulting in a value of -0.051. According to the observed analysis, all of the independent variables in the table, with the exception of IV3 (income), have positive values, which suggests that a rise in each unit of the predictor contributes to the growth in the dependent variable.

In addition, standardised coefficients are another name for beta weight. Standardization of both the criteria and the predictor variables allows them to be utilized. The beta weight is used to approximate the change in the dependent variable due to a one-standard-deviation increase in the predictor variable, assuming that all other predictor variables stay unchanged (Stephanie, 2016). An essential part of the study procedure was identifying and measuring the predictor variables' relative value in explaining the dependent variable. Table 5 shows that the largest standardised coefficient was found for IV1 (technology), where $\beta=0.605$ meant that for every one standard deviation rise in technology, there was a 0.605 standard deviation increase in money laundering. IV2 (legal framework) had the second highest coefficient ($\beta =0.125$), while IV4 (ethical behaviour) had the third highest ($\beta =0.044$). IV3 (income) had the smallest ($\beta =-0.120$). Therefore, the order and rating were analysed.

It is understood that the last column in Table 5 is as sig. value that was shown to exist for all independent variables. Analysis revealed that IV1 (technology) had shown <0.001 , IV2 (legal framework) had shown 0.226, IV3 (income) had shown 0.222, and IV4 (ethical behaviour) had shown 0.696. These showed that the findings except IV1 (technology) exceeded the required p-value of less than 0.05. The outcomes of the investigation, however, are summarised in the table below, after hypothesis testing was performed on each independent variable.

7 Hypothesis Testing

It can be understood that ANOVA can provide a significant level of estimating results. The further explanation of ANOVA and justification of hypothesis testing will be explained in this section.

Despite the sig. value of Table 4.5 illustrates that there is no significant relationship between the dependant and independent variables due to its value higher than 0.05 except for IV1 (technology) However, as per Table 4.4, the significance level is 0.000 which is lower than 0.05, therefore this further supports that the relationship between the dependant variables and independent variables which are technology, legal framework, income and ethical behaviour is significant with money laundering. Also, all the connections between the dependent variable and independent variables are valid and capable of influencing one another. Hence, the null hypothesis is rejected.

4.3.1 Relationship between Money Laundering and Technology

H_{01} : There is no relationship between technology and money laundering among commercial banks in Malaysia.

H_{A1} : There is a relationship between technology and money laundering among commercial banks in Malaysia.

In this study, the null hypothesis, H_{01} is rejected, favouring the alternative hypothesis, H_{A1} . According to Vedapradha. R & Ravi (2018), the researchers stated that sophisticated technologies have a favourable influence on the bank since they allow the identification of suspected money laundering operations. Therefore, there is a relationship between technology and money laundering activities. The objective of this research is achieved as it is to study the influence of technology in money laundering activity. In addition, research by Salehi et al. (2017), discovered that there is a substantial link between technology and money since technology identifies new money laundering trends and patterns. The researcher has accomplished the first aim by establishing the validity of hypothesis 1.

4.3.2 Relationship between Money Laundering and Legal Framework

H_{02} : There is no relationship between the legal framework and money laundering among commercial banks in Malaysia.

H_{A2} : There is a relationship between the legal framework and money laundering among commercial banks in Malaysia.

The null hypothesis is rejected, H_{02} and the alternative hypothesis, H_{A2} is accepted due to the significance of the connection between the variables. As per Olujobi & Bonyah (2022), there is a considerable link between the legal framework and money laundering, since the absence of a legal framework for whistle-blower protection is a primary driver of money laundering. In addition, Lukito (2016) found an absence of laws limiting cash transactions creates a loophole for money launderers, who may simply conceal their criminal activities and launder their illicit proceeds by participating in cash transactions. The researchers came to the conclusion that money laundering may be greatly reduced if the relevant legal framework is developed and put into practice efficiently.

4.3.3 Relationship between Money Laundering and Income

H_{03} : There is no relationship between income and money laundering among commercial banks in Malaysia.

H_{A3} : There is a relationship between income and money laundering among commercial banks in Malaysia.

The alternative hypothesis, H_{A3} is approved while the null hypothesis, H_{03} is rejected. According to Agu et al. (2016), income is included as a factor in money laundering difficulties, indicating that these two factors have a substantial link that may influence one another. The study determined that employees engage in money laundering in the workplace in order to supplement their luxurious lifestyles. Furthermore, Suharto (2020) observed that low-income employees who are dissatisfied with their pay are more inclined to seek out other income options. Regarding this, they engage in illegal operations in banks to supplement their income and meet their wants. The researcher has accomplished the third aim by demonstrating the third hypothesis.

4.3.4 Relationship between Money Laundering and Ethical Behaviour

H_{04} : There is no relationship between ethical behaviour and money laundering among commercial banks in Malaysia.

H_{A4} : There is a relationship between ethical behaviour and money laundering among commercial banks in Malaysia.

The alternative hypothesis H_{A4} is accepted whereas the null hypothesis, H_{04} is rejected. Said et al. (2017) discovered that strong ethical conduct among workers is necessary for avoiding employee fraud and for the banking business to operate without engaging in illegal

activities. Moreover, based on Kour (2021), owners, top executives, the board of directors, and internal auditors all engaged in unethical activities like money laundering, which contributed significantly to bank failures. Thus, it may be stated that the researcher has attained the fourth aim by providing evidence for the fourth hypothesis.

8 Conclusion

Understanding the fundamental factors of money laundering is crucial for banks and other financial institutions since they are the most susceptible to money laundering operations. Organizations that do not engage in money laundering are crucial to the economic development of the nation. Numerous academics have done studies and found that the association between money laundering and its primary variables is significant and beneficial. When extensive investigation and comprehension of the components of money laundering are undertaken, institutions in Malaysia, particularly banks, may diminish or eliminate this crime. In this study, the researcher proposes four characteristics of money laundering aspects to raise specific awareness among Malaysian banks. This study focuses on the major factors of money laundering, including technology, legal framework, income, and ethical behaviour. All four independent factors were shown to substantially contribute positively to the prediction of money laundering, hence confirming the overall hypothesis. All four criteria examined in this study have been shown to have a substantial link with money laundering. The purpose of this study is to examine the influence of technology, regulatory framework, revenue, and ethical behaviour on money laundering among Malaysian commercial banks is being achieved. In addition, helpful advice is provided for future researchers to assist them in producing projects of a higher quality.

9 Implications

This research is conducted to assess the factors that influence money laundering among commercial banks in Malaysia. This study benefits various parties including bankers, management of firms, fresh graduates, and future researchers. Firstly, this study will aid bankers as it creates an awareness of how risky money laundering is and how money laundering takes place mainly in commercial banks. The bankers will have a clear idea of the factors contributing to money laundering in their industry which eventually helps them to avert money laundering from happening. Next, the management of companies will be benefited from this study. This is because the management can identify and indicate effectively on red flags of money laundering in their organization and aid them in preventing this act. In addition, this study benefits fresh forensic accounting graduates as this research becomes one of the mediums to understand the determinants of money laundering. Through this, fresh graduates can prevent the occurrence of money laundering at their establishment. Lastly, this research benefits future researchers to comprehend the knowledge of money laundering. The future researcher can use this study as reference material to evaluate and assess the possible factors of money laundering crime.

9.1 Limitations

Few limitations can be addressed in this study to enhance future research. The first limitation of this study is the duration of the research. The research is being conducted in a short duration. This period restricts the researcher to gather adequate information and examining more detail on this study. Thus, an extended timeframe is ideal for a better research outcome. Furthermore, the researcher finds difficulties in finding relevant journals and previous

research regarding the framework of this study. The lack of information in journals affects the researcher to conduct the study efficiently. Additionally, the constraint of time arrangement for journals is from 2015 to 2021 to be chosen for the literature review. However, many old journals are relevant and fit to be used in this study.

9.2 Recommendations

The banking sector, financial institutions, and the financial services industry have made tremendous progress in money laundering detection and prevention during the last few years. However, they remain susceptible to abuse by criminal groups for laundering unlawfully acquired income and cash intended to fuel terrorist actions. Banks which are extremely vulnerable to money laundering activities face various implications. For example, they face regulatory risks, comprising monetary fines, regulatory punishments, and a time-limited prohibition on some business activities. In addition, when a financial services organisation is proven to be involved in money laundering, the company and key stakeholders may face legal action on the basis that its anti-money laundering compliance system is insufficient. Defending oneself against these accusations requires a significant amount of management's time and direct financial resources. Importantly, banks will face reputational hazards which might result in difficulty to obtain money at competitive rates and the loss of investor and consumer confidence, which results in missed business opportunities.

In order to overcome this issue, it is recommended that the adoption of advanced technology such as AML compliance software protects companies from money laundering. by the banks can significantly aid in detecting and combating money laundering. Software like this reduces the chance of mistakes while keeping track of a company's compliance procedure. For example, all sanctions lists can be analysed in real time by using artificial intelligence. Using specialised algorithms, AI systems are capable of detecting money laundering in several ways. Essentially, these algorithms analyse enormous amounts of data and raise a red flag if anything suspicious is discovered, such as unexpected transactions or account activity.

Secondly, banks must develop a whistle-blowing policy in their organization. Reporting unlawful conduct is sometimes a difficult choice for individuals or employees since they frequently face severe penalties, such as being retaliated, dismissed, intimidated, etc. By developing a mechanism for reporting wrongdoing, the organisation will adhere to the idea of transparency. Through the system, whistle-blowers may submit their concerns and report on the red flags in a secure and protected manner.

Last but not least, banks can have regular cross-communication with other authorities such as law enforcement agencies. By holding frequent meetings, banks and law enforcement may share information, confirm any concerns, uncover potential networks, and strengthen public-private cooperation, so forming a unified front against money launderers.

References

1. AML/CFT. Malaysia Anti-Money Laundering & Counter Financing of Terrorism Regime. Retrieved 18 March, 2021 (2014) DOI: <https://amlcft.bnm.gov.my/AMLCFT02bi.html#:~:text=Legal%20%26%20Regulatory%20Framework,-The%20AMLA&text=The%20Anti%2DMoney%20Laundering%2C%20Anti,force%20on%2015%20January%202002>
2. O. Bhanarkar, Negative Effects of Money Laundering on The Economy. Retrieved 13 March, 2021 (2020) DOI: <https://www.regtechtimes.com/impact-of-money-laundering->

on-economy-of-the-country/

3. G.E. Dallal, How to Read the Output From Simple Linear Regression Analyses. Retrieved 15 February, 2018 (2012) DOI: <http://www.jerrydallal.com/lhsp/slrout.htm>
4. A. Dermawan, (13 December , 2021). Ex-bank officer claims trial to 14 counts of money laundering totaling RM3.409 million [NSTTV]. Retrieved from New Straits Times: <https://www.nst.com.my/news/crime-courts/2021/12/753831/ex-bank-officer-claims-trial-14-counts-money-laundering-totaling>
5. A. Field, Multiple Regression. Research Methods in Psychology, 1-11 (2008)
6. A.P. Field, *Discovering Statistics Using SPSS for Windows: Advanced Techniques for the Beginner* (SAGE Publications Inc., London, 2000)
7. J. Frost, (15 April, 2017). How To Interpret R-squared in Regression Analysis. Statistics By Jim. Retrieved 15 February, 2018
8. J.M. Green, What Is Money Laundering? Retrieved 11 March, 2021 (2020) DOI: <https://www.thebalance.com/what-is-money-laundering-5090106>
9. J.F. Hair, W. Black, J. Babin, et al., *Multivariate Data Analysis (6th ed.)* (Pearson Prentice-Hall International, New Jersey, 2006)
10. J. Higgins, *The Correlation Coefficient. In The Radical Statistician (p. 11)* (The Management Advantage, Inc., California, 2005)
11. Minitab Inc. Interpret the key results for One-Way ANOVA. Retrieved 15 February, 2018 (2016) DOI: <http://support.minitab.com/en-us/minitab-express/1/help-and-how-to/modeling-statistics/anova/how-to/one-way-anova/interpret-the-results/key-results/>
12. P. O'Donoghue, *Statistics for Sport and Exercise Studies: An Introduction* (Routledge, New York, 2013)
13. Raosoft Inc. Raosoft sample size calculator. Retrieved 22 May, 2021 (2004) DOI: <http://www.raosoft.com/samplesize.html>
14. Statistic How To. (2018). Degrees of Freedom: What are they? Retrieved 16 February, 2018, from <http://www.statisticshowto.com/degrees-of-freedom/>
15. Tookitaki. (2022). The Biggest Money Laundering Cases: From Wachovia to Danske Bank. Retrieved from Tookitaki : <https://www.tookitaki.ai/news-views/from-wachovia-to-danske-bank-biggest-money-laundering-cases-in-recent-times/>