

# **AI In Anti-Money Laundering Software (AML)**

Team-Sonu

Sonu Kumar (Team Lead)

Akash Pratap Singh

Habiba Anjum

Tanmay Sandeep Pawar

Chandru J

C S Ayush Kumar

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## 1 Abstract

Anti-money laundering (AML) software refers to a solution, which enables banks and other financial institutions to monitor customer behaviour for suspected criminal financial activities through automated processes.

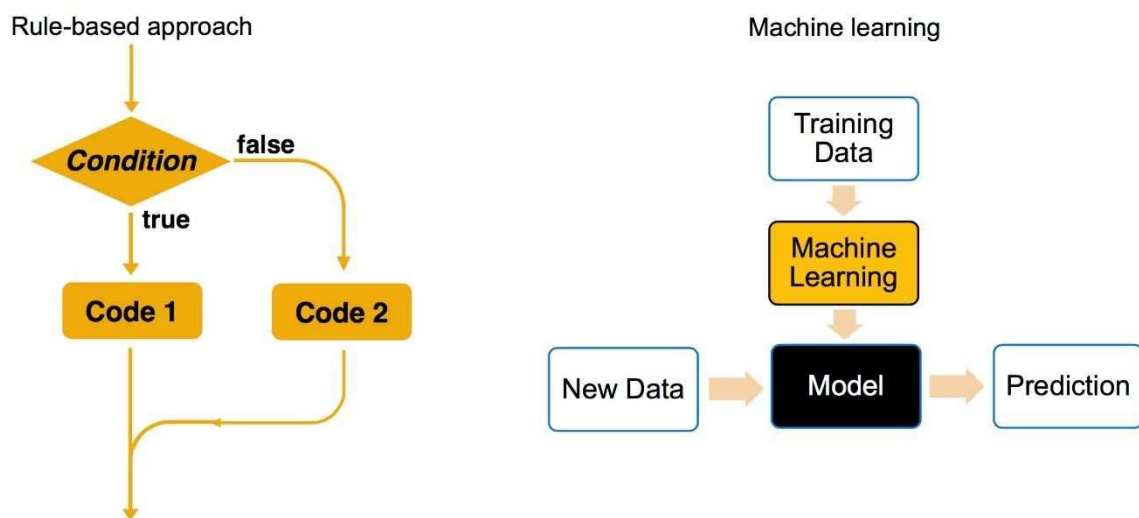
Different types of AML solutions such as transaction monitoring, currency transaction reporting, customer identity management, and compliance management have been considered under anti-money laundering software market.

Increase in the volume of global transactions has fueled the deployment of AML solutions in banks and other financial institutions. The global anti-money laundering (AML) software market size was valued at \$879.0 million in 2017, and is projected to reach \$2,717.0 million by 2025, registering a CAGR of 15.2% from 2018 to 2025.

## 2 Problem statement

Automate existing AML software by implementing ML and AI algorithms, and find the best model which accurately predicts/prevents suspicious financial transactions.

## 3 Market Need Assessment



The institutions' current approach is one that is focused on rules. The rule-based approach lays forth a set of standards or criteria that compliance officers can use to spot fraudulent transactions.

Every financial institution keeps track of who has been involved in money laundering or who has broken their rules. This list is sometimes known as a sanction or watch list. If the following transaction does not comply with the regulations, the rule-based Anti-Money Laundering (AML) software will flag it. The compliance officer will then look into the transactions that have been identified. This method has the advantage of making conclusions that are simple to comprehend.

The rule-based approach has significant drawbacks, such as the need to introduce new rules to accommodate changes in money laundering patterns, and hence the inability to adapt to new patterns. Another disadvantage is that it makes extensive use of the bank's resources and is inefficient in terms of time. Because the negatives outnumber the benefits, this strategy must be modified to improve efficiency. As a result, it has become evident that the AML software must be automated.

## 4 Target Specification

AML stands for anti-money laundering software, which allows banks and other financial organizations to analyse customer data and spot questionable transactions. Transaction monitoring, customer identification authentication, and compliance management are all part of the process. Organizations can improve their security and operational efficiency by using systems that use AML software to filter information and deliver real-time alerts.

Anti-money laundering (AML) software is designed to help companies meet legal requirements to combat financial crime. Important features include the ability to monitor transactions, report currency transactions (CTR), customer identification, and compliance management.

This product is mainly designed for all **banking institutions**, primarily to enforce AML regulations.

## 5 External Search

- <https://complyadvantage.com/insights/anti-money-laundering/antimoney-laundering-software/>
- <https://diceus.com/anti-money-laundering-in-banks/>
- <https://www.tcs.com/content/dam/tcs/pdf/Industries/Banking%20and%20Financial%20Services/Anti-Money%20Laundering%20-%20Challenges%20and%20trends.pdf>
- <https://menafn.com/1103898747/Anti-Money-Laundering-AMLSoftware-Solution-Market-Global-Outlook-Business-OpportunityUpcoming-Trends-Recent-Development-Growth-Drivers-Strategy-Key-Players-Size-and-Forecast-2022-2031>

## 6 Benchmarking

- HSBC

The AML system uses big data, analytics and contextual monitoring to “detect and disrupt crime in international trade”. It will combine bank data and external data like company ownership information to identify links between counterparties. According to HSBC, the software monitors all trade finance transactions against more than 50 different scenarios which indicate signs of money laundering. Using this technology, customer activities can

be continuously assessed and scored for risk. This level of contextual monitoring improves accuracy, and decision making, while providing insight into data relationships never before possible

- SEON

SEON is becoming more popular as a compliance tool in the payments and iGaming industries, owing to its KYC capabilities. All of this is possible thanks to a robust real-time identity verification system based on alternative data checks like social media profiling. While SEON's fraud protection products aren't explicitly designed for AML compliance, they have enough features that many organisations utilise them to avoid regulatory fines. Integrations with other tools allow you to be notified of suspicious transactions, and custom rules offer you complete control over the flagging settings.

## 7 Applicable Patents

- Anti-money laundering system

Inventors: Yuh-Shen Song Catherine Lew Alexander Song Victoria Song

A computer system conducts transactional monitoring to detect different types of possible cases in order to prevent financial crimes and assist businesses to comply with different types of laws and regulations. The computer system derives a total risk score for each of a group of entities based on risk factors. Each of the risk factors is assigned a risk score. The computer system also detects an entity when the total risk score of the detected entity differs from a reference derived from total risk scores of the group of entities by a pre-determined margin. The computer system also assists a user to identify at least one transaction that has caused the detected entity to have a total risk score that differs from the reference derived from the total risk scores of the group of entities.

- Method and system to evaluate anti-money laundering risk Inventors: Henry Grant, Jr. Tyler Reynolds

A method to evaluate anti-money laundering risk may include identifying a person or other legal entity to be evaluated. A country may be selected associated with the person or other legal entity. At least one financial product or financial instrument associated with the person or other legal entity may be selected. The method may also include selecting a customer type associated with the person or other legal entity. A risk rating may be determined based on responses to predetermined criteria related to the selected country, the at least one selected financial product and the selected customer type.

## 8 AML Regulators in India

### Financial Intelligence Unit - India (FIU-IND)

The Financial Intelligence Unit of India (FIU-IND) was established in 2004 by the Indian government to review and analyse suspicious financial transactions. The Financial Intelligence Unit of India (FIUIND) is the organization responsible for the fight against the financial crimes of India under the Ministry of Finance. Businesses with AML obligations report to the Financial Intelligence Unit.

## Reserve Bank of India (RBI)

Reserve Bank of India is the central bank of the Republic of India. It is responsible for the economic growth and economic stability of India. However, it also has some regulatory powers to prevent money laundering.

## 9 Applicable Constraints

**Increased governance:** Managing cross-border and multi-jurisdictional AML-compliance requirements, as well as ever-increasing client due diligence obligations, can be problematic for banks and financial institutions. Identifying beneficial ownership and implementing remedial procedures to resolve AML shortcomings discovered by regulatory examinations are both difficult tasks.

**Lack of qualified staff:** Finding qualified personnel with in-depth understanding of AML can be difficult. High onboarding durations and costs, as well as turnover, are further challenges. Organizations must also devote significant time and effort to keeping employees up to date on evolving regulatory standards.

**Complicated processes and technology:** AML compliance necessitates the implementation of a number of processes and technological solutions that will integrate KYC data and systems into a single repository. They must also build infrastructure for cross-channel detection of suspicious actions, increase data quality, and standardise data in order to conduct centralised fraud and financial crime analysis.

The risk level assigned during onboarding changes depending on the customer's transactions. To avoid false positives, banks must assess risks for each customer on a continuous basis and adjust risk levels accordingly. This demands ongoing transaction monitoring for each consumer, which is a huge undertaking.

## 10 Business Opportunity

The global anti-money laundering (AML) software solution industry is now experiencing strong growth as a result of an increase in money laundering cases around the world. Furthermore, the expanding technological development throughout the world, which includes the integration of IT technologies to increase an organization's operational efficiency, is expected to be a major factor driving the overall anti-money laundering market.

Over the projection period, the anti-money laundering (AML) software solution market is expected to grow at a CAGR of 16.0%. By 2027, it is expected to reach a market size of USD 3.5 billion. By the conclusion of the projection period, the anti-money laundering (AML) software solution market is predicted to be booming. The market is divided into three categories: deployment, kind, and industry end-use. It is divided into two categories based on deployment: on-premise and cloud. During the projected period, on-premise is expected to be the largest sub-segment. The cloud-based sub-segment, on the other hand, is expected to grow at the fastest rate during the projected period.

The increased adoption of cloud-based services by various businesses is expected to be a major factor driving the sub-growth. segment's Transaction monitoring systems, currency transaction reporting, customer identity management systems, and compliance management

software are the different types of software. During the forecast period, transaction monitoring systems are expected to earn the most income.

The increased adoption of transaction monitoring systems by various financial institutions to lower the risk of money laundering is expected to be the primary driver of the sub-growth. segment's IT and telecommunications, healthcare, BFSI, transportation and logistics, manufacturing, defence and government, retail, energy and utilities, and others are the end-use industries. During the forecast period, the BFSI is expected to be the dominant sub-segment. The rising use of anti-money laundering (AML) technology in the financial services industry is expected to reduce money-related fraud.

## **11 Concept Generation**

It is obvious in a materialistic world that money can buy everything. There are those who earn money legitimately by providing a service or running a business. However, some people prefer to gain money in an illegal manner and thereby disregard the law. These individuals engage in criminal activities such as drug trafficking, terrorist financing, and tax evasion, among others. By laundering the money, these criminals attempt to conceal unlawful funds and avoid the banking institutions' laws and regulations. Money laundering can be accomplished in a variety of methods, including dividing large sums of money into smaller transactions, converting into foreign currency, or investing in valuable items like diamonds or gold. As a result, the question remains as to how financial institutions detect and prevent illicit activities.

One strategy to combat money laundering through financial transactions is to force financial institutions to provide consumers with higher financial security before granting them credit. Money laundering prevention through financial institutions is simply one part of a larger strategy to combat financial crime. The adoption of antimoney laundering programmes around the world is another crucial step in the prevention of money laundering.

## **12 Concept Development**

AML software performs the same function as human transaction monitoring, but it allows banks and financial institutions to automate their data analysis in real time and on an ongoing basis as part of their overall anti-money laundering/counter-terrorist financing programme. AML transaction monitoring software allows businesses to quickly and accurately build a comprehensive picture of their customers' financial behaviour, compare it to existing risk profiles, and even forecast future activity to determine whether customers pose a continuing money laundering or terror financing threat. When suspicious activity is found, transaction monitoring software can automatically notify AML teams and generate suspicious activity reports for the appropriate financial authorities.

While different platforms obviously vary in the functions and capabilities they offer, AML software tends to fall into four main categories:

- **Name screening:** Certain territories maintain 'blacklists' of highrisk customers and entities which financial institutions are prohibited from doing business with. Anti-money laundering software can be used to quickly identify blocked persons, and flag them to an institution. In addition to identifying sanctions, screening is also used to

identify Politically Exposed Persons (PEPs), and individuals receiving adverse media attention.

- **Transaction monitoring:** This category of AML software focuses specifically on identifying suspicious patterns in customer transactions, using historical information and the specifics of certain account profiles. In the United States, AML software tasked with monitoring suspect transactions would be used to generate a Suspicious Activity Report (SAR) which would then be submitted to FinCen.
- **Currency Transaction Reporting (CTR):** Anti money laundering software can be used to spot transactions involving large amounts of cash, or multiple small transactions aggregating a large amount of cash. Under the Bank Secrecy Act, for example, transactions of over \$10,000 would be flagged automatically.
- **Compliance:** Anti money laundering software can be used in the day-to-day implementation of compliance requirements. The data management capabilities of AML software can be used to keep detailed records of employee training and scheduled audits, and track reports submitted to financial authorities.

## 13 Prototype Selection

### 13.1 Feasibility-

This project can be developed and deployed within a year as **SaaS (Software as a Service)** to use.

### 13.2 Viability-

Anti-money laundering (AML) software refers to a solution, which enables banks and other financial institutions to monitor customer behaviour for suspected criminal financial activities through automated processes. Increase in the volume of global transactions has increased the deployment of AML solutions in banks and other financial institutions.

So, It is going to **survive in long term future** and important factor to keep in mind that the most successful business models are dynamic and repeatedly evolving.

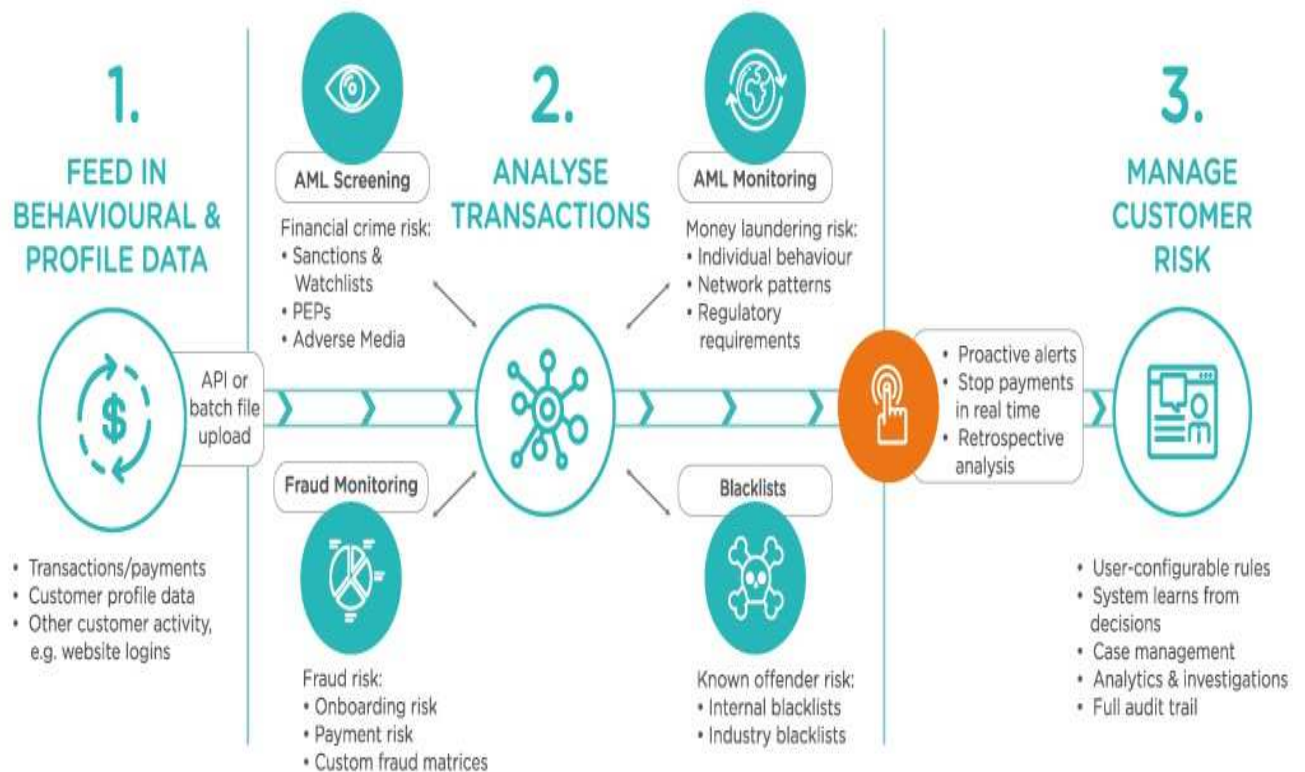
### 13.3 Monetization-

This service is directly monetizable as it can be directly released as a service on completion which can be used by Banking and other Financial Institutes.

**Code Implementation-** <https://github.com/Adrg01/Anti-money-laundering-project>



## 14 Prototype Development



### 14.1 Feed In Behavioural & Profile Data:

The first step of AML screening is to collect and organize the customer/transaction data. The transaction details, KYC, or other customer activities are collected. This process is usually fulfilled by the financial institutions. The data is then fed to AML software.

### 14.2 Analyse Transactions:

In this Phase we analyse the transactions on the given data and try to identify if a transaction possesses some risk. The model makes a decision based on the above conditions which include: Money Laundering risk, Fraud Risk, Financial Crime Risk and Known Offender Risk. So, to sum up this phase, the software does the following functions: AML monitoring and Screening, Fraud Monitoring and Backlist Screening.

### 14.3 Manage Customer Risk:

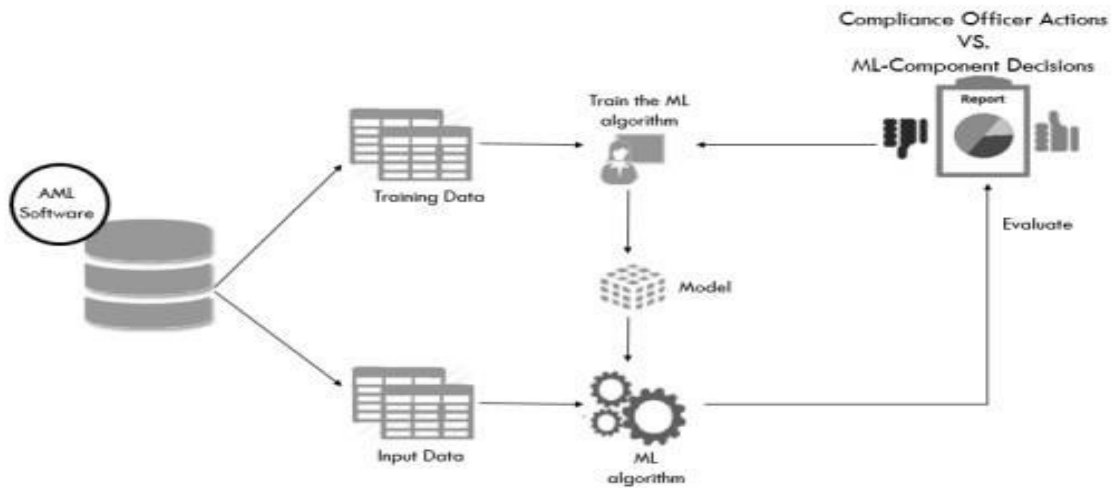
From the above phase, we get a clear understanding if the transaction possesses a risk or not. If the transaction is valid, then the software allows to transaction to proceed. If the transaction is flagged as fraud, then the transaction is blocked and given to a compliance officer for further screening. The model then can learn from the previous decisions to improve the accuracy of the model.



## 15 Product Details

### 15.1 Product Working Details

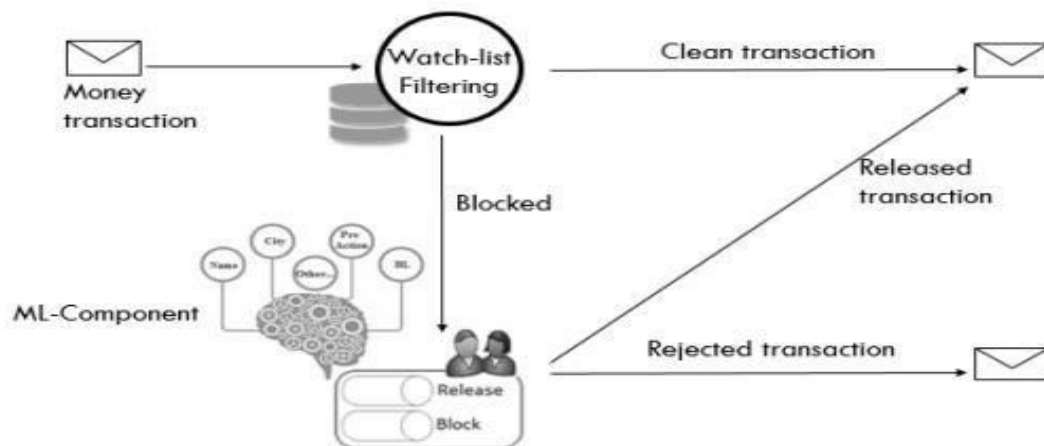
#### 15.1.1 Monitoring Phase



**Fig** Monitoring Phase

The suggested ML-monitoring Component's phase is the first step, during which incoming transactions are silently monitored. Depending on the settings, the ML-Component will use a portion of the transactions as training data to tune the model. After that, it will try to predict the final conclusion for testing data (transactions) and save it in a separate database with the transaction ID. The system will generate a report that includes both the investigators and the ML-choices Component's for each transaction ID after the compliance officer makes decisions on the same test transactions.

#### 15.1.2 Advising Phase



**Fig** Advising Phase

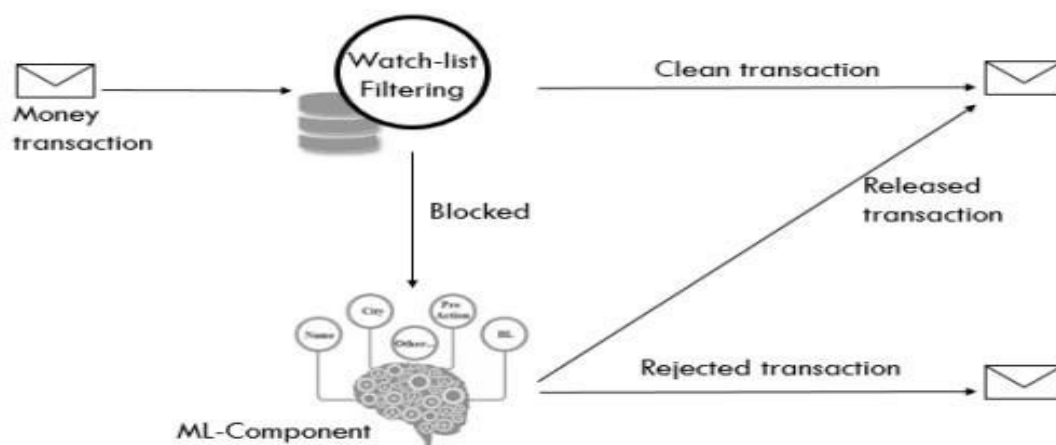
After completing the first phase with an acceptable report indicating a perfect match between the ML-Component option and the compliance officer decision, it's time to reduce the investigative effort by putting the ML-Component into action. To limit compliance risk and monitor system behaviour, this will be done in stages so that the ML-Component does not

issue a definitive decision on prohibited transactions. At this point, the ML-Component won't have entire control; it'll be able to make a decision, but it won't be the final one. As a result, human approval is necessary to finalize the transaction.

The watch-list filtering system can use the ML-Component to analyse pending transactions and offer suggestions on whether or not to release or reject blocked transactions. The system will shift

the transactions to queues based on the component's recommended decision. This will reduce the amount of time the compliance officer spends investigating prohibited transactions. It will also shorten the time it takes to make a judgement, which may result in penalties if there are a significant number of pending transactions in the queue for scrutiny.

### 15.1.3 Take-Action Phase



**Fig** Take-Action Phase

In addition to the benefits of the second phase, this phase will lower the number of false positive and false-negative transactions. The ML Component will make the final decision on whether to release or reject the blocked transaction. The compliance officer can also establish a set of rules for the system to follow, such as putting the transaction to the recommended decision queue to be manually handled. The watch-list filtering database contains a wealth of useful information, either about the transaction or the blacklisted entity it matched. While pre-processing the data set and testing the model, we can select the optimal fields to tune the ML-Component to the best conclusion. The financial transaction has a variety of data that may be used to construct the versions indicated above and fine-tune our ML Component. Transaction information such as the sender reference, ordering customer, and matched rank value will be used by the ML Component.

## 15.2 Data Sources

Every financial institution collects vast amount of data from customers that include their past and current transactions, their personal details and KYC details.

## 15.3 Algorithms

- a. Supervised Algorithms
  - Decision Tree
  - Random Forest
  - SVM for Classification
- b. Unsupervised and Deep Learning Algorithms
  - K-Clustering
  - ANN

## 15.4 Team Required

Financial Institutional Officers

Compliance Officers

ML Engineer

Software Developer

## 16 Business Modelling

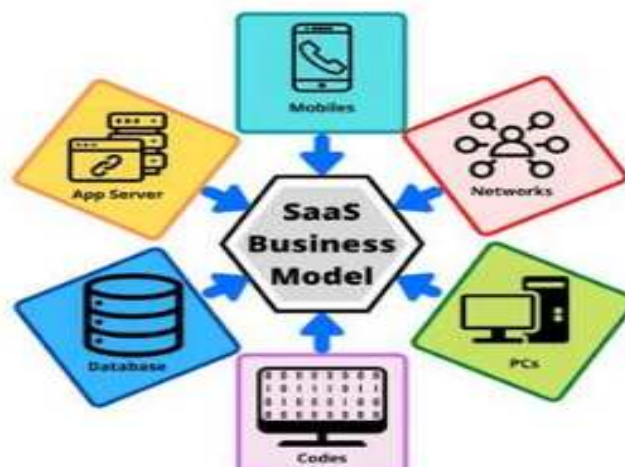
This project fall under the SaaS business Model.

### 16.1 SaaS Business Model

SaaS or Software as a Service business model is a centrally-hosted software that is hosted on a cloud infrastructure. Customers pay a subscription fee to utilize the software. Since the project is deployed on cloud infrastructure so Software as a Service Model will be used for business modeling. The **SaaS business model** allows subscribers and other customers to use the SaaS software with an annual or monthly subscription, rather than a one-time fee. This type of pricing model allows startups and other businesses in the SaaS industry to generate monthly recurring revenue while focusing on new features, new products, better service, and other benefits that offer lifetime value to both new customers and existing users.

Certainly, subscription-based revenue remains the foundation of most SaaS business models, but there are other creative approaches to the SaaS pricing strategy as well as innovative ways to grow the customer base and increase cash flow. SaaS companies can also charge more for ongoing support or premium on boarding and sell services to increase revenue.

## SAAS BUSINESS MODEL



## **16.2 SaaS in Anti Money Laundering System**

According to a new market intelligence report by BIS Research, titled 'Global Anti-Money Laundering (AML) Software Market - Analysis and Forecast, 2018-2023', the global anti-money laundering software market was estimated at \$868.0 million in 2017 and is expected to reach \$1.77 billion by 2023. It is estimated that the AML software market in India, which accounted for approximately 4.09% of the global market in 2017, will reach \$86.7 million by 2023, growing at a CAGR of 15.71% during the forecast period (2018-2023).

India had 9,600,000 currency transaction reports registered in 2013-2014. According to Yash Agrawal, Analyst at BIS Research, "The adoption of analytics and machine learning in AML is increasing the adoption of anti-money laundering software in crypto currency market and emerging economies.

Anti-money laundering (AML) software as a service (SaaS) solutions are making headway at financial institutions. Research firm Celent reported in 2019 that "data recently compiled on more than 3,000 AML transaction monitoring systems in production in the U.S. show that more than half are deployed off-premise. Some two-thirds of the off-premise systems are on the cloud. This means that 34% of total AML transaction monitoring systems in production in 2019 was SaaS. We expect this number to grow as Gartner predicts that worldwide end-user spending on SaaS will reach \$117.7 billion in 2021, up 16% from 2020.

## **17 Financial Modelling**

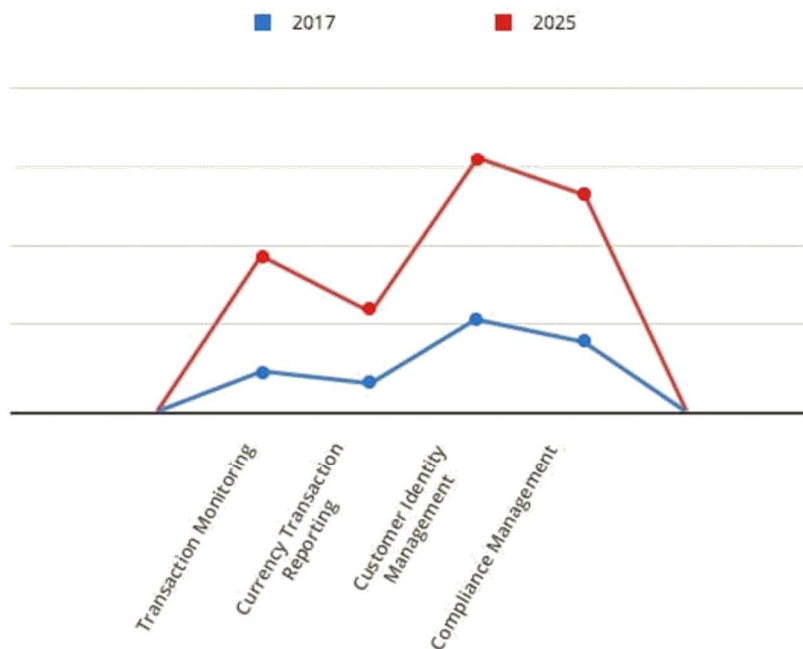
### **17.1 Identifying Market In which product/service will be launched into-**

Anti-money laundering (AML) software is a technology that allows banks and other financial institutions to use automated procedures to monitor client behavior for suspected unlawful financial activity. Anti-money laundering software market includes many sorts of AML solutions such as transaction monitoring, currency transaction reporting, client identification management, and compliance management. The implementation of anti-money laundering (AML) solutions in banks and other financial institutions has been spurred by an increase in the number of worldwide transactions. The worldwide anti-money laundering (AML) software market was worth \$879.0 million in 2017, and is expected to grow at a CAGR of 15.2 percent from 2018 to 2025, reaching \$2,717.0 million.

Increased AML regulatory requirements, an increase in money laundering instances, and an increase in IT investment are the primary reasons driving the growth of the anti-money laundering software industry. The anti-money laundering software business is expected to be hampered by a shortage of AML personnel. Increasing usage of cloud-based solutions and growing artificial intelligence technology in AML solutions, on the other hand, are likely to give profitable prospects for AML software market development over the forecast period

## GLOBAL ANTI-MONEY LAUNDERING SOFTWARE MARKET

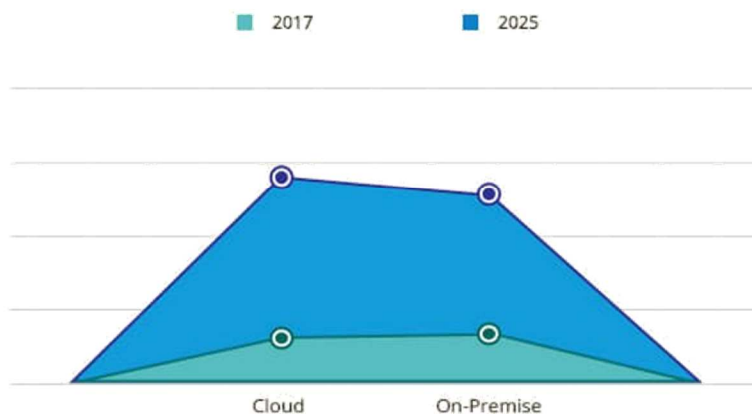
### BY PRODUCT



**Customer Identity Management** held a dominant position in 2017. Transaction Monitoring is expected to showcase highest CAGR over the forecast period.

## GLOBAL ANTI-MONEY LAUNDERING SOFTWARE MARKET

### BY DEPLOYMENT TYPE



**Cloud** is projected as one of the most lucrative segments.

Due to an increase in occurrences of identity theft-based money laundering, the customer identity management sector dominated the total market in 2017 and is projected to retain its dominance in the foreseeable future. Because of the increased security given by these systems, on premise based AML solutions dominated the market in 2017. However, due to

an increase in the use of cloud-based solutions in small and medium-sized financial institutions to combat money laundering, the cloud-based category is predicted to develop at the fastest rate. The widespread acceptance of anti-money laundering (AML) solutions and the implementation of rigorous government legislation requiring the deployment of AML solutions in financial institutions throughout the region, Europe dominated the overall market in 2017. However, due to factors such as increased bank IT investment and government anti-money laundering activities, Asia-Pacific is predicted to develop at the fastest rate throughout the projection period.

Based on an examination of regional trends, the research focuses on market drivers and constraints. Furthermore, the study includes a Porter's five forces analysis of the industry to better understand the impact of various factors on the growth of the AML software market, including supplier bargaining power, competitor competitive intensity, threat of new entrants, threat of substitutes, and buyer bargaining power. Based on an examination of regional trends, the research focuses on market drivers and constraints. Furthermore, the study includes a Porter's five forces analysis of the industry to better understand the impact of various factors on the growth of the AML software market, including supplier bargaining power, competitor competitive intensity, threat of new entrants, threat of substitutes, and buyer bargaining power.

## **17.2 Data /Statistics regarding Market**

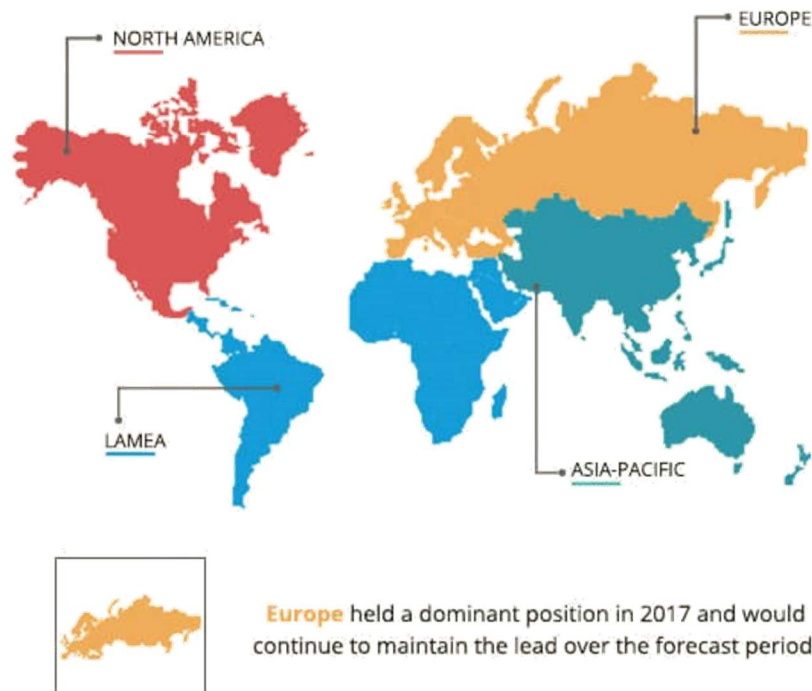
Anti-money laundering software is classified by component, product, deployment type, and geography in the worldwide market. It is divided into software and services based on the basic component. Transaction monitoring, currency transaction reporting, customer identity management, and compliance management are the different products. It is divided into cloud and on-premise deployments depending on the kind of deployment. North America, Europe, Asia-Pacific, and LAMEA are the regions studied.

ACI Worldwide, Inc., Ascent Technology Consulting, Eastnets Holding Ltd., FICO TONBELLER, NICE Actimize, Regulatory DataCorp, Inc., Safe Banking Systems LLC, SAS Institute Inc., Thomson Reuters Corporation, Truth Technologies, Inc., and Verafin Inc. are among the key players in the global anti-money laundering software market. Numerous factors drive the worldwide anti-money laundering software industry, including a rise in money laundering instances, the introduction of severe government rules to install AML solutions, and an increase in financial institution IT investment. Furthermore, during the projected period, a shortage of AML competent employees is likely to have an influence on market growth. However, each component has a distinct influence on the growth of the AML software industry.

Money laundering incidents have increased due to the rise of online banking institutions, peer-to-peer transfers utilising mobile phones, anonymous online payment systems, and the usage of virtual currencies. Due to these money laundering fines, banks face a significant financial loss. In the previous decade, a cumulative penalties of more than \$26 billion has been issued for non-compliance with AML, KTC, and penalty legislation. Because of their well-established finance industries, both industrialised and emerging economies have reported large money laundering instances and fines. For example, Danske Bank recently disclosed that around \$235 billion in transactions running through its Estonian office between 2007 and 2015 were determined to be involved with money laundering.

## GLOBAL ANTI-MONEY LAUNDERING SOFTWARE MARKET

### BY REGION



According to anti-money laundering specialists, Danske Bank might face a penalty of \$8.3 billion. Similar incidents with banks having to pay a large fee for money laundering have been reported in recent years. These large losses are driving financial institutions to follow regulatory standards, which in turn fuels the adoption of AML solutions, increasing the market's development. Several laws have been enacted to address money laundering in both developed and developing nations. The Financial Action Task Force (FATF) is an international organization that urges governments to establish financial intelligence units to handle information flow between law enforcement agencies and financial companies. Furthermore, government rules enacted by each country's financial intelligence unit have prompted financial institutions to deploy strong anti-money laundering and anti-terrorist funding solutions as a first line of defense. The United States' Patriot Act and Bank Secrecy Act, Europe's EU Fourth Anti-Money Laundering Directive, Canada's Proceeds of Crime (Money Laundering) and Terrorist Financing Act (PCMLTFA), and Australia's Anti-Money Laundering and Counter-Terrorism Financing Act of 2006 are just a few examples of major regulatory bodies and acts.

Companies have been encouraged to adopt new technology and solutions as their IT budgets have grown. The AML software industry is growing because to the increased demand for greater compliance capabilities inside financial institutions to manage the complicated regulatory and commercial environment. Banks are spending a lot of money on technology to improve and safeguard their infrastructure. For example, Citigroup expects to spend \$8.0 billion on technology in 2018, accounting for more than 20% of the bank's spending budget. Furthermore, according to an RSM Consulting poll, more than one-third of banks said they would raise their investment on anti-money laundering initiatives in 2017. In addition, 44



percent of banks anticipate to boost their AML and BSA budgets by 5–10 percent, while the rest expect to increase their spending by 11–20 percent.

This research covers a market analysis of anti-money laundering software, as well as current trends and future projections, in order to identify the most promising investment opportunities. The present market is statistically examined from 2017 to 2025 in order to showcase the industry's financial capability. In the worldwide anti-money laundering software sector, Porter's five forces analysis highlights the power of buyers and providers.

## **17.3 Key Market Segments**

### **17.3.1 By Component**

- Software
- Service

### **17.3.2 By Product Type**

- Transaction Monitoring
- Currency Transaction Reporting
- Customer Identity Management
- Compliance Management

### **17.3.3 By Deployment**

- Cloud
- On-premise

### **17.3.4 By Region**

- North America
- U.S
- Canada
- Mexico
- Europe
- UK
- Germany
- France
- Rest of Europe
- Asia-Pacific
- China
- India
- Japan
- Rest of Asia-Pacific
- LAMEA
- Latin America
- Middle East
- Africa

## **17.4 Financial Equation-**

### **17.4.1 Cost Estimation-**

#### **Employees salary**

AML KYC Analyst salary in India ranges between ₹ 2.5 Lakhs to ₹ 6.5 Lakhs with an average annual salary of ₹ 3.9 Lakhs. AML KYC Analyst salary in India with less than 1 year of experience to 6 years ranges from ₹ 2.5 Lakhs to ₹ 6.5 Lakhs with an average annual salary of ₹ 3.9 Lakhs based on 263 salaries.

Estimated Take Home Salary

₹ 28,513 - ₹ 29,875/month

#### **Team hiring cost**

##### Software developer

Software Developer salary in India ranges between ₹ 2.2 Lakhs to ₹ 13.4 Lakhs with an average annual salary of ₹ 5.1 Lakhs. Salary estimates are based on 120.4k salaries received from Software Developers.

Estimated Take Home Salary

₹ 38,150 - ₹ 39,343/month

##### ML Engineer

Machine Learning Engineer salary in India ranges between ₹ 3.5 Lakhs to ₹ 21.8 Lakhs with an average annual salary of ₹ 7.5 Lakhs. Salary estimates are based on 1.4k salaries received from Machine Learning Engineers.

Estimated Take Home Salary

₹ 55,703 - ₹ 57,098/month

##### Compliance officer

Compliance Officer salary in India ranges between ₹ 2.3 Lakhs to ₹ 16.0 Lakhs with an average annual salary of ₹ 5.0 Lakhs. Salary estimates are based on 799 salaries received from Compliance Officers.

Estimated Take Home Salary

₹ 37,564 - ₹ 38,765/month

### Financial Institutional Officers

Estimated Take Home Salary

₹ 13,644 - ₹ 15,094/month

Total cost for team hiring = 20.1 lakhs

**A ML project roughly cost:**

**\$8,750 to \$26,250**

**Equation:**

$$y = m \times t + c$$

y = Total Profit

m = Price of Product (RS 5000)

x(t) = total sale as a function of time (Calculated by Forecasting the Market with respect to time)

c = Production cost (includes Team Hiring ,server ,software and office cost)

## **18 Conclusion:**

Financial institutions are on the front lines in the fight against money laundering and terrorism financing. In addition, financial institutions must speed up the investigative process in order to reduce the "time to value," which is the time it takes to complete a transaction life cycle. As a result, adding machine learning to watch-list filtering systems that monitor financial transactions is a necessary if financial crime is to be combated more effectively and in a shorter amount of time. Many studies and investigations have been conducted to apply machine learning algorithms to AML solutions, however the industry is concerned about automating regulatory compliance areas due to the significant penalties that might be imposed if a failure occurs.

**Github Link-** <https://github.com/Adrg01/Anti-money-laundering-project>