



ARTIFICIAL INTELLIGENCE IN MONEY LAUNDERING IN BANKS – A HOLISTIC APPROACH

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ABSTRACT

Banking system plays a major role in development of economy. Due to the advent of digital technology, banking has undergone a massive shift in its mode of operations. Banks have been already offering a wide variety of products and services, integrated with technology and automation, the most familiar being ATM machines all around us. New trends artificial intelligence in banking sectors are gaining momentum at a fast pace as it reduces the human error and increases the efficiency of operations of the banks. At the same time, this digital technology has paved way for both positive and negative impact on operations of the banks. One such activity is money laundering. such phenomenon has occupied a significant position in the global policy agenda, in addition to other issues such as international terrorism. It is worthwhile to be mentioned that money laundering operations form a heavy burden on different countries in the world, which in their turn are looking for the best means to fight and limit them. It is well known that banks are one of the most important pillars of money laundering and its fighting at the same time, since most of money laundering is made through banks, which makes them perfectly suitable means to do such operations. Artificial intelligence has been deployed by banks to reduce such operations. This study emphasis on application of artificial intelligence in money laundering in banks and its efficiency in controlling the operations of Banks.

KEYWORDS : Artificial Intelligence, money Laundering, banks, Digital Technology.

INTRODUCTION



Source: <https://www.bankingexchange.com/news-feed/item/7972-how-ai-is-fighting-money-laundering?Itemid=256>

Artificial intelligence is creeping into our daily lives by using GPS navigation and scanning machine. The use of AI in business contributes to the potentializing of various areas of daily life such as customer service, finance, sale and marketing and technical process in various sectors especially in banking sector. AI is a tool for the prevention and fight against corruption, traceability of electronic action and the security that surrounds that management favors confidence in management. Artificial intelligence is the science and engineering domain concerned with theory and practice of developing systems that exhibit the characteristics we associate with intelligence in human behaviour¹.

There are two kinds of AI and machine learning – supervised and unsupervised. Each has its own particular strengths. With supervised learning, a model is trained using already categorized data to identify potentially suspicious transactions. With unsupervised learning, computer scientists expose the system to raw uncategorized data. Through interactions with the data, the computer system identifies patterns that might signal money laundering and also suggests new ways to organize and analyse data.

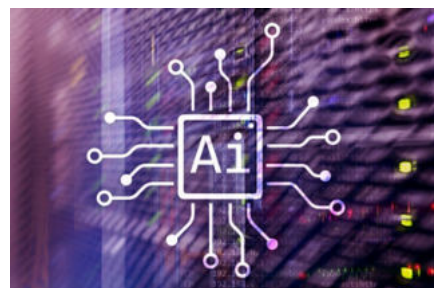
Money laundering is the illegal process of concealing the origins of money obtained illegally by passing it through a complex sequence of banking transfers or commercial transactions. The overall scheme of this process returns the money to the launderer in an obscure and indirect way.

Many jurisdictions have set up sophisticated financial and other monitoring systems to enable law enforcement agencies detect suspicious transactions or activities, and many have set up international cooperative arrangements to assist each other in these endeavors. The United Nations Office on Drugs and Crime (UNODC) 2009 estimates that the "amount of money laundered globally in one year is 2–5% of global GDP, or \$800bn – \$2tn in current US dollars"².

In a number of legal and regulatory systems, the term "money laundering" has become conflated with other forms of financial and business crime, and is sometimes used more generally to include misuse of the financial system (involving things such as securities, digital currencies, credit cards, and traditional currency), including terrorism financing and evasion of international sanctions. Most anti-money laundering laws openly conflate money laundering (which is concerned with source of funds) with terrorism financing (which is concerned with destination of funds) when regulating the financial system.

Some countries render obfuscation of money sources as constituting money laundering, whether intentional or by merely using financial systems or services that do not identify or track sources or destinations. Other countries define money laundering in such a way as to include money from activity that would have been a crime in that country, even if the activity was legal where the conduct occurred.

AI – The Basics

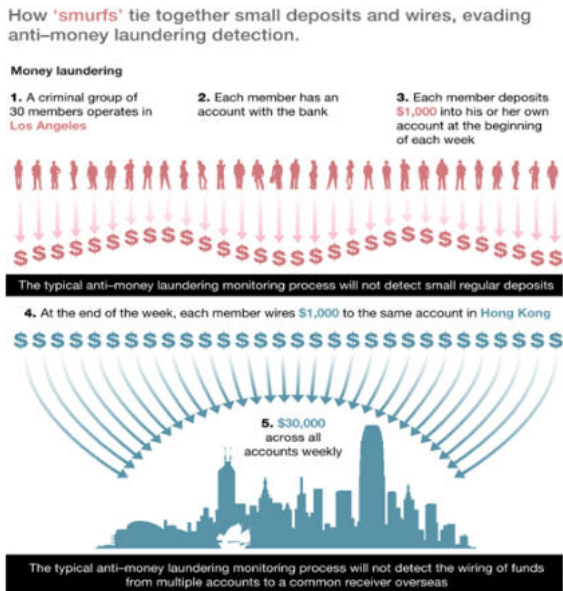


Source: <https://bdtechtalks.com/2019/05/02/artificial-intelligence-aml-kyc/>

AI complements traditional anti-money laundering education

It's essential that individuals don't assume depending on AI to fight money laundering means it's no longer necessary to stay abreast of conventional ways to curb the crime. Using AI does not mean financial institutions should stop mandating that workers attend such training. An all-encompassing approach to money laundering equips financial employees to stay alert to tactics criminals may use. Putting money toward AI screening tools is a worthwhile step in a thorough strategy to cut down on money laundering.

Banks reduce false positives with AI. Financial brands waste precious time chasing false positives associated with money laundering. It's necessary to assess how many resources to put toward a possible money laundering threat without becoming overextended. Moreover, they cannot afford to ignore alarming signals in case they represent actual problems. Finding genuine problems within the false issues also becomes harder when money launderers have a variety of ways to accomplish their aims, including methods involving relatively small amounts of money.



Source: <https://www.mckinsey.com/~media/McKinsey/Business Functions/Risk/Our Insights/The new frontier in anti-money laundering/SVGZ-The-new-frontier-Ex1.ashx>

Advanced solutions can help banking brands make deeper assessments about events that could constitute money laundering. Automated technologies, including AI, can reduce false positive alerts to less than 50 percent in cases where incorrect warnings once were at levels surpassing 90 percent.

Analytics suites can find seemingly unrelated things that identify at-risk accounts. They may discover anomalies related to the information itself or its context, either with a single data point or several. The capability of AI to sift through data so quickly and find possible issues within it means financial brands can use it to cut down on false positives while devoting more time to the things deemed overly concerning by the AI tools.

OBJECTIVES

1. To identify the Artificial intelligence and money laundering concepts and AI application in banks
2. To study the state of affairs of application of Artificial intelligence in Banking Sector

Scope

The study covers the new technological developments and its efficiency in banking sector.

Methodology

The research was carried out concerning various research subject. Numerous consultations were carried out from previous academic research reports and journals that relate to the issue. Therefore, the study embraced the form of a new analysis based on previous research reviews

Literature reviews

Bhavna agarwal et al (2019), Vijay (2019) have emphasized on application of AI in Indian banks has improved the efficiency of performance of banks. Surendran sundarakani (2013) have discussed the consequences of money laundering in banks. Jewandah (2018) have revealed the impact of new technological applications like blockchain technology cloud computing and AI in banking sector

Artificial intelligence in banks

Artificial Intelligence (AI) is fast developing technology for across the world. The banking sector is becoming one of the first adopters of Artificial Intelligence. Banks are exploring and implementing technology in various ways. Artificial Intelligence is getting better and smarter day by day. This article will discuss how Artificial Intelligence is used in the Indian banking sector, what are the benefits and what are the Challenges facing India's Artificial Intelligence. Development that Artificial Intelligence offers to FinTech and the different ways in which it can improve the operations of an Indian banking sector. (Dr.C.Vijai. - April 2019)

To detect suspicious money laundering transaction in the real world financial applications, a new dissimilarity metric was proposed and a novel Money Laundering Detection Algorithm based on Improved Minimum Spanning Tree clustering was put forward in this paper. Suspicious money laundering transaction detection experiment on financial data set from the real world indicates that our algorithm is effective and succinct. (Xingqi Wang, Guang Dong – 2009)

AI and Its Dimensions

Explainability: Machine-learning systems pour through petabytes of data to zero in on suspicious correlations. But often the processes that lead these systems to flag questionable transactions are shrouded in mystery a "black box." Regulators have to understand how and why a bank pinpointed a specific transaction or individual. This is essential for fairness and legal transparency.

Moving beyond traditional data: AI equipped for fighting money laundering can factor in the webs of people's relationships, along with the patterns of transactions, and incorporate it all into risk scores. For example, one important variable is geography. Some companies have developed a risk scoring system for every geography on earth, including ships at sea, providing yet another stream of intelligence. As the system receives feedback, including its hits and misses, it recalibrates the weight it places on each of these changing variables to make smarter decisions in the future.

External Sources: Current money laundering systems focus on existing lists of sanctioned individuals and groups. But other databases also boast strong correlations to financial crimes and should be evaluated in tandem. Incorporating all of the data into a unified risk-analysis system can provide valuable leads. For example, take a company working with an anti-human-trafficking to identify trafficking and money-laundering hotspots. Including this type of external data can expose illicit patterns that were previously hidden.

Pros and Cons

Integrating artificial intelligence in the dynamic industry of banking and finance has several benefits. Some of these include accuracy, reduction in human error, cost cuts, scalability, etc. Another important activity that will become easy to perform with AI is data analytics. Machine Learning can effortlessly process a large amount of data swiftly. Patterns can be observed and customer service can be enhanced accordingly. The right customer can be contacted at the right time with the right product.

Fraud detection will also become a cake walk since AI can immediately flag unusual transactions. It builds trust and creates a secure financial environment
Experiment and innovate

Financial services firms have been given permission to experiment and we recommend that they do it. AI technologies, including machine learning, are mature enough to be applied today to some of the most pressing needs in banking.

Banks do not have to rip out and replace existing computer monitoring systems because the new technologies complement and enhance their legacy systems. At the same time, banks do not have to go to the trouble and expense of building massive teams of computer scientists specializing in AI. Powerful new machine learning technologies are available today. Banks may use subject matter experts to identify a pain point, apply AI technology, reap the rewards, and then move on to the next problem.

There's a downside to being too cautious. Today, regulators have given financial institutions the permission and encouragement to experiment, as long as it is done in a responsible manner. In the not-too-distant future, AI technologies will be considered best practice.

The problem from an AI perspective

The problem the bank posed was far more challenging five million transactions per day, five million individual accounts, over three million customers, hundreds of product types, and no clear signature or pattern associated with money laundering. Unlike many types of financial fraud, money laundering could range from a single transaction to the culmination of months of complex transactional activity. A sequence of transactions might be interesting only in the context of activity that has taken some time to emerge. In engineering terms, this represents one of the worst forms of dimensionality disorder, with massive scaling variances and feature overload. Additionally, the bank wouldn't share past cases that it had detected or reported. It judged this information too sensitive and insisted we find what we could on a year's worth of historical data unguided. (Jason Kingdon, Searchspace – 2004)

AI applications and setbacks

One of the primary fears people have about AI is that it could take over human jobs and leave people unemployed unless they can find ways to upskill and benefit communities and companies in other ways.

However, AI does not replace humans who work to prevent money laundering and other kinds of financial fraud. It's still necessary for people to analyze information and see if it has characteristics that warrant further investigation.

AI could assist bank employees by sifting through large quantities of data and detecting strange patterns they may miss without help. That's because AI excels at examining massive amounts of information extremely quickly. As such, financial institutions often deploy AI to increase the productivity of human teams tasked with searching for things that could indicate money laundering occurrences.

AI works efficiently and could help save money-

Banks spend billions of dollars to combat fraud and could face hefty fines for not doing enough to check for money laundering and similar schemes. So, many of them conclude that AI helps them save money by avoiding penalties in addition to the savings from better output. Financial institutions realize that investing in AI enables them to reduce or eliminate time-consuming processes. Some AI platforms evaluate tens of thousands of real-time transactions per second. If brands tried to have humans analyze all that information independently, those workers would likely have high error rates and always feel swamped. Banks or similar companies could be fined for failing to notice suspicious things. They may also waste money and time because of the high turnover rates that happen when people feel inadequately supported due to a lack of resources. AI can address all these common issues and more.

Unrealized potential

Although AI already shows abundant promise, some of its potential likely remains untapped. That means people should not assume they know all the ways to apply AI to anti-money laundering strategies or that a particular use case is impractical.

Individuals in the financial sector should continue to stay aware of the challenges the industry faces related to money laundering and otherwise and assess how AI might help. They also need to understand it may take time to see the full effects of deploying AI to reduce money laundering, especially if algorithms get smarter with ongoing use.

CONCLUSION

Artificial intelligence has many benefits to offer for the banking sector. Artificial intelligence is changing business processes and customer-facing services in the banking sector in India and other part of the world. It is also being used to meet regulatory compliance, detect fraud, and assess individual creditworthiness. The application of AI has the potential to create more efficient business processes, offer personalized services, and assist in larger goals such as financial inclusion. There is no doubt that the recent push towards digitalization is rapidly influencing the traditional banking models. However, it has also exposed the institutions to increasing cyber security threats and vulnerabilities. The banks are increasingly looking at emerging technologies such as block chain and analytics in creating an active defense mechanism against cybercrimes.

With money laundering now a global financial problem, financial institutions need to equip themselves with as many tools as they can. Regulators have given financial institutions the permission and encouragement to experiment, as long as it is done in a responsible manner. With hefty fines looming in addition to wrestling the challenges related to evolving financial and regulatory ecosystems, they need to be sure their AML and compliance budgets are invested where they'll have the greatest impact.

In the not-too-distant future, AI technologies will be considered best practice.

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