

AML: AI in Action

Insights Article

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One year ago, we were making predictions for what ended up being the most unpredictable year most of us will ever experience in our lifetimes. Although we still can't be completely sure what to expect in the future, the whirlwind of ongoing global events has certainly allowed us to predict two that go hand-in-hand: 1) We must persistently be able to adapt quickly because 2) financial criminals will always find ways to take advantage of vulnerabilities by innovating with new threats – the pandemic has exposed several.

The various global economic stimulus programs enacted in 2020 reinforced the criticality for agility in AML programs and amplified the need to rectify known inefficiencies when onboarding customers and conducting KYC/CDD checks. The rampant fraud associated with these programs resulted in millions of dollars being stolen as the criminals adapted to the new world quickly for their gain. While COVID lent a new disguise to heinous financial crimes, the FinCEN files have reminded us bad actions aren't new and as an industry we need to do better. By working collectively to more closely align our approach to fight financial criminals and more effectively use our vast amounts of available data, we will better protect our financial service organizations and the consumers of their services.

Embarking on this feat requires a number of priorities. At the forefront, effectively repairing our broken system starts with the implementation of a safe infrastructure to share our data and insights across the industry and with regulators. The right financial crime consortium will collectively empower and enable us to stop the criminals and ideally get ahead of them. Incorporating AI, machine learning, and other advanced technologies within our existing programs will then help more accurately identify suspicious activity for law enforcement to act upon.

Looking Back

In looking to the future, it's important we first reflect on the past. AML has a long history – in fact, it dates back to the 1930's when laws against money laundering were enacted to stop organized crime during the prohibition in the

United States. As time continued and schemes became more elaborate further regulations across the globe were put into place. From the start, Anti-Money Laundering efforts and programs relied solely on expert rules to comply with regulation and safeguard individual firms. These rules were necessary then and still are now; however, when they're used in conjunction with AI and machine learning their power is unmatched.

For decades customer segmentation projects were manual, intensive processes that took a team of individuals many months to complete, so most organizations only updated their customer segments every few years, if at all. The quality and precision of the data produced by a transaction monitoring system is directly related to the quality of how the data is clustered, and how the system is tuned. If your customer populations are clustered (or segmented) ineffectively then the corresponding tuning will likely need to be broad enough to ensure safe coverage, however the large breadth of the coverage will multiply your false positives. This is a classic problem for machine learning to solve. Today, AI and the cloud has made these projects seamless, virtually eliminating manual segmentation processes. What took months is now weeks the first time and is then subsequently reduced to days. When your customers change, your AML program now adapts too.

By using unsupervised machine learning models you can create more clusters that are tighter, yielding more effective results without creating the tuning overhead that would arise with the increase in clusters. Both advanced segmentation and tuning optimization are designed to dramatically increase the precision of your transaction monitoring system by significantly lowering the number of false positives and increasing the level of true-positives the system is generating. While digitization sweeps the globe, organizations are seeing a major uptake in the use of digital channels and have launched new services to remain competitive. This online-first environment exacerbates the critical need for model optimization.

Another critical advancement within AML is anomaly detection. This is where behavior is detected that other rules-based transaction monitoring systems may miss. Using a risk-based approach, anomaly detection goes beyond out-of-the-box rules by using unsupervised machine learning models that perform multivariate outlier detection – a combination of many statistical measures – by capturing every transaction from every account daily, using the core profiling models to build profiles of account activity over time. Subsequently, unusual behavior is identified by comparing daily, weekly, and monthly activities to that account's historical profile, as well as the other profiles of that account's peer groups. Activity that is deemed to be significantly unusual is then identified for further evaluation. Simply put, using unsupervised machine learning, your program is transformed to help you identify the outliers or those true-positives that were never initially detected, which is how your organization can be exposed to extreme risk.

Finally, there's the power of prediction. Predictive analytics is another transformative AML innovation that examines transactional data, customer and counterparty intelligence and behavioral activities to anticipate the likelihood of a future event being a risk. By applying a machine learning model and telling the machine with data, what combination of information is likely to result in a true-positive outcome and conversely what combination of information is likely to result in a false-positive outcome. Used in tandem with a rules-based approach, it enables better scoring on alerts. You're then able to apply business logic that automatically routes alerts depending on an agreed policy. This means a high predictive score can result in an automatic escalation in a workflow to the senior case worker and low predictive scores can result in alerts being

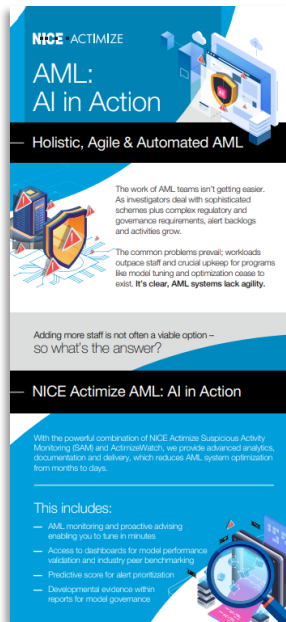
moved to a hibernation queue – alleviating the need for level 1 investigations on both sides of the alerting spectrum. Like all predictive models they do require a level of training, therefore the more production alerts that have been worked by investigators, the better the outcome. This then builds more confidence in testing models on known production data. It's also important to have the evidence and the explanations behind the models so you understand how the scores have been deduced, making it easier to explain to auditors and model governance teams.

Moving Forward with AI

We are just scratching the surface of opportunity for AI and analytics, but across the full AML lifecycle there's many areas where AI can and should be leveraged to generate greater AML success. If we look at onboarding, analytics solves a number of challenges related to information gathering, screening and verifying customers and documentation with biometrics or against various sources and databases, entity resolution, and more. All of these elements serve to provide a comprehensive and accurate view on the risk of entities as they attempt to forge relationships with your organizations. In restricting the number of bad actors that you onboard you'll go a long way to minimize your exposure and prevent more financial crime.

While we're still faced with a lot of unknowns, what we do know is we must face them with a multidimensional approach to AML analytics. Having several elements of machine learning models working alongside traditional methods will drive efficacy into programs and more importantly promote rapid adjustments as markets and businesses change, driving accuracy, precision and fostering the ability for your organization to be agile and adapt quickly, especially when market trends demand it.

Additional Resources



[AML: AI in Action Infographic](#)



[AI in AML: The Shift is Underway Insights Report](#)

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