AI Enabled KYC Systems for Better Risk Profiling in Financial Institutions

Abstract

The 'Customer Identification Program' (CIP) adopted by the USA PATRIOT ACT of 2001 mandates financial institutions to verify customer identity before enabling financial transactions. These regulations require a risk-based evaluation of the customer's identity and behavior. Consequently, banks have digitalized Know Your Customer (KYC) processes such as data gathering and verification to comply with stringent anti-money laundering (AML) laws and at the same time reduce physical customer touchpoints. Despite these initiatives, compliance spends are rising. According to a research by Burton-Taylor International Consulting, the global spend on AML, KYC and related financial crime and compliance activities is expected to touch $1.2 billion in 2020[1]. Another aspect of KYC processing is scheduled or repeat KYC which also comes at considerable effort and cost. This paper documents the key challenges in a scheduled KYC process identified during a transformation study conducted for a major US bank, while throwing light on how digital transformation can help simplify KYC procedures, with a focus on repeat or scheduled KYC.

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[1] Cision PR Newswire, Global AML/KYC Spending Projected To Total $1.2 Billion In 2020, Rising 12.5% As Regulators Renew Focus On Enforcement Actions - New Burton-Taylor Report, November 2020, Accessed December 2020, https://www.prnewswire.com/news-releases/global-amlkyc-spending-projected-to-total-1-2- billion-in-2020-- rising- 12-5-as-regulators-renew-focus-on-enforcement-actions--new-burton-taylor-report-301175765.html

Managing Scheduled or Repeat KYC Challenges

While there is heightened focus on KYC procedures during customer onboarding, the KYC 'refresh' or scheduled KYC is as important and sometimes more challenging than the initial onboarding KYC process. However, most industry offerings today focus on the digital transformation of KYC procedures during the initial onboarding of the customer. In the absence of pointed solutions, banks spend considerable amount of money on periodic KYC reviews or refreshes to ensure compliance with AML guidelines.

Unlike onboarding KYC, periodic KYC is performed on existing bank customers as a monitoring mechanism. This helps ensure that customers do not perform risky and fraudulent transactions, using the bank's channels, which could increase the risk of non-compliance and damage the reputation of the bank. The advancements in natural language processing (NLP), machine learning (ML) and conversational artificial intelligence (AI) can help improve risk profiling, thereby enhancing the accuracy in decision making.

Scheduled KYC: Focus Areas for Transformation

KYC systems and procedures prescribed by regulators follow a risk-based evaluation of the customer across four major areas (see Figure 1).
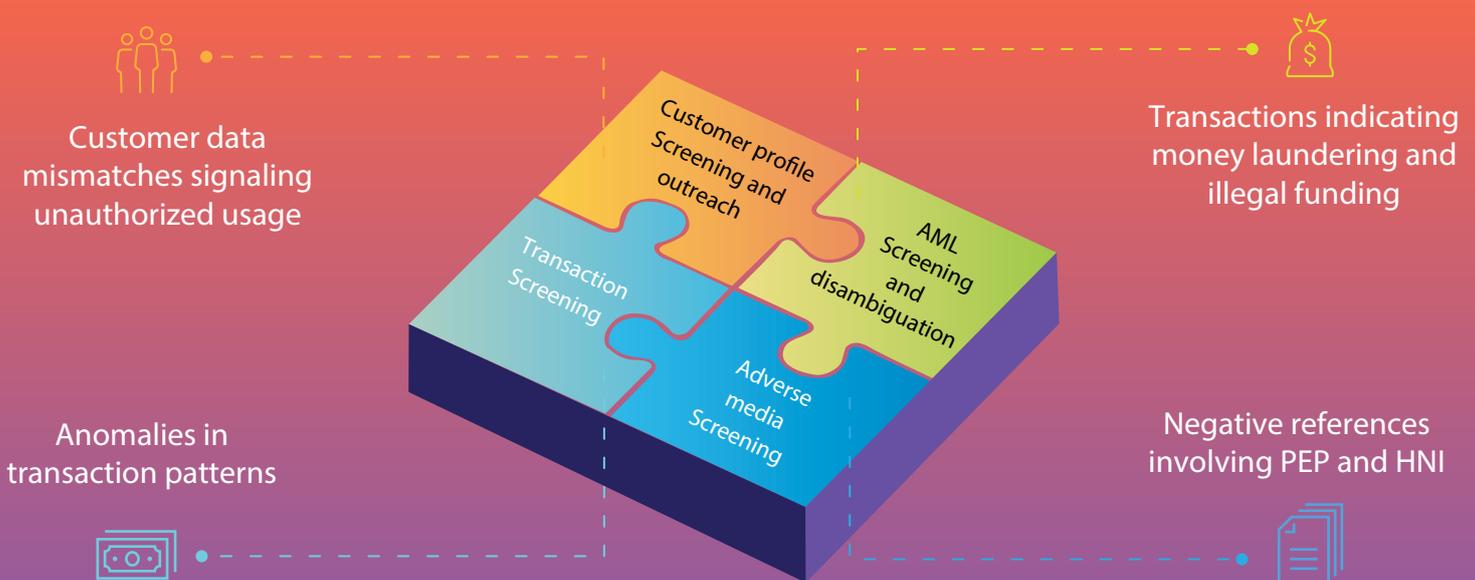
Customer data mismatches signaling unauthorized usage

Transactions indicating money laundering and illegal funding

Customer profile Screening and outreach

AML Screening and disambiguation

Transaction Screening

Adverse media Screening

Anomalies in transaction patterns

Negative references involving PEP and HNI

Figure 1: Scheduled KYC - Four Key Functional Areas

Customer profile screening and outreach

Customer profile evaluation is the first step for all KYC procedures, which is carried out in both on-boarding KYC and scheduled KYC. AI based solutions that leverage machine vision, intelligent forms, and optical character recognition (OCR) technology for smart extraction of data can better meet this requirement while enhancing accuracy. Banks can leverage the capabilities of specialized third-party public data record providers through application programming interfaces (APIs) to perform automated profile screening. In addition, blockchain technologies can be used in centralized and de-centralized modes to rapidly and accurately process KYC requirements.

Mismatched data or the lack of additional information can hamper KYC completion rate. In order to address this challenge, financial institutions must automate the customer outreach process. Early digital adoption and better conversational systems will enable self-service channels such as chatbots to help customers and banks share information rapidly and effectively. This can also help address the need for a procedural shift in document procurement, from a manual channel involving bank branches to a more touchless, technology enabled experience.

AML screening and disambiguation

With the advent of AML and anti-terrorism funding laws, sanctions screening has become a critical step in the KYC process, especially for high net-worth individuals (HNI), politically exposed persons (PEP), and small and medium business establishments. While most banks depend on federal sanctions databases or services provided by specialized providers for sanctions screening, certain banks have added customized screening layers to address their specific risk requirements, and in certain cases, these additional features may be developed in-house.

Most screening solutions boast of capabilities that identify true hits and reduce false positives, but in reality, only a few can perform automated disambiguation of screening results. We recently studied the existing KYC processes of a major US bank, which revealed that false positive results were as high as 95% for AML sanctions screening. The accuracy of the automated screening disambiguation solution largely depends on the training of the disambiguation algorithm and the quality and quantity of the training data. Specialized solution providers depend on banks for this training data.

Adverse media screening

Conducting adverse media screening is crucial in mitigating fraud risk related to PEP or HNI categories. The screening of negative media content has become much easier today with recent advancements in the field of sentiment analysis. However, the requirements for such a screening is business-driven; a screening engine that specializes in crime elated screening may have to be trained differently from an engine which has to target financial fraud. This area of sentiment analysis is of high interest today, as there are very few providers with mature screening models developed using real data.

Transaction screening

Monitoring the nature and frequency of abnormal transactions can help trigger early warnings about money laundering frauds. Automating transaction screening based on specific rule-based monitoring of the financial transaction can help easily monitor such events.

Reimagining Repeat KYC Processes with AI

In order to drive end-to-end automation for repeat KYC operations, banks should adopt a comprehensive digital solution that cuts across major functional areas – customer profile screening, customer outreach, sanctions and AML screening and disambiguation, adverse media screening, and transaction screening. A robust, customizable, API driven rule engine can be integrated with third party data providers for profile verification. For faster outreach, a chatbot driven conversational engine can be personalized to address retail and mass market customers. A robust AML screening and automated disambiguation algorithm can be trained on bank data and integrated with the bank's screening engine. Similarly, adverse media screening solutions based on sentiment analysis can be customized for the bank's specific needs. A highly parametrized and customizable rule-based transaction screening solution can help trigger alerts when any abnormality is observed in the transaction patterns (see Figure 2).
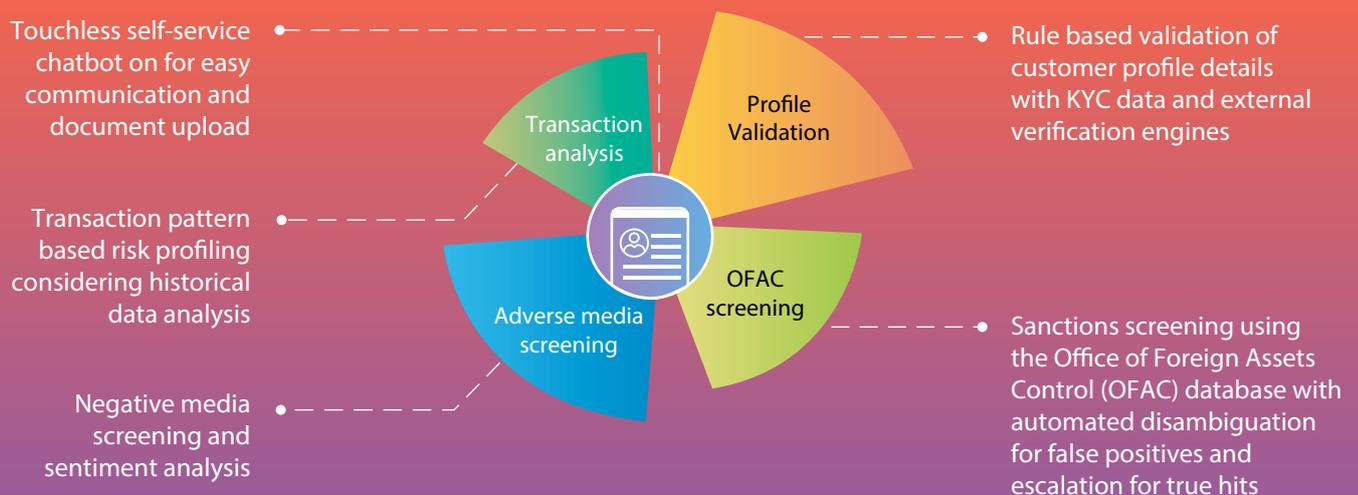
Touchless self-service chatbot on for easy communication and document upload

Transaction pattern based risk profiling considering historical data analysis

Negative media screening and sentiment analysis

Transaction analysis

Profile Validation

Adverse media screening

OFAC screening

Rule based validation of customer profile details with KYC data and external verification engines

Sanctions screening using the Office of Foreign Assets Control (OFAC) database with automated disambiguation for false positives and escalation for true hits

Figure 2: Advanced KYC Processing and Risk Profiling using AI

Clearly, transforming KYC processes with AI will enable banks to become more resilient by exponentially improving their risk profiling function. And recent trends have been encouraging -- regulators are now more open to technology adoption and digital transformation of the hitherto manual compliance processes.

However, before embarking on full-fledged implementation, banks must look at reimagining the existing processes to remove redundancies and non-value adding steps and ensure that the KYC transformation aligns with their overall digital transformation roadmap. Banks also need to evaluate the existing risk controls and ensure that they are enhanced through the digital upgrade programs. Some key factors that must be kept in mind while designing the KYC transformation solution include:

- Cloud versus on-premise application and data hosting – Given digital KYC is a highly regulated process, a hybrid strategy where the application functions are hosted on the cloud and more sensitive customer data is retained on-premise is the way forward.

- Build versus buy strategies – An in-house solution may look more viable given the need for extensive customization of the specialized and complex KYC processes. However, unless the bank has a capable IT department, partnering with a service provider or investing in a specialized product may deliver a better return on investment (RoI) and cut maintenance costs in the long run.

■ Digital appetite and user experience – The success of KYC digitalization and the RoI will depend on users' adoption of the new technology and the experience it delivers to both internal stakeholders and customers. A digital-first strategy with the capability to overcome resistance to change, enable faster onboarding, and deliver superior experience is critical to drive adoption.

■ Data privacy and regulatory requirements – Reservations abound in the industry about privacy regulations constraining KYC data collection. But once banks put in place the necessary controls and adhere to consent laws in designing customer outreach processes, privacy regulations will not hamper but in fact boost the efficacy of KYC processing.

Touchless KYC Processing for the New World Order

As the need for digital transformation gathers pace across industries, a touchless and fully automated KYC processing environment is crucial for banks to succeed. This requires leveraging an end-to-end digital ecosystem for transforming complex, manually intensive processing. A KYC system built on artificial intelligence, conversational AI, and machine vision and learning is key to simplifying identity verification and automate red-flag management in a socially distanced society. It can also help integrate data from financial institutions, central banks, regulators, and other necessary sources into existing workflows in real-time, for improved compliance and monitoring. The willingness and ability to embrace digitalization will determine whether financial services organizations will thrive or struggle in the new world.

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