



Unlocking automation  
opportunities for  
superior due diligence  
in Know Your Customer  
operations – Part II

The previous paper elaborated on the rigorous KYC processes, the startling spend by banks to ensure compliance, and the penalties imposed by regulators despite banks' best efforts.

Artificial Intelligence led automation holds the answer to most of these difficulties. However, it requires prudence to overcome the roadblocks one would encounter—the right investments, resources, and commitment are necessary to make a difference.

### What competitive advantage do we expect?

#### Impact on bank's key metrics

**Faster onboarding** results in satisfied customers and no loss of business; less client outreach for document collection is an added benefit.

**Risk mitigation** is achieved through robust due diligence, also dramatically improve bank's regulatory reporting and compliance. Automated evidence creation and audit trail make the process more transparent, thorough, and organized.

**Reduced paid data and subscription costs** through the use of credible public data, contributing to bank's essential point.

Effort savings and scalable operations are a direct outcome of doing away with manual operations.

**We recognize that any new tool in a bank would need to coexist with their existing KYC operations** and core systems and streamline the manually intensive workflows. A standard ask across banks is flexibility in deployment options—on the cloud, on-premise, As-a-Service, stand-alone or hosted model. While most incumbents prefer an on-premise deployment, we have seen pioneers moving towards the cloud.

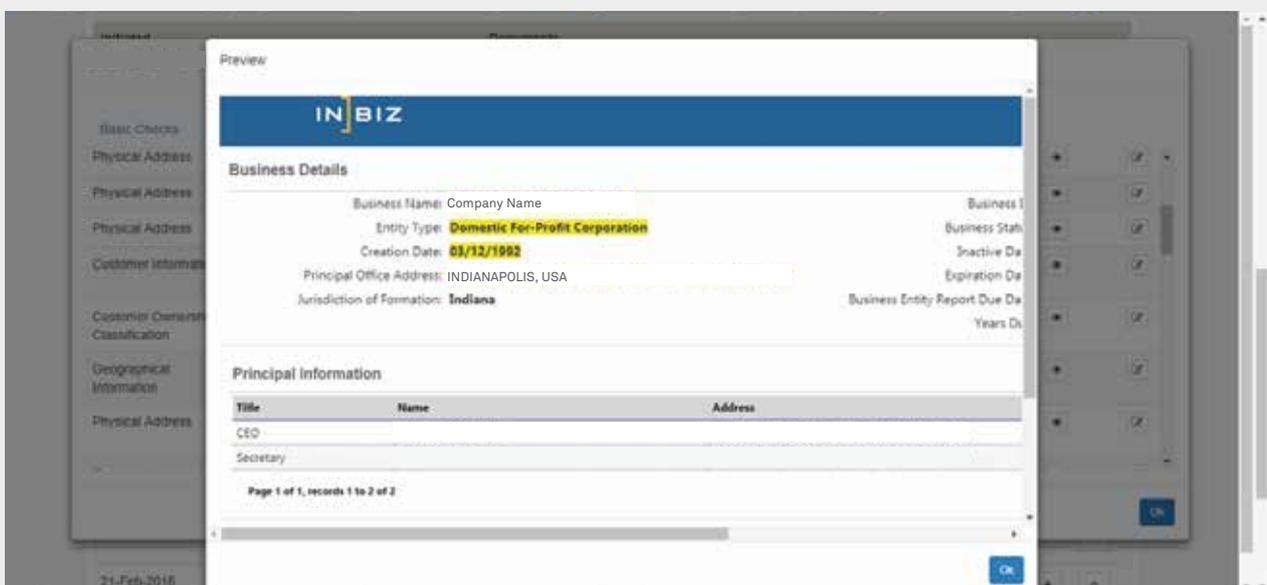
#### How will the life of KYC analyst change?

The KYC analyst will realize significant operational efficiencies, their bandwidth available for high-value activities such as risk mitigation for red-flagged cases, and for investigating AML alerts. Time-consuming and low value-add tasks such as search, data aggregation and archiving for audits are done away with, resulting in a boost in productivity and motivation levels.

### E-KYC maker activities automated with wipro holmes



Figure 1. Manual KYC activities with high automation potential





Time-consuming and low value-add tasks such as search, data aggregation and archiving for audits are done away with, resulting in a boost in productivity and motivation levels.

E-KYC Institutional - Initiate

Initiate | LCB Spec | User Management | Config | Tracker

**Initiate as Entry**

Line Of Business\*  Process Type\*

Company Name\*

Parent Name\*

Country Of Incorporation\*  Registered With\*

Principal Place Of Business\*  Entity Type

Required With

Initiated Date	Entity Name	Basic Checks	Documents Downloaded	Extraction	CDI	LOB	Process	Actions	Review
05-Mar-2018		Functionality Complete	Functionality Complete	Running	CAN	CB	Onboarding	<input type="button" value="⌵"/> <input type="button" value="⌵"/>	<input type="button" value="⌵"/>
06-Mar-2018		Functionality Complete	Awaiting User Input	Running	US	OCB	Renewals	<input type="button" value="⌵"/> <input type="button" value="⌵"/>	<input type="button" value="⌵"/>
06-Mar-2018		Functionality Complete	Not Initiated	Not Initiated	US	CB	Onboarding	<input type="button" value="⌵"/> <input type="button" value="⌵"/>	<input type="button" value="⌵"/>
06-Mar-2018		Functionality Complete	Functionality	Functionality	IND	CB	Onboarding	<input type="button" value="⌵"/> <input type="button" value="⌵"/>	<input type="button" value="⌵"/>

Figure 2: Workflow and data modules required by KYC analyst

Documents

Basic Checks | Documents | Attributes | Controller | Ownership | Evidences

Controller Name	Controller Designation	Source	Document Link	Download Date & Time	Relevance Score	Comments	Selected	Preview	Details
	Company's President And Chief Executive Officer, President, Chief Executive Officer And Director	10 K	<a href="#">click</a>	03/05/2018, 16:24:12	Low	Commencing And Jointed Business Address Taken	<input checked="" type="checkbox"/>	<input type="button" value="⌵"/>	<input type="button" value="⌵"/>
	Executive Vice President And Chief Financial Officer	10 K	<a href="#">click</a>	03/05/2018, 16:24:12	High	Business Address Taken	<input checked="" type="checkbox"/>	<input type="button" value="⌵"/>	<input type="button" value="⌵"/>
	Executive Chairman	Proxy Statement 14 A	<a href="#">click</a>	03/05/2018, 16:23:49	Medium	Multiple Chairman Found. May belong to a different Company / Subsidiary Business	<input checked="" type="checkbox"/>	<input type="button" value="⌵"/>	<input type="button" value="⌵"/>

Complete Complete Complete

21-Feb-2018 Thomson Reuters Functionality Functionality Functionality CAN CB Onboarding

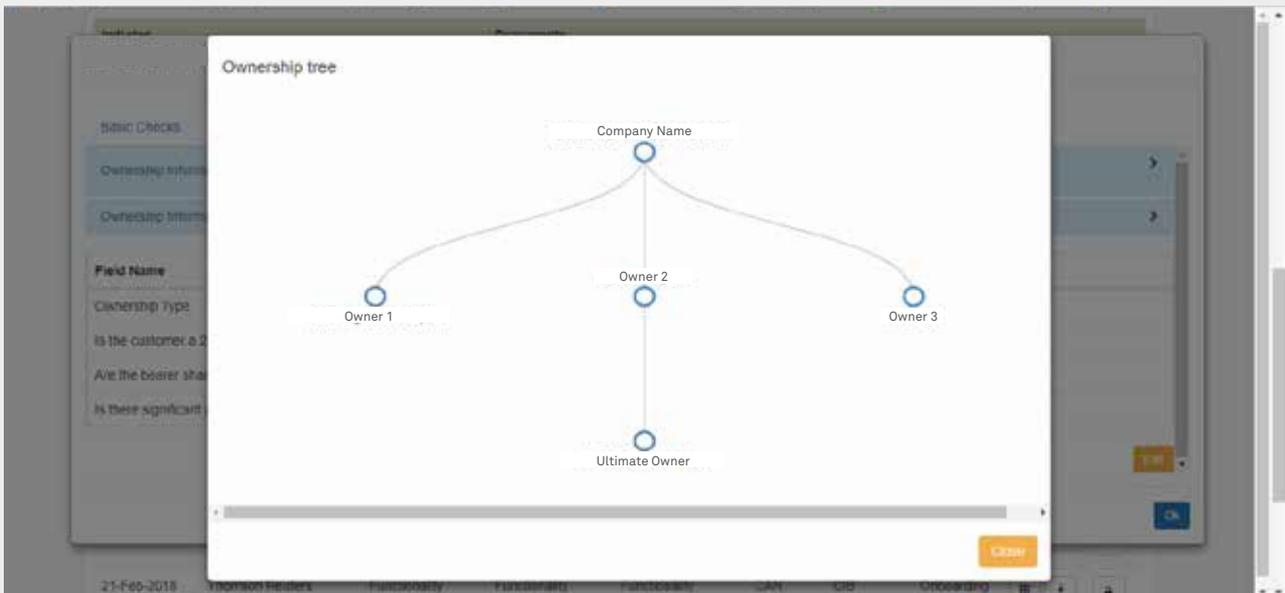


Figure 3: Auto-ascertaining controllers and company ownership

## Voice of customer

In our experience with customers and advisors, the potential is consistently acknowledged, but there is skepticism and resistance to change. This is owing to the regulatory implications of noncompliance, process complexity and certain poor experiences with automation in the past. These are the themes we have encountered.

- Global banks need to follow non-standardized KYC policies in their different operations.
- Many of the documents used for KYC are scanned images. Many banks have tried using off-the-shelf OCR with poor results. Contextualized OCR with exhaustive KYC ontology is the need of the hour to extract high-quality data from scanned documents.
- Despite the use of robotic process automation (RPA), banks are taking over 2 hours to extract information from websites and documents. This creates a backlog during periodic review and remediation. One bank we are engaged with must remediate a large number of accounts within two months, requiring 3X staff strength to handle this peak load.
- Regulatory reporting and audits require banks to show evidence and supporting documents for KYC compliance. Some banks find it hard to trust a bot to store annotated documents properly.

- As part of AML compliance, negative news screening requires reading several news articles. Use of Natural Language Processing techniques can cut this time significantly. However, banks trust humans over bots with activities that require reading and comprehension.

While these are valid concerns, we believe that with the right domain understanding, process knowledge, technology skills, and change management, overhauling current document intensive KYC processes is rewarding. With higher transaction volumes and new competition coming from unexpected players, incumbents have their task cut out to keep up with digital banks without any further ado.

## Conclusions and lessons from automation journey

The outcomes more than justify the investments in next-gen technologies. We want to discuss some of our learnings.

- A. Limited sample data for training is a reality for enterprises.
- B. Accuracy will be low initially, but trials can improve the performance.
- C. Change in technology requires a change in mindset.

## I. Training data and data access related challenges

### A. Inadequate samples and data

**quality problems:** An immense amount of data is required for training a machine, and ideally, this should be clean and high quality with clearly labeled information. This is a pipe dream in the real world.

Data such as annual filings are available. However, globally many of these are in the form of images. These require OCR conversion and is a big challenge for AI professionals. The only way to overcome this is by having more data converted via OCR and re-training the AI software available for OCR.

Unstructured data such as annual reports host treasure trove of information like financials, shareholdings, controllers, etc., however, this information can be on any page/section and does not follow any given template. To handle unstructured data with high accuracy, more than a thousand samples are required for training for each geography, to ensure machine learning happens adequately, and probabilistic classifiers are tuned to a very high degree. This is especially critical to ascertain immediate and ultimate beneficial owners of an entity from annual reports.

**B. Data sensitivity problem:** Most banks accept passport as a standard document for proof of identity (POI). There are multifold issues with passports—and different formats for different countries and year of issue is just the beginning. Standard OCR engines need to be re-trained, and the images must be pre-processed to remove noise. This training will always be a ‘work in progress’ because getting sufficient passport samples is near impossible. The best way to re-train them is within the bank’s own ‘clean-room’ (where customer passport images are contained); the trained mathematical models can be used within the bank for identity verification.

**C. Robots not welcome:** Many public websites have planned barriers to bots that set us back. For example, state registries in the USA

create image captchas that slow down the web-scraping. These issues can be resolved by having the bank sign agreements with the website’s owners so that IP addresses are recorded in the access list.

## II. Organizational, management and people related challenges

**A. Reluctance to change:** Some banks are reluctant to embrace new ways of working due to fear of job losses, and the change management required. Avoiding technology adoption in business processes is detrimental to bank’s health and creates a cyclical problem. Since the bank’s compliance cost remains high, its competitive positioning suffers, further preventing capital investments towards digitization. Instead of fearing job losses, it should be seen as an opportunity that can deliver hyper-productivity benefits—these people can be reskilled and deployed as ‘training dataset curators’ and play the role of ‘KYC process experts’ rather than perform low value-add jobs. If transferred to digitization programs as SMEs, the entire journey of bank’s digitization can be fast-tracked with their expertise.

**B. Budgetary challenges:** Many banks still don’t have the required budgets for AI in the compliance space, as risk & compliance is seen as a holy cow with no place for AI. This is a myth, and, credit risk model validation is a perfect example of Machine Learning. Similarly, KYC forms the foundation of all banking relationships, but repetitive work consumes many resources. Recently we have seen mid-market banking leaders finally allocating budgets for AI for FY 2018, and we see this as a step in the right direction. The kitty is still small and oriented towards conducting feasibility of applying AI, catching-up with pioneers and doing a proof of concepts.

**C. Regulatory pressures:** With fewer regulations coming in, from 2018 onwards there will be pressure from regulators to bring automation in these processes to prevent fraud and

oversight. An essential element to consider here would be whether the automation processes have inbuilt audit capabilities that give regulatory bodies the required confidence and comfort.

Embracing new technologies means a period of adjustment and process changes. In KYC, machine assists the analyst, and the analyst's work is elevated—from gathering

data to verifying the output, deriving insights from it, and making decisions on the client's risk profile. AI and humans work hand in hand like a smooth machine, both mutually benefitting and feeding off each other's strengths.

## About the authors

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Rahul is the product engineering head at HOLMES (Wipro AI Platform) leading the Risk & Compliance solution theme. E-KYC is the marquee product in his portfolio. Rahul has an MBA from Colorado State University, USA and BE

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Bhavna leads product marketing for Wipro HOLMES™ Business solutions. She is responsible for crafting compelling messaging and positioning across the solution suite in order to bridge the gap between engineering and sales functions. She also drives sales enablement and

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