A New Urgency:
Cognitive Automation

WorkFusion

Accelerating the adoption of
Intelligent Automation in
end-to-end customer onboarding

Almost no financial institution will describe its end-to-end customer onboarding as simple, streamlined, or free of inefficiency.

Regulatory expectations, customer nuances, legacy technologies, and other factors have created today's environment: An average-sized institution can spend upwards of $50 million in onboarding costs,[1] large banks easily spend more than $500 million, customer onboarding times are increasing despite banks' best efforts,[2] America's banks have thousands of unfilled customer onboarding and Know Your Customer (KYC) jobs,[3] and 73% of the $5.3 billion of global financial crime enforcement actions since 2018 were in part due to onboarding compliance lapses.[4] Financial institutions have many significant challenges on their horizon. Customer onboarding does not need to be one and solving it today frees up institutions to better tackle tomorrow's unforeseen events.

Most financial institutions today are using at least some simple automation to support onboarding. Automation imports customer data into internal systems, fetches information from external sources, runs reports, and executes other highly structured tasks. As a result, institutions have made progress in eliminating some inefficiencies. Yet most continue to cite staggering costs and plummeting satisfaction. Financial institutions consistently note that streamlining the handling of a large volume of simple, structured tasks is only one of their customer relationship challenges. The need to make cognitive decisions on complex, multi-source, incomplete, and "messy" data is often a greater challenge requiring more manual work, time, and touchpoints.

Customer onboarding—even for a person of low credit, legal, and financial crime risk and simple product exposure—still can require between 20 to 60 physical hand-offs, data transfers, system entries, and manual information reviews. Digital or mobile onboarding can decrease the number of process steps, especially around digitization of data, but depends on "back end" processes that remain manual and time-intensive.

Onboarding tasks for high-risk or complex corporate entities can easily surpass 200. The most common ways that banks have sought to decrease onboarding time—establishing a digital process, streamlining compliance standards, new workflow tools—quickly betray a limited ability to unlock major value.

We estimate more than 60% of manual onboarding work can be partially or fully automated, across financial institution and customer types. Of this, about half the manual work reduction requires layering Machine Learning, digitization, workflow, and analytics on top of traditional robotic process automation (RPA). Intelligent Automation allows for new target success metrics. Onboarding times can be measured in minutes rather than days, manual handling time moves from a percentage-reduction metric to a measure of whether it was needed or not, and select customer populations can be "straight-through onboarded" with essentially no manual handling outside of relationship management.

A new level of urgency should push financial institutions to accelerate their Intelligent Automation implementation, including erosion of profit base to digital-native rivals, margin pressure, and customer service expectations. Notably, an important accelerator has emerged: A small number of automation use cases are applicable to nearly all institutions and many successful implementations demonstrate the enormous possible savings on cost and manual handling time. The guesswork of where, and how, to unlock value from customer onboarding automation has been eliminated.

Cognitive automation is central to end-to-end customer onboarding

Our research and analysis demonstrates that about 60% of manual work currently being performed in support of customer onboarding is partially or fully addressable by automation, and this rate increases significantly for certain customer types.[5] Many of the processes within this 60% are ripe for higher efficiency through rules-based automation of structured, repetitive tasks. For example, nearly all onboarding journeys include the creation of a customer account in an internal system or customer profile system of record. This account creation makes use of data that is largely structured and stored in standardized locations —key building blocks of successful RPA. However, with a "rules-only approach," much of the automation potential is left on the table, unrealized. Without machine learning, digitization, workflow, and analytics, financial institutions will be unable to automate these process steps and onboarding automation potential will be "capped" at barely 50% of addressable manual handling time.
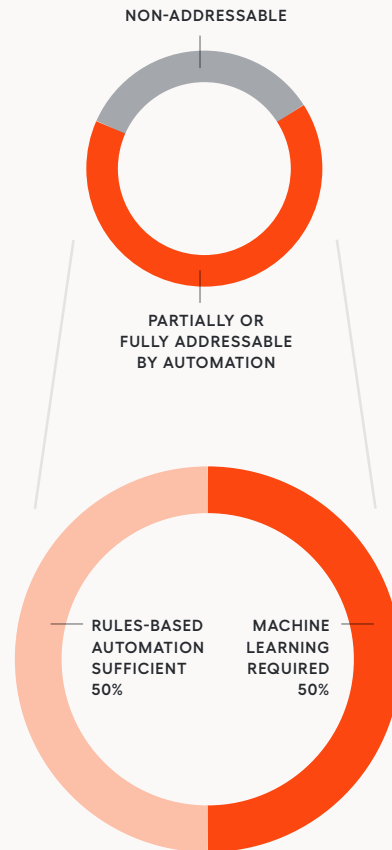
Notably, while the number of onboarding steps that require cognitive decision-making is limited, they take up a significant amount of overall handling time.

COGNITIVE DECISION MAKING REQUIRED

RULES-BASED AUTOMATION POTENTIAL

IN-PERSON, PHYSICAL TOUCHPOINT

Conduct in-person meeting with prospective client

Receive application, IDs, and other documents

Scan identification documents

Scan application and supporting documents

Extract data from client-provided information

Verify extracted information using external and internal sources

Review ID and corporate documentation for fraud indicators

Identify and verify beneficial owners, controlling parties

Collect credit information and determine credit risk, if needed

Create credit committee package, if needed

Review and verify stated revenue source

Migrate customer data into downstream systems

Route names to sanctions screening system

Disposition sanctions screening alerts, identify true hits

Route names to Politically Exposed Persons (PEP) screening database

Disposition PEP screening alerts, identify true hits

Conduct adverse media search

Evaluate adverse media materiality and create audit trail

Verify previous customer exposure and available KYC data/docs

Review and verify purpose of account

Enter data into customer risk-rating model and obtain risk rating

Create KYC package for quality control review

Perform KYC file completeness check

Perform legal review, if necessary

Conduct credit committee review, if necessary

Request additional information from client and client outreach

Ingest and classify supplemental information and route data

Perform compliance review and approval

Draft risk acceptance memo, if needed

Add client to KYC periodic refresh schedule

Add client risk rating to transaction monitoring system

Approve account and execute activity restrictions, if any

Create account in core banking and product-specific systems

Disseminate client communication

CUSTOMER ONBOARDING MANUAL HANDLING TIME, AUTOMATION POTENTIAL

NON-ADDRESSABLE

PARTIALLY OR FULLY ADDRESSABLE BY AUTOMATION

RULES-BASED AUTOMATION SUFFICIENT 50%

MACHINE LEARNING REQUIRED 50%

AI CAPABILITY AND TOOLS REQUIRED FOR AUTOMATION

A new urgency

Integrating automation into customer onboarding is hardly a novel idea. As this article mentioned at the start: many, if not most, financial institutions have introduced at least some automation into this process already. Yet there is now a new urgency to speed up adoption.

1 Fintechs are eroding profits, as well as customer base. Digital-native banks and financial technology firms ("fintechs") have experienced impressive customer growth. As of July 2019, more than 25 U.S.-based fintechs had more than 1 million accounts each.[6] Increasingly, fintechs pose a threat to about 40% of some financial institutions' revenue sources and are beginning to compete for the remainder.[7] Similarly, 60% of respondents to a recent Accenture survey on the future of global payments found that traditional banks anticipated a 15% erosion of payments revenue to digital competitors.[8] This decrease of profit base extends beyond payments: mortgage origination by the top three American lenders fell in 2019, as the share of lending by fintechs increased.[9] Intelligent Automation can improve margins on existing revenue streams by increasing the speed of onboarding customers into those products and decreasing maintenance cost.

2 "On the horizon" cost drivers are now a major pain point. New regulations have continuously added cost pressures to financial institutions. For example, the U.S. government estimated that changes to Ultimate Beneficial Ownership requirements would add $150 million to U.S. banks' costs in 2019, its first full year of implementation.[10] Industry groups noted the financial impacts would be much higher.[11] Similarly, new AML Directives increased costs for European Union banks. One recent industry study found these regulatory changes would increase the $77 million in KYC costs already spent by British banks.[12] These cost drivers were hardly limited to beneficial ownership requirements: MIFID II, LIBOR "re-papering needs," and others are creating additional cost pressures and introducing onboarding process complexity.

3 Customers expect fast onboarding, quick processing, plus high levels of direct service. Whereas digital-only banks have improved customer onboarding experiences, they often fall short of customer service expectations. Digital-only customers are among the least satisfied with their experience and 40% of traditional bank customers cite an ability to visit a branch as a key reason they maintain loyalty.[13,14] Exceptional customer service is one area where traditional banks perform better than digital-only rivals. Many are doubling down and experimenting with new branches, including shared workspaces or embedded coffee shops, to improve the customer experience.[15,16] Automation has a large role to play in bettering experiences, including faster account updates, dispute resolutions, and inquiry handling.

4 Financial institutions are foregoing revenue from new customers. Long onboarding timelines are not only driving high rates of account opening abandonment but also forcing financial institutions to opt out of certain onboarding opportunities due to an inability to handle volumes.[17] In late 2019, a global retail banking giant reported that onboarding of 20,000 potential customers would be delayed due to operational backlog, inefficiency, and an inability to maintain anti–money laundering (AML) and sanctions compliance to a high standard.[18]

5 After experimenting, highest value uses of automation are now clear. The years 2014–2019 were not only a period of high adoption of automation, but also experimentation with what automation can accomplish. However, this experimentation often resulted in weak returns on investment, and, in many cases, bot abandonment. A nearly infinite amount of automation needs could exist to address all the nuances of legal requirements, regulatory expectations, and internal customer onboarding practices across financial institution types and geographies. However, seven specific automation applications — all of which require cognitive decision-making and are required by law or practical purposes across countries and financial institution types — are critically important to removing costs, removing onboarding bottlenecks, and supporting frictionless ongoing customer maintenance. Notably, while these use cases represent a relatively small number of onboarding and maintenance process steps (as few as 5%), they can account for upwards of 50% of manual handling time reduction.

| Automation Use Case	Details	Value Realized
Evaluation of adverse media	• Monitoring of negative news on customers, related parties using multiple sources of information • Machine Learning-driven identification of highest materiality news • Suppression of false positives (incorrect focal entity, sentiment analysis, non-material news) • Creation of detailed audit trail	A global bank operating in 19 countries is saving $14 million annually and anticipating a 100 FTE reduction.
Identification of ultimate beneficial owners	• Ingestion of customer-provided and third-party beneficial ownership data, and information extraction • Machine Learning handling of unstructured documents • Validation and verification against external data sources • Sourcing from internal data on existing KYC data from other business lines	A regional American bank is saving over $2 million annually and avoiding large FTE increases by automating KYC file creation, including identifying beneficial owners.
Verification of identity information	• Digitization of customer-provided IDs • Verification of identity information using internal and external sources • Machine Learning-enabled handling of non-standard or unstructured ID types • Identification of fraud indicators	A major Indian retail bank decreased account opening time by 92%. One of America's largest financial institutions improved ID verification automation to 96%, including for Customer Identification Program (CIP) requirements.
Elimination of compliance screening false positives	• Ingestion of PEP and sanctions screening results • Identification of false positives using entity matching, gender, and location mismatch • Ongoing false positive identification improvement through Machine Learning training • Matching with internal KYC data to further identify false positives and true matches	A large insurance company halved the size of their sanctions screening alert review team. This bot was part of a $90 million cost reduction with WorkFusion across dozens of customer maintenance use cases.
Evaluation of source of wealth/revenue	• Classification of customer-provided source of wealth justification • Machine Learning handling of unstructured document types and news sources • Verification using external data sources, including corporate registries, and media • Creation of detailed audit trail	A large broker-dealer and asset manager was projected to decrease time spent on source of wealth analysis by 85%.
Processing of incoming customer information and requests	• Ingestion of customer updates to account information • Machine Learning-driven classification of incoming requests, action, disputes, and other information • Digitization of provided documentation and routing to downstream process or system • Launch of supplemental process (i.e. addition of new beneficial owner, sanctions screening, CIP verification, etc.)	A large American insurer decreased the processing time for incoming claims submission by 60%. One of America's largest financial institutions automated processing of 95% of incoming customer requests for capital markets events, saving more than $4 million annually.
Handling of customer-provided documentation	• Digitization of customer-provided documentation, especially for trust arrangements, consumer finance lending, mortgage, and trade finance • Machine Learning-enabled handling of semi-structured and unstructured document types • Confirmation of signature, document completion, document order, legal language	A major U.S.-based lender analyzes, digitizes, and ensures compliance for more than 8 million mortgage documents monthly, equivalent to 50 FTEs.

Achieving "straight-through onboarding"

Focusing on automation use cases that apply across customer types and have proven value will allow financial institutions to onboard select populations with minimal or no manual handling time. Much like "straight-through processing" is a success metric in payment and trade operations, institutions can begin tracking rates of "straight-through onboarding." Minimal or no manual handling isn't right for everyone. Site visits to high-value customers help with relationship management; in-person compliance or credit committee meetings are important for debating proper account controls. However, many customers can be onboarded via significant automation — allowing banking staff more time for higher-value work. Three key considerations dictate candidates for "straight-through onboarding":

1) whether the customer is an individual or corporate entity, 2) the customer's risk level, whether financial crime, reputational, credit exposure, or legal risk, and 3) the bank's dependency on information and documentation from the customer. Achieving "straight-through onboarding" takes more than one automation use case implementation. We see seven use cases as critically important to reducing time and effort.

In many cases, Intelligent Automation can complete the entire onboarding journey and process during the initial customer contact. For example, Africa's largest bank uses Intelligent Automation to onboard a customer in under 5 minutes, often while they are on the phone with a bank representative.[21]

EXHIBIT C: ILLUSTRATIVE KEY AUTOMATION USE CASE IMPACT ON PATH TO "STRAIGHT-THROUGH ONBOARDING"[20]
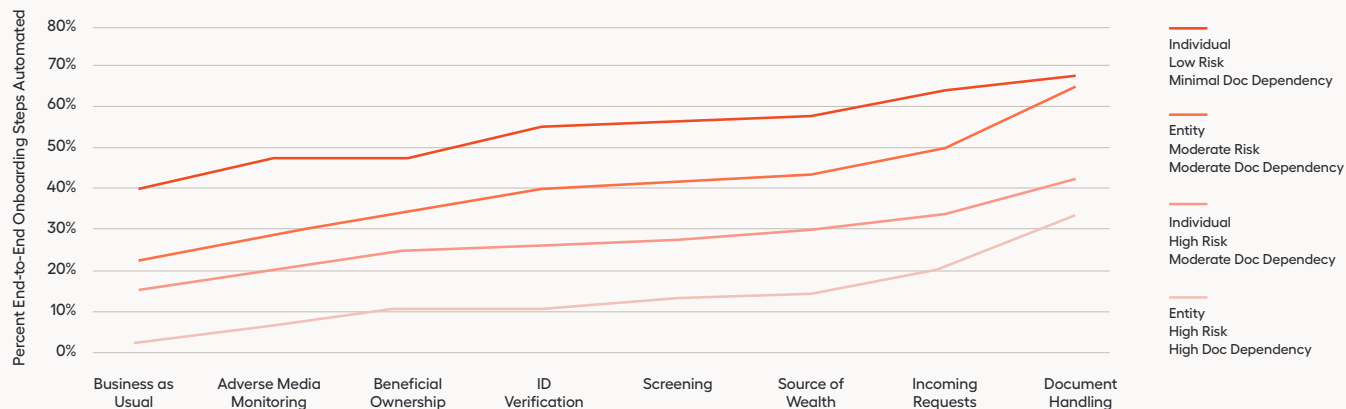
Removing barriers

With a strong financial business case and resounding urgency, why aren't more financial institutions rushing to adopt Intelligent Automation into customer onboarding? Our experience shows three leading and interrelated reasons:

Major process re-engineering. Anticipating that costs in onboarding would continue to increase, many institutions undertook an overhaul of their end-to-end onboarding process. Compliance standards were changed, forms updated, mobile onboarding launched, and some process steps outsourced or offshored. In some cases, banks also pursued major IT implementation, including new customer platforms and legacy system integration. The time horizon to realize

return on this type of investment proved very long. Conversely, a "use case approach" seeks to quickly — often within 12 weeks — introduce automation on very targeted onboarding bottlenecks, rather than change all steps in one mega-update.

View of Intelligent Automation as unproven, fear of low returns. New technologies always garner a cautious approach and the path to wide-scale adoption is

delayed by automation pitfall stories. To be sure, automation — rules-based or cognitive — is not equally able to return fast results in all functions and across all industries. Yet the view that automation is not a mature technology is not consistent with results. Our experience shows that an investment in Intelligent Automation yields a minimum of a 10x return in value across hundreds of use case implementations. As of late 2019, 7,500 organizations globally, of which about 55% are financial institutions, are using automation.[22]

Lack of internal capabilities. Approximately 45% of organizations cite concerns around internal data science and coding capabilities as a barrier to execution of

wide-scale automation.[23] Technology improvements are enabling banks to meet this challenge head-on. For example, "AutoML" technology can determine the best machine learning model to fit a specific need and to simplify model training. As a result, even complex machine learning models that make use of existing capabilities can be supported with minimal or no data scientist inputs. Implementation of "pre-built" use cases, rather than bespoke automation solutions that see their value diminished as processes change, eliminates the need to develop models from scratch. Robust training programs are helping to re-purpose employee skill sets, with the additional benefit of improving employee job satisfaction.[24]

Completing the puzzle

Customer onboarding can be compared to a jigsaw puzzle, with each piece a step of the process. Pieces do not always have to be completed in a strict order; sometimes, an original fit is "re-performed" into a different position if errors are discovered. A missing piece is obvious and prevents the puzzle from being finalized. If each piece only has a single possible match, fully completing the puzzle could be done with rules-based automation. In practice, it is impossible without Intelligent Automation. The targeted use cases cited above can help create transformational levels of cost savings and improvements to the customer journey. They do so by focusing on known process inefficiencies in component parts of onboarding, not by trying to solve all issues through a single mega-solution. Tackling these use cases systematically on a single platform allows for code reusability, improved integration and scale, and a wide range of other benefits. They are versatile, too: a machine learning model that supports AML source of wealth analysis can be repurposed for credit risk-related income verification. Adverse media analysis at onboarding can be used during AML transaction monitoring. Development of machine learning to handle incoming customer inquiries accelerates similar models for intake for other incoming requests, from agent bank changes to term sheets to insurance claims.

Despite this article focusing primarily on the financial services industry, there is also good news for executives in other sectors—onboarding automation delivers significant value outside of banking as well.

Telecommunications firms starting service for new users, utilities connecting services to new purchasers, manufacturers onboarding new suppliers and providers, insurance companies underwriting and per- forming research for new policy holders, retailers onboarding new employees, and healthcare payers extending coverage to new individuals. Across all sectors, companies can unlock significant cost savings by better managing incoming data, digitization of key documentation, connections to external and internal systems, and making use of machine learning to improve future performance and manage process nuances and unstructured data.

A large body of indicators and industry research is demonstrating that banking growth is slowing, that financial institutions' near-term challenges will continue to grow, and that some will be forced to make difficult choices to stay competitive and profitable. Financial institutions need to make substantial progress in solving today's challenges, to be best positioned to tackle the expected and unexpected challenges that arise tomorrow. Intelligent Automation is a proven and cost-efficient technology, including but not limited to customer onboarding and maintenance. Banks can continue with business as usual — high costs, unsatisfied customers, repetitive processes, regulatory criticism, customer abandonment, margin pressure — or move onboarding challenges into the "solved problem" category using Intelligent Automation.

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[2] https://www.thomsonreuters.com/en/press-releases/2016/may/thomson-reuters-2016-know-your-customer-surveys.html

[3] WorkFusion researched, based on non-repeated results for searches on leading job-posting sites.

[4] WorkFusion proprietary Global Enforcement Database

[5] WorkFusion analysis, based on direct client experience with end-to-end retail and corporate client onboarding at financial institutions in the United States and Europe.

[6] https://www.cbinsights.com/research/fintech-startups-consumer-account-growth/

[7] https://www.mckinsey.com/industries/financial-services/our-insights/the-digital-battle-that-banks-must-win

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[17] Signicat. The Battle to Onboarding III.

[18] Executive at a major global bank; November 2019

[19] Saving data sourced directly from WorkFusion customers and implementation; http://www.livemint.com/Technology/WCjwMFggazeG7fcQFsSTEN/How-Axis-Bank-is-shaping-its-digital-journey.html

[20] Use Cases 1–7 align to Exhibit B. Compilation of data from multiple financial institutions onboarding automation usecase time savings and related estimates.

[21] https://vimeo.com/261125070

[22] Proprietary WorkFusion data

[23] HFS Research. Integrated Automation: Why You've Been Doing It All Wrong. March 2019.

[24] https://www.inc.com/adam-robinson/dont-have-a-skills-training-program-for-your-employees-new-study-shows-thats-a-big-mistake.html

About WorkFusion

WorkFusion is accelerating the world's transition to more meaningful work. Our Intelligent Automation solutions are powered by pre-built bots, proprietary artificial intelligence technology and advanced analytics, and specialize in the needs of banking, insurance and healthcare companies. WorkFusion automates operations with ease and speed, reducing costs and unlocking growth. WorkFusion is headquartered in New York City with operations throughout Europe and Asia.

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