ROBOTIC PROCESS AUTOMATION (RPA) TO ACCELERATE MORTGAGE PROCESSING

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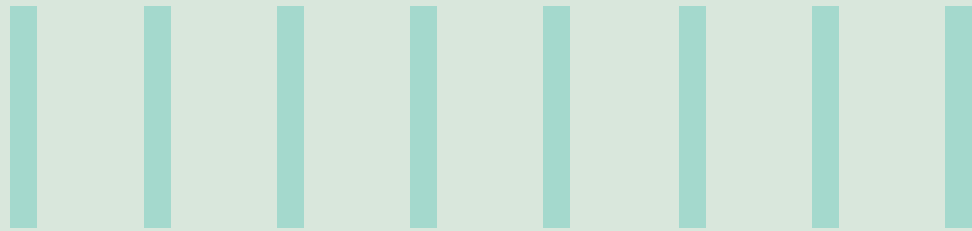
Introduction

Digital transformation has continued to influence the banking industry in a big way. It is evident from the recent IDC Financial Insights survey that one-third of the IT budget of US banks are dedicated to achieving digital transformation in the next five years. Technology is at the forefront, shaping the industry and enabling it to meet the needs of the clients. The mortgage industry is witnessing a significant transformation with the increase in the number of nontraditional lenders who account for 37 percent of mortgage originations in the US. Such nontraditional lenders are not bound by geographical restrictions or a brick-and-mortar network. Reports from Fannie Mae indicate that only five of the top 20 mortgage originators in 2006 are still active in today's mortgage market. In order to stay relevant to clients and survive in the market, mortgage lenders need to reorient themselves and look at ways and means to accelerate mortgage processes, thereby reducing the mortgage turnaround time. Currently, it typically takes 50–53 days to close a mortgage loan with timelines being primarily driven by countless processes and numerous players that a typical mortgage application passes through.

Automation is already a known facet of the banking industry, but it is limited more towards automating some of the routine tasks within the same system. To take things further, mortgage lenders can look at robotic process automation (RPA) to assist them in their journey towards achieving excellence. By adopting RPA, lenders could replicate what a human being does as part of any routine process, guided by a set of rules without any limitation on the type or nature of the associated system. Such software robots could access the loan origination system, open a word document / spreadsheet, and send emails with Outlook to perform a process, as long as it is well-defined.

What is RPA?

According to the Institute of Robotic Process Automation & Artificial Intelligence, robotic process automation (RPA) is the application of technology that allows employees in a company to configure computer software or a 'robot' to capture and interpret existing applications for processing a transaction, manipulating data, triggering responses, and communicating with other digital systems.
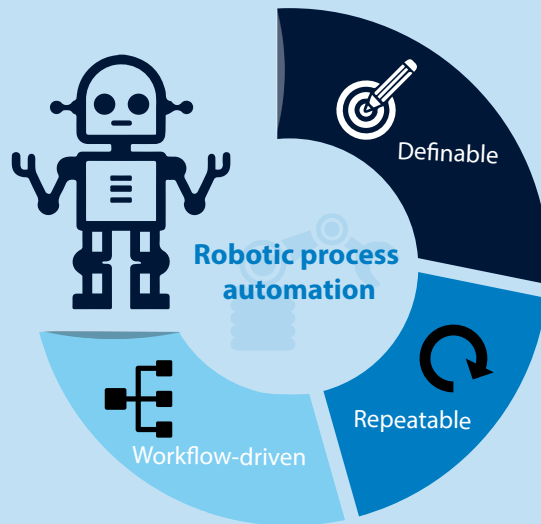

Figure 1: Robotic process automation

The RPA is all about assigning a software robot to perform any work process that is rule-based, workflow-driven, and repeatable. Most importantly, these software robots can interact with different IT systems at the graphical user interface (GUI) level without any need of system integration. The key lies in identifying work processes that are repeatable, definable, and rule-based. Later, a defined business process that can be assigned to a software robot for execution is mapped out. According to a report by Transparency Market Research, RPA is expected to see a compound annual growth rate (CAGR) of about 60.5 percent worldwide through 2020, and its market size is expected to reach around US$5 billion by 2020 from US$0.18 billion in 2013.

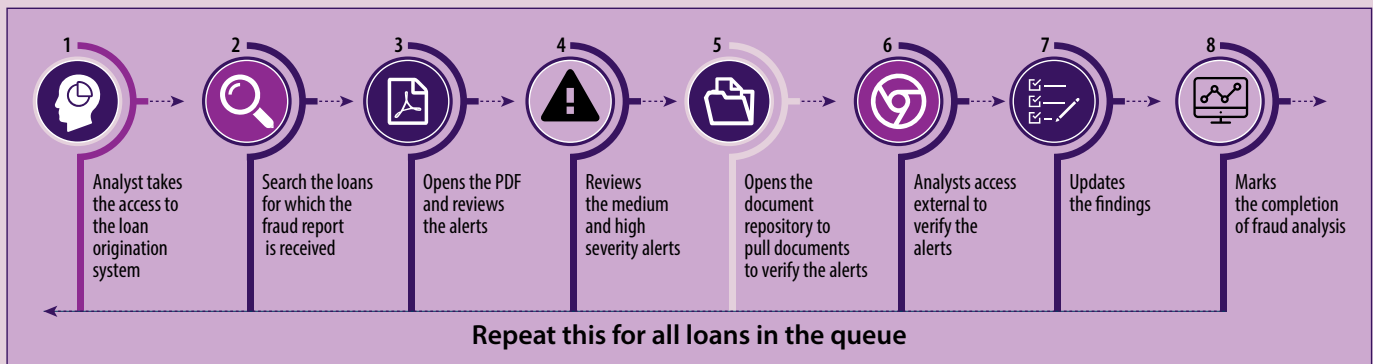## Is mortgage lending an ideal candidate for RPA?

Mortgage lenders are embracing digital transformation initiatives, which include mobility, analytics, social media, and paperless processing. The mortgage industry is known for being process-oriented as well as engaging with a wide number of players, including loan officers, processors, and underwriters across processes such as fraud checks, appraisal orders, title orders, and so on.

The RPA is emerging as a key driving force in technology, impacting almost every industry, and more importantly, the mortgage industry, which is predominantly process-driven. There are numerous routine processes in the mortgage industry that can be subject to RPA, resulting in improved efficiency, reduced cost, and improved turnaround time.
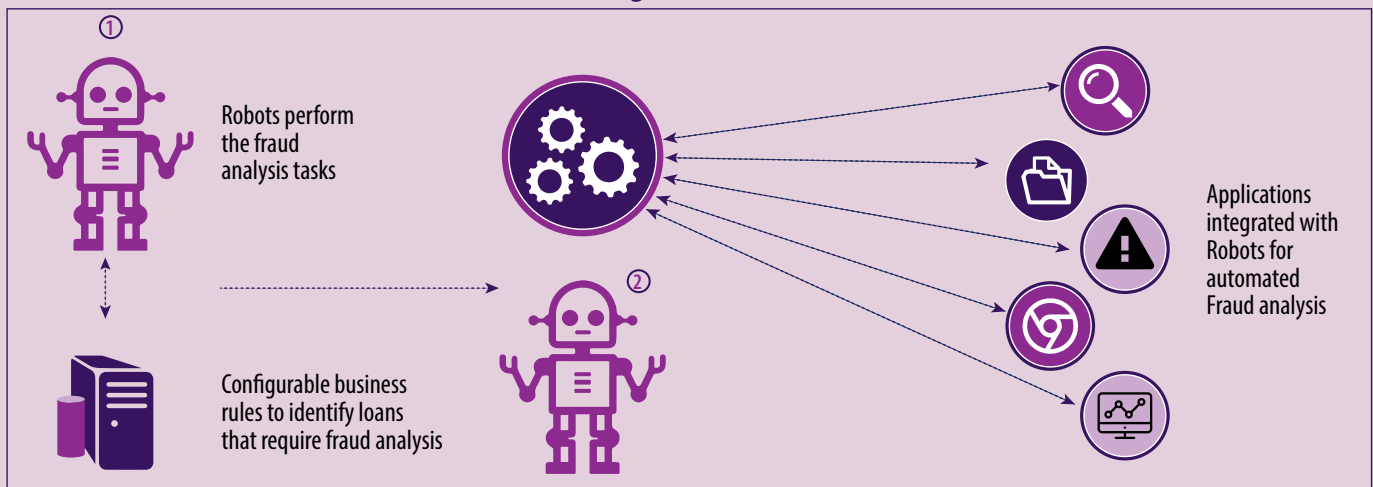
RPA in mortgage lending – Use cases

- **Mortgage fraud check**

  Mortgage fraud is on the rise and there are numerous measures being adopted by lenders to mitigate losses due to fraud. Today, lenders have a loan origination system (LOS) that interfaces with fraud detection applications, enabled with predictive analytics, to determine the risk propensity of a given loan.

1	2	3	4	5	6	7	8
Analyst takes the access to the loan origination system	Search the loans for which the fraud report is received	Opens the PDF and reviews the alerts	Reviews the medium and high severity alerts	Opens the document repository to pull documents to verify the alerts	Analysts access external to verify the alerts	Updates the findings	Marks the completion of fraud analysis

Repeat this for all loans in the queue

▼

Transformation using Robotic Process Automation

① Robots perform the fraud analysis tasks

Configurable business rules to identify loans that require fraud analysis

②

Applications integrated with Robots for automated Fraud analysis

Such applications typically provide fraud alerts that have to be reviewed by a team of analysts to assess and provide recommendations on the steps to be taken to mitigate fraud risk. The tasks associated with such fraud alert reviews are mostly well-defined, which include but are not limited to, accessing documents associated with the loan, accessing external websites (411.com, Google, LexisNexis.com, etc.), reviewing comments associated with the loan, and updating the LOS with the findings. Such reviews are built on rules that define the level of review to be done based on the categorization of alerts. These tasks are repeatable, workflow-based, and rule-driven, making them ideal candidates to benefit from RPA. Robots can be assigned to handle the majority of activities, such as accessing external websites and capturing the details of borrowers, addressing any alerts on the accuracy of documents, logging in and out of web portals and internal applications / systems, and updating relevant system fields to indicate the completion of risk assessment. In addition to the advantage of performing such tasks anywhere and anytime, robots can also produce results that are more reliable and free from errors.

- **Mortgage loan user assignment**

  The mortgage process encompasses multiple users. Typically, mortgage loans pass through at least 15–18 system users for processing before being closed. User assignment, especially in a workflow-based LOS, is managed by an assignment team, which is responsible for

reviewing the user request assignment. The assignment screen is opened in the loan origination system, making the assignment while ensuring that the load is balanced, and then updating the tracker to confirm the assignment. This is a redundant activity and sometimes results in issues when the employee makes an incorrect or missed assignment. Such incorrect assignments impact the time to close the loan, thereby leaving the client dissatisfied. The entire loan assignment process can be managed by robots as long as the logic for load balancing is well-defined. This would ensure smooth assignment of users on the loans, so that the loan workflow is navigated without any issues, interruptions, or delays.

- **Mortgage vendor billing reconciliation**

  Mortgage lenders work with multiple external vendors who interface with the lender's core LOS. These interfaces might include imaging, appraisal, employment verification, and fraud check. When the LOS vendor invoices the lender for the nature of service offered, the lenders often have manual reconciliation steps to process the invoice. This often includes accessing the spreadsheet received from the vendor for details regarding the volume of loans processed, performing logical and mathematical functions on the spreadsheet (copy, paste, add, remove duplicates, and so on), retrieving internal loan details for the month under processing using the internal tool, exporting the internal loan volume and related data to a spreadsheet, and performing logical operations

between the two spreadsheets by using VLOOKUP function. With manual processing, it takes time and effort to run this reconciliation process, and more importantly, there is an element of data risk considering the huge volume of data handled by individual users. This is a routine process and a similar effort is spent for multiple interfaces and vendors every time an invoice is received. Robots have the ability to manage the reconciliation process with ease, especially because the process revolves around accessing multiple internal applications and then processing the data in spreadsheets using MS Excel functions.

While the use cases represented earlier provide a snapshot of probable areas that will benefit from the adoption of RPA, multiple routine processes within the mortgage process could be considered. The key lies in the ability to look at current processes holistically and then extract candidates that could benefit from RPA. From receiving a loan application to its closure, most of the time is spent in reviewing documents, accessing external / internal portals, and updating the status. Document reviews with robots could be a challenge, but now that LOS comes with optical character recognition (OCR) capabilities, or integrated with an indexing solution with OCR capabilities, lenders can also explore engaging robots to perform document reviews. Robots cannot read documents that are stored as images, but when these images are subject to OCR to extract the data, they can review documents using the data elements.

Challenges and opportunities for mortgage lenders

The RPA is gaining traction and is being increasingly leveraged by every industry across the globe with the mortgage lending industry being no exception. With cost pressures going up and achieving client delight becoming an imperative to market survival, RPA is seen as an indispensable technology element to assist the mortgage industry on its journey towards meeting and exceeding customer expectations. According to the Institute for Robotic Process Automation, an RPA software robot costs about one-third the price of an offshore full-time employee (FTE) and one-fifth the price of an onshore worker. With any technology initiative, RPA adoption brings some challenges with it, but with proactive identification and assessment of these challenges, lenders can identify insightful opportunities.
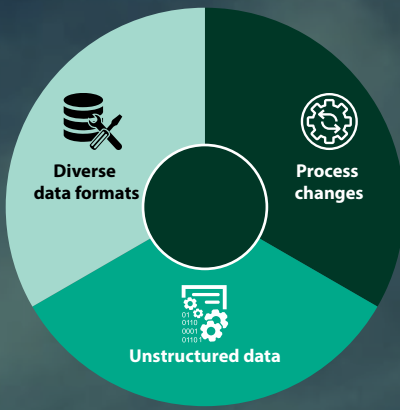
Unstructured data

While robots can perform certain routine tasks, it needs to be kept in mind that human effort is required to create and train such robots, and that robots cannot completely replace all human effort. With the level of unstructured data in a typical mortgage process, it requires proper analysis to identify processes that can be subject to RPA. For example, robots can send an email to an identified set of recipients by logging on to Outlook, but it would not work efficiently if the process requires robots to read an email in the inbox and act on it. A thorough assessment as to whether the process can benefit from RPA, is needed to make it successful.

Managing process changes

When there is a defined process for each activity in the mortgage world, such processes are prone to change due to numerous external and internal factors. This is possible due to the ever-changing regulatory climate, as any compliance effort carries associated system and process changes with it. Lenders need to be cognizant of this and be willing to absorb the effort that would be required to tune the robots to adopt any process change.

Diverse data formats

While the Mortgage Industry Standards Maintenance Organization (MISMO) is the technology standard for residential mortgage transactions in the US to promote data consistency, there could be different data formats used for exchanges between the lender and the customer during mortgage processing. For example, when a robot is programmed to review a PDF file received from the customer, and the customer sends the data in an MS Word format, it would confuse the robot. It is possible to train robots to read specific formats, but deploying multiple robots to read multiple formats will increase associated costs and impact the viability of such an initiative. A best practice would be to ensure that robots are deployed to handle a common data format, and any other data format should be treated as an exception, thus requiring some human intervention to review such files.

Conclusion

According to the National Association of Software and Services Companies (NASSCOM), RPA adoption in business process management (BPM) is growing at a CAGR of over 100 percent and is likely to impact 30 to 40 percent BPM spend in the long run. The mortgage industry is highly process-driven. It helps customers realize their dreams of home ownership, and is working hard to win back the confidence of customers since 2008, amidst the recent spate of regulations and the growth of nontraditional lending. RPA has the potential to accelerate many processes, thereby reducing the time to close a loan. With proper assessment and study of the existing processes to identify candidates for RPA, lenders can reap significant benefits in terms of cost, but most importantly, enable the speedy processing of loans.

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