Automation Use Cases to Improve Loan Origination and Lending Processes

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Initiatives: Banking Industry Technology Insights

Bank CIOs looking to modernize lending technology or make loan origination more efficient can use this research to discover how to leverage automation (including RPA and AI) in lending functions. CIOs can enhance productivity, make processes faster, improve customer experience and mitigate risks.

Overview

Key Findings

- According to the 2022 Gartner Industry LOB Buyer Behavior Survey, financial services line of business leaders list improving consumer and commercial lending processes as well as automation of business processes among their top strategic business initiatives.
- Buyers anticipate leveraging technology to achieve desired outcomes of reduced costs, improved customer satisfaction, and product and service quality.
- Loan automation initiatives aim to achieve a robust customer experience, efficient origination that minimizes errors and compliance risk, and faster decisioning.
- Hyperautomation is driving improvements in productivity ranging from assessing loan application completeness to automating financial spreading in order to eliminate hours of effort from the underwriting process.

Recommendations

Banking CIOs tasked with improving loan origination and other lending processes should:

- Define the business problem/challenge to be addressed through a comprehensive analysis of your loan origination capabilities. Work with key stakeholders across credit, compliance, risk and operations to identify pain points that are good candidates for automation. Do not hesitate to do a complete process redesign, if required.
- Help the business with quick productivity improvements on the front end (application data capture, identity verification, etc.) by implementing automation tools to help with tasks like eliminating duplicate data entry or prepopulating borrower information from internal systems.
- Use nontraditional datasets, combined with advanced analytics, throughout the origination process to provide contextualized offers, automate decisioning, and enable alternative credit scoring for existing and new customer segments.
- Automate customer communications and disclosures by leveraging dynamic document creation capabilities that can customize disclosure and terms based on individual deal details.

Strategic Planning Assumption

By YE25, 20% of traditional lenders will embed loan products or discrete credit services into external platforms and ecosystems.

Introduction

Financial institutions continue to place the customer experience as one of their top strategic priorities, with financial services line of business (LOB) leaders indicating improvement in customer/end-user satisfaction as their most important performance metric for 2022 through 2023. [1] Banking line of business leaders list the following as their top three strategic business initiatives, where they anticipate leveraging technology to achieve desired outcomes:

1. Digitizing products and services
2. Improving consumer and commercial lending processes
3. Automation of business processes

This research focuses on automation use cases within the loan origination process that can enable these outcomes by:

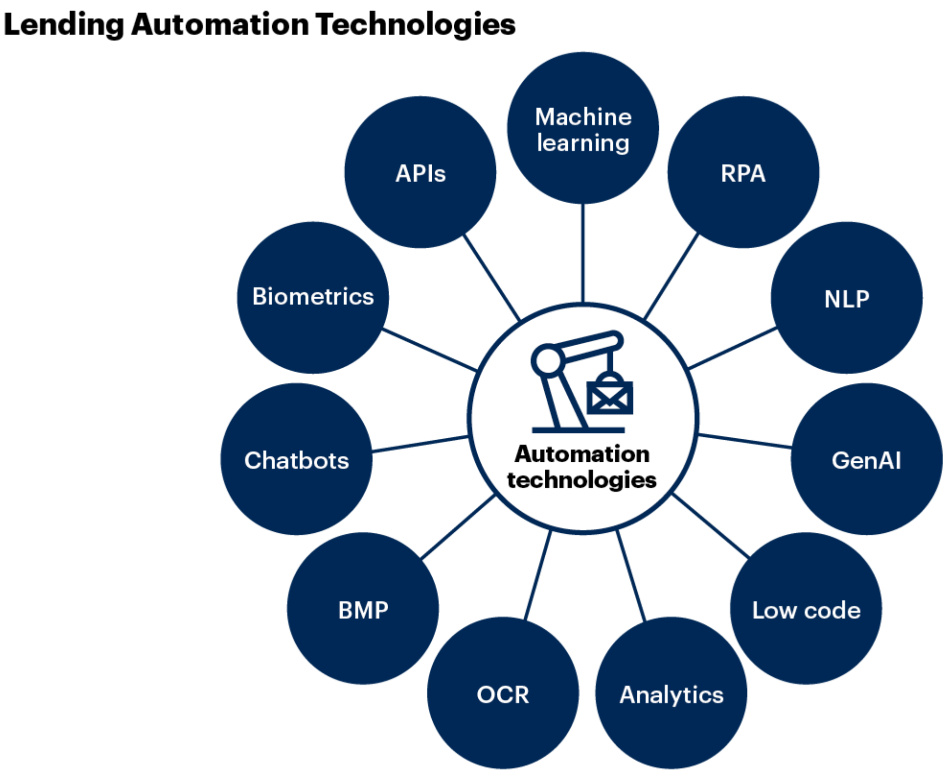
- Improving the customer and employee experience
- Enabling faster and more informed decisioning and pricing
- Driving down the lending cost base and, ultimately, the efficiency ratio

The credit customer experience is exceptionally relevant today with offerings like Square's point of sale (POS) financing and "buy now, pay later" solutions (BNPL) built on a longer engagement strategy and convenience like those offered by Affirm, Afterpay or Klarna. Consumer expectations for speed, transparency, payment flexibility and 24/7 access to credit solutions are all being reshaped by digitally native lenders, lending marketplaces, BNPL solutions and the rise of ecosystems that integrate credit.

As alternative and nontraditional lenders move to offering a broader set of lending products, the individual product-based systems traditionally used by banks continue to inhibit their efficiency and slow their ability to bring new solutions to market. Banks searching for more holistic lending solutions are looking to leverage platform technologies to lower their technology cost base by eliminating product-specific solutions and using a platform to extend automation investments across multiple credit products. Blend, nCino and TurnKey Lender are digital banking platform providers focused specifically on the lending segment. Other platform providers such as Hyland Software, Intellect Design Arena, Newgen and Q2 also support multiple credit products, but as part of broader platform offerings.

Although there are many benefits to credit modernization, the credit function is intrinsically complex. In addition to specific regulatory requirements, lending products are typically broad and diverse, individually involving complex processes that stretch across long life cycles. A key challenge for banks focused on modernizing the origination process and lending solutions will be choosing the right technology for the job to be done. Digital process automation (robotic process automation [RPA], low code/no code, business process management [BPM]) and AI are the most widely used technologies for lending automation. Figure 1 shows a host of complementary technology options being used by leading banks across their lending automation initiatives. Analytics and AI are being used to boost the effectiveness of risk scoring engines, optimize pricing and discounting, and surface required mitigation actions early for potential nonperforming loans. Automation is driving improvements in productivity ranging from assessing loan application completeness to automating financial spreading in an effort to eliminate hours from the underwriting process. (See Tool: Banking and Insurance Use Cases to Drive Hyperautomation.)

Figure 1: Lending Automation Technologies



Source: Gartner
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Gartner

Before embarking on an automation and modernization initiative, CIOs exploring credit modernization and automation opportunities should:

- Work with operations leaders to assess your loan origination capabilities to fully understand how customers navigate through existing processes. Identify customer pain points amid high-volume, rule-based processes. These are good opportunities for automation.
- Proactively engage key stakeholders across credit, compliance, risk and operations to develop a comprehensive understanding of current strengths and gaps in readiness before attempting to define a target model. Design the most suitable process to accomplish the business need by determining where to enhance, convert, eliminate or hide steps in the process (see 4 Steps to Business-Driven Automation in Financial Services).

Analysis

The opportunity for automation within the origination process is substantial. This is given the data collection requirements, the need to translate both structured and unstructured data into formats that can inform risk decisioning, and the often multiple internal and third-party interactions needed throughout the origination process. For context, on average, only 38% of the overall lending process for loans of $250,000 to $5 million is fully automated. [2]

Below, we provide automation use cases across three phases of the loan origination process:

- Application, data capture and identify verification
- Decisioning and account approval
- Disclosures, consent documentation and funding

CIOs should engage in a broader conversation with business leaders to understand where automation technologies and concepts can be applied across the entire credit life cycle (see Figure 2). In the next section, we specifically explore automation opportunities that currently exist within the loan origination process (Figure 3).

Figure 2: Prioritize Automation Opportunities Across End-to-End Lending Capabilities

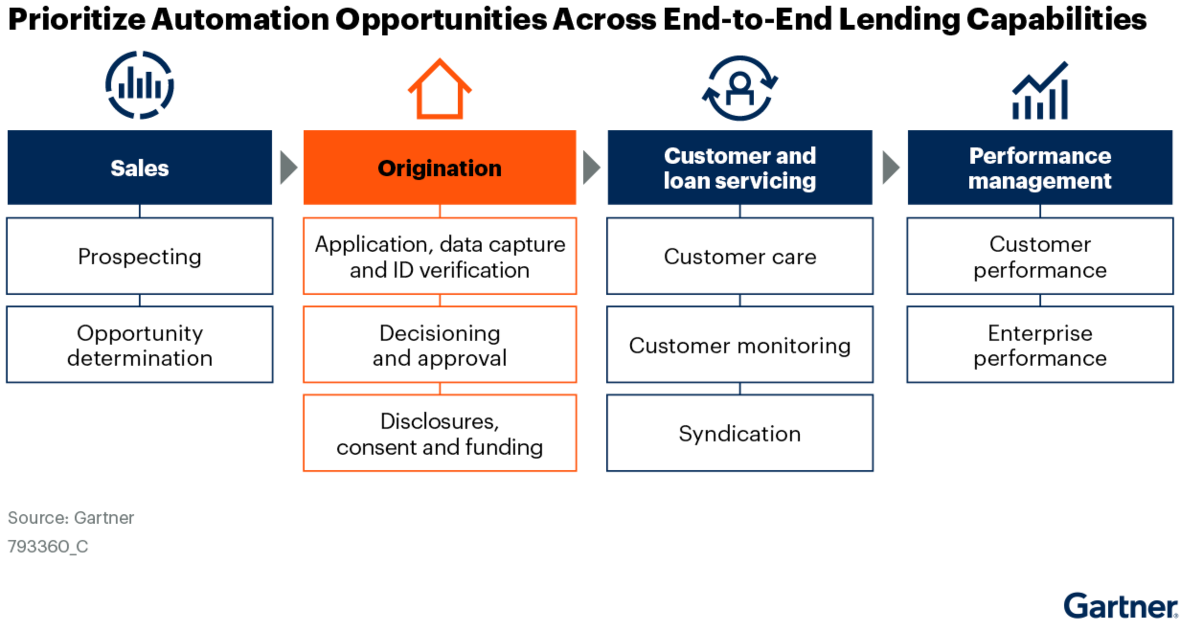
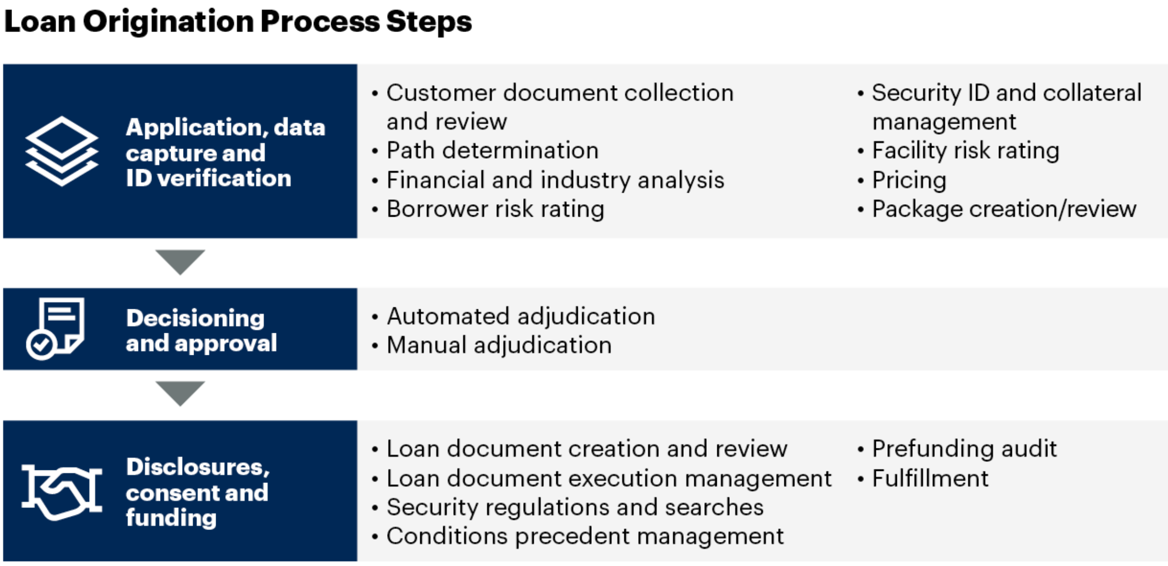


Figure 3: Loan Origination Process Steps



Source: Gartner
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Application, Data Capture and Identity Verification

The application and data capture phase includes identifying customer needs, offering applicable lending solutions and capturing required application data (see Table 1). These steps include identity verification components such as know your customer (KYC), anti-money-laundering (AML) and other regulatory required qualification activities. In some instances, such as within the U.S. credit union segment, member qualification, approval and onboarding are included as a precursor to the credit application process.

Key focus areas for CIOs:

- Successful loan origination automation initiatives will focus on both customer interaction requirements and collaboration between internal stakeholders such as brokers, lenders, processors and underwriters.
- Although the focus is often on integration of third-party data sources, don’t overlook the potential of internal integration to add efficiency and improve the borrower experience.

- Modernizing the end-to-end credit process is often completed along a long time span. Look for opportunities to deliver visible impact early. For example, use RPA to eliminate duplicate data entry or prepopulate borrower information from internal systems.

Table 1: Application, Data Capture and Identity Verification Use Cases

(Enlarged table in Appendix)

Automation opportunity	Use-case description	Benefits	Supporting technologies
Eliminate rekeying of online applications	Automated transfer of information from customers' online application into the loan processing/origination and CRM systems. Solutions are emerging where customer voice can be used to prefill loan applications online.	Increased accuracy of captured data, increased processing speed, eliminated duplicate data entry	RPA, OCR, APIs, GenAI
Prefill applications with borrower information from CRM for existing customers	Bidirectional data syncing between CRM enables systems to automatically prefill loan applications with borrower contact information and execute automated workflows tailored to where clients are in the loan journey.	Improved loan application completion rates, improved borrower satisfaction	RPA, low code, GenAI
Prefill applications with borrower information from government ID sources	Prepopulate customer data using government central data sources or using biometrics to eliminate the need to obtain physical documents to verify a customer's identity.	Improved customer experience, improved KYC compliance	APIs, biometrics, RPA
Automating identity documents in onboarding	Automatically digitize, identify and process documents required in KYC processes for accuracy, completeness and adherence to policies.	Improved accuracy, speed, improved customer experience	Analytics, machine learning, OCR, RPA, GenAI
Tax verification	Integrate with tax information providers to automate verification of tax-related information.	Increased speed, accuracy	APIs, RPA, GenAI
Guide applicants through the loan application process using a chatbot or virtual assistant	A chatbot that responds in real time to customers' questions about loan applications (topics specific to loan type such as mortgage, auto or unsecured).	Increase completion rates, improved customer experience	Chatbots, GenAI
In-process automated borrower outreach to facilitate application completion	Automated borrower outreach tailored to each application stage and notifications that suggest loan team intervention when an application has stalled.	Increase completion rate, improved employee efficiency	iBPM, low code, RPA
Automated completeness checklist and document verification	Validation of loan application completeness to categorize loan applications as ready for decisioning or applications requiring additional information or documentation.	Increased speed, improved employee efficiency	iBPM, OCR, RPA
Fraudulent document detection	Machine learning models can be used to analyze document images to determine which documents may be fraudulent — for example, fraudulent IDs, pay stubs or bank statements.	Improved compliance, reduction in risk, increased employee efficiency	Machine learning, OCR
Auto lending vehicle verification	Programmatically retrieve full vehicle details and valuation using plate/VIN look-up data providers and data acquired through customer-submitted images.	Increased speed, improved accuracy	APIs, OCR, GenAI
Mortgage appraisal retrieval	Automates the ordering and retrieval processes for appraisal services during the mortgage process.	Operational efficiency, increased speed	APIs, GenAI
Automated commercial lending KYC and KYB data capture	Leverage external data sources to capture organization hierarchy and provide visual representations of related parties or interdependencies.	Improved accuracy, increased speed and efficiency	APIs, machine learning, NLP
Leverage internal chatbot to facilitate collaboration between front- and back-office functions	Chatbot or virtual assistant that acts as a deviation exception handler to process ad hoc approvals and deviations such as rate approval, document waiver or deferral.	Improved employee efficiency	Chatbot, digital assistant, iBPM, GenAI

iBPM = intelligent business process management; KYB = know your business; NLP = natural language processing; OCR = optical character recognition

Source: Gartner

Decisioning and Account Approval

Decisioning and account approval include the account processing and underwriting activities required to assess the risk of extending credit and adherence to the financial institution's credit policy. This includes evaluation of risk based on credit score, employment verification, tax documents and, increasingly, other sources of external data such as financial transactional data, telco data, utilities payments and social media. As part of the underwriting and risk analysis process, limits, conditions or covenants are established. Approval may be automated, as is often the case in routine consumer lending applications (predominantly credit cards or unsecured lending). It may also be manual and time intensive, requiring multiple iterations of negotiation between the customer, underwriter or loan committee (see Table 2).

Key focus areas for CIOs:

- Evaluate the use of alternative data such as monthly cash flow and spending patterns including recurring rent and utility payments, other sources of income (e.g., with gig economy workers) and historic bank account balances. For businesses, look at real-time evaluation of sales and payroll data, inventory turnover and other similar transactional data from third-party accounting systems and SaaS platforms to improve the speed and accuracy of credit decisions. Alternative data can also facilitate greater financial inclusion for consumers unable to obtain credit using traditional scoring metrics.
- Include compliance teams as part of the automation opportunity assessment to ensure adherence to applicable consumer protection laws such as fair lending laws, prohibitions against deceptive or abusive practices, the Fair Credit Reporting Act in the U.S., and the Consumer Credit Act in the U.K.

Table 2: Decisioning and Account Approval Use Cases

(Enlarged table in Appendix)

Automation opportunity	Use-case description	Benefits	Supporting technologies
Loan term generation and pricing analysis	Analytics is used to determine loan terms and pricing that will most likely lead to customer acceptance.	Increased revenue, customer retention, customer experience	Analytics, machine learning, GenAI
Third-party underwriting data collection	Automation tools can augment the underwriter and capture the required information from public databases and third-party providers.	Removal of manual steps from the underwriting process, improved employee efficiency	RPA, APIs, low code, GenAI
External property valuation data providers	Leverage integration into third-party property valuation providers to inform the loan decisioning process.	Reduced origination time, improved decision quality	APIs
Asset and income validation	Leverage aggregation providers to automate the retrieval and verification of asset and income information.	Increased speed, accuracy	APIs, RPA
Categorization of transactional data to determine income sources	Quantify which transactions/earnings should be considered as true income in accordance with equal-credit or fair-lending-focused regulations.	Increased employee efficiency, compliance, speed	APIs, machine learning, OCR, NLP
Analyzing living expense reports	Investigating transactional data to determine actual living expenses when assessing loans.	Improved customer experience, accuracy of customer insight, improved risk decisioning	APIs, machine learning, OCR, NLP, GenAI
Automated spreading	Automated spreading automatically interprets and extracts data from financial statements and tax returns and directly inputs data into a financial analysis tool.	Improved efficiency, processing speed, risk decisioning through consistency and accuracy	Machine learning, OCR, GenAI
Automated spreading through ERP integration	Integrate with customers' ERP, accounting or book-keeping solutions to extract the relevant financial data needed to make a decision.	Improved employee productivity, accuracy, customer experience	APIs, low code
Adverse news monitoring	Sweep for adverse news related to large clients that may affect the risk profile for commercial loans and potential AML for other accounts.	Reduced risk, improved regulatory compliance	Machine learning, NLP, RPA, GenAI
Automated risk scoring	Automatically rate borrower groups based on lead borrower rating and parent company.	Improved efficiency, fairness, inclusiveness of lending	Analytics
Creation of loan approval presentation/documentation	Prepare the credit application or loan presentation for decisioning risk teams and loan committees.	Improved employee efficiency, consistency, improved regulatory compliance	RPA, iBPM, GenAI

Source: Gartner

Disclosures, Consent Documentation and Funding

Disclosures and consent documents are created and provided to the customer during account initiation, or to communicate loan denial. For approvals, this process includes customer execution of the agreements, distribution of completed documents to the customer and bank, and collateral production and distribution, including to third parties. The final loan is booked onto the core banking systems, and funds are distributed to the customer as part of the account funding process (see Table 3).

Key focus areas for CIOs:

- Optimize customer communications and disclosures by leveraging dynamic document creation capabilities that can customize disclosure and terms based on individual deal details.

- Work with key stakeholders in compliance to evaluate regulatory requirements that may impose mandatory waiting periods, in general, or when specific terms change, such as annual percent rate (APR) or prepayment penalties.

- Include automation of trailing document activities that occur after consent, such as insurance and flood determination documents, as you evaluate automation opportunities.

Table 3: Disclosures, Consent Documentation and Funding Use Cases

Automation opportunity	Use-case description	Benefits	Supporting technologies
Postclosing documentation	Upon completion, automatically request, organize and report on the status of trailing documents required in the mortgage process.	Increased efficiency, automated compliance	RPA, low code, GenAI
Closing documentation	Preconfigured document templates that mirror paper-based credit forms can be automatically produced.	Paperless processing	RPA, OCR, NLP, GenAI
Lien management	Leverage vendor-provided APIs to manage lien applications, which often have unique state- and county-level regulations and requirements.	Improved efficiency, compliance	APIs, iBPM

Source: Gartner Research

Evidence

[1] **2022 Gartner Industry LOB Buyer Behavior Survey.** This survey was conducted to understand how business leaders in each industry are shaping technology's role in their business initiatives and operational change, and how decision makers in core business areas are making these decisions. The research was conducted online from February 2022 through April 2022 among 711 respondents in North America (n = 325 in the U.S. and Canada), Western Europe (n = 245 in the U.K., France and Germany), and APAC (n = 141 in Australia and Singapore). Qualified organizations had $50 million or more in revenue in fiscal-year 2022 across eight verticals — banking and financial services, energy and utilities, retail, manufacturing, insurance, healthcare, public sector, and telecommunications. Respondents were heads of line-of-business departments or within two reporting levels away. Moreover, they were involved in evaluating products or services for technology projects and should be aware of any exploration, purchase, replacement or renewal of technology products or services for their departments. Disclaimer: The results of this survey do not represent global findings or the market as a whole, but reflect the sentiments of the respondents and companies surveyed.

[2] **2022 Gartner Lending Processes Maturity and Modernization Survey.** This survey was conducted to get a better understanding of how the commercial and small business lending process is organized, automated and measured across financial institutions (with a focus on commercial and industrial [C&I] loans). The quantitative survey was conducted online from June through July 2022 among 101 senior managers, directors and above from the banking industry. Respondents were involved in processes related to small business lending or C&I lending, with loan sizes ranging from $250,000 to $5 million. Disclaimer: The results of this survey do not represent global findings or the market as a whole, but reflect the sentiments of the respondents and companies surveyed.

Document Revision History

Automation Use Cases to Modernize Loan Origination and Improve Lending Processes - 30 September 2021

Recommended by the Authors

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Tool: Banking and Insurance Use Cases to Drive Hyperautomation

4 Steps to Business-Driven Automation in Financial Services

Quick Answer: How Can Explainable AI Eliminate Bias and Expand Lending?

Quick Answer: How Can Bank CIOs Evaluate Low-Code Solutions?

Avoiding the 10 Most Common Mistakes in Financial Services Automation

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