HOW ARTIFICIAL INTELLIGENCE IS TRANSFORMING MORTGAGE LOAN ORIGINATION

EXECUTIVE SUMMARY

Artificial intelligence (AI) is transforming the way many industries conduct operations. Broadly defined as a collection of advanced technologies that enable machines to perceive, envision, take action and learn, AI has the potential to help industries that deal with large and diverse amounts of data by reducing errors, improving efficiency, speeding up timelines, identifying patterns and trends, and supporting transactions and services at a significantly larger scale.

Mortgage lenders are increasingly looking at AI technologies as a way to make the loan origination process faster and more efficient, especially as costs have risen. By automating previously manual tasks and using AI as a decision-making tool, lenders can review, process and approve greater numbers of loan applications at a faster speed, bringing benefits to both lenders and borrowers. While there are substantial challenges in integrating AI into processes and infrastructure, it is clear that it is going to significantly change the mortgage industry sooner rather than later. This white paper presents an overview of the current state of AI within the mortgage industry, AI's capabilities as applied to loan origination, challenges that have hindered its adoption more widely and the benefits AI offers to lenders and borrowers.

MORTGAGE LENDERS POISED TO LEVERAGE AI

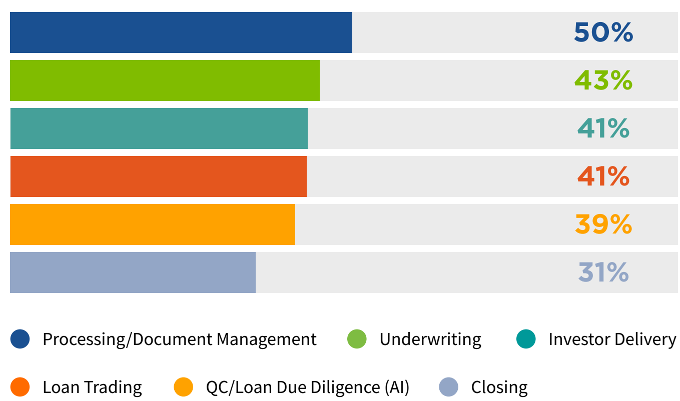
AI and machine learning have widespread applications and are already used in a variety of fields, including healthcare, meteorology, manufacturing, insurance and banking. A November 2019 survey of firms across sectors and business functions indicated there has been an increase in AI adoption in nearly every industry. Fifty-eight percent said they had implemented at least one AI functionality into their standard business processes, up from 47% the previous year.[1]

58% SAID THEY HAD IMPLEMENTED AT LEAST ONE AI FUNCTIONALITY INTO THEIR STANDARD BUSINESS PROCESSES.

The mortgage industry has been slower to adopt AI on a large scale, but signs indicate that its uses and advantages are widely understood. Mortgage lenders increasingly understand that AI can help them offer better-quality home loans, scale their operations and provide a better consumer experience, all in a cost-effective manner.[2] Document management and processing is a particular pain point: In a 2019 survey, half of mortgage origination professionals said they planned to implement automation in that area in the next two to three years.[3]

Today, AI is vital to the continued success of mortgage lenders. Beyond its value in meeting demand and supporting continued growth, it can help lenders gain and maintain a competitive advantage within the industry: More than one in five mortgage origination professionals report that AI is the most important factor in differentiating their company in a competitive market.[4] In addition, expectations for customer service across all sectors have risen.[5] Consumers, especially younger ones, increasingly expect technology-supported interactions and fast turnaround times even for once complicated and lengthy transactions, including buying a home.

Step of the origination process organizations plan to automate or automate further using technology in the next two to three years.



AI ABILITIES IN MORTGAGE LENDING

AI provides a number of capabilities that support greater operational efficiencies, fewer errors, faster timelines and increased loan processing at scale. While optical character recognition (OCR) technology has been widely used to convert text into machine-readable and editable data, AI goes many steps beyond that. Through a combination of programming and self-learning algorithms, AI can help quickly and accurately extract and aggregate data from high volumes of documents and images from diverse sources (such as records from public institutions as well as private entities), analyze and organize the information, and recognize patterns to create models that support reliable, high-confidence borrower risk assessment as well as accurate property valuations.

The greater computational power of AI also helps support a much greater scale of loan origination processes with no or little additional employee labor. While a level of human due diligence is still required, AI's combination of automation and "critical thinking" ability greatly cuts down on the amount of time-consuming manual effort previously required to gather and analyze the substantial volume of electronic and paper documents typically required in loan applications. With its ability to learn, AI can also support more robust self-service functions for customers, such as chatbots and automated advising, to answer frequently asked questions or help them complete tasks.

With all these benefits, why hasn't the mortgage industry moved more quickly to leverage AI? While the advantages are clear, significant barriers have prevented lenders from initiating or more fully implementing AI into their businesses

THE MAIN CHALLENGE PREVENTING LENDERS FROM INCORPORATING AI IS THE DIFFICULTY AND COMPLEXITY OF INTEGRATING THE TECHNOLOGY INTO EXISTING INFRASTRUCTURES AND PLATFORMS.

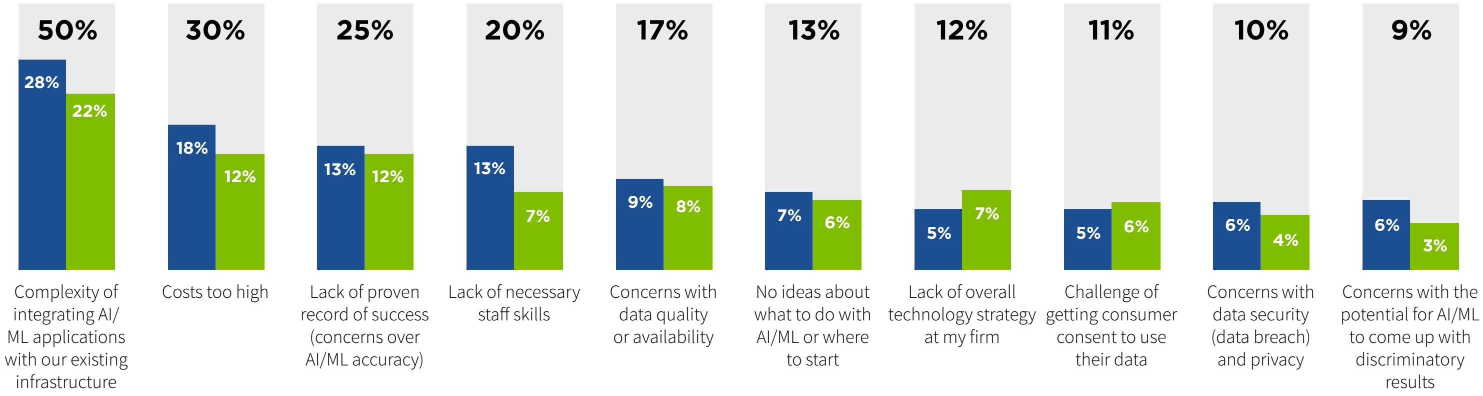
CHALLENGES TO ADOPTING AI

The main challenge preventing lenders from incorporating AI is the difficulty and complexity of integrating the technology into existing infrastructures and platforms. In fact, half of the senior mortgage executives surveyed in 2018 reported this as the greatest obstacle. The costs involved in designing and implementing AI systems is another factor with 30% of senior executives naming this as the biggest barrier. One-fourth pointed to the lack of a record of success as a proof point, specifically citing concerns about accuracy. Other challenges included a shortage of necessary technical skills and expertise on staff, concerns with the availability or quality of data, and the lack of an overall strategy on technology.[6]

All these are valid concerns. But with time, presumably, the increasing proliferation of AI will make the process of implementing it less burdensome — especially given the considerable advantages it offers to both mortgage lenders and borrowers.

Biggest Challenges to Implementing AI/ML Technology

Among those who are not using AI/ML Tools (N=142)



Q: [Among those NOT using AI/ML technology] Earlier you mentioned that your firm has not used AI/ML applications. Listed below are some possible challenges companies might face in implementing AI/ML applications. Please select up to two of the biggest challenges for your firm and rank them in order of importance.

BENEFITS TO MORTGAGE LENDERS

As described previously, AI supports automated access to and compilation of rich data from a variety of sources, helping to eliminate the need for manual extraction and input. It builds a more comprehensive, “holistic” picture of borrowers that not only incorporates more and more detailed information but more variables as well. This results in fewer errors due to AI’s greater reliability as well as its ability to be entirely objective when performing the analysis and forecasting functions integral to decision-making. AI can also quickly identify and flag anomalies that may point to a borrower’s unsuitability or even the existence of fraud. In addition, with its ability to quickly ingest new rules and learn from them, AI can support improved regulatory compliance even as guidelines are updated or change over time.

Through the sheer number of data and calculations AI can handle, it supports the ability to dramatically scale a business quickly with little or no need to expand a company’s workforce. By automating repetitive tasks and making decisions on a large scale, AI also frees employees to step in and personally address exceptions and customer issues in a timely manner.

This greater computational ability may broaden the range of potential borrowers. While current mortgage underwriting models are typically limited to 15 to 20 variables, AI-driven models can incorporate more, leading to alternative data sets that can help lenders identify additional potential borrower pools, such as people with nontraditional credit or employment histories.[7]

AI-BASED LOAN APPROVAL WORKFLOW WAS ABLE TO INCREASE APPROVAL RATES BY 25%.[9]

AI automation and abilities also contribute to streamlined processes that support more efficient workflows, faster processing and approval. The current average time for approval of a home loan to closing is around 45 days.[8] Greater industry-wide implementation of AI has the potential to shorten this timeline significantly. While there is currently a lack of industry-specific data to prove it, AI may also eventually contribute to increased approval rates. AI-supported lending in other industries may help confirm this hypothesis; for example, an auto loan company using an AI-based loan approval workflow was able to increase approval rates by 25%.[9]

BENEFITS TO BORROWERS AND OPPORTUNITIES FOR OUTREACH AND PERSONALIZATION

Borrowers can also benefit from the use of AI in mortgage lending. As outlined earlier, comprehensive customer profiles with more detailed and alternative data on potential borrowers, rather than data focusing mainly on traditional factors like credit scores and employment history, may make loans more accessible to groups deemed too risky in the past. A reduced amount of paperwork, faster processing and approval, quicker closing times and more customized service may also lessen fear and anxiety among potential first-time home buyers and make the process less stressful overall.

On the lender side, AI also provides opportunities to improve lead management and user experience among borrowers. Emerging patterns in more granular market segmentation can suggest new or improved outreach strategies to specific borrower pools as well as opportunities for personalization throughout the loan approval and closing process.

Because of the complex property preservation and field services requirements of current FHA guidelines, it can be incredibly difficult for servicers to meet mandated time frames and avoid penalties. Developing the staff, capabilities and technology to effectively and efficiently manage the process requires resources many loan servicers do not have in-house. Consequently, working with a vendor that has FHA expertise, established operational and process excellence, and a proven technology platform is the most practical solution for servicers who want to make the FHA conveyance process more efficient as well as mitigate risks and loss.

Effectively servicing FHA default properties requires a combination of FHA expertise, established systems for milestone tracking and reporting, the technology infrastructure to support multiple FHA properties at a time and data-driven modeling tools for enhanced decision-making. Together, these capabilities help servicers address the complexity of FHA regulations, the non-standardization of properties and the increasing volume of FHA-insured properties in default, enabling them to maximize and scale their efforts while reducing risks in this expanding area of field services and property preservation.

CONCLUSION

AI empowers mortgage lenders to provide high-quality, high-volume and faster service at a reasonable cost. Its abilities range from extracting and aggregating data from multiple sources to identifying patterns that can aid in decision-making and lead to new opportunities and borrower pools. While the mortgage industry is increasingly aware of its benefits, challenges related to the costs and complexity of integrating it into existing systems and technologies are daunting.

However, AI's benefits will only become more obvious as more lenders adopt the technology. From greater efficiency and streamlined processes to the ability to scale operations quickly, it supports the growth of individual businesses as well as the evolution of the entire industry. Lenders who want to stay abreast of the abilities, cost savings and offerings of industry competitors, as well as growing customer expectations, should be actively making plans to adopt or more fully implement AI into their infrastructure and processes.

[1] McKinsey & Company, "Global AI Survey: AI Proves Its Worth, But Few Scale Impact," https://www.mckinsey.com/featured-insights/artificial-intelligence/global-ai-survey-ai-proves-its-worth-but-few-scale-impact
[2] Altisource, "The State of the Originations Industry," https://pages.altisource.com/2020-State-of-Originations-Report_LPform.html
[3] Altisource, "The State of the Originations Industry"
[4] Altisource, "The State of the Originations Industry"
[5] Bonnie Sinnock, National Mortgage News, "Why Mortgage Lenders Should Start Looking Harder at AI, Big Data," https://www.nationalmortgagenews.com/news/why-mortgage-lenders-should-start-looking-harder-at-ai-big-data
[6] Fannie Mae, "How Will Artificial Intelligence Shape Mortgage Lending?" https://www.fanniemae.com/resources/file/research/mlss/pdf/mlss-artificial-intelligence-100418.pdf
[7] Bonnie Sinnock, National Mortgage News, "Why Mortgage Lenders Should Start Looking Harder at AI, Big Data"
[8] Gina Pogol, The Mortgage Reports, "How Long Does It Take to Close on a House?" https://themortgagereports.com/19487/how-long-does-it-take-to-close-a-mortgage-gina-pogol
[9] Louis Columbus, Forbes, "10 Ways AI Is Going To Improve Fintech In 2020," https://www.forbes.com/sites/louiscolumbus/2020/12/29/10-ways-ai-is-going-to-improve-fintech-in-2020/#3076eaba4ffd

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