Using AI to manage credit risk: lenders report on current AI use and future investments

A special report from LendIt and Brighterion, a Mastercard company

Brighterion mastercard | LendIt

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Executive Summary

2020 will be remembered forever as the year fueled by a global pandemic. The aftershocks will continue to make waves for years to come, especially across the economic and financial landscape. However, there is always light at the end of the tunnel. In times of uncertainty, we adapt through technology.

LendIt and Brighterion collaborated on a survey sent to thousands of financial institutions and lenders to understand how they are investing in technology. Specifically, we wanted to understand how organizations are thinking about applying artificial intelligence (AI) to credit risk in light of the economic shakeup, and where they see the biggest opportunity for better credit risk management. You will find the majority of respondents already use AI today, or plan future investment. In fact, 88% of respondents say they plan to invest even more into AI in the years to come.

Brighterion has partnered with some of the largest financial institutions across the globe to apply AI for credit risk management. Using this technology, lenders can enhance their credit risk practices across the customer lifecycle.

In this summary, we will walk you through the key takeaways from the survey, and discuss how Brighterion is approaching these important topics in AI for credit risk.

Does your organization use AI for credit risk today?

RESULTS

50%
Yes

25%
No, but plan
to in the future

4%
Unsure

21%
No
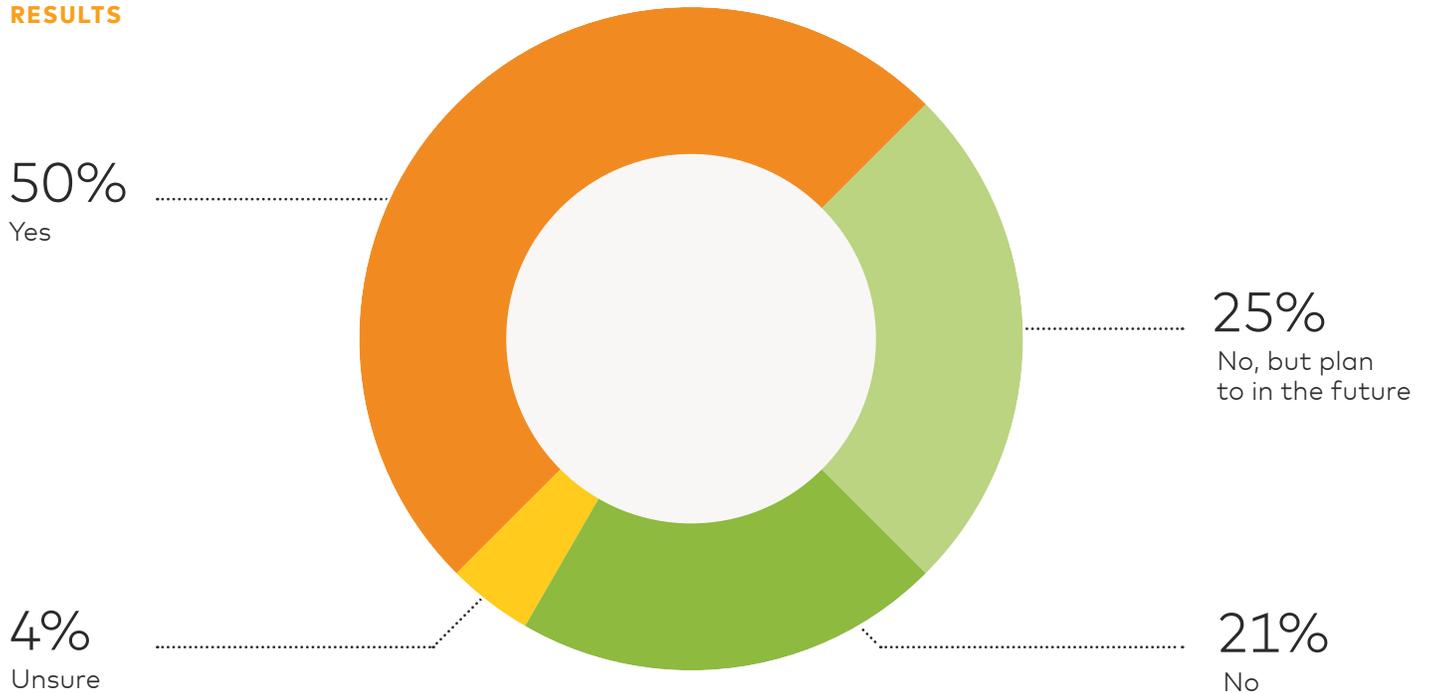
Key Takeaways

Over half of financial institutions surveyed are using AI for credit risk today, with another 25% planning to leverage it in the future. This comes as no surprise given the four key benefits we are seeing with lenders that leverage Brighterion AI:

1. Improving the customer experience: By improving accuracy levels in delinquency prediction, lenders can improve their borrower experience.

2. Predicting losses earlier: Models that identify behaviors indicative of future credit risk increase your time to act.

3. Managing risk through the customer lifecycle: From a new borrower application, and managing credit lines to managing collections, AI can help make decisions across your portfolio.

4. Ability to leverage data across your organization: AI creates a 360-view of your customer and enables smarter, more personalized decisions.

Does your organization plan to invest more in AI over the next 2-5 years?

RESULTS

3%
No

9%
Not sure

88%
Yes
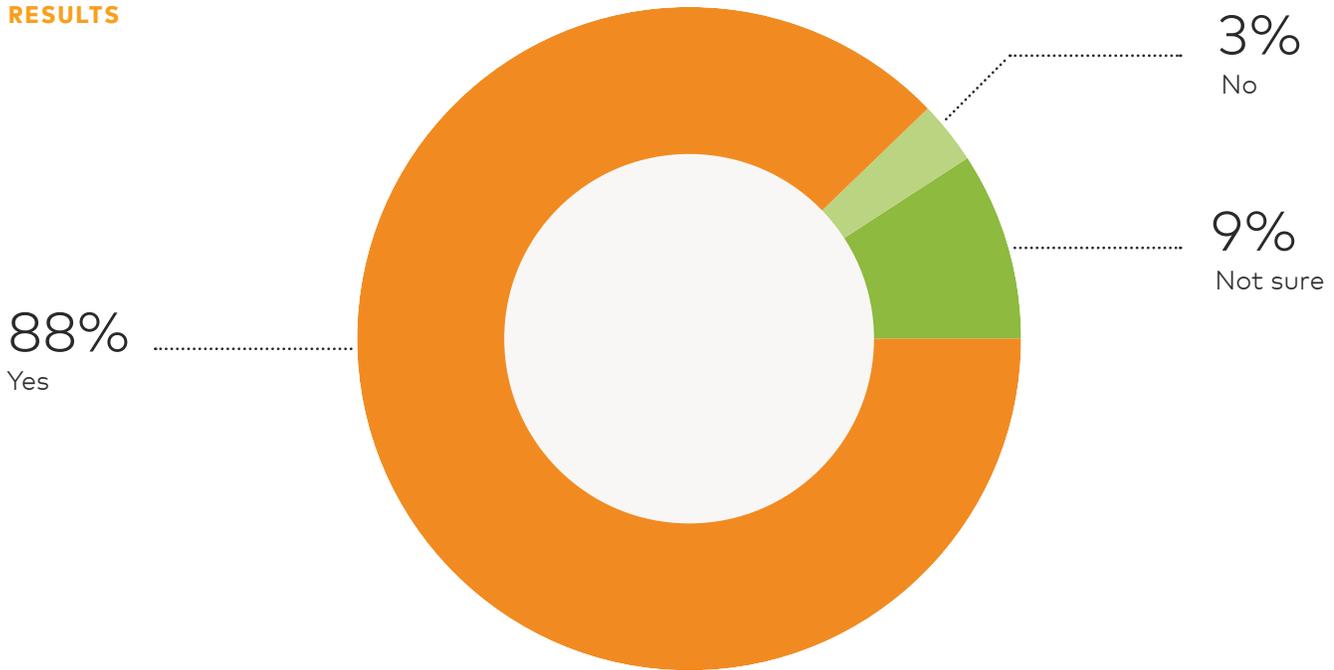
Key Takeaways

Nearly 90% of financial institutions surveyed will invest more in AI in the next 2-5 years. Those who aren't investing in AI will lose out, especially those responsible for credit risk management.

If we observe the current and future outlook of the U.S. economy, we are faced with many uncertainties. In Q2 2020, the New York Federal Reserve reported U.S. household debt dropped to $14.3T quarter-over-quarter for the first time since 2014. While there are positive signals like consumers saving more and paying down debts, it may also indicate a pullback in consumer spend and a weakening consumer confidence.

Longer term, these trends will have large implications on small business growth and overall economic health. The government has taken a number of measures to mitigate financial losses due to COVID-19, including stimulus and a variety of forbearance measures across loan products like mortgages and student loans.

These tactics may slow a rise in delinquency rates, but lenders need to look ahead. Brighterion is providing our data and AI assets to help lenders manage consumer and small business risk now and in the future.

Which technologies do you leverage today for credit risk management?

26%
Manual reviews

5%
Other

40%
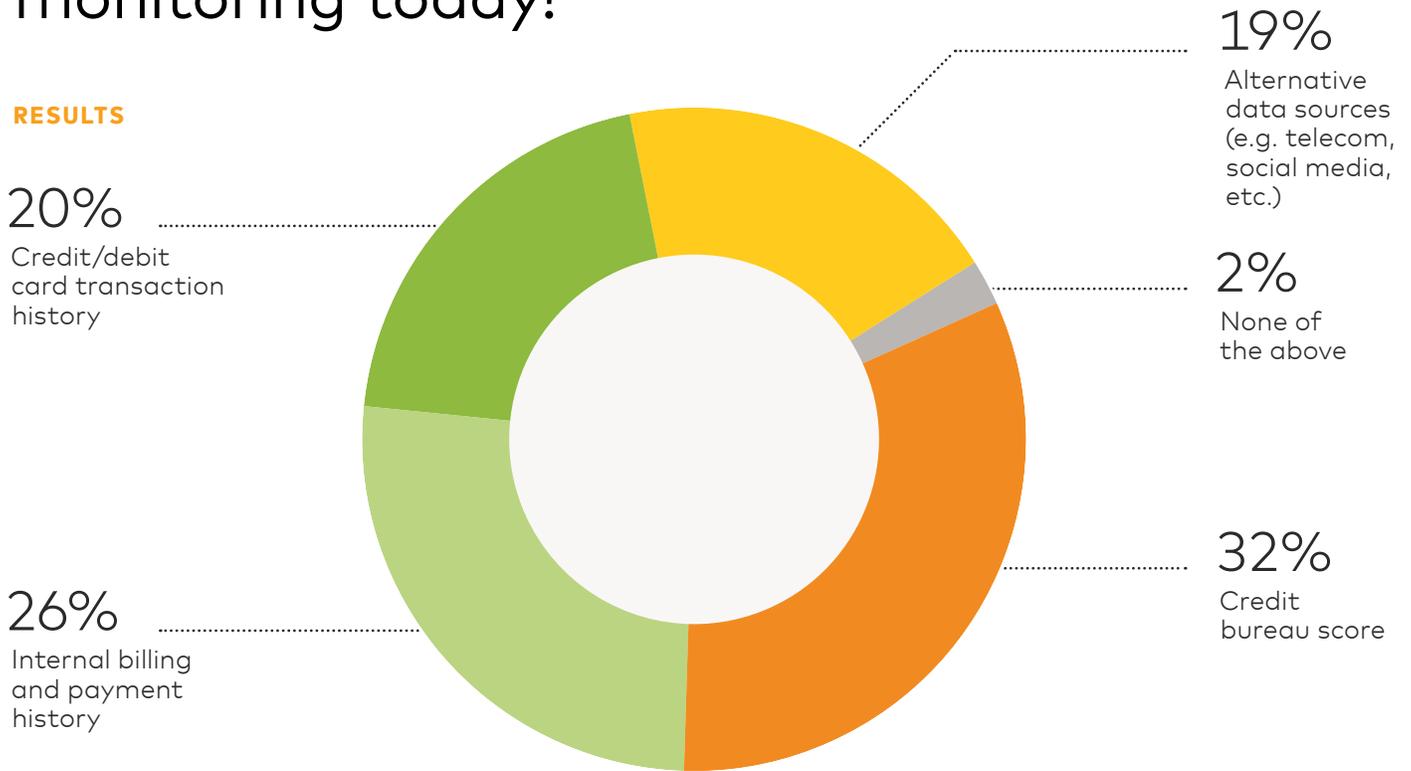Rules-based systems

29%
AI/machine learning
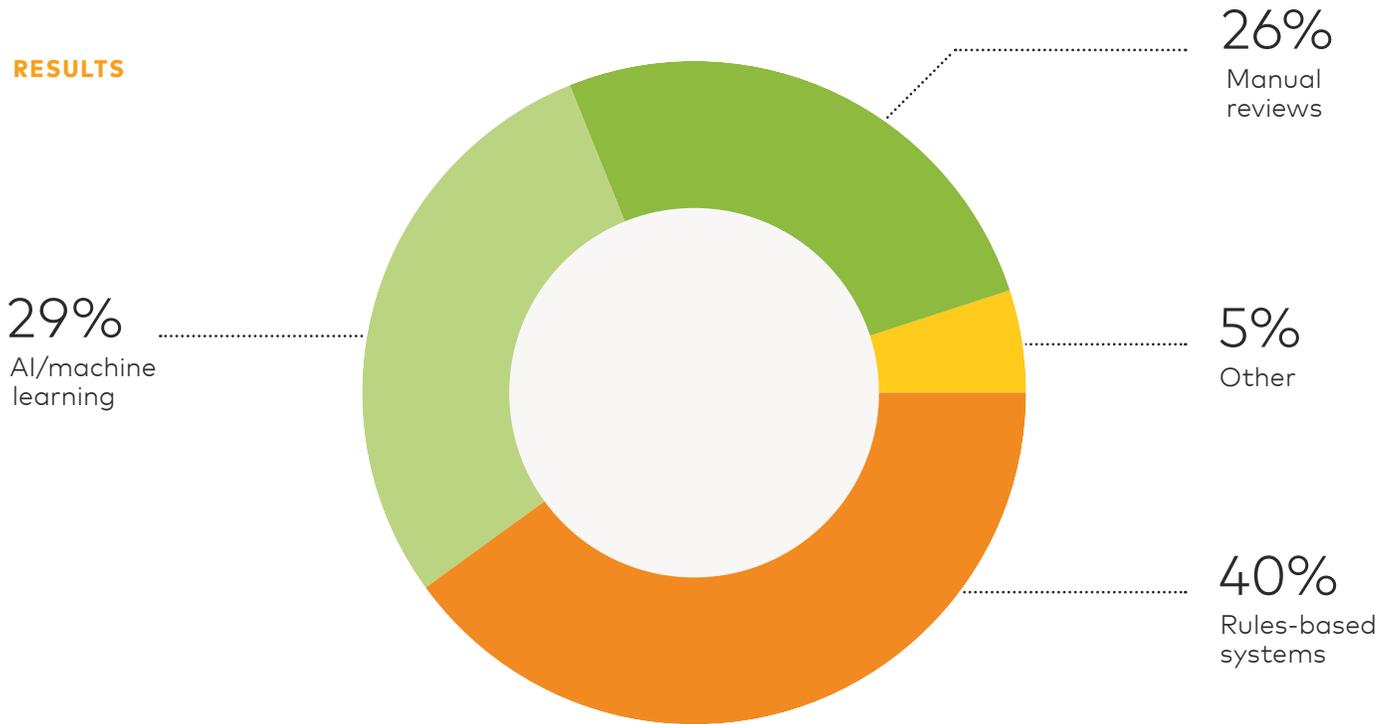
Key Takeaways

Over 40% of organizations reported using rules-based systems, while 29% are leveraging AI and machine learning techniques. Some might argue that rules-based systems are legacy technologies that one day will be replaced by AI systems, but as evidenced by the survey, this adoption will take time, and likely credit risk management will never be 100% AI-based.

Brighterion develops models that provide a significant boost in performance to existing credit risk management processes. Our scoring techniques significantly reduce the need to write rules manually, but easily can be complemented with existing scores or rules-based systems.

Which of the following data sources does your organization use for credit risk monitoring today?

RESULTS

19%
Alternative data sources (e.g. telecom, social media, etc.)

20%
Credit/debit card transaction history

2%
None of the above

26%
Internal billing and payment history

32%
Credit bureau score

Doesn't total 100% as some respondents selected more than one application.

Key Takeaways

Credit bureau scores topped the list of data sources used to monitor credit risk for borrowers. Credit bureau scores have been the gold standard for a long time when evaluating a borrower's credit worthiness. However, lenders are facing new challenges with this key data source as it potentially is not as helpful when compared to other data sources.
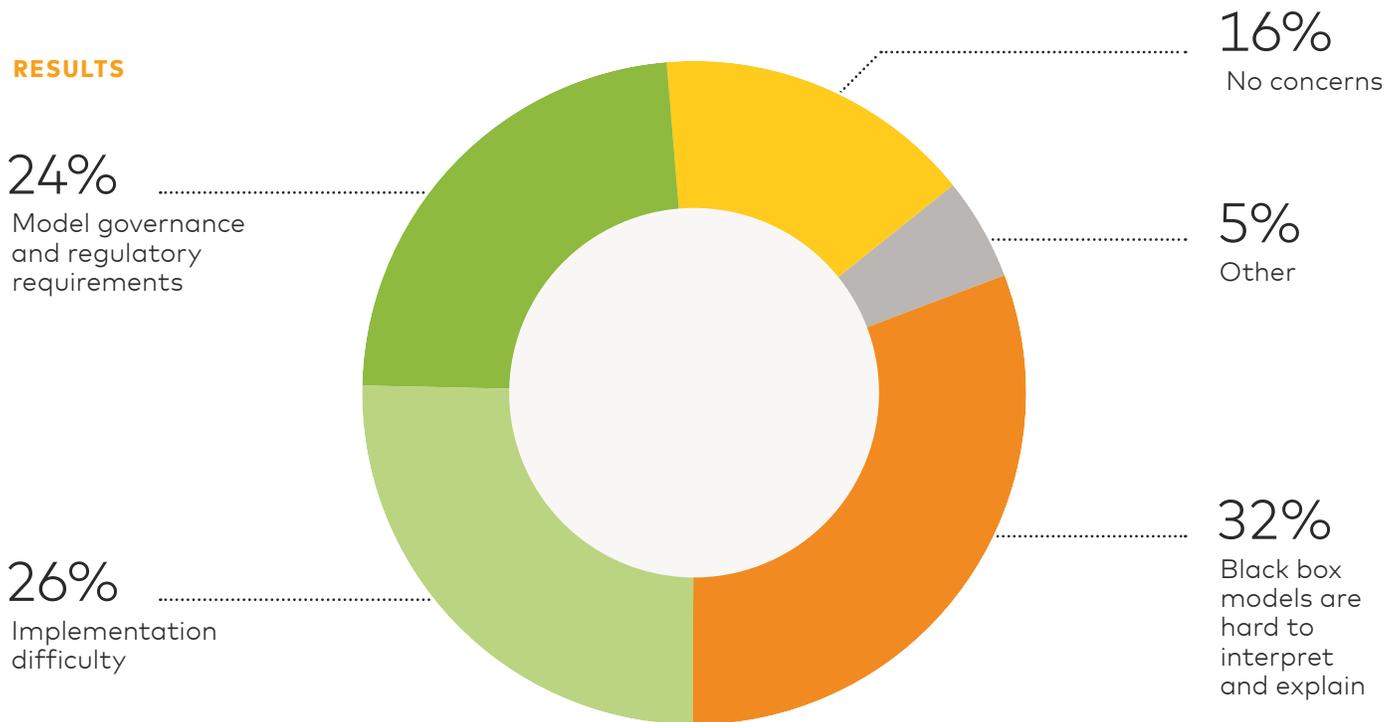
1. Credit scores and other data are often seen as lagging indicators. They indicate how a consumer was doing several months ago, which in this rapidly changing environment may differ greatly than the current month.

2. Delinquency reporting is frozen in time and we aren't seeing borrowers roll into higher risk delinquency stages as in normal times. Forbearance programs are required and being offered in the short term, making it harder to distinguish high/low risk customers, hence the need for a variety of data sources.

Brighterion provides lenders a massive advantage by using a unique approach to these challenges. By collating data from a variety of sources and leveraging state-of-the-art modeling techniques, Brighterion develops predictive models using the most relevant information. Credit and debit card transactional histories are particularly valuable given their real-time nature, providing the most up-to-date information on each borrower's behavior.

What are your biggest concerns about adopting AI for credit risk?

RESULTS

24%
Model governance and regulatory requirements

16%
No concerns

5%
Other

32%
Black box models are hard to interpret and explain

26%
Implementation difficulty

Doesn't total 100% as some respondents selected more than one application.

Key Takeaways

According to institutions surveyed, the biggest concern on adopting AI is the lack of transparency of "black box" models. Sometimes, the more complex the model architecture is, the harder it is to understand how and why inputs were mapped to certain outputs. While more complex models can lead to outstanding and even superhuman performance, it's the inability to explain how the model works that stimulates concern.

Model explainability has become increasingly necessary given the potential for adverse outcomes as AI adoption increases. At Brighterion, we score hundreds of billions of events every year and provide a layer of explainability. These scores are used by thousands of banks globally. Not only are we providing users with predictive scores, we are also helping them understand the reasons behind those predictions. This allows credit risk managers to manage their portfolios on a one-to-one level and develop more personalized strategies to improve their borrowers' experiences.

Our explainability techniques make it easier for institutions to manage their model governance and meet regulatory requirements. By taking a thoughtful and collaborative approach to AI, we build solutions with our partners that they can deploy with confidence.
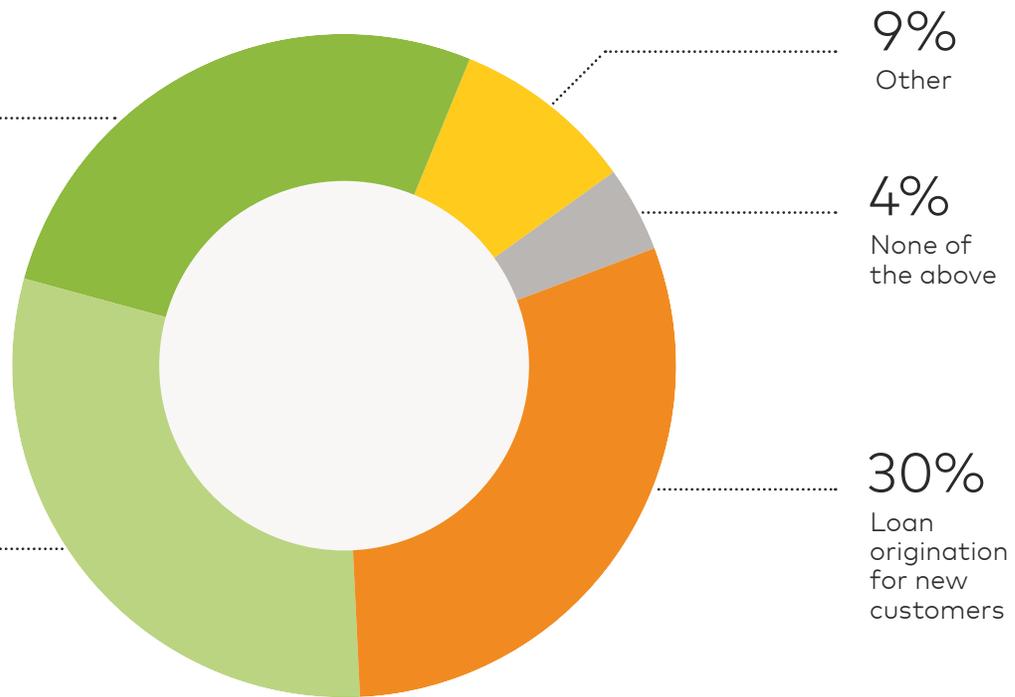
Which credit risk applications do you plan to use AI for in the future?

RESULTS

27%
Collections optimization

9%
Other

4%
None of the above

30%
Loan origination for new customers

30%
Credit risk monitoring

Doesn't total 100% as some respondents selected more than one application.

Key Takeaways

Respondents see credit risk scoring at origination, credit delinquency prediction and collections optimization as valuable applications of AI in the future.

We are seeing common concerns amongst lenders. They want to understand the likelihood of a customer defaulting on a loan and how that impacts profitability; what credit limit should be assigned to a customer and the right time to take action; and how they should optimize collection strategies with these factors in mind.

Predicting delinquency is only one piece of the puzzle, but it needs to be measured alongside revenue drivers like interest income, interchange revenue and fees to manage overall risk adjusted returns.

To fully answer these questions, a lender should look for a solution that not only makes accurate delinquency predictions, but also helps to answer critical optimization questions and identifies strategies across the customer credit risk lifecycle.

Brighterion AI has proven highly effective at predicting default risk, providing loss savings of up to 32% for some of the largest lending institutions across the globe. Our AI solution is helping lenders manage risk with respect to overall profitability and to drive portfolio growth.

Rank the following components by order of their importance in an AI infrastructure.

1   Real-time scoring in production

2   Ease of deployment

3   Model explainability

4   Automated featuring

5   Automated model selection

Key Takeaways

Respondents ranked real-time scoring in production and ease of deployment as the two most important components in an AI infrastructure. This comes as no surprise given the need to be agile in an ever-changing environment.

While developing and deploying real-time solutions is one of the biggest challenges in AI today, Brighterion deploys real-time solutions with ease. Brighterion uses proprietary Smart Agent technology that allows for lightning fast response times in milliseconds on entry-level servers, unparalleled uptime and the ability to score billions of transactions. Using our AI solution, we help lenders deploy best-in-class model technology and quickly adapt in the face of uncertainty.

Methodology

Lendit and Brighterion collaborated on a survey sent to 1,000+ Lendit subscribers, including national and regional U.S. banks, credit unions, community institutions, and financial technology providers. Number of respondents were n = 175. Participants were asked to complete 15 questions on topics on AI and Credit Risk Management.

About LendIt

LendIt Fintech is the world's largest Fintech media company. Every day we celebrate, educate and connect the people who power the Fintech industry. Our products include large scale industry events, executive roundtables, daily news emails, podcasts, whitepapers and webinars. Like much of the economy today, financial services is experiencing a rapid upheaval. We are seeing a multi-decade transformation where fintech will take center stage as everything becomes digital. LendIt Fintech is there for you, reporting the news on a daily basis, enabling real time discussion and insights with LendIt Fintech Digital and empowering our community with connections and in-depth learning at our physical events.

About Brighterion

Brighterion, a Mastercard company, was founded in 2000 and acquired by Mastercard in 2017. We deliver a leading artificial intelligence and machine learning platform that provides real-time mission critical intelligence from any data source, regardless of type, complexity or volume. Our solutions stop payment and acquirer fraud, reduce credit risk and delinquency, fight financial crime, prevent healthcare fraud, waste and abuse, and more. Brighterion AI is a patented technology with self-learning processes. Currently we serve 74 out of 100 of the largest U.S. banks and more than 2,000 customers worldwide, analyzing nearly 100 billion transactions annually.