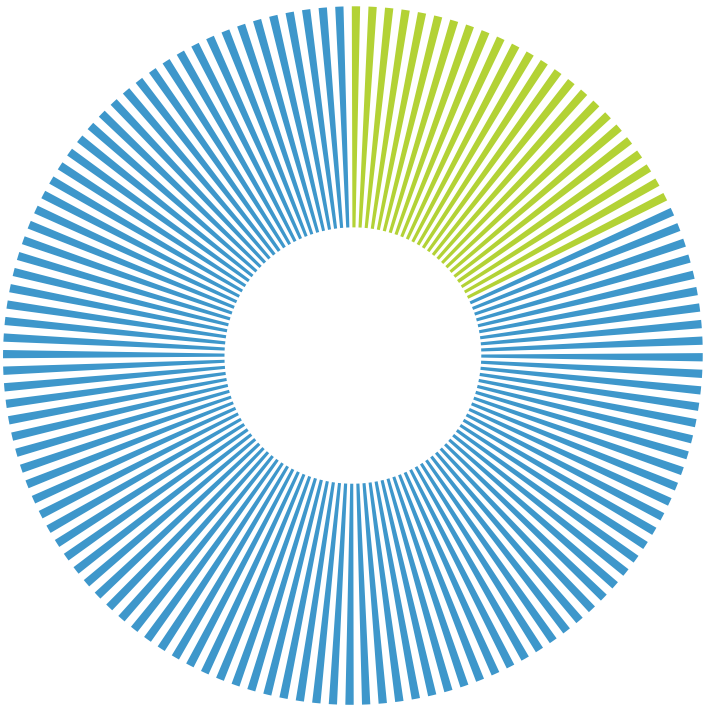


ACCELITAS™

White Paper

See more. Accept more. Grow more.

How Artificial Intelligence and alternative data help lenders grow in today's changing market.

Contents

Executive Summary

Artificial intelligence (AI) and alternative data are transforming the credit risk marketplace, where a dramatic generational shift is creating both challenge and opportunity.

Recent estimates suggest 30% or up to 70 million[1] adults in today's credit market are virtually invisible to traditional screening methods, including Millennial and Generation Z digital natives, students, and immigrants. Another 19 million consumers are "thin file," with credit histories that are insufficient under most scoring models.[2] Overlooked or rejected – often unfairly – these groups represent the consumers that lenders must reach in order to grow business in the coming years.

The emergence of AI allows a more intelligent approach to credit screening, but AI needs more than the traditional credit score data that lenders have relied on for years. Those traditional scores were designed to assess traditional middle-class and upper-class consumers who purchased houses and cars, used credit cards frequently, and built up extensive credit histories over time. Millennials, Generation Z and recent immigrants simply don't fit that pattern; only 15% of Millennials have purchased a house.[3]

AI needs alternative data in order to identify today's creditworthy customers, and there are two important advantages to consider.

Alternative data includes data about far more people

This data allows AI to evaluate the millions of U.S. adults that traditional credit scores and screening services miss.

Alternative data delivers a more comprehensive picture of each consumer

This data often complements traditional credit scores, shining a light on consumer behavior neglected by traditional approaches, yielding an unprecedented overview of consumers and their creditworthiness.

Working together, AI and alternative data can deliver the new generations of borrowers critical to growth.

Provide greater credit access, reduced risk, and lower interest rates for millions of creditworthy consumers

- Reach potentially profitable accounts that traditional screening misses
- Fine-tune data waterfalls to deliver more predictive insights at any stage
- Re-evaluate rejected applicants with more accurate assessments
- Establish the most effective metrics for making lending decisions
- Use Explainable AI to support compliance

Introducing AI Lift from Accelitas

Accelitas AI Lift is an AI-powered Credit Risk Web Service that leverages alternative data to deliver a fast, fair, and frictionless way for identifying creditworthy borrowers. Designed for the new realities of the lending market, AI Lift provides greater access to credit for overlooked segments of consumers, while helping lenders reach the new customers they need to grow business and profits — even in markets where credit is tightening.

For more information, visit **www.accelitas.com/AI-Lift**

1 CFSI: https://finhealthnetwork.org/research/the-predictive-value-of-alternative-credit-scores

2 The CFPB Office of Research, Data Point: Credit Invisibles, https://files.consumerfinance.gov/f/201505_cfpb_data-point-credit-invisibles.pdf

3 Realtor Magazine, "Most Millennials Don't Have a Qualifying Credit Score," https://magazine.realtor/daily-news/2018/08/24/study-most-millennials-don-t-have-a-qualifying-credit-score

How Artificial Intelligence and alternative data help lenders see, accept, and grow more in today's changing market

Artificial Intelligence (AI) is getting a lot of attention in the financial services market — and rightfully so. By applying multiple analytical techniques and discovering patterns in data over time, AI is able to produce insights that are far more precise and predictive than those produced by traditional account-screening techniques. Critically, AI promises to deliver more accurate predictions of creditworthiness for lenders.

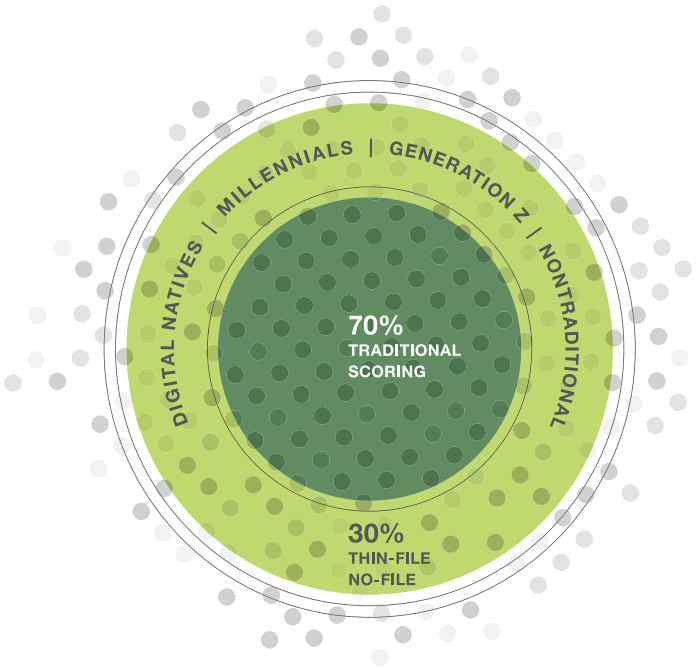
But to realize the full potential of AI for credit risk management, lenders need more than AI platforms and new analytical models. They also need new and unique sources of data. AI techniques such as machine learning recognize patterns from studying vast amounts of data. However these impressive abilities are of limited use when applied to the traditional credit scores and data feeds that lenders have relied on for years.

These broad and generic measurements do their job, but they haven't aged well with the changing demographics and economy. Those traditional scores were designed to assess traditional middle-class and upper-class consumers who purchased houses and cars and used credit cards frequently, building up extensive credit histories over time. Millennials, Generation Z, students, and recent immigrants don't fit that pattern. For example, even though the oldest Millennials are now nearly 40 years old, only 15% of Millennials have purchased a house.[4]

The Consumer Financial Protection Bureau (CFPB) estimates that 26 million Americans are "no file" or "credit invisible," meaning they have no credit history with a nationwide consumer reporting agency. Another 19 million consumers are "thin file." That is, they have a credit history that has gone stale or is insufficient to produce a credit score under most scoring models. Although it's harder for lenders to get data on these customers than it was on the Baby Boomers, the CFSI 2017 Financially Underserved Market Size Study appraised the market opportunity for serving these consumers as $173 billion in 2017, the result of 8% annual growth from 2016. Deposits and other funds associated with these markets total roughly $2 trillion.[4]

To realize the full potential of AI, lenders need more than AI platforms and new analytical models. They also need new and unique sources of data. Specifically, they need alternative data.

When this data is analyzed with the AI technique of machine learning, it's possible to identify good customers and accurately predict profitable business, even when traditional screening services would have delivered only incomplete or misleading results.



4 The Center for Financial Services Innovation, 2017 Financially Underserved Market Study, https://cfsinnovation.org/research/2017-financially-underserved-market-size-study

5 Ibid

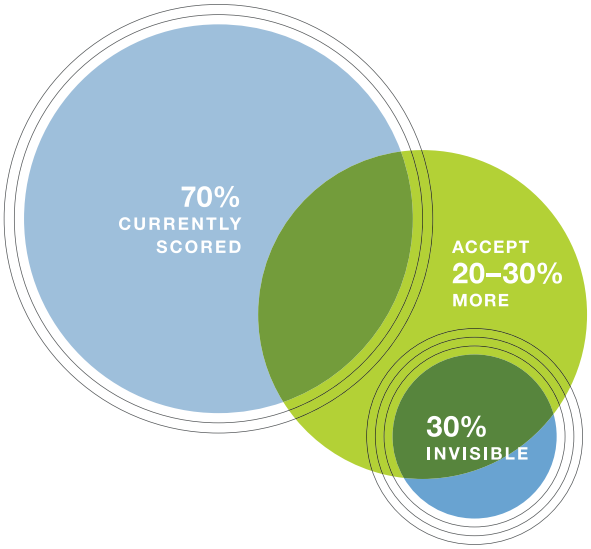
Alternative data is a game-changer

To assess the creditworthiness of these new generations of consumers, lenders need a different type of data; data from other sources, and data measuring different things while remaining steadfastly predictive.

What is alternative data? It's data beyond the traditional credit reports and FICO scores that have long served as the basis for lending decisions.

Alternative data is alternative along two different axes:

1. **It includes data about far more people,**
   Including the roughly 30% of U.S. adults about whom traditional screening services provide little or no data.
2. **It includes data that is more comprehensive about individual consumers**
   Alternative data might provide more complete information about a person's past, and it might include a more complete picture of that person's financial activity, such as banking activity and other types of transactions.



Alternative scenarios: how predictive analytics lead to profits

AI and alternative data can help lenders address other important challenges as well. Using the combination of AI and alternative data, it's possible to dramatically improve profits while reducing losses to charge-offs.

For example, applying AI and alternative data enabled one small-dollar lender to:

- Increase acceptance rates from 54.7% to 74.1%.
- Grow profits by 26.6%.
- Maintain or reduce First Payment Default (FPD) rates.

For another lender, applying AI and alternative data enabled that lender to get predictive scores on 39% of their applicants and to make profitable loans to 20% of that population. Previously, the lender had been unable to get a FICO score or another popular lending score for any of those 39%. Those applicants were truly invisible to traditional and even alternative screening methods.

But the combination of AI and alternative data not only delivered predictive insights on these thousands of customers, it enabled the lender to grow its overall business 8% by making more profitable lending decisions.

That's an example of how AI and alternative data can help lenders grow their businesses, going beyond long-trusted scores and analytical tools to reach younger consumers with changing financial habits.

The combination of AI and alternative data not only delivers predictive insights on thousands previously invisible customers, it enables lenders to accept 20-30% more borrowers.

Today's lenders face new opportunity—and growing uncertainty

Lenders' need for AI and alternative data is only going to become more pressing in the coming years. In addition to non-traditional demographics and less predictable credit histories, the U.S. credit market itself is tightening.

Consumers have now amassed over $4 trillion dollars in general purpose credit card debt.[6] Household debt-to-income ratios have reached a 50-year-high of 22%, while personal savings rates have reached a 50-year-low of 5%.[7] Defaults on credit cards, bank cards, student loans, and mortgages are rising.[8] A majority of banks expect to their loan performance to deteriorate this year,[9] and many lenders expect the same.

Result: Lenders now face two new obstacles to growth—rising costs and rising risks. While some consumers experienced slightly larger paychecks and a short-term lift from recent tax rules, many are experiencing smaller tax refunds to pay off their bills. And soon these consumers will feel the impact of higher interest rates and caps on mortgage interest and state and local taxes. With costs rising, we will continue to see default rates creeping up on credit cards, bank cards, student loans, and mortgages.

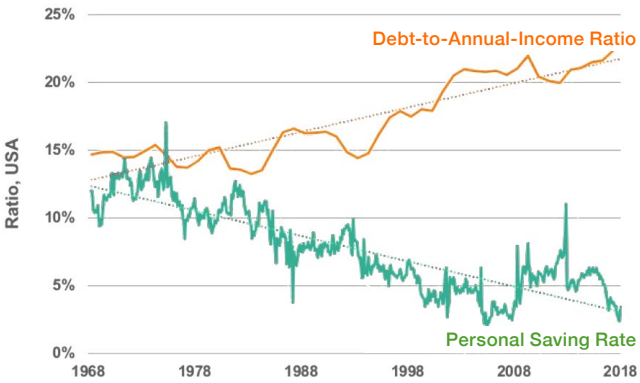


FIGURE 1: *Debt-to-Income Ratio and Savings Rates, based on St. Louis Fed Data. Source: KPCB Internet Trends Report.*

The U.S. credit market is tightening. Consumers have now amassed over $4 trillion dollars in general purpose credit card debt. Household debt-to-income ratios have reached a 50-year-high of 22%, while personal savings rates have reached a 50-year-low of 5%.

6 https://www.marketwatch.com/story/us-consumer-credit-tops-4-trillion-in-december-2019-02-07

7 https://www.slideshare.net/kleinerperkins/internet-trends-report-2018-99574140

8 https://www.experian.com/blogs/ask-experian/us-consumer-default-rates-rise-is-the-trump-bump-ending/

9 https://www.marketwatch.com/story/banks-expect-deterioration-in-loan-performance-this-year-fed-survey-finds-2019-02-04

AI and alternative data enable lenders to customize Micro-Climate™ scores and make smarter decisions

Traditional scoring gives you the big picture, but today's lenders need more than that. If you knew the average temperature of the United States, you still wouldn't know the weather outside your door. Just as micro-climates make real and measurable differences where we live, a Micro-Climate™ credit score gives you the specific information you need to make smarter lending decisions.

This is where AI and alternative data yield the most beneficial results, letting you customize predictive insights to your business at each stage of your data waterfall.

» **High in the data waterfall**
Lenders can apply real-time, AI-powered insights to screen applicants more accurately at the start of your loan-decisioning process. Instead of using generic scores that can eliminate too many applicants, or expensive scores loaded with thousands of variables, adding highly predictive insights here will allow you to accept the most creditworthy consumers, while segmenting higher risk applicants for further analysis. Because these AI powered insights are explainable, lenders can reject applicants while conforming to FCRA adverse action notice requirements.

» **Middle of the data waterfall**
Using AI-powered insights at the middle of the waterfall helps inform decisions and effectively target segment products and offers based on the appropriate risk level. For example, an auto lender can tune a micro-climate score to assess the unique risk thresholds for expensive cars, and use a different score for entry level or pre-owned models.

» **Low in the data waterfall**
Lenders can apply real-time, AI-powered insights to reanalyze rejected applicants for overlooked indications of creditworthiness, allowing them to accept more creditworthy borrowers without investing in additional leads or outbound sales and marketing initiatives. Bottom of the waterfall risk models can also be fine-tuned to suit your particular business goals, profitability model, and budget. In addition, the best models provide easy-to-use APIs, so that building new scores at any location in a waterfall can be done quickly and easily.

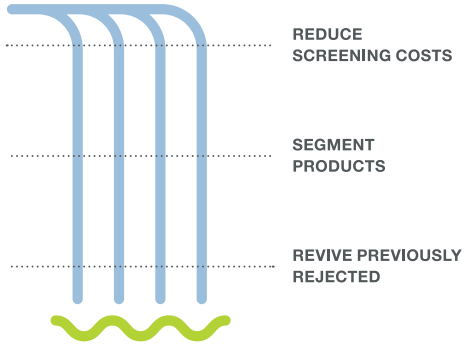


FIGURE 2: *Lenders can apply scores powered by AI and alternative data at multiple stages in a data waterfall to optimize specific stages of the loan-decisioning process.*

A flexible credit risk services frees lenders to apply AI-powered analytics where they yield the best results for specific growth targets and business models.

AI and alternative data enable lenders to accept applicants they would have otherwise rejected

Why re-evaluate rejected accounts? Because it's possible that earlier stages in the data waterfall overlooked indications of an applicant's creditworthiness. By tuning analytics for a "save" strategy, it's possible to discover these signals of creditworthiness and offer loans to previously rejected applicants ready to become profitable accounts.

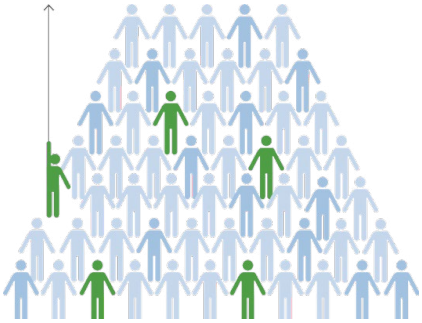


FIGURE 3: *Advanced analytics and alternative data can discover overlooked signs of creditworthiness for customers that otherwise would have been rejected.*

Here's a real-life example. When a lease-to-own company re-evaluated rejected accounts using additional screening, it found it could say "yes" to 17% of the accounts it had been rejecting. The company was able to grow revenue simply by re-evaluating prospects it had previously rejected, without wasting expensive leads. Other lenders have benefitted from similar results. In fact, some lenders have discovered that accounts that were provisionally rejected ended up being as profitable as accounts in their best-scoring population of customers.

A few years ago, these accounts would have been easy to dismiss. Today, with AI and alternative data, it's possible to discover these profitable accounts and use them to help hit aggressive growth targets.

This additional screening more than pays for itself. By identifying more profitable customers, this focused, supplemental screening can deliver a ROI of 30:1 or higher.

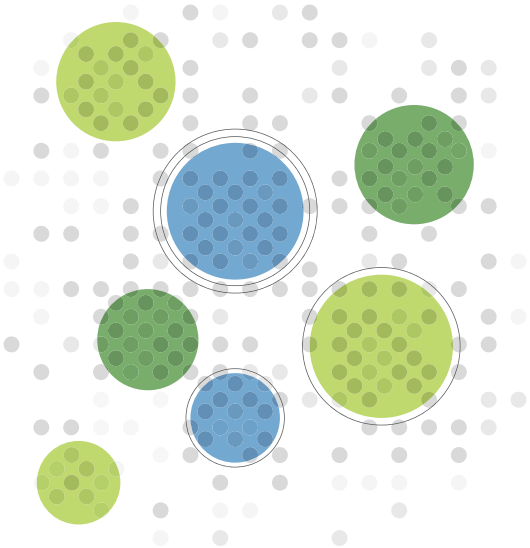
AI and alternative data enable lenders to focus on the metrics that will yield the best financial results

When analyzing data with AI, it's important to focus on the data that matters most. Many lenders record credit performance with a variety of measurements that use metric-specific models, then base their lending decisions on the likelihood of an applicant incurring a First Payment Default (FPD). These lenders assume that a customer who defaults on their first payment has a high likelihood of defaulting on the loan overall.

While FPD can be useful as an early indicator, in terms of long-term performance and profitability, it turns out to be no more reliable than a coin toss.

Instead of relying on a one-size-fits-all credit score, AI and alternative data can fine-tune a Micro-Climate™ score to your specific objectives, and outperform traditional models for both short- and long-term results.

Bottom line? AI and alternative data give lenders powerful new tools for achieving substantially better business results from their existing community of customers. Together, AI and alternative data enable lenders to reduce FPDs and other risks of charge-offs, while growing profitable accounts.



The importance of Explainable AI

To ensure compliance with FCRA regulations, it is important that lending decisions are explainable when turning down a consumer (adverse action) who has applied for credit, even if those decisions were made with the assistance of AI-powered analytics.

Developing AI approaches that are both predictive and interpretable takes work. Specifically, it takes combining techniques from multiple areas of analytics to combine linear analysis and non-linear analysis.

Linear analysis, as the name suggests, enables results to be plotted along a hyperplane. If results are linear, then they're explainable. Want to know why a specific result is what it is? Simply look at the line and you'll understand the factors (the point's coordinates) that produced the result.

Non-linear analysis produces accurate results that don't neatly fall along a plotted line. Because the pattern behind each feature can vary, it is very difficult to explain the model's result.

Why not use linear analysis and its explainable results all the time? In real life, many data values don't fit neatly along a line; they're scattered in a more chaotic fashion.

In some industries, companies can decide simply to rely on non-linear analysis, reaping the benefits of highly accurate results, even if the results can't be explained. The benefits of great results outweigh any concerns about explainability.

But explainability is a requirement in the financial services industry. FCRA regulations mandate that lending decisions be explainable. If a loan applicant is turned down, he or she has the legal right to know why.

So when AI powers a lending decision, that decision must be explainable, even if the data behind the decision doesn't lend itself easily to linear analysis.

How can data scientists solve this problem, deriving the best results from AI analysis while ensuring that the results are explainable? The answer is to use sophisticated AI techniques that combine linear and non-linear analysis, deriving benefits from each approach.

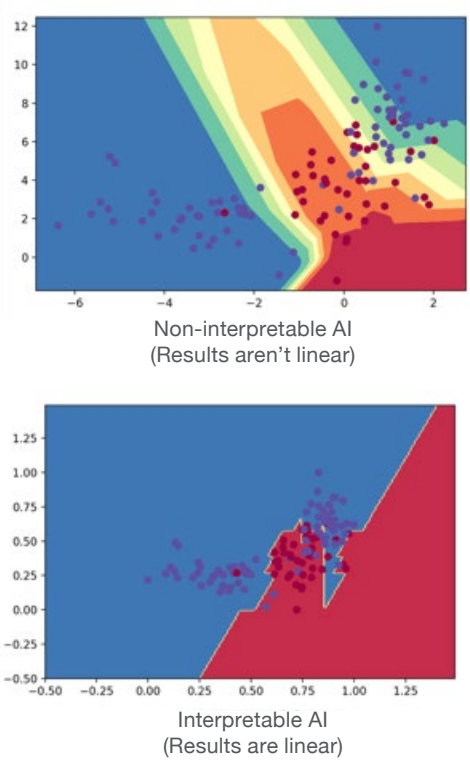


FIGURE 4: *The top chart shows how a non-linear neural network produces results that are useful but not explainable. The lower chart shows how multiple AI techniques combine to transform underlying non-linear data into a linear model that can be interpreted.*

Accelitas AI Lift: leveraging AI and alternative data to power profitable lending decisions

AI Lift from Accelitas is designed to answer both the challenge and opportunity of the changing credit ecosystem by delivering a new standard of access and fairness. Fairness for the millions of creditworthy applicants unable to access lower interest rates through traditional screening methods, and fairness for lenders who need a frictionless method for reaching the "invisible" customers who can grow their business.

According to a recent study by the Consumer Financial Protection Bureau (CFPB), alternative data and machine learning methodology approves 27% more applicants than the traditional model, and yields 16% lower average APRs for approved loans.

AI Lift is an AI-powered Credit Risk Web Service that leverages any data source to deliver the AI Lift Score, enabling lenders to identify creditworthy thin-file and no-file borrowers. Easily incorporated into loan-decisioning platforms at any stage of the data waterfall, AI Lift uses Explainable AI techniques and FCRA data from CRA partners to give lenders the confidence to make and explain credit decisions. **In a recent data test of 18 competitive credit screening scores, Accelitas delivered twice the predictive lift over the vendor average — at 77% the cost of our nearest competitor.**

When lenders recently applied AI Lift to their loan-decisioning processes, they found between 20-30% overlooked accounts that turned out be creditworthy and profitable. Using AI Lift, lenders can grow profitable accounts while reducing risk, First Payment Default (FPD), fraud, and charge-offs.

Click below to learn how AI Lift and the Accelerated Insight platform can help your loan operations prosper and lift your revenue this year, even in a tightening credit market.

See our analytics in action.

REQUEST A FREE AI LIFT TEST

For other inquiries:
Email: **sales@accelitas.com**
Call: 415-842-7715
www.accelitas.com

About Accelitas™

Accelitas delivers the intelligence to grant fast, fair, frictionless access to good customers that other companies miss. By leveraging artificial intelligence (AI) and alternative data to confirm identity and predict profitability, our Accelerated Insight® API Platform powers real-time services that provide a faster, smarter way to seamlessly open digital accounts, verify identities, and say "yes" to good customers. The resulting increase in customers and decrease in abandonment, fraud, and rejection rates can deliver ROI as high as 30:1.

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