Serving the Invisible Marketplace:
Why Lenders Today Need both Artificial Intelligence and Alternative Data

An Accelitas™ White Paper

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Executive Summary

Artificial Intelligence (AI) is deservedly getting a lot of attention in the financial services market, but 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, AI techniques need alternative data—data beyond the traditional credit reports and FICO scores that have so long served as the basis for lending decisions. Alternative data is alternative along two different axes:

- It includes *data that is more comprehensive about individual consumers*.
- 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. This 30% includes Generation Z (the post-Millennial generation), immigrants, students, and military households.

The combination of AI and alternative is essential for:

- Growing profits in an increasingly competitive and innovative market.
- Verifying identities and making profitable lending decisions in real time.
- Delivering that fast, frictionless digital experiences that younger customers expect.
- Defeating fraud operators, even as those operators leverage leaked identity data that is available for nearly every U.S. consumer.
- Re-evaluating rejected applicants to ensure that no indications of creditworthiness have been overlooked and no profits left unrealized.

At Accelitas, we call the combination of effective AI with alternative data Customer Identity Intelligence. Customer Identity Intelligence allows companies to identify more good customers and deliver value throughout a customer relationship, enabling lenders to make more profitable decisions while delivering best-in-class service and greatly reducing fraud.

Customer Identity Intelligence combines two distinct types of predictive analytics:

- **Analytics that confirm an applicant's identity; and**
- **Analytics that predict the creditworthiness of the applicant.**

Our Accelerated Insight® API platform delivers real-time Customer Identity Intelligence for lenders making credit decision, and anyone else opening digital credit accounts. A secure SaaS platform, Accelerated Insight API Platform features real-time web services that integrate easily with the decisioning platforms and other applications that lenders rely on.

For more information, visit www.accelitas.com.

Why artificial intelligence and alternative data are the powerful combination financial organizations need

Artificial Intelligence (AI) is getting a lot of attention in the financial services market—and rightfully so. AI promises to deliver more accurate predictions of creditworthiness for lenders. It also promises to be useful in detecting fraud.

Major financial organizations worldwide, including top banks in the U.S., financial giants such as ANT Financial in China, and leading online and in-store lenders around the world are investing heavily in AI.[1]

But 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. AI techniques such as machine learning learn to recognize patterns from studying vast amounts of data. But these techniques, impressive as they are, are of limited use when they are applied to the same old data that lenders have been relying on for years. They might be able to discover a few new patterns, but they'll also recycle a lot of previous analysis based on the same limited data sets.

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.

Along with AI, lenders need new data. Specifically, they need alternative data.

What is alternative data? It's data beyond the traditional credit reports and FICO scores that have so long served as the basis for lending decisions. Alternative data is alternative along two different axes:

- **It includes data that is more comprehensive about individual consumers.** It 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 taking into account utility payments or checking account status.
- **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.** This 30% includes Generation Z (the post-Millennial generation), immigrants, students, and military households. The Consumer Financial Protection Bureau (CFPB) estimates that 26 million Americans are credit invisible, meaning they have no credit history with a nationwide consumer reporting agency. Another 19 million consumers 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.

1 For example, see https://www.techemergence.com/ai-in-banking-analysis/

In this paper, we're going to examine the benefits of AI and alternative data for lenders today. The combination of AI + alternative data turns out to be critical for addressing some of the most pressing issues that lenders are facing. These issues include:

- Growing profits in an increasingly competitive and innovative market.
- Finding good customers in a consumer market that is likely to experience a correction in the next year.
- Verifying identities and making profitable lending decisions in real time.
- Delivering that fast, frictionless digital experiences that younger customers such as Millennials and Generation Z (post-Millennial) consumers expect.
- Defeating fraud operators, even as those operators leverage leaked identity data that is available for nearly every U.S. consumer.
- Re-evaluating rejected applicants to ensure that no indications of creditworthiness have been overlooked and no profits left unrealized.

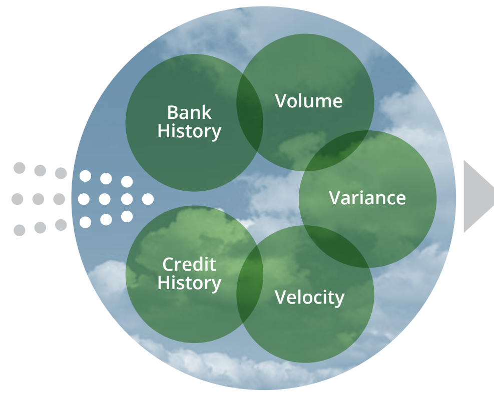

Figure 1: Broad and unique data sources enable lenders to make profitable decisions, even when serving unbanked and underbanked consumers.

Today's lenders face new opportunity — and growing uncertainty

The need for AI and alternative data is only going to become more pressing in the coming years. Why? One reason is that the U.S. economy is about to become less friendly for consumers.

The U.S. credit market is showing signs of tightening. Throughout 2017, U.S. household debt rose at the fastest rate since 2007. Credit card spending rose 9.4%. Consumers have now amassed over $3.5 trillion dollars in general purpose credit card debt.[2] 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%.[3] (See chart).

And while some consumer will experience a short-term lift from recent tax reductions, they will soon 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.[4] Tariffs may also result in higher consumer prices for every day goods, putting further pressure on household finances.[5]

The combination of AI + alternative data turns out to be critical for addressing some of the most pressing issues facing lenders today.

2 https://www.bloomberg.com/news/articles/2018-03-08/u-s-household-debt-rose-last-quarter-at-fastest-rate-since-2007
3 https://www.slideshare.net/kleinerperkins/internet-trends-report-2018-99574140
4 https://www.experian.com/blogs/ask-experian/us-consumer-default-rates-rise-is-the-trump-bump-ending/
5 https://www.nytimes.com/2018/08/21/business/economy/trump-china-tariffs-consumers.html

Personal Saving Rate & Debt-to-Annual-Income Ratio

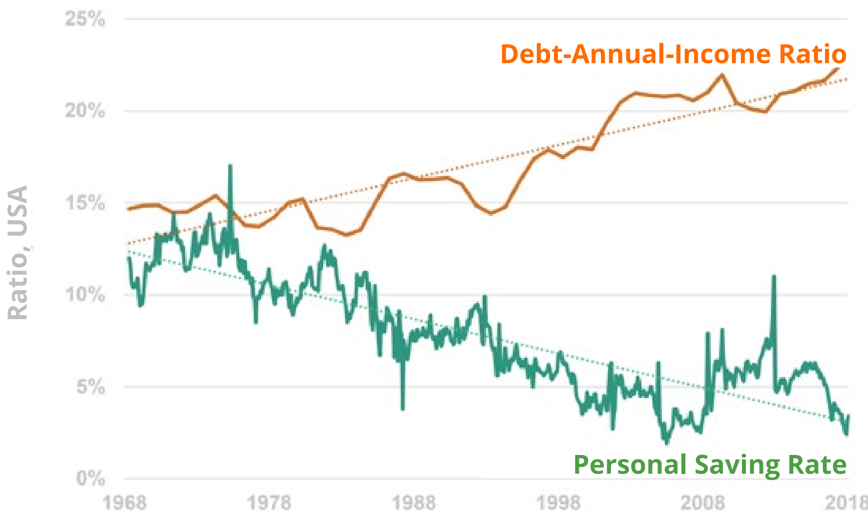

Figure 2: Debt-to-Income Ratio and Savings Rates, based on St. Louis Fed Data.
Source: KPCB Internet Trends Report.

Many experts take this as a sign that the economy will experience a correction by mid to late 2019. That means lenders are going to have a much harder time picking borrowers and meeting goals for growth and profitability.

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Finding growth with millions of underserved consumers

In this tighter market, good customers will be more valuable than ever. Where will they come from?

The financially underserved market is large—about 30% of the U.S.—growing, and by definition under-tapped. These consumers need a variety of financial services, including small-dollar loans.

Were more financial organizations to offer products and services for this market, consumers who are underserved today would have greater access to the funds and financial management tools they need. Broad access—and recognition of creditworthiness through account-screening from financial organizations—could make life more affordable, more predictable, and less stressful for these tens of millions of Americans.

But screening these users and assessing their creditworthiness is challenging. Why? It comes down to data and analytics.

- **Missing data**
  Because these consumers lack extensive credit histories, lenders often have difficulty finding reliable data about them for making lending decisions.
- **Old approaches to analytics**
  Even when data about these consumers is available, traditional account screening methodologies may not be able to accurately assess their creditworthiness. Data analytics services that were designed with prime consumers in mind might misread or misinterpret data associated with nonprime consumers.

AI and alternative data provide the identity intelligence that lenders need

Lenders need a new kind of identity intelligence that goes beyond traditional CIP-style identity verification and traditional fraud detection. CIP-style identity verification is narrowly focused on verifying basic information such as a consumer's name, address, and Social Security number. Credit ratings, when available for prime customers, provide additional intelligence about creditworthiness based on a narrow selection of financial data.

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To serve traditionally underserved consumers, lenders need a more comprehensive type of identity intelligence. This intelligence begins by selecting the right—and broadest—data sources. These data sources include unique, alternative data sources that provide a more complete picture of creditworthiness for Generation Z, immigrant, military, and financially underserved consumers.

When this data is analyzed with the AI technique of "deep 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.

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 current First Payment Default rates.

The combination of AI and alternative data can help other lenders achieve similar results, growing profits while reducing losses to charge-offs or fraud.

In a tightening market, predictive analytics can make the difference between continued growth and financial stagnation.

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

AI and alternative data can be applied to multiple stages of a lending decision workflow. And analytical models can be tuned for specific stages to address the type of analytics required to make a yes/no decision at each stage.

For example, lenders can apply AI and alternative to re-evaluate rejected applicants for overlooked signs of creditworthiness and say "yes" to more profitable accounts.

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.

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

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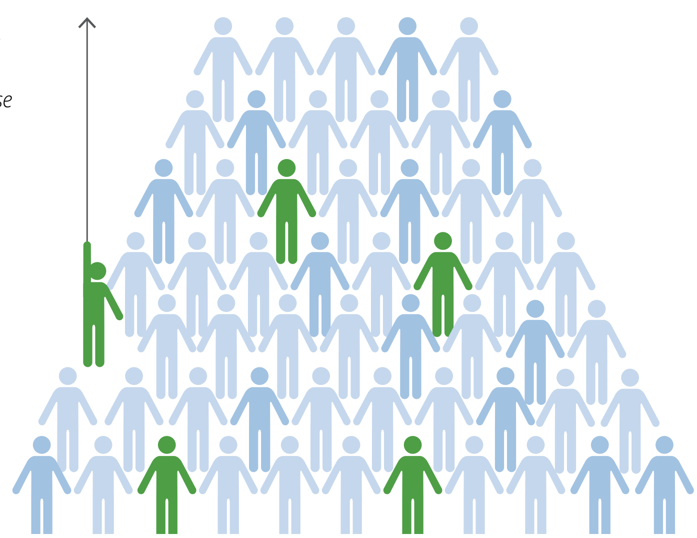
Figure 3: Advanced analytics and alternative data can discover overlooked signs of creditworthiness for customers that otherwise would have been rejected.



AI and alternative data support growth over digital channels

AI and alternative data offer benefits for financial organizations beyond optimizing lending decisions.

Nearly all U.S. adults have mobile devices, and these devices are shaping consumer expectations about speed and ease of use. Ninety-five percent of U.S. adults have cell phones of some kind, and 77% have smartphones.[6]

Our devices are never far away. The average American is spending 5 hours per day on mobile devices[7] and checks his or her smartphone 47 times per day. Younger Americans check their phones even more often: 86 times per day, according to Deloitte.[8]

All this time online engaging in interactions that last as long as a tap and a glance has affected consumer habits. Millennials and Generation Z consumers have little patience for digital experiences that are awkward, time-consuming, or incomplete.

- 56% of Millennials report that they would abandon an application for a financial services product if they learned they couldn't complete the application on a mobile device.
- 42% report they have already left a financial services provider become it provided a poor mobile experience.[9]

Millennials will shop around for fast, frictionless onboarding experience. If your company isn't signing up a representative portion of Millennials, the chances are good that your mobile onboarding experience needs attention.

AI analysis of customer IDs can streamline mobile account opening by extracting and automatically correcting data, so typing and typos are minimized. In addition, real-time account screening gives impatient consumers a loan decision before they set down their phones.

6 http://www.pewinternet.org/fact-sheet/mobile/
7 https://techcrunch.com/2017/03/03/u-s-consumers-now-spend-5-hours-per-day-on-mobile-devices/
8 https://www2.deloitte.com/us/en/pages/technology-media-and-telecommunications/articles/global-mobile-consumer-survey-us-edition.html
9 https://www.realwire.com/releases/Research-reveals-millennial-demographic-meaningless

If your company isn't signing up a representative portion of Millennials, the chances are good that your mobile onboarding experience needs attention.

AI and alternative data help detect and defeat fraud operators

Synthetic identities, phishing, geo-spoofing, SIM card cloning, social engineering, dark web sites selling your customers' data—the bag of tricks that bad guys have for perpetrating fraud is more sophisticated than ever.

Meanwhile, the cyber pranksters of a decade or two ago have been replaced by criminal syndicates (responsible for 50% of data breaches, including breaches of credentials used for account take-over and new account fraud) and nation states (responsible for 12%).[10] The new bad guys have large IT teams, advanced tools, and deep budgets.

And those resources are paying off. Fraud activity increased 58% in 2017, and fraud costs reached $2.67 for each $1 in funds actually stolen.[11]

The financial services industry was hit particularly hard. Account takeover fraud tripled in 2017, generating $5.1 billion in losses. And new account fraud increased 70%, abetted by data breaches leaking Personally Identifiable Information (PII) such as Social Security numbers.[12]

To minimize losses and headline-making data breaches, lenders must be able to identify fraud immediately, even while broadening their business operations across multiple channels.

Lenders can detect fraud far more quickly and effectively by leveraging alternative data sources and advanced AI techniques. Improved customer intelligence helps lenders detect fake IDs during mobile or in-store account opening. They can discover signals for identity theft and suspicious transaction patterns. Analytics can shine a light on the bad guys.

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AI and alternative data can increase your Customer Identity Intelligence

Ultimately, lenders need predictive intelligence that addresses all the challenges discussed above. They need broader data and keener, more predictive insights derived from alternative data, taking advantage of the most advanced analytics techniques available today.

At Accelitas, we call this complete solution Customer Identity Intelligence.

Customer Identity Intelligence allows companies to identify more good customers and deliver value throughout a customer relationship, enabling lenders to make more profitable decisions while delivering best-in-class service and greatly reducing fraud.

For an in-depth exploration of predictive analytics for identity verification and credit risk management, see our online **Definitive Guide to Customer Identity Intelligence.**

10 https://www.verizonenterprise.com/resources/reports/rp_DBIR_2018_Report_en_xg.pdf
11 https://www.creditunions.com/articles/rising-fraud-and-data-breaches-are-in-the-cards/
12 https://www.business2community.com/cybersecurity/account-takeover-new-account-fraud-spike-2017-02030931

To accomplish this requires a unique approach that brings together two distinct and critically important types of predictive analytics:

- Analytics that confirm an applicant's identity; and
- Analytics that predict the creditworthiness of the applicant.

By using sophisticated AI techniques to analyze disparate types of traditional and non-traditional data, we are able to separate the signal from the noise and deliver insights that are both predictive and interpretable.

Customer Identity Intelligence is especially useful at two key moments—the moment of account opening, while extending credit, and any moment when a customer initiates a high-risk transaction. At those moments, and in real time, Customer Identity Intelligence leverages advanced AI techniques like machine learning and deep learning to deliver predictive intelligence.

Using that intelligence, businesses can open the right account and deliver a winning customer experience. They can detect and reject a fraud operator before any losses are incurred. They can review rejected applicants with more advanced screening techniques and welcome up to 25% of those applicants as customers.

Customer Identity Intelligence delivers the predictive insights that lenders need to identify good customers, grow profitable accounts, improve customer experiences across all channels, and reduce fraud.

Customer Identity Intelligence is especially useful at two key moments—the moment of account opening, while extending credit, and any moment when a customer initiates a high-risk transaction.

Customer Identity Intelligence and the Accelerated Insight® API Platform

Our Accelerated Insight API platform delivers real-time Customer Identity Intelligence for lenders making credit decision, and anyone else opening digital credit accounts. A secure SaaS platform, Accelerated Insight API Platform features real-time web services that integrate easily with the decisioning platforms and other applications that lenders rely on.

The platform's Document Insights services address the challenges of identifying and confirming consumers on mobile devices, while providing a fast, frictionless experience for applying for loans and opening accounts:

- **AI Extract** reads government-issued IDs such as driver's licenses and passports, extracts barcode and text data, and uses extracted data to auto-form-fill account applications.
- **AI Authenticate** applies AI and patented machine learning techniques to analyze IDs for fraud and instantly authenticates IDs, returning an indication of whether a submitted ID is real or fake. AI Authenticate also tokenizes IDs, so they can be instantly recognized in future transactions.

Our Customer Insights web services provide a faster, smarter way to verify profitable customers through any channel, and to re-evaluate previously rejected applicants:

- **AI Verify** performs advanced data analysis on submitted consumer information to verify identifies and return risk/confidence scores in real time.
- **AI Lift** applies proprietary AI techniques like machine learning to analyze rejected financial applications for overlooked indications of creditworthiness, enabling companies to say "yes" to profitable applicants they would have otherwise have rejected.

Today, Accelerated Insight is helping leaders identify nearly 25% more applicants, reduce First Payment Default rates by 40%, and achieve an ROI of 30:1 or higher.

Learn how Accelerated Insight can help your loan operations grow and prosper even in a tightening credit market.

Want to see our analytics in action?
Contact us to arrange a free data test.

SCHEDULE FREE DATA TEST

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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