

INDUSTRY BRIEF

Leveraging Alternative Data for Financial Inclusion in Emerging Markets

The AI-Powered Path to Financial Inclusion:
Using Everyday Digital Footprints to Assess
Creditworthiness.

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Industry Brief:

Leveraging Alternative Data for Financial Inclusion in Emerging Markets

Executive Summary

The persistent challenge of financial exclusion in emerging markets—where approximately **1.7 billion adults remain unbanked** globally—is primarily due to a lack of traditional credit history or "thin files" (TrustDecision, 2025; Credolab, 2023). This information asymmetry prevents traditional financial institutions (FIs) from accurately assessing the creditworthiness of vast segments of the population, including small business owners, gig workers, and rural communities.

Alternative Data (AD), encompassing non-traditional sources like mobile phone usage, utility payments, and digital transactional behavior, is the most powerful catalyst for bridging this gap. By utilizing advanced analytics, including Artificial Intelligence (AI) and Machine Learning (ML), FIs can build robust credit profiles for previously "invisible" populations. The business case is compelling: FIs leveraging AD have reported **significantly lower non-performing loan (NPL) rates (e.g., 1.7% in a case study)** and substantial credit score improvements for previously unscorable consumers within 12 months (TrustDecision, 2025).

Key Recommendations:

1. **Prioritize Strategic Partnerships:** Form alliances with Mobile Network Operators (MNOs), utility companies, and fintechs to securely access high-volume, high-quality alternative data (IFC, 2021).
2. **Invest in Explainable AI (XAI):** Deploy advanced analytics platforms with XAI tools (e.g., SHAP/LIME) to ensure model transparency, fairness, and regulatory compliance (TrustDecision, 2025; World Bank, 2025).
3. **Establish Data Governance Frameworks:** Proactively develop comprehensive data privacy, security, and consumer consent mechanisms to build trust and mitigate regulatory risks in diverse jurisdictions (Prove, 2025; IFC, 2021).

Introduction

Financial inclusion—the access to and use of affordable financial services by all segments of society—is crucial for reducing poverty, promoting financial stability, and empowering economic growth (Credolab, 2023; World Bank, 2024). In emerging markets, however, a large portion of the population operates largely outside the formal financial system, making traditional credit assessment (based on credit bureau scores and formal employment) ineffective (TrustDecision, 2025).

The inability to accurately assess risk for these "credit-invisible" segments creates a significant market failure, estimated to exclude **1.7 billion adults** globally from access to formal credit and other financial products (TrustDecision, 2025).

Key Concepts and Terms

- **Alternative Data (AD):** Non-traditional data sources used to assess creditworthiness and build customer profiles. Examples include:
 - **Mobile Phone Usage:** Call/text frequency, airtime top-ups, data consumption, SIM card age (Upya, 2025).
 - **Utility/Rent Payments:** Consistent payment history for electricity, water, or rent (TrustDecision, 2025).
 - **Digital Footprint:** E-commerce transactions, social media activity (with consent), device metadata, and app usage (PwC India, n.d.).
- **Thin-File/No-File Borrowers:** Individuals or small businesses with little to no credit history on file with traditional credit bureaus (TrustDecision, 2025).
- **Digital Financial Services (DFS):** Financial products and services delivered via digital channels, such as mobile money, digital wallets, and online lending (IMF, 2021).
- **Explainable AI (XAI):** Technologies that make the results of ML models understandable and interpretable to humans, crucial for transparency and fairness in lending decisions (TrustDecision, 2025).

Trends and Drivers

The convergence of three primary drivers is accelerating the adoption of AD:

1. **Mobile Penetration:** High mobile phone adoption across emerging markets has created a massive, accessible source of data (IMF, 2021; TrustDecision, 2025).
2. **Fintech Innovation:** Agile financial technology (fintech) firms are leveraging AI/ML to create advanced underwriting models that integrate AD far more effectively than legacy banking systems (ResearchGate, 2024).

3. **Regulatory Support:** Policymakers in some emerging markets are recognizing AD's potential and exploring regulatory sandboxes and new credit reporting frameworks to facilitate its use (IFC, 2021; Poverty Action Lab, 2024).

Challenges

Despite the immense potential, the deployment of AD faces several significant obstacles in emerging markets.

Data and Technical Challenges

Challenge	Cause & Underlying Factors	Impact/Implication
Data Quality and Fragmentation	Alternative data is often unstructured, housed in silos across various non-financial entities (telcos, utilities), and lacks standardization (IFC, 2021; TrustDecision, 2025).	Difficulty in integration, requirement for significant data cleaning, and reduced accuracy of predictive models, leading to suboptimal lending decisions (Poverty Action Lab, 2024).
Model Biases and Discrimination	If the training data (e.g., social media usage, geography) reflects historical socioeconomic inequalities, ML models may inadvertently perpetuate or even amplify discriminatory outcomes against marginalized groups (World Bank, 2025; Poverty Action Lab, 2024).	Exclusion of specific demographics (e.g., women or minorities), regulatory risk, and erosion of the very inclusion objective.
Technical Capacity	Incumbent FIs often have legacy IT systems and lack the internal data science talent required to ingest, analyze, and build predictive models from vast, complex AD streams (CFI, 2024).	Slow adoption, reliance on expensive third-party vendors, and an inability to scale solutions quickly or cost-effectively.

Ethical and Regulatory Challenges

The increasing use of deep personal data raises major concerns.

- **Data Privacy and Ownership:** The legal and ethical framework for collecting, storing, and using non-traditional consumer data is often nascent or fragmented in emerging markets. There is a concern over consumer consent and whether they can access or correct AD used in their assessment (Prove, 2025; IFC, 2021).
- **Security and Fraud Risk:** The sheer volume and variety of AD increase the attack surface. Data security breaches involving utility providers or telco data can expose sensitive personal information to identity theft, and AD itself can be subject to fraud (Prove, 2025).
- **Lack of Consumer Trust:** Low digital and financial literacy among unbanked populations leads to a reluctance to share personal data, especially if the lending decisioning process lacks transparency (EIF, 2024; Prove, 2025).

Solutions and Recommendations

A multi-stakeholder approach focusing on technology, governance, and collaboration is essential to responsibly unlock AD's full potential.

Strategic Recommendations

Recommendation	Mechanism & Effectiveness	Best Practice/Example
1. Prioritize Strategic Partnerships	Collaboration between FIs (or credit bureaus) and non-financial data owners (telcos, utility companies, e-commerce platforms) provides secure, authorized access to high-value AD streams (IFC, 2021).	M-Shwari (Kenya): A partnership between Safaricom (MNO) and the Commercial Bank of Africa that uses mobile money and usage patterns to assess creditworthiness, enabling instant micro-loans (Upya, 2025).
2. Invest in Explainable AI (XAI) and Fairness Audits	XAI tools (e.g., LIME, SHAP) enhance transparency by explaining <i>why</i> a model made a specific lending decision, while regular audits ensure models are free from bias across gender, income, or ethnicity (TrustDecision, 2025).	World Bank Guidance: FIs must document and audit their ML models, actively testing for differential treatment across protected groups to mitigate reinforcing existing disparities (World Bank, 2025).
3. Proactive Data Governance and Consent	Implement robust consent frameworks that are easily understandable by consumers. Employ	Open Banking Initiatives: Regulatory frameworks promoting secure, user-authorized data sharing (e.g.,

	advanced data anonymization, encryption, and API-first architectures to ensure data security and real-time processing (TrustDecision, 2025; Prove, 2025).	in Brazil or India) create standardized, high-quality data pipes (TrustDecision, 2025).
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Practical Solutions

- **Phased Rollout via API-First Integration:** FIs should adopt API-first integration architectures, allowing for the gradual introduction and testing of new AD streams without needing to completely overhaul legacy systems (TrustDecision, 2025).
- **Use of Psychometric Assessments:** For 'no-file' populations, short, gamified psychometric assessments can measure traits (like conscientiousness and risk aversion) that correlate with repayment commitment, providing first-party, privacy-preserving data (Begini, n.d.).
 - *Case Study:* A lender in the Caribbean used psychometric solutions to gain deeper insights into entrepreneurs' willingness to repay, strengthening scoring models and allowing for expansion into new markets (Begini, n.d.).
- **Integrated Financial and Digital Literacy Programs:** Education programs should be *just-in-time* and tailored to explain *how* alternative data is being used, empowering consumers to understand and manage their digital footprint to build credit (EIF, 2024).

Outlook

1. **Dominance of Embedded Finance:** Credit assessment using AD will become increasingly integrated (embedded) into non-financial platforms like e-commerce, ride-hailing, and agri-tech (Upya, 2025). Lenders will underwrite loans at the point of need using the platform's transactional data.
2. **Growth of Data Aggregators:** Specialized third-party data aggregators and fintechs will emerge as key intermediaries, standardizing, cleaning, and validating diverse AD sources for FIs, mitigating integration and quality challenges (IFC, 2021).
3. **Maturing Regulatory Environment:** Policymakers will likely move beyond sandboxes to establish clearer, harmonized regulations for data ownership, privacy, and cross-border data transfer, driven by the need to balance innovation with consumer protection (IFC, 2021).

Potential Opportunities and Risks

Opportunity	Risk
Unlocking New Market Segments: AD is set to unlock access to formal credit for millions of currently excluded Micro, Small, and Medium Enterprises (MSMEs) and individuals, spurring economic growth (TrustDecision, 2025).	Regulatory Headwinds: Overly restrictive or fragmented regulatory responses to AD use could stifle innovation and block the pathway to inclusion.
Superior Risk Management: The combination of traditional and alternative data can lead to a more comprehensive view of borrower risk, potentially resulting in 20% improvement in default prediction accuracy (TrustDecision, 2025).	Data Monopolies: Concentration of essential AD (e.g., telco data) in the hands of a few large players could lead to anti-competitive practices and limit access for smaller FIs and fintechs.
Hyper-Personalization of Products: Deeper insights from AD allow FIs to tailor loan products, repayment schedules, and micro-insurance offerings precisely to the cash flow stability and needs of low-income borrowers (PwC India, n.d.).	Ethical Backlash: A significant data breach or a high-profile case of algorithmic bias could erode consumer trust and lead to a widespread "data-sharing freeze," stalling inclusion efforts.

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