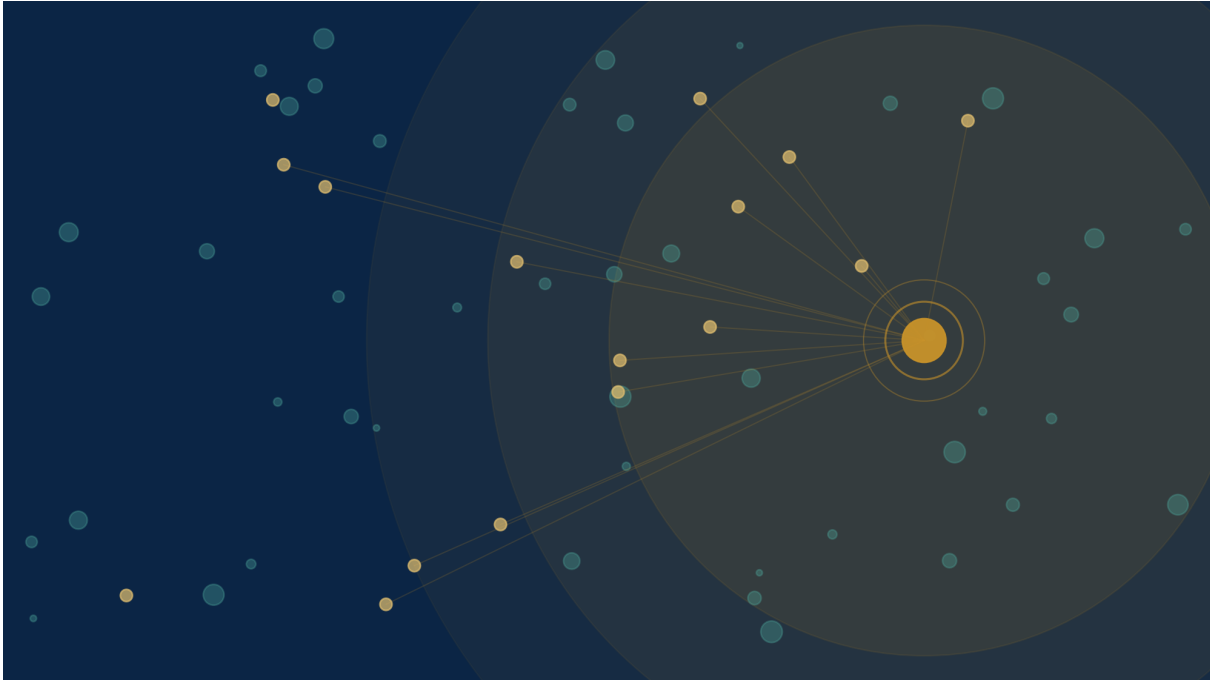




A STRATEGIC FRAMEWORK FOR FINANCIAL INCLUSION

Beyond Payments:

Building Distributed Assurance for the Unbanked

A plain-language guide to the next decade of financial inclusion in Africa — what mobile money got right, where it stalled, and a distributed-trust model for what comes next.

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Executive Summary

IN PLAIN ENGLISH What this report says in one sentence.

Banks keep asking poor households for a paper trail they don't have. This report argues that the fix isn't a better credit score — it's letting the local people who already know a farmer's situation (agents, co-ops, savings groups) vouch for them, digitally and privately.

Financial inclusion is usually described in narrow terms: give people access to affordable financial products. That definition is accurate, but it misses the point. Finance is not really about moving money — it is about distributing confidence. It is the information, trust, and relational certainty that let us make decisions today based on what we expect tomorrow.

Mobile money has done a remarkable job of solving the payments piece of that puzzle across Africa. But the industry has largely stalled there. By trying to bolt traditional, backward-looking credit scoring onto informal economies, it continues to exclude roughly 1.3 billion unbanked adults worldwide — people who live and transact confidently in an informal present that formal systems simply cannot see.

This report proposes a shift: from centralized data extraction to Distributed Edge Intelligence — a model in which local agents, cooperatives, and village savings groups act as trusted local nodes, generating privacy-preserving, forward-looking risk signals instead of raw personal data. The report walks through the architecture, is honest about the real-world friction points, and closes with a roadmap for investors, regulators, and entrepreneurs.

1 Africa's Fintech Momentum

Africa's fintech sector is advancing quickly — not always as fast as headlines suggest, and not as slowly as skeptics fear, but at a pace that has few precedents in the history of financial technology.

A recent industry report, the KEENGs Africa Fintech Report 2026, frames the story around six markets that sit at the frontier of this change: Kenya, Egypt, Ethiopia, Nigeria, Ghana, and South Africa — KEENGs, for short. These are not arbitrary choices. Each represents a different edge of the same story: where innovation is happening, where regulation is adapting fastest, and where adoption is deepest.

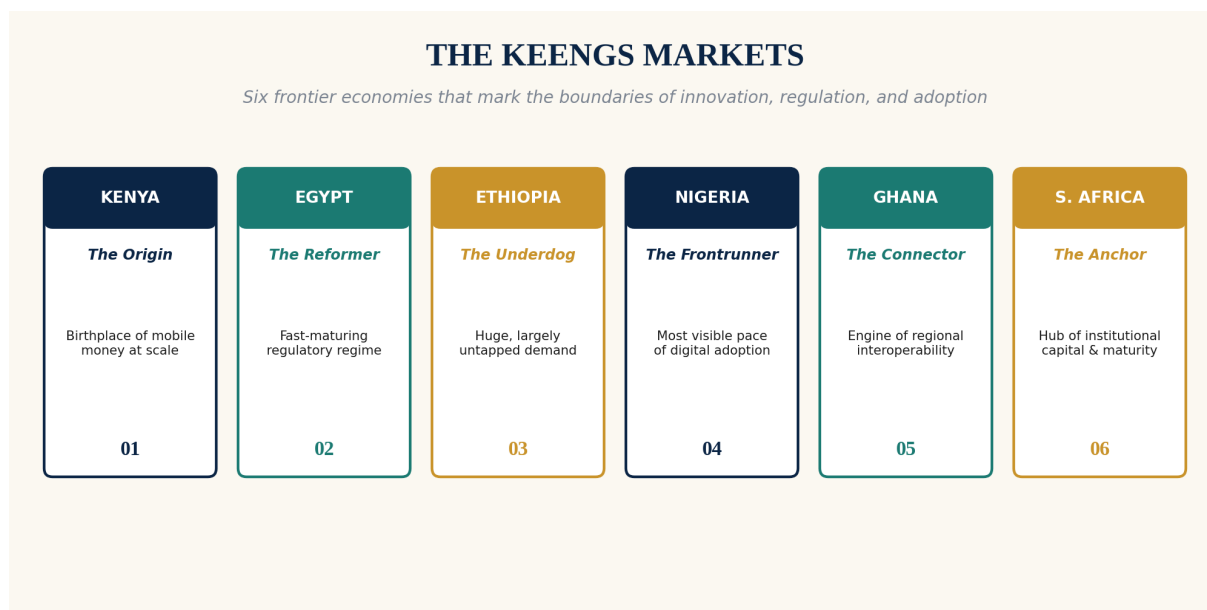


Figure 1 — The six KEENGs markets and what each contributes to the regional story.

These six markets are pushing past their historical weight class. But the report's central argument is that payments alone are not enough to sustain this momentum. The next stage of growth depends on the industry understanding something less visible: the relational, social reality of the people actually moving the money.

2 Rethinking Finance as Assurance

The report's core argument is that the industry has been solving the wrong problem. Most financial institutions still treat finance as a historical ledger — a record of what has already happened. But finance's real job is forward-looking. It exists to answer one question: what happens next?

That forward-looking promise shows up in five distinct ways:



Figure 2 — The five functions of finance, and the forward-looking question each one answers.

IN PLAIN ENGLISH Why “backward-looking data” is a problem.

A bank statement tells you what someone has already done. It says very little about whether the rains will be good this season, whether a community will back someone through a hard month, or whether a small trader's customers will keep paying them on time. Formal finance mostly has access to the first kind of data. It is largely blind to the second.

3 Why Traditional Banking Fails the Unbanked

Traditional banks fail the unbanked because of a fairly brutal calculation: the cost of collecting formal proof of someone's reliability — ID documents, credit bureau records, employment history — often exceeds what the bank would ever earn from serving that customer.

Physical bank branches are sparse in many of these markets. Official identification is often missing or hard to produce. Financial literacy varies widely. All of that matters. But the deeper issue is philosophical: formal institutions ask for a “digital past” that simply doesn't exist for most people in these economies. By insisting on it, they exclude billions of people who are already surviving — and often thriving — in what the report calls the informal present.

Buying airtime regularly does not prove a farmer's capacity to repay an agricultural loan after a drought.

4 The Universal Rail, and Where It Stops

Despite these obstacles, Africa has pulled off something remarkable: mobile money. Mobile wallets have solved payments at massive scale, and the agent networks that support them reach deep into communities that banks never touched.

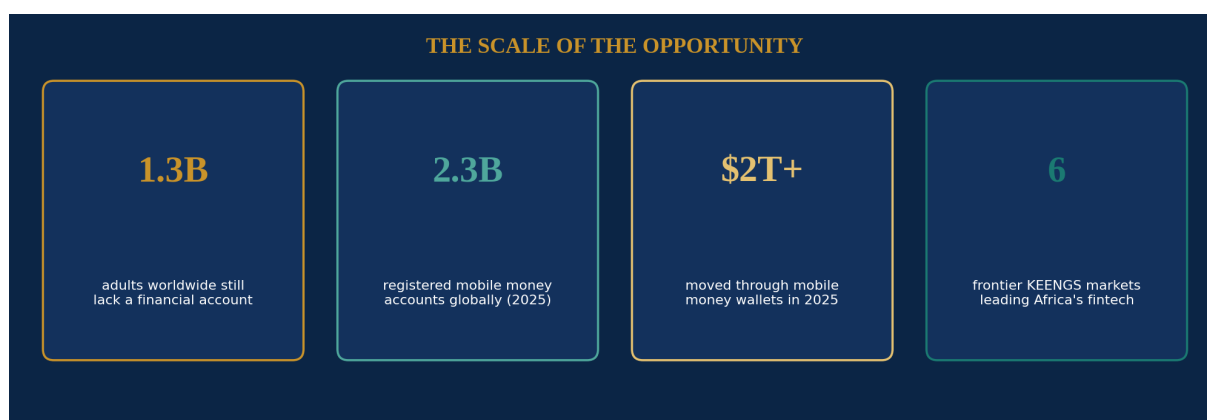


Figure 3 — The scale mobile money and financial exclusion now operate at (sources: GSMA, World Bank — see References).

But the industry made an assumption that didn't quite hold up. Looking at the huge volume of transactions flowing through mobile wallets, many institutions concluded: “now we finally have financial data.” They tried to build centralized credit scores on top of these transaction logs — treating a payment history as if it were a crystal ball.

The problem is that a transaction diary is a record of the past, not a forecast of the future. It captures what someone has already spent, not what they are capable of repaying after a shock. That gap between the data available and the data actually needed is where the next section picks up.

5 A Different Architecture: Distributed Edge Intelligence

If a single, centralized data type can't capture someone's real risk profile, the report argues the answer is to widen the lens — to build a fuller, 360-degree picture using four kinds of local signal that a distant server simply cannot see.

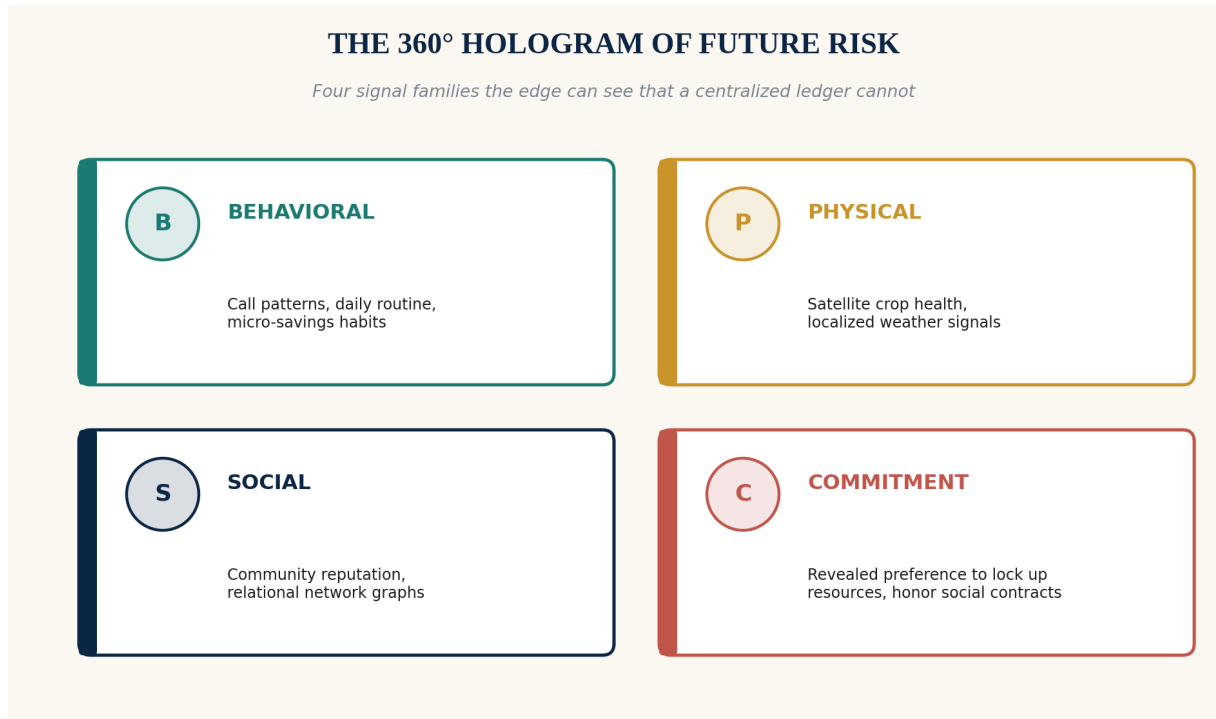


Figure 4 — The four categories of local signal that feed a fuller risk picture.

A centralized system is, by design, deaf to the periphery. It cannot see a local drought coming, doesn't know when a market has crashed, and reacts slowly to political shocks. The alternative the report proposes puts intelligence and trust back at the edges — with the people who are already closest to the reality on the ground.

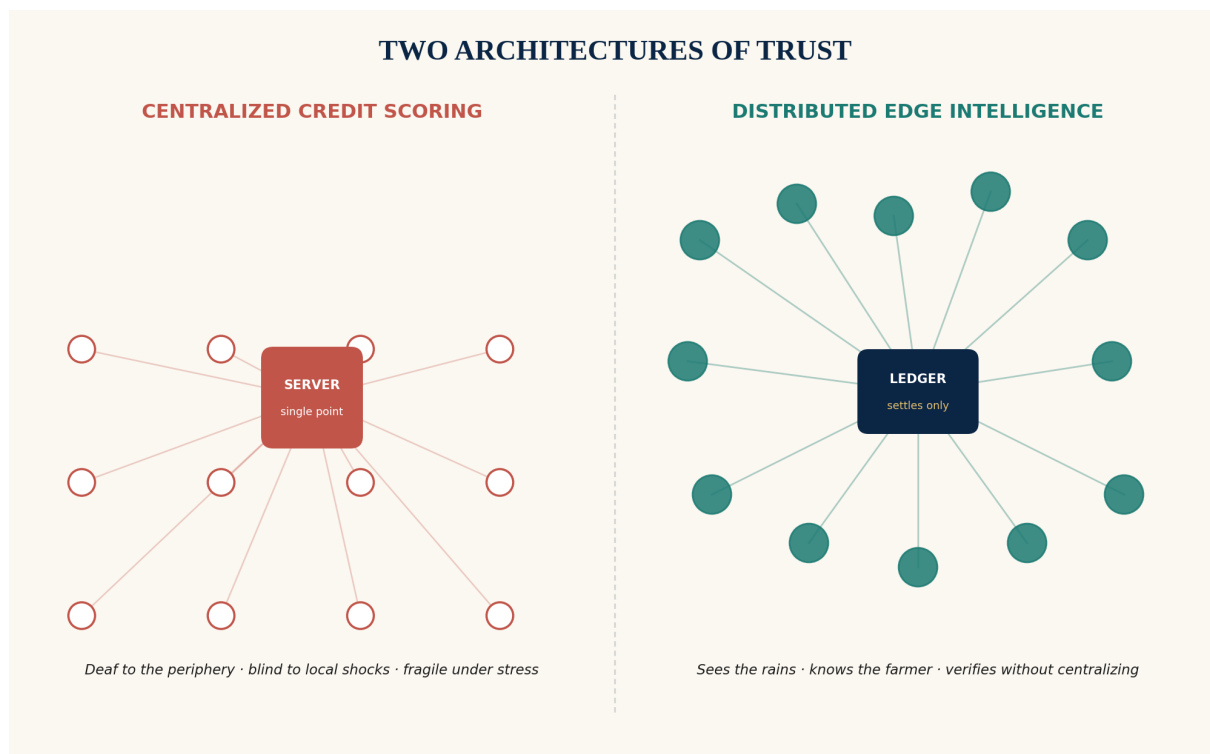


Figure 5 — Centralized credit scoring funnels everything to one server; distributed edge intelligence keeps the intelligence local and lets a ledger simply settle the results.

How the model works

- **The edge is the oracle.** Local mobile money agents, cooperatives, and savings groups act as trust nodes — they physically see the rains, know the farmer, and watch the local market.
- **Privacy-preserving attestations.** Each local node processes signals on-device and sends only a cryptographic proof of risk — never the underlying personal data. This is sometimes called zero-knowledge verification (see plain-English box below).
- **Hyper-local application.** Credit comes from behavioral regularity and social vouching. Insurance pays out automatically when satellite data confirms a weather event, cutting out claims paperwork. Savings are secured through commitments witnessed by peers. Investment flows through community reputation.
- **The center settles; it doesn't compute.** The central layer does two things only: it supplies liquidity, backed by the existing mobile money float, and it keeps a secure, tamper-proof settlement record. It never needs to know who any individual is — only that the aggregated trust behind them checks out.

IN PLAIN ENGLISH What is a “zero-knowledge proof,” really?

It's a way of proving something is true without showing your work. Imagine proving you're over 18 without showing your exact birth date, or proving you passed a background check without handing over the file. The local agent still does the actual identity check — the network just gets a yes/no confirmation, not the paperwork behind it.

6 Getting Real: Five Friction Points

An elegant architecture means little if it breaks against real-world friction. The report identifies five practical obstacles standing between this model and something that actually works at scale across the KEENGs markets — and proposes a fix for each.

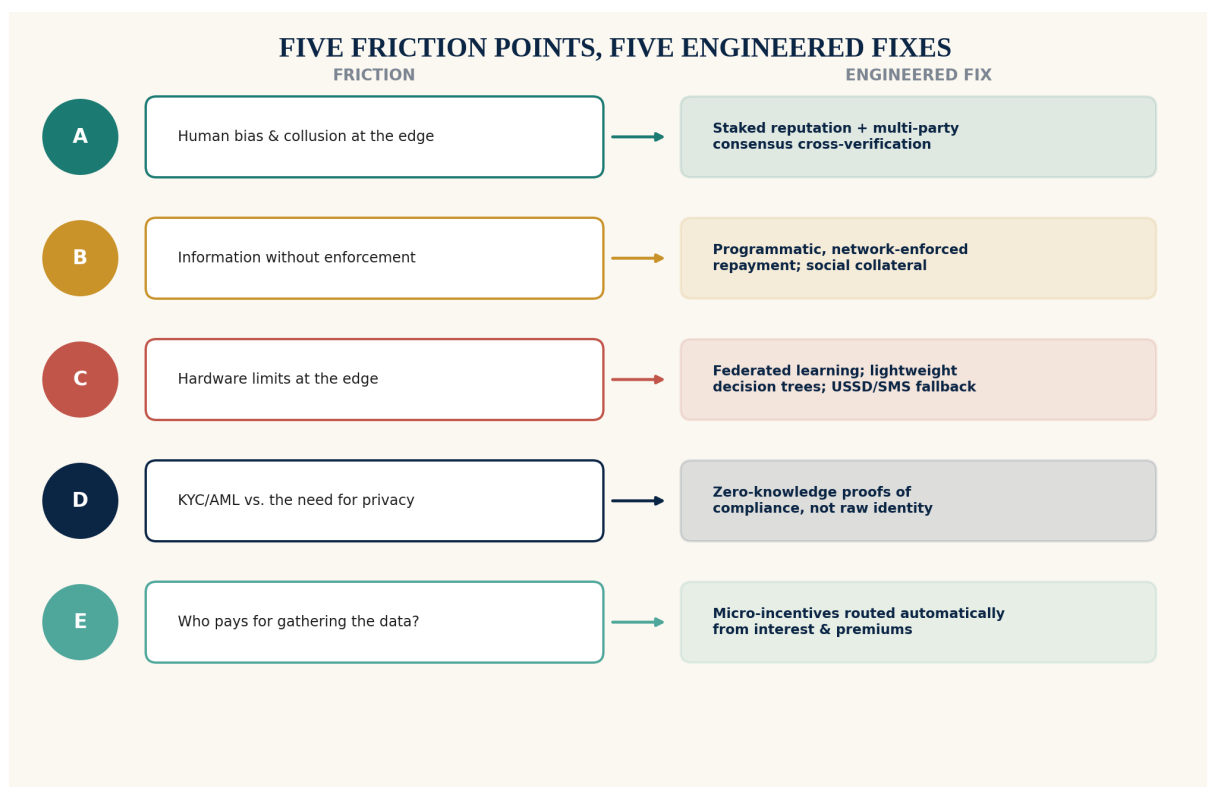


Figure 6 — Five points of friction, and the engineered response to each.

A. Human bias and the risk of collusion

Local agents are human, which means they can be biased, and in principle, bribed. The report's answer isn't to remove humans from the loop, but to change their incentives: agents must stake reputation or a small amount of collateral to issue an attestation, and multiple nodes cross-check each other's assessments. A single compromised node can't skew the system without being caught and financially penalized.

B. Information without enforcement

Data alone doesn't get a loan repaid. Formal banks lean on courts; this model leans on the network and the community. Automated rules can progressively restrict a defaulter's mobile money inflows or deduct small repayments from incoming transfers. Because credit is backed by social vouching, a person's own community reputation becomes the real collateral — with courts kept in reserve as a last resort, not the default mechanism.

C. Hardware limits at the edge

Much of the "edge" in these markets is a low-cost smartphone with patchy connectivity — not the kind of device that can run a heavy AI model. The proposed fix is federated learning: the model trains locally on the device, and only the encrypted, aggregated learnings — not the raw personal data — are sent back to the

network. In places with very limited bandwidth, the system falls back to lightweight rule-based checks or even basic SMS.

IN PLAIN ENGLISH What is “federated learning”?

Normally, training an AI model means gathering everyone's data in one place. Federated learning flips that: the model travels to the data instead. It learns a little on each person's phone, then sends home only what it learned — not the private details it learned from.

D. Balancing compliance with privacy

Regulators need to know who is moving money through the system. The people being served need privacy and dignity. The report's proposed resolution is that the local agent performs the actual identity and anti-money-laundering checks on the ground, then generates a cryptographic proof that the person passed — without the central system ever holding or seeing the underlying documents.

E. Who pays for all this intelligence-gathering?

Collecting a fuller picture of risk takes real time and effort from local agents. The report proposes baking that cost directly into the financial product: a small share of loan interest or an insurance premium is automatically routed to the local agents and community nodes that generated the underlying attestation, paid out in local digital currency.

7 What This Means for Different Stakeholders

The report closes its argument with direct implications for the different groups that would need to act on this vision.

Stakeholder	What the report recommends
Investors	Shift capital away from pure payment-gateway plays and toward infrastructure that solves the assurance problem — the report argues this is where the strongest returns will come from.
Policymakers & regulators	Create regulatory sandboxes that allow zero-knowledge compliance and automated, programmatic settlement. The goal shifts from collecting raw citizen data to verifying outcomes.
Entrepreneurs & vendors	Build for low-end devices and patchy connectivity first. Partner with existing mobile network operators and community structures rather than trying to replace them.

8 Conclusion

The report's central bet is that the next decade of financial inclusion will not be won with a better credit score. It will be won by rebuilding finance as a distributed network of assurance — shifting the focus from moving money to generating certainty, and from centralized data warehouses to a fuller, edge-computed picture of risk.

The obstacles are real: human bias, hardware limits, and the tension between privacy and compliance are not small problems. But the report argues they are solvable through better incentives, cryptographic verification, and economics that reward the people closest to the ground. The payments rail already exists. What's missing is the intelligence layer — and the report's case is that it is sitting, largely untapped, at the periphery.

9 References

Every citation in the original draft was independently checked against publicly available sources before this document was finalized. Two citations could not be located anywhere and appear to be fabricated; one date was wrong; one headline figure was slightly out of date. All corrections are shown below, and the reasoning is explained in the Editorial Notes appendix that follows.

1. Genie Capital. (2026). KEENGs Africa Fintech Report 2026. Retrieved from geniecapital.co/insights.

2. GSMA. (2025). The State of the Industry Report on Mobile Money 2025. London: GSMA Intelligence.

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