

Payments First: Using Transactional Access as an Entry Point to Formal Finance

Gabriel Ruhan • Paycode Ltd

Eric Niyongira | Yves Dusabirema • Rwanda Bankers' Association

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Abstract

Over the past decade, Rwanda has made substantial progress in expanding access to formal financial services, achieving near-universal inclusion by conventional metrics. Despite this success, the widespread availability of accounts and digital wallets has not translated into consistent, everyday usage across the economy. Cash continues to dominate low-value, high-frequency transactions, particularly among households, informal workers, and micro and small enterprises.

This paper examines the divergence between access and usage and argues that Rwanda has entered a new phase of financial inclusion in which the binding constraint is no longer access, but the functionality and performance of the payments layer. It introduces the concept of functional financial exclusion to describe situations in which individuals are formally included yet remain unable to transact regularly, reliably, and predictably in daily economic activity.

Using a system-level analytical framework, the paper diagnoses Rwanda's payments ecosystem across five dimensions: payment instruments, real-economy use cases, merchant acceptance, reliability and liquidity, and system coordination. It argues that payments systems should be treated as national economic infrastructure, with governance, reliability, and coordination as central policy levers. Empirical analysis of 52 quarters of National Bank of Rwanda payment system data provides quantitative corroboration, confirming that transactional access serves as a stable, self-correcting gateway to formal financial participation.

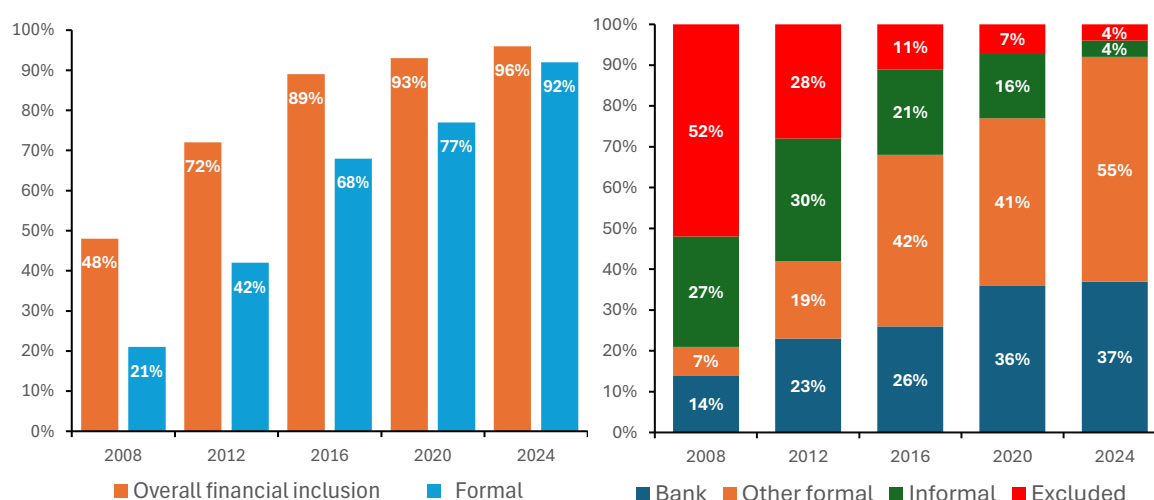
The paper proposes a sequenced, payments-first national strategy and concludes by proposing a shift in measurement from access-based indicators toward payments-centric metrics that better capture economic participation.

Keywords: Financial inclusion; payments systems; digital payments; financial infrastructure; Rwanda

JEL Codes: G20, G21, O16, O17, E42

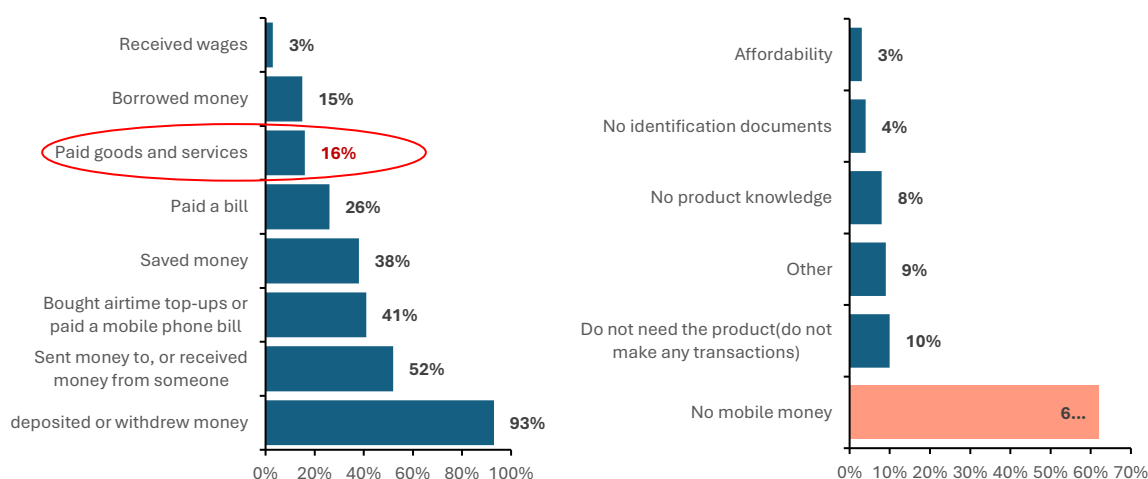
1. Introduction: From Access to Economic Participation

Financial inclusion has been a central pillar of Rwanda's development strategy for more than a decade. Through successive national strategies and sector reforms, the Government of Rwanda and the National Bank of Rwanda have prioritised access to formal financial services as a means of supporting poverty reduction, household resilience, and economic transformation. These efforts have delivered substantial results. When the first FinScope survey was conducted in 2008, only 48% of adults were financially included, with formal inclusion standing at just 21%. By 2024, overall inclusion had risen to 96% of adults, with formal inclusion reaching 92% — surpassing the National Strategy for Transformation target of 90% (AFR, 2024; MINECOFIN, 2024).



Source: FinScope reports

As access approaches saturation, however, its limitations become increasingly evident. While most adults now possess a bank account, mobile wallet, or other formal financial instrument, many do not use these services regularly or meaningfully in their daily economic lives. Usage is often episodic rather than habitual, concentrated around salary receipt, transfers, or compliance-driven transactions. Cash continues to dominate low-value, high-frequency payments such as food purchases, transport, education, and informal trade, even among formally included populations (Demirgüç-Kunt et al., 2022).



This divergence between access and usage signals a shift in the nature of the inclusion challenge. Rwanda has reached a critical inflection point. The next phase must shift from expanding access to deepening usage, reliability, and economic participation. The core argument of this paper is that payments infrastructure — the systems through which individuals, businesses, and government entities send, receive, and use money — represents the most important lever for achieving this transition.

The paper introduces the concept of functional financial exclusion to describe situations in which individuals or enterprises are formally included in the financial system but remain unable to transact regularly, reliably, and predictably in daily economic activity. This gap is not primarily behavioural or informational. It is structural, reflecting how payments systems perform in practice — where payments are accepted, how reliably they function, how predictable outcomes are, and how well they align with everyday economic activity.

Persistent constraints include transaction fees, inconsistent agent liquidity, network reliability challenges, fraud concerns, limited merchant acceptance, and inadequate product awareness, particularly in rural and informal sectors. These frictions weaken trust in digital payments and encourage continued reliance on cash transactions. Addressing them requires payments systems to be treated as national economic infrastructure, comparable to transport or telecommunications, with governance, reliability, and coordination as central policy levers.

1.1 Research Objectives

The study seeks to:

- Examine the divergence between formal financial access and effective payments usage in Rwanda.
- Apply the concept of functional financial exclusion to diagnose system-level constraints within Rwanda's payments ecosystem.
- Assess governance, regulatory, and design implications of treating payments as economic infrastructure.
- Provide empirical corroboration of the payments-first hypothesis using quantitative analysis of National Bank of Rwanda payment system data.
- Propose a sequenced payments-first national strategy aligned with Rwanda's current level of maturity.

1.2 Research Questions

- Why has near-universal access to formal financial services in Rwanda not translated into widespread, habitual usage of digital payments?
- What structural and system-level factors within Rwanda's payments ecosystem constrain regular and reliable usage?
- Which digital payment channels provide the most significant contribution toward bringing individuals into the regulated financial sector?
- How consistent and self-sustaining is the pathway from initial payment access to deeper formal financial integration?
- What policy interventions are required to ensure that high levels of digital registration translate into sustained and active participation in the formal economy?

2. Rwanda's Payments Landscape: A System-Level Diagnosis

Rwanda's payments ecosystem offers broad access to a range of instruments, including cash, mobile money, bank accounts, cards, and cooperative-based services. From a supply perspective, the system appears mature. In practice, usage remains segmented and context-dependent. Many individuals hold multiple instruments but use each for a narrow range of transactions, while cash continues to dominate low-value, high-frequency economic activity.

Cash's persistence reflects its functional advantages: universal acceptance, immediate settlement, and independence from connectivity and system availability. Where digital payments do not reliably replicate these attributes, cash remains the rational choice.

A substantial share of Rwanda's economic activity occurs in informal markets, transport, agriculture, and micro-enterprises. These contexts are characterised by frequent, low-value transactions, thin margins, and low tolerance for payment failure. In such environments, even modest frictions — failed transactions, delayed settlement, unclear fees, or liquidity constraints — can deter digital payments usage.

Merchant acceptance emerges as a binding constraint. Inconsistent acceptance undermines consumer confidence and creates a coordination problem in which merchants wait for usage to rise and consumers wait for acceptance to become universal. Reliability, agent liquidity, connectivity constraints, and fragmentation across providers further reinforce cash dependence.

Taken together, these dynamics indicate that Rwanda's payments challenge is no longer primarily about access or innovation. The binding constraints lie in acceptance, reliability, liquidity, simplicity, and coordination.

Table 1 contrasts traditional access-based financial inclusion indicators with usage-based measures that better capture functional economic participation.

Table 1: Access-Based vs Usage-Based Financial Inclusion Indicators

Dimension	Access-Based Indicator	Usage-Based Indicator	Policy Insight
Individuals	% with accounts	% transacting monthly	Reveals dormant inclusion
Merchants	Registered merchants	Active acceptance	Identifies coordination gaps
System	Rails deployed	Reliability metrics	Shifts focus to infrastructure

3. Payments as National Economic Infrastructure

Payments systems are often discussed as components of the financial sector. In practice, however, they function as core economic infrastructure. Like transport, energy, or telecommunications networks, payments systems enable activity across sectors and users. They support exchange, coordinate markets, facilitate wage and salary payments, and provide the channels through which the state interacts economically with citizens and businesses.

For Rwanda, recognising payments as national economic infrastructure represents an important shift in perspective. It moves the discussion beyond financial inclusion as a predominantly social objective and situates payments within the country's broader productivity, competitiveness, and economic participation agenda.

3.1 Infrastructure Performance and Trust

Infrastructure is defined not by ownership or technology, but by function. In a payments context, infrastructure performance is reflected in a small number of core attributes: reliability, acceptance, interoperability, and predictability. These characteristics determine whether payments are trusted as everyday tools or treated as occasional alternatives to cash. Where these attributes are consistently present, digital payments become embedded in routine economic life. Where they are absent or uneven, users rationally revert to instruments that provide greater certainty.

3.2 Payments and Market Functioning

Rwanda's economy is characterised by a high volume of small, frequent transactions across dispersed geographies. Informal trade, transport, agriculture, and micro-enterprise activity account for a significant share of livelihoods. In this environment, the ability to transact reliably and at low cost is a critical determinant of market efficiency. Where payments infrastructure is unreliable or unevenly accepted, markets fragment. Economic actors revert to cash, limit the scope and frequency of transactions, or avoid formal channels altogether.

3.3 Payments as Coordination Infrastructure

Beyond enabling individual transactions, payments systems perform a critical coordination function. In Rwanda, coordination challenges are visible where merchants accept some payment instruments but not others, consumers cannot predict which payment methods will function reliably, and public payment flows operate on separate rails from private commerce. These are coordination failures that impose real economic costs by increasing uncertainty, reducing trust, and fragmenting markets.

3.4 Small Enterprise Productivity

Micro and small enterprises form the backbone of Rwanda's economy. Reliable digital payments allow small businesses to reduce time spent handling cash, improve record-keeping, manage liquidity more effectively, and build transaction histories that support future access to financial services. Evidence from mobile-money-led economies suggests that these benefits materialise only when payments are reliable, widely accepted, and integrated into daily operations (Jack & Suri, 2016). Supporting small enterprise productivity therefore requires prioritising acceptance, reliability, and simplicity over product sophistication.

3.5 Public Sector Payments and Infrastructure Alignment

Rwanda has made progress in digitising public payments. However, the full benefits of these initiatives are realised only when they align with interoperable, system-wide infrastructure. Parallel or closed systems may increase access or efficiency in the short term, but they do not strengthen the broader payments ecosystem and may reinforce fragmentation. Treating

payments as infrastructure therefore implies aligning public sector payment flows with national system objectives.

4. Payments Governance and Coordination: Aligning the System

As payments systems mature, governance and coordination become decisive determinants of performance. Rwanda's payments ecosystem comprises banks, mobile network operators, payment service providers, cooperatives, government platforms, and the central bank. Each plays an essential role. Yet system-wide outcomes depend less on the performance of individual institutions than on how effectively their roles, incentives, and responsibilities are aligned.

Fragmentation in payments systems is often interpreted as evidence of institutional weakness or technical limitation. In practice, it is more commonly the result of insufficient coordination. Parallel payment rails, inconsistent pricing structures, uneven acceptance, and variable service levels reflect gaps in system-level governance rather than failures of execution.

4.1 Governance Beyond Individual Institutions

Payments governance operates at a level above individual institution. System-level governance addresses questions that cannot be resolved through bilateral arrangements alone: common standards, settlement arrangements, access rules, pricing principles, service-level expectations, and dispute resolution mechanisms. Effective governance does not require uniformity or centralisation. It requires clarity of roles, shared objectives, and mechanisms for coordination (BIS, 2012).

4.2 Interoperability as a Governance Challenge

Interoperability is often framed primarily as a technical objective. While technical connectivity is necessary, it is not sufficient. In Rwanda, progress has been made in enabling technical connections between payment systems. However, from a user perspective, interoperability remains uneven. Differences in fees, settlement timing, transaction limits, and customer experience create uncertainty. This gap reflects governance challenges rather than technology constraints (BIS, 2022).

4.3 The Role of the National Bank of Rwanda as System Steward

The National Bank of Rwanda plays a central role in shaping payments system outcomes. Beyond its regulatory and supervisory functions, the central bank is uniquely positioned to act as system steward — articulating system-level priorities, convening stakeholders, and aligning incentives where collective action is required. System stewardship does not imply operational control. Rather, it involves setting expectations for reliability, acceptance, consumer protection, and coordination, and ensuring that governance arrangements support these objectives (IMF, 2023).

4.4 Banks as Anchors of Trust and Settlement

Banks occupy a critical position in the payments ecosystem. They anchor settlement, liquidity, and trust, and they provide the link between retail payments and the broader financial system. Within a payments-first strategy, banks benefit from increased transaction volumes, improved data flows, and deeper engagement with households and enterprises. Banks also play an important role in supporting merchant acceptance and enterprise usage, particularly where they maintain existing relationships and service capabilities.

4.5 Mobile Network Operators and Payment Service Providers

Mobile network operators and payment service providers have driven access and innovation in Rwanda's payments landscape. Their platforms reach users and merchants that banks have historically struggled to serve. As the system matures, the challenge shifts from expansion to integration. Clear rules on interoperability, pricing transparency, and consumer protection help

align incentives while preserving the dynamism that has characterised Rwanda's payments evolution.

4.6 Government as a Catalyst for Coordination

Government payment flows — including wages, transfers, fees, and taxes — shape usage patterns across the economy. When aligned with interoperable payments infrastructure, public sector payments can reinforce acceptance, habituation, and trust. A national payments strategy therefore requires close coordination between public payment initiatives and broader system objectives. Government has an opportunity to act as a catalyst for interoperability by aligning its own payment flows with national standards and system-level performance goals (World Bank, 2023).

4.7 The Role of the Rwanda Bankers Association

Industry bodies such as the Rwanda Bankers Association provide important platforms for dialogue and coordination. By facilitating information sharing, joint initiatives, and alignment around best practices, industry coordination can complement regulatory stewardship. Effective coordination mechanisms reduce duplication, build trust among participants, and support collective investment in shared infrastructure.

5. Reaching the Last Mile: Design Features That Matter

Extending payments systems to underserved populations requires more than expanding digital channels or increasing account availability. In Rwanda, the primary barriers to participation are structural rather than financial. Limited connectivity, distance from formal institutions, gaps in official identification, and low tolerance for complexity or system failure all shape how, when, and whether payments are used (World Bank, 2022). Systems that succeed at the last mile are those that align with the operational realities of users' daily economic lives.

5.1 Agent Networks as Core Infrastructure

Agent networks remain a critical component of last-mile access. For many users, particularly in rural and peri-urban areas, agents provide the primary interface with the formal financial system. Effective payments systems treat agents as core infrastructure rather than peripheral distribution channels. This requires sustained attention to coverage, liquidity management, incentives, training, and oversight. Evidence from mobile-money-led ecosystems shows that agent liquidity constraints materially reduce confidence and suppress usage (Aker et al., 2016).

5.2 Reliability and Liquidity at the Last Mile

Reliability is a decisive factor in last-mile adoption. For low-income households and micro-enterprises, a payment that fails even occasionally can impose real costs. Liquidity constraints amplify these risks. When agents cannot meet cash-out demand, confidence erodes rapidly and usage patterns revert to cash. Payment systems designed for inclusion must therefore prioritise reliability and liquidity alongside access — these are primary drivers of usage behaviour and habit formation (IMF, 2023).

5.3 Connectivity Constraints and the Case for Offline-Capable Infrastructure

Rwanda's mobile penetration is among the highest in sub-Saharan Africa, and RNDPS 2.0 / eKash provides a powerful real-time interoperable switch. However, real-time connectivity-dependent infrastructure has a structural limitation that is directly relevant to the functional financial exclusion problem: it performs well in conditions that already favour formal economic participation, and it underperforms precisely where inclusion is most needed.

The populations that account for the bulk of dormant registered users — smallholder farmers, rural informal traders, seasonal agricultural workers, remote cooperative members — disproportionately operate in environments of intermittent connectivity. For these users, a payments system that requires a live data connection to authorise every transaction is functionally unavailable at precisely the moments when they most need to transact: at the farm gate, at the market, during harvest season, at locations served by a single 2G signal.

Offline-capable payment architecture addresses this gap through a distinct technical approach: transactions are authorised locally against a securely stored credential and queued for settlement once connectivity is restored, with cryptographic integrity guarantees that prevent double-spend and ensure auditability. This is not a degraded mode of the same system — it is a different design philosophy that treats connectivity as unreliable by default rather than a given. Several implementations combine this with device-level secure elements or hardware security modules that protect transaction data even on low-cost endpoint devices.

From a policy perspective, offline capability should be treated as a core inclusion requirement for any payments infrastructure that claims to serve Rwanda's entire economically active population — not as an optional feature for later phases. The BIS Principles for Financial Market Infrastructures recognise operational resilience under adverse conditions as a foundational requirement (BIS, 2012). Rwanda's national payments strategy should specify minimum offline capability standards as part of the technical requirements for eKash-connected endpoints, particularly for agent devices operating in rural and low-density districts.

Critically, offline-capable infrastructure is not in competition with eKash — it is complementary to it. The switch handles the real-time interoperability layer between institutions; offline-capable endpoints extend the reach of that switch to environments where real-time connection cannot be guaranteed. A national payments ecosystem that combines both layers is substantially more inclusive than one built on either alone.

5.4 Biometric Identity: From Barrier to Infrastructure

Identity verification is the most persistent and least resolved structural constraint at the last mile. The conventional approach — requiring a national ID document, a SIM card registered under a verified identity, or a combination of both — works well for the formally employed urban population that is already well-served by the financial system. It systematically fails for the populations at the functional exclusion frontier: individuals without consistent document access, elderly rural residents, seasonal migrants, refugees and displaced persons, and those whose documentation does not match their current circumstances.

Biometric identity infrastructure resolves this problem at its root. A fingerprint or iris scan is a persistent, portable credential that the individual always has with them, cannot lose or forget, cannot be transferred or stolen in the way a document or PIN can, and does not degrade with literacy level or administrative capacity. When biometric verification is integrated at the point of transaction — rather than only at the point of account opening — it also provides continuous authentication that strengthens fraud resistance throughout the transaction lifecycle, not only at onboarding.

Rwanda is well positioned to build on this capability. The country already operates a national biometric identity programme and has made progress in connecting identification systems to financial services. The strategic opportunity is to extend biometric authentication beyond account registration into the ongoing transaction layer — enabling authentication at the point of payment for populations who cannot reliably operate PIN-based or document-dependent systems. This is particularly relevant for agent-assisted transactions, G2P disbursements to rural beneficiaries, cooperative-based savings and credit activity, and agricultural payment programmes where the recipient population has limited literacy or irregular document access.

The design challenge is ensuring that biometric infrastructure functions reliably at the last mile — which means it must operate in low-connectivity environments, on low-cost devices, with local matching capability that does not depend on a live connection to a central identity server. Architectures that store a securely encrypted biometric template on a local device or smart card, and perform matching locally before transmitting a verified transaction credential to the switch, provide this capability without requiring persistent central connectivity. This approach also has important data sovereignty properties: the biometric data does not need to traverse a network at the moment of authentication, reducing both security risk and latency.

The NBR and RISA should jointly develop technical standards for biometric authentication at the payments layer, specifying interoperability requirements with the eKash infrastructure and the national identity system, data protection obligations aligned with the Rwanda Data Protection Authority's framework, and minimum accuracy and liveness detection standards for endpoint devices. Without such standards, the market will develop fragmented proprietary solutions that cannot interoperate — replicating at the identity layer the same coordination failures that the payments layer has worked hard to overcome.

5.5 Simplicity, Transparency, and the Architecture of Trust

The sections above address the structural and technical dimensions of last-mile design. There is a fifth dimension that is equally important and more difficult to engineer: the user experience of trust. For a first-time or low-frequency digital payment user, the decision to transact digitally rather than in cash is not primarily a rational calculation about fees and speeds. It is a judgement about whether the system is trustworthy — whether the money will arrive, whether

the transaction can be reversed if something goes wrong, and whether the agent or merchant is honest. This judgement is formed through experience, not information. Financial literacy campaigns and product awareness programmes have limited effect on users who have had a failed transaction or an unresolved dispute. Trust is built through consistent performance and destroyed by isolated failures.

Three design principles follow from this. First, the user interface for low-literacy and first-time users must reduce cognitive load to the minimum necessary for a safe transaction. Screens with multiple steps, ambiguous confirmations, or unclear fee displays create hesitation and error. Biometric authentication — replacing a PIN with a fingerprint — is one of the most powerful simplification tools available, eliminating the single most common source of transaction failure for new users. Second, transaction confirmation must be immediate and unambiguous. The eKash sub-15-second settlement standard is important not only for commercial efficiency but for psychological certainty: the user knows the transaction has completed before they leave the counter. Third, recourse must be visible and accessible. Users who know there is a clear, fast process for resolving errors are more willing to attempt digital transactions. Users who have experienced an unresolved failure — or who know someone who has — revert to cash and are very difficult to re-engage.

These principles apply across all payment channels, but they are most critical at the last mile, where users have the least experience, the least recourse, and the lowest tolerance for failure. System designers and policymakers should treat the user experience of trust as a technical requirement with measurable outcomes — not as a communications challenge to be addressed after the infrastructure is built.

6. Regulation, Proportionality, and Risk

Regulation has played a central role in Rwanda's financial inclusion success. As the payments ecosystem matures, however, the regulatory challenge evolves. The priority shifts from enabling entry to enabling sustained usage, while continuing to safeguard integrity, resilience, and trust. At Rwanda's current stage of development, the principal regulatory risk is not under-regulation, but misalignment between regulatory requirements and real-world transaction behaviour. Where rules are calibrated primarily for formal, higher-value, or infrequent transactions, they can unintentionally constrain the low-value, high-frequency payments that dominate everyday economic life for households and micro-enterprises (IMF, 2023).

6.1 Proportionality as a System Principle

Proportionality is not a relaxation of regulatory standards. It is the disciplined alignment of controls with the level of risk presented by users, transactions, and functions. Applied consistently, proportionality reduces unnecessary friction while preserving safeguards where risk is highest. Proportionality is most effective when it is embedded as a system principle rather than applied on an ad hoc basis (BIS, 2012).

6.2 Tiered KYC as a Usage Enabler

Tiered know-your-customer frameworks allow broad participation in low-risk transactions while maintaining clear upgrade pathways for higher functionality. For many users — particularly informal workers, rural households, and micro-enterprises — low-threshold accounts subject to appropriate limits can determine whether participation is feasible at all. Where upgrading to higher tiers is complex, costly, or uncertain, users may remain trapped in low-functionality environments (World Bank, 2022).

6.3 Transaction Limits and Risk Calibration

Transaction and balance limits complement tiered KYC by managing exposure without blocking legitimate activity. Limits set too low encourage transaction splitting, frequent cash-outs, or reversion to informal channels. A payments-first strategy therefore supports periodic review of transaction and balance limits, informed by evidence on transaction patterns, fraud incidents, and observed user behaviour. Limits should evolve with the system rather than becoming static constraints that no longer reflect actual risk profiles (IMF, 2023).

6.4 Consumer Protection at the Transaction Level

Trust in payments systems is built or eroded at the point of transaction. A payments-first approach emphasises timely and accessible dispute resolution mechanisms, predictable reversal and error-handling processes, transparency of fees and transaction outcomes, and clear accountability where multiple providers are involved. These measures actively encourage repeat usage by reducing perceived risk for both consumers and merchants (BIS, 2022).

6.5 Regulatory Clarity and Predictability

Regulatory clarity is itself a growth enabler. Payments providers, banks, and infrastructure operators are more likely to invest in acceptance networks, reliability, and resilience when regulatory expectations are stable, transparent, and consistently applied. A national payments strategy therefore benefits from regular regulator–industry dialogue and clearly articulated expectations around proportionality, interoperability, consumer protection, and operational resilience.

7. Sequencing the National Payments Strategy

A national payments strategy is as much about when to act as what to do. Well-intentioned interventions introduced too early can underperform or erode trust, while delays in addressing foundational constraints can stall momentum and entrench suboptimal usage patterns. Sequencing therefore plays a central role in converting policy intent into durable outcomes (BIS, 2022).

For Rwanda, sequencing should reflect the maturity of access, the persistence of cash in everyday transactions, and the need to stabilise usage before layering additional complexity. The objective is not the rapid expansion of features or products, but the normalisation of reliable, habitual payments embedded in daily economic activity. A payments-first strategy recognises that usage precedes — and enables — deeper financial intermediation.

7.1 Phase One: Stabilising Everyday Payments

The immediate priority is to stabilise and normalise everyday payments. This phase focuses on the core conditions that determine whether payments are used regularly: acceptance, reliability, liquidity, simplicity, and predictability. Key priorities include expanding and stabilising merchant acceptance, strengthening agent coverage and liquidity management, improving transaction reliability and settlement predictability, and reducing operational friction and user complexity. Phase One is fundamentally behavioural rather than technological. Its success is measured by increased frequency, continuity, and confidence in usage.

7.2 Phase Two: Anchoring Usage Through Wages and Public Payments

Once everyday payments are stable, the next phase is to anchor habitual usage through predictable, recurring payment flows. Wage payments and government-to-person transfers play a critical role. Regular income flows create strong incentives for both users and merchants to transact digitally, provided that acceptance and reliability are already in place. When aligned with interoperable infrastructure, wage and public payments can reinforce acceptance networks, deepen usage, and accelerate the transition from episodic to habitual digital payments (World Bank, 2023).

7.3 Phase Three: Deepening Financial Intermediation

Only once payments usage is stable and habitual should the system focus on deeper financial intermediation. At this stage, transaction data generated through regular payments can support the development of cash-flow-based financial services for households and enterprises. These services may include savings products, working capital solutions, and risk-mitigation tools tailored to observed transaction patterns. Introducing them prematurely risks low uptake, increased complexity, and erosion of trust, particularly among first-time or low-income users.

7.4 The Importance of Restraint

A disciplined sequencing strategy also requires clarity on what not to prioritise in the early stages. Complex product innovation, advanced analytics, or tightly integrated credit offerings should not precede stable payments usage. Similarly, parallel or closed payment systems introduced for speed or expediency can undermine long-term system coherence. Restraint should not be interpreted as conservatism. Rather, it reflects recognition that trust, coordination, and habit formation take time and cannot be accelerated through feature proliferation.

8. Empirical Evidence: Quantitative Corroboration of the Payments-First Hypothesis

This section presents quantitative evidence from National Bank of Rwanda payment system data that corroborates the analytical framework set out in Sections 2–7. The empirical analysis was conducted using an Autoregressive Distributed Lag (ARDL) bounds testing framework applied to 52 quarters of data (2012–2024).

8.1 Data and Methodology

The empirical investigation utilises quarterly time series data derived from the official payment systems statistics of the National Bank of Rwanda, with the estimation sample commencing in 2012 following comprehensive data cleaning. The study employs the natural logarithm of mobile payment registrations as the dependent variable, serving as a proxy for formal financial inclusion, with five independent variables measured as the natural logarithms of quarterly transaction values for mobile payments, mobile banking, internet banking, point-of-sale transactions, and ATM usage.

The ARDL bounds testing framework was selected for its capacity to accommodate variables with mixed integration orders ($I(0)$ and $I(1)$) and to provide robust estimates for small sample environments (Pesaran, Shin, and Smith, 2001). The final model specification was ARDL (1, 0, 0, 2, 0, 0) under Case II (restricted constant with no deterministic trend), selected via a general-to-specific procedure evaluating 12,500 potential lag combinations.

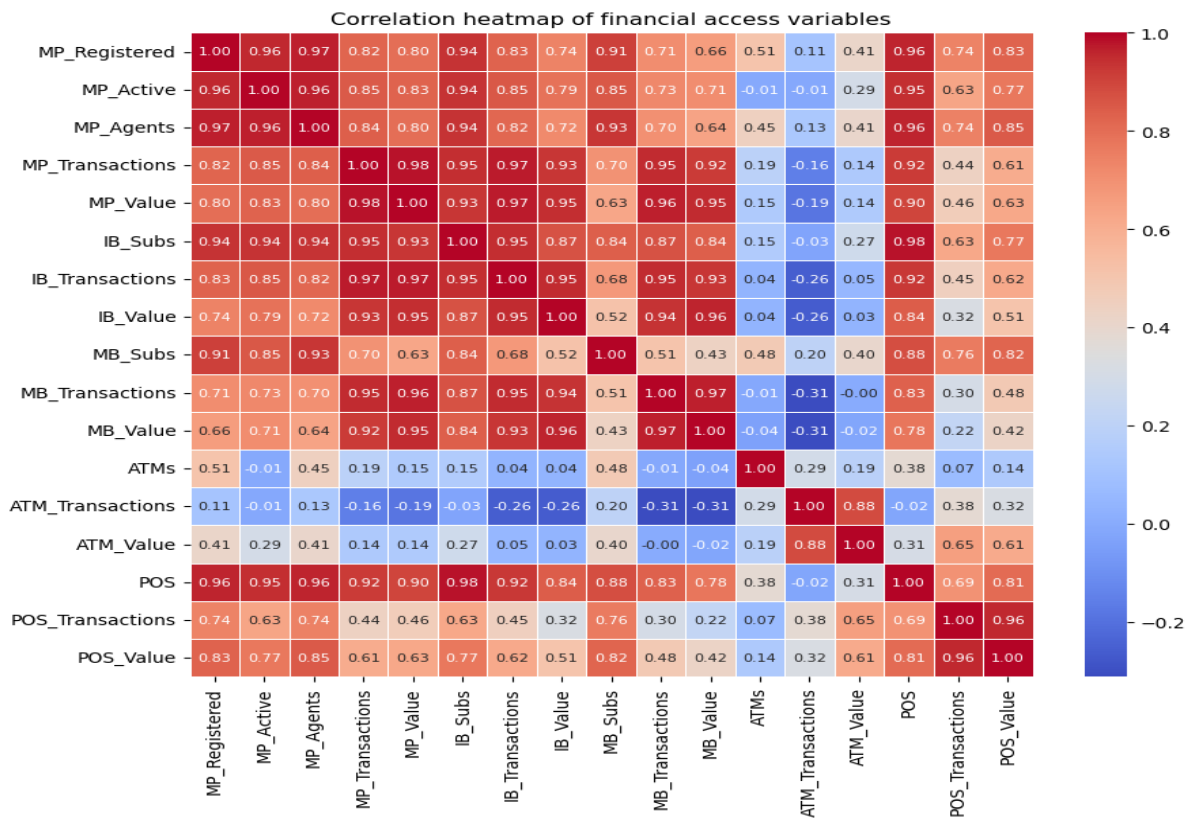
INTEGRATION ORDERS SUMMARY

Variable	Integration_Order	Transformation_Needed	ADF_p-value
L_MP_Registered	I(0)	None (use levels)	0.00
L_IB_Value	I(0)	None (use levels)	0.00
L_ATM_Value	I(0)	None (use levels)	0.01
L_MP_Value	I(1) First difference (ARDL accommodates levels)		0.00
L_MB_Value	I(1) First difference (ARDL accommodates levels)		0.00
L_POS_Value	I(1) First difference (ARDL accommodates levels)		0.00

National Bank of Rwanda

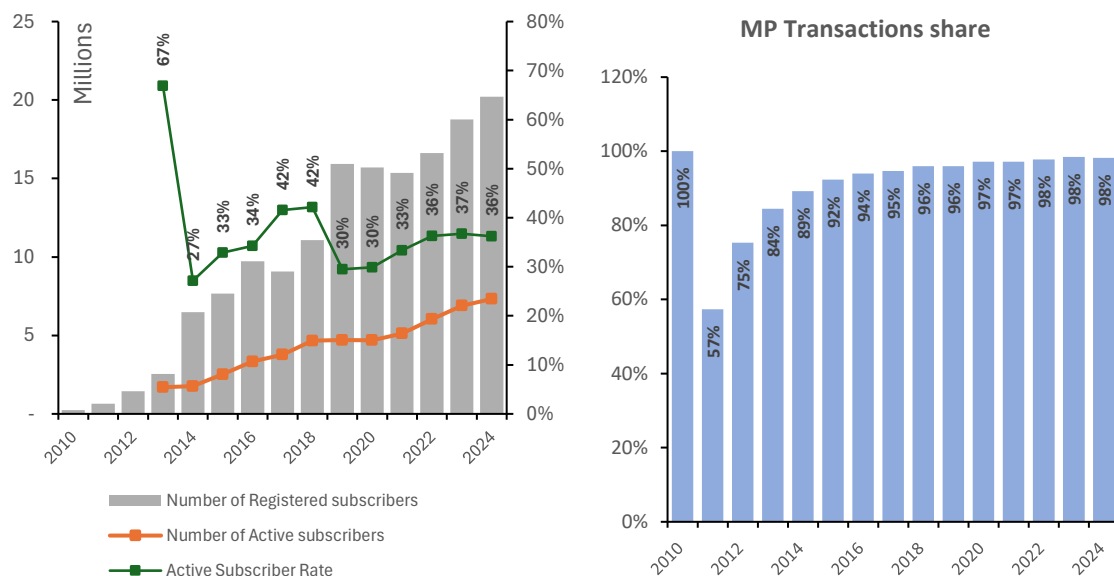
8.2 Growth Trends in Payment Channels

Compound Annual Growth Rates across the sample period reveal a definitive structural shift toward digital payment channels. Internet banking demonstrates the highest momentum (117.54% CAGR), while mobile payment value expanded at 79.50% annually, bolstered by a 56.78% increase in agent networks. In contrast, ATM infrastructure grew at only 5.88%, confirming that Rwanda’s financial deepening is driven predominantly by mobile and web-based innovations rather than conventional card-based systems.



8.3 The Access-Usage Paradox in the Data

The data reveals a structural paradox that directly validates the paper's central argument: while total mobile payment registrations surged to over 20 million by 2024, the active subscriber rate declined from a peak of 67% to approximately 36%. This discrepancy confirms that while mobile money has achieved near-universal reach, a significant proportion of the population remains at the entry point without progressing to sustained usage. However, those who remain actively engaged have demonstrated a profound deepening of financial participation, with a tenfold increase in transaction frequency — indicating that the digital ecosystem does successfully convert active users toward high-frequency economic activity when usage is established.



Source: National Bank of Rwanda

8.4 ARDL Model Results

The ARDL estimation provides an exceptionally high goodness of fit (adjusted R^2 of 0.9915, joint F-statistic of 716.83), confirming that the included payment channels are collectively significant in explaining the expansion of formal registration. The primary driver of adoption is market persistence: the highly significant lagged registration term of 0.7735 indicates that a 1% increase in registrations from the previous quarter results in a 0.77% increase in the current quarter, highlighting the power of network effects and path dependency within the digital ecosystem.

Dependent Variable: LMP_REGISTERED

Method: ARDL

Date: 04/24/26 Time: 05:41

Sample (adjusted): 2012Q3 2024Q4

Included observations: 50 after adjustments

Maximum dependent lags: 4 (Automatic selection)

Model selection method: Akaike info criterion (AIC)

Dynamic regressors (4 lags, automatic): LMP_VALUE LMB_VALUE

LIB_VALUE LATM_VALUE LPOS_VALUE

Fixed regressors: C

Number of models evaluated: 12500

Selected Model: ARDL(1, 0, 0, 2, 0, 0)

Note: final equation sample is larger than selection sample

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LMP_REGISTERED(-1)	0.773502	0.079195	9.767002	0.0000
LMP_VALUE	0.009018	0.060062	0.150147	0.8814
LMB_VALUE	0.004361	0.033044	0.131968	0.8957
LIB_VALUE	-0.094050	0.073734	-1.275529	0.2093
LIB_VALUE(-1)	0.025333	0.077240	0.327973	0.7446
LIB_VALUE(-2)	0.109805	0.068511	1.602727	0.1167
LATM_VALUE	-0.006385	0.022608	-0.282429	0.7790
LPOS_VALUE	0.002607	0.041733	0.062460	0.9505
C	3.074746	0.789428	3.894906	0.0004
R-squared	0.992901	Mean dependent var	16.04638	
Adjusted R-squared	0.991516	S.D. dependent var	0.741272	
S.E. of regression	0.068277	Akaike info criterion	-2.368936	
Sum squared resid	0.191132	Schwarz criterion	-2.024772	
Log likelihood	68.22339	Hannan-Quinn criter.	-2.237876	
F-statistic	716.8311	Durbin-Watson stat	1.885688	
Prob(F-statistic)	0.000000			

The ARDL bounds test provides definitive evidence of a stable long-run equilibrium relationship between transactional access channels and formal mobile payment registration. The calculated F-statistic of 4.527 exceeds the upper bound critical value of 3.38 at the 5% significance level, confirming cointegration. The Error Correction Term exhibits a highly significant negative coefficient of -0.226, indicating that approximately 22.6% of any short-run disequilibrium is corrected within each subsequent quarter — confirming that the digital financial system naturally returns to its stable path following market shocks.

ARDL Long Run Form and Bounds Test
Dependent Variable: D(LMP_REGISTERED)
Selected Model: ARDL(1, 0, 0, 2, 0, 0)
Case 2: Restricted Constant and No Trend
Date: 04/24/26 Time: 06:14
Sample: 2011Q1 2024Q4
Included observations: 50

Conditional Error Correction Regression				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.074746	0.789428	3.894906	0.0004
LMP_REGISTERED(-1)*	-0.226498	0.079195	-2.859980	0.0066
LMP_VALUE**	0.009018	0.060062	0.150147	0.8814
LMB_VALUE**	0.004361	0.033044	0.131968	0.8957
LIB_VALUE(-1)	0.041087	0.034851	1.178944	0.2452
LATM_VALUE**	-0.006385	0.022608	-0.282429	0.7790
LPOS_VALUE**	0.002607	0.041733	0.062460	0.9505
D(LIB_VALUE)	-0.094050	0.073734	-1.275529	0.2093
D(LIB_VALUE(-1))	-0.109805	0.068511	-1.602727	0.1167

* p-value incompatible with t-Bounds distribution.

** Variable interpreted as $Z = Z(-1) + D(Z)$.

* p-value incompatible with t-Bounds distribution.
 ** Variable interpreted as Z = Z(-1) + D(Z).

ECM Regression					
Case 2: Restricted Constant and No Trend					
Levels Equation					
Case 2: Restricted Constant and No Trend					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
	D(LIB_VALUE)	-0.094050	0.053757	-1.749544	0.0877
	D(LIB_VALUE(-1))	-0.109805	0.058953	-1.862599	0.0697
	CointEq(-1)*	-0.226498	0.037577	-6.027549	0.0000
LMP_VALUE	0.039815	0.258167	0.154223	0.8782	R-squared 0.515263 Mean dependent var 0.059446 Adjusted R-squared 0.494636 S.D. dependent var 0.089705 S.E. of regression 0.063770 Akaike info criterion -2.608936 Sum squared resid 0.191132 Schwarz criterion -2.494214 Log likelihood 68.22339 Hannan-Quinn criter. -2.565249 Durbin-Watson stat 1.885688
LMB_VALUE	0.019253	0.149475	0.128804	0.8981	
LIB_VALUE	0.181403	0.117218	1.547567	0.1294	
LATM_VALUE	-0.028191	0.100213	-0.281315	0.7799	
LPOS_VALUE	0.011509	0.184247	0.062463	0.9505	
C	13.57519	2.199252	6.172639	0.0000	
EC = LMP_REGISTERED - (0.0398*LMP_VALUE + 0.0193*LMB_VALUE + 0.1814*LIB_VALUE -0.0282*LATM_VALUE + 0.0115*LPOS_VALUE + 13.5752)					

F-Bounds Test Null Hypothesis: No levels relationship * p-value incompatible with t-Bounds distribution.

Test Statistic	Value	Signif.	I(0)	I(1)
Asymptotic: n=1000				
F-statistic	4.527614	10%	2.08	3
k	5	5%	2.39	3.38
		2.5%	2.7	3.73
		1%	3.06	4.15
Finite Sample: n=50				
Actual Sample Size	50	10%	2.259	3.264
		5%	2.67	3.781
		1%	3.593	4.981

In the long run, internet banking value demonstrates the largest positive impact (elasticity of 0.181), while the negative coefficient for ATM value confirms the gradual substitution of traditional cash-based infrastructure by digital platforms. These results validate the payments-first hypothesis: transactional access serves as a reliable and self-correcting gateway to formal financial participation.

8.5 Diagnostic Validation

The diagnostic evaluation confirms that the ARDL model is statistically robust. The Ramsey RESET and CUSUM tests establish that the linear functional form is appropriate and that

model parameters remained structurally stable throughout the 2012–2024 period. The Breusch-Godfrey and Breusch-Pagan-Godfrey tests confirm the absence of serial correlation and heteroskedasticity (p-values of 0.9538 and 0.8352 respectively), validating the reliability of the standard errors and the statistical integrity of the model's inferences.

9. Measuring Success: Payments-Centric KPIs

A payments-first national strategy requires a corresponding shift in how success is measured. Traditional financial inclusion indicators — account ownership, wallet registration, product availability — remain useful as baseline measures of access. However, they are no longer sufficient to assess system performance at Rwanda's current stage of development. As access approaches saturation, these indicators flatten and provide limited insight into whether financial services support meaningful economic participation (Demirgüç-Kunt et al., 2022).

Payments-centric indicators offer a more accurate and operational picture of system health. They capture how frequently payments are used, how reliably they function, and how deeply they are embedded in everyday economic activity. Measuring these dimensions enables policymakers, regulators, and providers to identify binding constraints, distinguish between nominal and functional inclusion, and track progress toward participation rather than access alone.

Table 2: From Access Metrics to Payments-Centric KPIs

System Objective	Traditional Access Metric	Payments-Centric KPI	What It Reveals
Broad participation	% of adults with accounts	% transacting digitally at least monthly	Distinguishes nominal from functional inclusion
Regular usage	Number of registered wallets	Transaction frequency and continuity over time	Identifies dormancy and episodic use
Merchant readiness	Number of registered merchants	Active merchant acceptance density	Reveals coordination gaps in acceptance
System reliability	Platform availability	Transaction success rates and settlement predictability	Captures performance from user's perspective
Liquidity access	Number of agents	Agent liquidity availability and cash-out success	Signals last-mile friction
Habit formation	One-off digital payments	Share of users transacting weekly	Tracks transition to habitual use
Public integration	Digitised payment programmes	Share of wages and G2P via interoperable systems	Shows anchoring of usage through recurring flows
System stewardship	Compliance reporting	Shared system-level KPI reporting	Enables coordination and collective action

These indicators are particularly relevant for informal workers and micro-enterprises, where frequent transactions are integral to economic participation and resilience. Shared KPI reporting also supports governance and coordination, allowing stakeholders to align around system-wide objectives and prioritise collective action across institutions.

10. Policy Recommendations

Rwanda's financial inclusion trajectory is one of the most successful in Africa. The challenge ahead is not to replicate that success but to extend it into a different and more demanding domain: converting near-universal formal access into deep, habitual economic participation. The recommendations below are addressed primarily to the National Bank of Rwanda and to the banking and payments industry as represented by the Rwanda Bankers Association. They are grounded in the analytical framework and empirical findings of this paper and are anchored to Rwanda's current policy instruments — principally the Financial Sector Development Strategy (FSDS) 2025–2030, the National Financial Inclusion Roadmap (NFIR) 2025–2030, and the RNDPS 2.0 / eKash infrastructure. Each recommendation is structured with a strategic rationale and a set of concrete operational actions.

10.1 Formalise the NBR's Role as Payments System Steward

The NBR's mandate has historically been defined around licensing, prudential supervision, and consumer protection. These functions remain essential. But Rwanda's current stage of financial sector development requires an additional and equally important function: active stewardship of the payments system as shared national economic infrastructure. System stewardship is distinct from regulation. It involves setting the strategic direction for payment system performance, convening the industry around shared objectives, and taking direct responsibility for outcomes that no single institution can deliver alone — particularly interoperability, reliability standards, and the performance of the last-mile infrastructure on which functional inclusion depends.

Operational actions:

- Establish a Payments System Performance Unit within the NBR with a dedicated mandate to monitor system-wide reliability, acceptance density, and interoperability outcomes — separate from the licensing and supervisory function. This unit should publish a quarterly Payments System Health Report covering transaction success rates, settlement times, agent liquidity availability, and active merchant acceptance density.
- Convene a Payments System Coordination Forum — a standing multi-stakeholder body chaired by the NBR bringing together commercial banks, MNOs, SACCOs, fintechs, RSwitch, RISA, and the Rwanda Bankers Association. The Forum should meet quarterly with a remit to agree shared service-level standards, resolve interoperability disputes, and coordinate investment in shared infrastructure such as agent liquidity facilities.
- Publish a National Payments Strategy as a standalone policy document under the FSDS 2025–2030 — distinct from the broader financial inclusion roadmap — that sets measurable targets for transaction reliability, merchant acceptance, agent liquidity, and habitual usage by 2030. This signals to the industry that payments performance is a strategic economic priority, not a secondary compliance matter.

10.2 Maximise eKash / RNDPS 2.0 as the Foundation for Usage Growth

The launch of RNDPS 2.0 — commercially branded as eKash — in February 2025 represents Rwanda's most significant payments infrastructure milestone in a decade. Built on open-source Mojaloop technology and developed with local technical capacity, eKash provides a single interoperable switch connecting banks, mobile wallets, SACCOs, and microfinance institutions, enabling person-to-person and person-to-merchant transactions that settle in under 15 seconds, without additional fees. This is precisely the reliability and acceptance infrastructure that the functional financial exclusion diagnosis demands. The immediate policy imperative is to ensure that this infrastructure is adopted rapidly, used deeply, and extended to the merchant and last-mile contexts where cash currently dominates.

Operational actions:

- Set a mandatory timeline for all licensed banks, MNOs, SACCOs, and MFIs to complete full eKash integration. The NBR should use its supervisory authority to set and enforce this deadline, treating non-integration as a systemic risk to interoperability rather than an individual institution's commercial choice.
- Drive the rollout of eKash P2M (person-to-merchant) acceptance aggressively in informal and peri-urban markets. The single QR code model is a powerful tool for micro-merchants who cannot afford multiple terminals. The NBR and RBA should jointly develop a merchant onboarding programme targeting the informal sector, with simplified registration, subsidised initial hardware where necessary, and clear fee structures published upfront.
- Accelerate the activation of eKash bulk payment, bill payment, and government services use cases. These are planned features of RNDPS 2.0; their deployment should be treated as a priority rather than a roadmap item, as they directly address the anchoring of habitual usage through recurring flows. Each activated use case should carry a defined go-live date with accountability assigned to RSwitch and the relevant line ministries.
- Publish eKash transaction success rates, settlement times, and active merchant counts as monthly public data. Transparency about system performance creates accountability, signals system health to users and investors, and provides the NBR and industry with the shared evidence base needed to identify and resolve bottlenecks.

10.3 Resolve the Active Usage Gap as the Central Financial Inclusion Target

The empirical findings of this paper confirm what the FinScope data has long suggested: mobile payment registration has reached 20 million, but the active usage rate has declined from 67% to approximately 36%. This means that roughly 13 million registered users are effectively dormant — formally included but functionally excluded. The FSDS 2025–2030 and the NFIR 2025–2030 both correctly identify financial inclusion as a priority, but their headline targets (98% inclusion by 2030) risk measuring the wrong thing. The gap to close is not between 96% and 98% registration; it is between 36% and the level of active usage that constitutes genuine economic participation. The NBR and MINECOFIN should formally reframe their primary financial inclusion target around active, habitual usage rather than registration.

Operational actions:

- Commission a targeted study of dormant account holders to identify the specific frictions that prevent transition to active use. Segment findings by geography (urban, peri-urban, rural), by user type (informal worker, smallholder, micro-enterprise, employee), and by primary payment context. The results should directly inform the design of re-activation programmes and product simplification initiatives.
- Introduce a formal active usage rate target in the NFIR 2025–2030 monitoring framework — specifically, the proportion of registered mobile money users transacting at least monthly — as a primary indicator alongside the existing registration metric. The Financial Inclusion Dashboard maintained by the NBR should report this indicator quarterly and make it publicly available.
- Require financial service providers to report active user rates alongside subscriber counts in their regulatory submissions to the NBR. This creates accountability at the institution level and gives the NBR the granular data needed to distinguish between genuine inclusion growth and nominal registration expansion.

10.4 Use Government Payment Flows as a Demand Anchor

The government is Rwanda's largest single payer. Public sector wages, G2P transfers, Ubudehe social protection payments, agricultural input subsidies, and tax collection collectively represent the most predictable, recurring payment flows in the economy. When these flows move through interoperable digital infrastructure, they create the most powerful available mechanism for normalising digital payment behaviour, reinforcing merchant acceptance, and anchoring habitual usage. The FSDS 2025–2030 explicitly targets the digitisation of payments through systems such as eKash — but this objective must be operationalised with specific commitments from each paying ministry and agency, not left as a system-wide aspiration.

Operational actions:

- Mandate that all central government wage payments and social transfers route through eKash-connected interoperable rails by a fixed date, with all payments credited to recipient-chosen accounts or wallets rather than to closed or proprietary government platforms. MINECOFIN should issue a circular with binding timelines for each paying ministry. Payments that remain on closed systems should be reported as non-compliant in the annual NFIR progress report.
- Integrate tax and fee collection (RURA utilities, RRA tax payments, local government fees) into eKash as a priority use case. Each additional bill payment use case adds a recurring touchpoint that reinforces the habit of digital payment. The NBR and RRA should agree a joint implementation roadmap within the RNDPS 2.0 pipeline.
- Coordinate the rollout of agricultural input and output payments through eKash with the Ministry of Agriculture. Rwanda's smallholder farming population represents one of the largest dormant user segments. Routing crop payments and subsidy disbursements through interoperable digital channels creates immediate economic incentive for adoption and directly addresses rural usage gaps identified in the FinScope data.

10.5 Implement Evidence-Based Proportionate Regulation

Rwanda has a tiered KYC framework and proportionate regulatory approach that is broadly well-designed. The risk at this stage is not the absence of proportionality in principle but its incomplete or uneven application in practice — particularly in how transaction limits are set, reviewed, and calibrated to actual usage behaviour. The empirical findings of this paper show that internet banking value carries the largest long-run elasticity in the ARDL model. This suggests that where friction is reduced for higher-value, higher-frequency users, the gains in formal financial participation are significant and durable. Reducing unnecessary friction for low-value retail payments has an equivalent logic: it removes the barriers that keep the dormant majority from becoming active participants.

Operational actions:

- Conduct a formal review of Tier 1 and Tier 2 transaction and balance limits against actual NBR payment system transaction data. Where the data shows that limits are binding constraints on legitimate low-value activity — rather than risk management tools — they should be adjusted. This review should be published, with the evidence base made transparent to the industry.
- Utilise the FSDS 2025–2030 regulatory sandbox — approved for 17 fintechs — to test simplified onboarding and lower-friction payment models for informal sector users. Sandbox outcomes should feed directly into regulatory policy updates, with a commitment to act on findings within a defined timeframe rather than treating the sandbox as a research exercise.
- Introduce mandatory consumer protection standards specific to digital payments — covering dispute resolution timelines, transaction error reversal, and fee disclosure — that apply uniformly across all providers connected to eKash. Standardised consumer

protection at the transaction level builds the trust that converts first-time users into habitual ones. The NBR should set minimum standards and monitor compliance through mystery shopping and transaction data analysis.

- Issue clear regulatory guidance on the application of AI-powered fraud detection tools under the FSDS digital payments agenda. Fraud controls are essential — but poorly calibrated AI systems can produce high rates of false positives that block legitimate low-value transactions and disproportionately affect informal sector users. Guidance should require providers to report false positive rates as part of their supervisory returns.

10.6 Address Agent Network Liquidity as a Systemic Risk

Agent liquidity failure is not an individual operational problem — it is a systemic trust risk. When an agent cannot fulfil a cash-out request, the user's experience is not that the agent failed; it is that digital money failed. The NBR payment system data used in this paper shows that Rwanda's agent network reached a maximum of 183,216 agents by 2024 — a remarkable expansion. But scale alone does not guarantee liquidity availability, particularly at the last mile. The fragmented agent liquidity model, in which each provider manages its own float independently, creates predictable shortfalls at high-demand periods and in low-density geographies. This is a coordination problem that the NBR is best placed to address as system steward.

Operational actions:

- Require all providers with agent networks to report agent liquidity availability data to the NBR on a monthly basis — specifically the proportion of active agents able to fulfil cash-out requests within normal operating hours. This data should be published at district level, creating both accountability and a map of last-mile friction points for targeted intervention.
- Explore a shared agent liquidity facility — potentially coordinated through the Rwanda Interbank Settlement System (RIPPS) or through the Payments Coordination Forum recommended above — that allows agents to draw on a shared float pool during peak demand periods. This mechanism is used successfully in Kenya and Tanzania and is directly applicable to Rwanda's eKash infrastructure.
- Incorporate agent liquidity availability as a licensed service obligation for providers operating agent networks above a defined scale threshold. Service level obligations should specify minimum cash-out fulfilment rates, with graduated supervisory consequences for sustained non-compliance.

10.7 Adopt Payments-Centric Measurement Across the Policy Framework

Measurement shapes behaviour. If the NBR, MINECOFIN, and the development partners who support the NFIR and FSDS continue to anchor their headline metrics in registration and account ownership, the policy system will continue to optimise for those outcomes — regardless of whether they represent genuine economic participation. The KPI framework set out in Table 2 of this paper provides an operationally tractable alternative. These are not aspirational indicators; they are measurable from data the NBR already collects or can require providers to report.

Operational actions:

- Formally incorporate the payments-centric KPIs from Table 2 into the NBR's Financial Inclusion Dashboard, the NFIR 2025–2030 monitoring framework, and the FSDS 2025–2030 annual progress reports. Specifically: active user rate (monthly transactors as a share of registered users), merchant acceptance density (active eKash-accepting merchants per 10,000 population by district), transaction success rate, agent liquidity

availability rate, and share of wages and G2P payments delivered through interoperable digital channels.

- Agree these KPIs with the Access to Finance Rwanda (AFR), the Gates Foundation, AfricaNenda, and other development partners as the shared metrics framework for their financial inclusion programmes and investments in Rwanda. Donor and partner programmes that are measured against registration metrics will continue to fund registration-focused activities. Shifting the measurement framework is the lever for shifting resource allocation.
- Include a payments system performance section in Rwanda's annual FinScope survey, reporting on the user experience dimensions of reliability, fee transparency, dispute resolution, and trust — alongside the existing access and product ownership data. FinScope is the primary instrument through which Rwanda tracks financial inclusion progress; ensuring it captures usage quality as well as access coverage is essential to the evidence base that will drive the next phase of policy.

10.8 Build Transaction Data Infrastructure for the Next Phase of Financial Intermediation

Once payments usage is habitual and widespread, the transaction data generated through eKash and connected platforms becomes one of Rwanda's most valuable financial sector assets. The ARDL model in this paper demonstrates that internet banking value — the channel most associated with higher-frequency, higher-value engagement — has the largest long-run elasticity on formal financial inclusion. This is consistent with international evidence that transaction history is a better predictor of creditworthiness and financial reliability than formal income documentation, which most informal workers and micro-enterprises cannot produce. Preparing now for the responsible use of this data is the foundation for the third phase of the sequencing strategy: deepening financial intermediation.

Operational actions:

- Develop a national data portability and consent framework governing how eKash transaction data can be accessed by financial service providers for credit scoring, savings product design, and risk assessment. This framework should be developed by the NBR in consultation with the Rwanda Data Protection Authority and the industry, and should be published before commercial use of transaction data at scale begins — not in response to problems after the fact.
- Commission a feasibility study on a shared transaction data utility — operated by RSwitch or the NBR — that aggregates anonymised payment flow data from across the eKash network and makes it available to licensed lenders for credit assessment purposes. This would be Rwanda's equivalent of the transaction-based credit infrastructure that has driven micro-lending at scale in Kenya and India, and would directly support the FSDS 2025–2030 objective of increasing credit access for SMEs, youth, and women.
- Ensure that the FSDS 2025–2030 target of doubling agricultural lending by 2030 is explicitly connected to the eKash transaction data infrastructure. Smallholder farmers who receive crop payments and input subsidies through eKash generate exactly the payment history data that can support agricultural credit scoring. The connection between the payments strategy and the agricultural lending target should be made explicit in the FSDS implementation plan.

11. Conclusion

Rwanda has made remarkable progress in expanding access to formal financial services. By conventional measures, financial inclusion is no longer a binding constraint. Most adults possess bank accounts, mobile wallets, or other formal financial instruments, and the foundational components of a modern payments ecosystem are in place.

The challenge now is depth rather than reach.

This paper has argued that Rwanda's next phase of financial inclusion must be anchored in payments usage rather than account ownership. A substantial share of individuals and enterprises are formally included yet remain functionally excluded from regular, reliable participation in the economy. This gap is structural, reflecting how payments systems perform in practice.

A payments-first national strategy provides a coherent response. Treating payments as national economic infrastructure reframes financial inclusion as an economic coordination problem rather than solely a distributional one. The empirical analysis of 52 quarters of National Bank of Rwanda data provides quantitative corroboration: transactional access is a stable, self-correcting gateway to formal financial participation, with a long-run cointegrating relationship confirmed at the 5% significance level and a speed of adjustment of approximately 22.6% per quarter.

The analysis points to five implications for policy and practice: stabilising everyday payments as a foundational priority; anchoring usage through wages and government-to-person payment flows; strengthening governance and coordination mechanisms; embedding proportionate regulation; and assessing progress through payments-centric indicators that capture participation and continuity of use rather than access alone.

The opportunity is significant. Rwanda is well positioned to demonstrate how near-universal access can be translated into deep, reliable economic participation. By focusing on payments as the bridge between inclusion and impact, the country can help define the next generation of financial inclusion — one assessed not by accounts opened, but by transactions enabled and sustained over time.

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Author Biography

Gabriel Ruhan is the CEO of Paycode Ltd, a financial technology company specialising in digital payments infrastructure, biometric identity, and financial inclusion across emerging markets. He has worked extensively with central banks, commercial banks, and public-sector institutions on payments systems, financial inclusion strategies, and digital public infrastructure. His work focuses on the intersection of payments, identity, and economic participation in low-connectivity and informal market environments.

Eric Niyongira and Yves Dusabirema lead the Rwanda Bankers' Association (RBA) Research Centre. Established in 2023, the Centre serves as a platform for advancing evidence-based research, thought leadership, and policy dialogue aimed at positioning Rwanda's financial sector as a key driver of the country's economic development aspirations. Through research publications, policy commentaries, conferences, and stakeholder engagements, the Centre generates insights and fosters discussions on critical issues shaping the future of the financial sector.