



THE DIGITAL ARCHITECTURE OF FINANCIAL INCLUSION: THE INTEGRATED IMPACT OF FAST PAYMENTS, DIGITAL LITERACY, AND TRUST

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Abstract:

The expansion of the digital platform ecosystem is driving endogenous growth in financial inclusion indicators through structural reductions in transaction costs and increased network effects, with payment potential and financial literacy determinants playing a central role. This paper formalizes the conceptual mechanism of inclusion in terms of platform coverage → (literacy; trust) → use → digital footprint →→ access to credit, offers a framework of measurements, and summarizes the evidence-based context for both global (Findex, BIS/CPMI, GSMA, OECD/INFE) and Uzbekistan. The results show that an education-by-design approach, interoperability of fast payment systems, and tariff transparency are crucial suffocators in bridging the gap and increasing the depth of inclusion. Meanwhile, the average low level of digital financial literacy (~53/100 on average) underscores the need to modulate political interventions within the platform itself.

Keywords: Financial inclusion, digital platforms, fintech, fast payments, mobile money, financial literacy, cybersecurity, interoperability.

Introduction

As a result of the digital transformation of financial services over the past decade, both account ownership and the frequency of using digital payments have increased significantly: the share of developing countries using a digital payment system rose from 35% to 57% between 2014 and 2021; this, in turn, accelerated marginal shifts in



inclusion indicators. Digital platforms—mobile apps, e-wallets, online banking—interact with the institutional layer (regulation, standards) and behavioral layer (literacy, trust) to reconfigure payment flows in the real economy; In particular, the introduction of near-real-time transactions through fast payment systems and open APIs makes it possible to reduce friction in cross-border payments. Development of a theoretical and methodological model for increasing financial inclusion through digital platforms and its alignment with global and national evidence. (H1) Platform coverage and functional depth $\uparrow \rightarrow$ inclusion indicators $\uparrow$; (H2) mediates digital financial literacy as a platform $\rightarrow$ use link; (H3) Confidence in cybersecurity increases the intensity of the impact.

Conceptual-analytical design. The article uses multidimensional operationalization: (i) FI — Inclusion Index (account availability, active usage, digital payment share, access to credit); (ii) PC — platform coverage (MAU/population, functional modules, API integrations); (iii) FL — Digital Financial Literacy (Knowledge-Behavior-Trust Sub-Indices); (iv) TR — Trust/Cybersecurity Signals; (v) RPI — Remote Payment Intensity (Frequency $\times$ Diversification).

Literature and information. Global evidence was compiled from World Bank Global Findex 2021, BIS/CPMI and FSB's G20 Cross-border Payments Roadmap, OECD/INFE Financial Literacy Reports 2023–2025, GSMA 2024–2025 indicators for mobile money; at the national level, open data on payment systems statistics and instant payments platform (Instant Payments) of the Central Bank of Uzbekistan were analyzed. Analytical framework. Platform Coverage $\rightarrow$ (FL; TR) $\rightarrow$ RPI $\rightarrow$ (digital footprint, credit history) $\rightarrow$ theoretical propositions on the FI chain were developed; Political implications, such as education-by-design, FPS-interlinking, and tariff transparency, were issued.

Global dynamics: digital payments and mobile money. The Findex 2021 figures confirm the "gateway to entry" function of digital payments: many people have opened an account for the first time to receive government payments without payroll, followed by access to savings and credit services. The mobile money ecosystem, on the other hand, has entered the maturity stage in 2024, with a global transaction value



approaching ~1.4 trillion USD (registered wallets are in the range of 1.7–2.0 billion, active months are growing sharply).

According to the BIS/CPMI materials, FPS interlinking 2024–2025 has become a priority on the G20 agenda; Approaches to standardize governance/gavernance models and technical coordination based on ISO 20022 are maturing among governments and operators. This will structurally extend inclusivity by approaching real-time and affordability in P2P/P2M streams.

According to the results of the OECD/INFE International Survey 2023 and the Summarized Analysis 2025, the average index of digital financial literacy is ~53/100; This suggests that digital payments are not enough for conscious and secure use, and therefore that "potential access" is not fully converting to "practical uses". According to the Central Bank of the Republic of Uzbekistan, the volume and volume of transactions within the Instant Payments system is on a stable growth trajectory as of September 2025; Open conclusions are published in the context of banks in the system. In addition, in 2023, the volume of P2P transfers in Uzcard and Humo systems reached 224.3 trillion soums (+56% per annum); This number represents the massification of digital transactions in the domestic payment market.

Synthesis of theoretical theses

- (1) Financial inclusion metrics systematically increase as platform coverage and functionality deepen, however, the marginal rate of this growth decreases after a certain point, and this rate of decline is determined by TR — that is, user trust and cybersecurity conditions.
- (2) Where digital financial literacy (FL) is inadequate, remote payment intensity (RPI) is likely to remain low even with extensive platform coverage; Therefore, to narrow the usage gap, it is necessary to integrate "education-by-design" — micro-modules, contextual instructions, and push-quizzes in the app itself.
- (3) While FPS interconnectivity and ISO 20022-based data unity reduce transaction costs in cross-border payments, user elasticity still remains strongly correlated with the transparency of commissions and tariffs

Political-practical implications

At the level of banking and fintech applications, literacy needs to be implemented in the form of internal modules (micro-lessons, real-time risk alerts) based on the



principle of "education by design". At the same time, interconnecting fast payment networks across regional corridors and the full implementation of the ISO 20022 standard will minimize the cost and speed of P2P/P2M transactions. The regulatory block should standardize and regularly publish national indices (FI, FL, RPI) that meet the Findex/OECD criteria, as well as use the Central Bank's open analytical platform Instant Payments as the base infrastructure. Security—2FA in the direction of trust, anomaly detection and enhanced permissions auditing, clearly showing a trust signal in the user interface strengthens the moderator factor.

The article presented a theoretical-methodical model; Causal identification (instrumental variables, natural experiments) and normalization of indicators are investigated in subsequent studies. SCM/SEM approaches are recommended in the presence of deep microdata (user-level panel) in Uzbekistan.

In conclusion, it should be noted that increasing financial inclusion through digital platforms occurs as a result of synergies between technological (FPS, API, ISO 20022) and behavioral-institutional (literacy, trust, tariff transparency) layers. Global indicators and preliminary evidence for Uzbekistan show that modulating literacy in the platform itself, accelerating interoperability and strengthening tariff transparency, along with platform coverage, are the most effective measures.

References

1. World Bank. (2022). The Global Findex Database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19. Washington, DC: World Bank.
2. BIS – Bank for International Settlements; CPMI; FSB. (2023–2024). G20 Roadmap for Enhancing Cross-border Payments; Linking Fast Payment Systems: governance and technical models.
3. OECD/INFE. (2023, 2025). International Survey of Adult Financial Literacy; Supporting informed and safe use of digital payments. Paris: OECD Publishing.
4. GSMA. (2024–2025). State of the Industry Report on Mobile Money. London: GSMA.
5. Central bank of the Republic of Uzbekistan. (2023–2025). Payment system statistics and open data on "Instant Payments" Tashkent: Official portal of the Central Bank.