Digital & Physical Infrastructure

Poor internet & mobile connectivity

This barrier refers to the **lack of or unreliable access to mobile networks and internet services**, which restricts individuals' ability to use digital financial services consistently and effectively.

Why is this barrier important?

While connectivity continues to expand globally, approximately 350 million people still live in areas without access to mobile internet networks, with gaps most pronounced in low- and middle-income countries and among rural populations and women. Limited or unreliable connectivity constrains consistent use of digital financial services, disrupting transactions, access to account information, and engagement with digital platforms. For women, these constraints can reinforce existing barriers to financial access and usage, particularly where digital channels are the primary entry point into financial systems.

At the same time, unreliable connectivity creates operational challenges for financial service providers, limiting their ability to deliver services consistently, maintain system reliability, and build customer trust. Together, these factors hinder both adoption and sustained use of digital financial services, slowing progress toward meaningful financial inclusion.

Connected Barriers

Product & Market Design
Low scalability of products

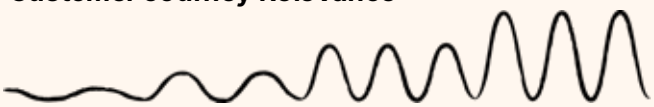
Entry & Capability Barriers
Lack of phone & SIM ownership

Digital & Physical Infrastructure
Unreliable payment system & network
Poor digital & foundational ID infrastructure
High mobile internet cost
Lack of inclusive instant payment systems
Lack of diversity in distribution channels

Most Relevant Segments

1	2	3	4
Excluded, marginalized	Excluded, high potential	Included, underserved	Included Not underserved

Customer Journey Relevance



Phase 1:	*Phase 2:*	*Phase 3:*	*Phase 4:*
Account Ownership	Basic Account Usage	Active Account Usage	Economic Empowerment

IMPACT

Women's World Banking

Digital & Physical Infrastructure

Key evidence relevant to this barrier

Evidence shows that unreliable connectivity affects not only users but also financial service providers, increasing operational risks through failed or delayed transactions, system downtime, and reduced service reliability. ***These disruptions can undermine customer confidence in digital financial services, with disproportionate effects on women, who may have less prior experience with digital tools and lower tolerance for failed or uncertain transactions.*** As a result, both gaps in coverage and instability in service quality limit adoption, sustained use, and trust in digital financial systems.

The lack of connectivity and unreliable network quality remain significant constraints to digital financial inclusion.

- Mobile internet connectivity varies widely, with 95% of those without access living in LMICs. In these countries, rural adults are 28% less likely than urban residents to use mobile internet, and women are 15% less likely than men. Connectivity is lowest in least developed countries, landlocked developing countries, and small island development states. (GSMA, 2024)
- Mobile connectivity experience is one of the top three barriers to further use in most GSMA survey countries for male and female mobile internet users. This is related to either slow connections, connections dropping frequently, or a lack of overall coverage. People can experience connectivity challenges for several reasons. For example, in most survey countries, 4G coverage exceeds 85%, but a significant proportion of internet users still use a feature phone or a 3G smartphone, which limits their connectivity experience. Network performance may also play a role. (GSMA, 2025)
- Respondents reported that the main reasons to choose a mobile money provider are based on having a better network quality/coverage and the reputation of the mobile providers (37%). (IPA, 2021)
- A 2025 survey of financial services providers found that 37% of institutions identified this barrier as a significant challenge to serving women customers. (Women's World Banking, 2026)
- Sub-Saharan Africa remains the region with the lowest connectivity levels and largest coverage gap. Mobile connectivity is highest in Southern and Western Africa at around 30%, and lowest in Central Africa at 19%. (GSMA, 2024)
- A 2024 Uganda survey ranked "poor mobile network" as the main barrier. Female users reported that weak signals frequently delay or interrupt transactions, forcing them to restart or give up. For example, one woman said, "when withdrawing money [the transaction] can fail... it says connection error". Such long delays are untenable, especially for time-sensitive needs, and cause women to avoid mobile channels. (AfricaNenda, 2024)

Connectivity disruptions directly affect the performance of digital financial services and impose significant operational and financial costs on providers, including delayed transactions, service interruptions, and reduced system reliability.

- Just over 72% of Kenyan mobile banking users surveyed in FSD Kenya's FinAccess Household Survey cited the "inability to access account through mobile/internet banking/ATM/system downtime" as a challenge. (FSD Kenya, 2021)
- Nigeria grapples with unreliable power supply, limited internet connectivity in remote areas, and inadequate point of sale (POS) terminals, which all hamper consistency among digital payment platform operations. (Imhodibie, 2025)
- Poor connectivity can be a barrier for women customers. In Nigeria, Women's World Banking research found that women rely on SMS confirmations as proof of deposits made through agents, making reliable network access very important. (Women's World Banking, 2014)

Key evidence relevant to this barrier

- Recent studies indicate that technical failures – not just user skills or social norms – drive many women back to cash. In rural India, network and system reliability problems were top barriers to UPI (Unified Payment Interface) and other digital payments. For example, a survey of 40 rural consumers in Himachal Pradesh found poor internet connectivity to be the biggest obstacle to UPI usage. The study emphasizes that addressing server failures is critical: "reducing UPI downtime and technical failures will enhance user experience," since unreliable transactions push people away. (Aishwarya, 2025)
- Research on financial sector infrastructure shows that network outages and degraded connectivity directly affect the performance of business-critical applications and services, disrupting digital banking, payments, and customer-facing platforms. Because financial services increasingly rely on interconnected digital systems and third-party providers, even localized connectivity issues can interrupt service delivery and reduce reliability for end users. (CISC 2024)
- Evidence from industry studies shows that outages and connectivity disruptions impose significant operational and financial costs on financial institutions, including lost transactions, delayed payments, and reduced system performance. Even short periods of downtime can result in substantial financial losses and undermine customer trust, highlighting the operational risks associated with unreliable connectivity. (Asian Banking and Finance 2025)

When mobile networks are unavailable or unreliable, digital financial services become inconsistent and difficult to use. Even where coverage exists, frequent outages and weak connectivity disrupt transactions, limit access to account information, and erode trust in digital channels. These challenges are most acute in rural and underserved areas, where women are more likely to rely on local markets and mobile-based services. Addressing this barrier requires both expanding network coverage and designing financial services that can function reliably in low- or no-connectivity environments.

- **Collaborate with mobile network operators (MNOs), fintechs, and government agencies** to expand mobile coverage in underserved rural areas. Partner with telecom providers to improve network reliability and service quality, particularly in locations where financial transactions are most affected by outages.
- **Design financial products that function on low-bandwidth channels and basic phones**, reducing reliance on smartphones and high-speed data. This includes expanding the use of USSD, SMS, and voice services for core transactions.
- **Design financial services that can work offline**, such as batch reconciliation or via Bluetooth device, to ensure payments, deposits, or account updates are not interrupted by network failures. This can be especially valuable for rural or low-connectivity regions where women are more likely to transact in local markets.
- **Offer Wi-Fi in physical branch locations**. This approach is relatively low-cost for FSPs but can have a significant impact on adoption, especially for rural or low-income women who often cite affordability and connectivity as barriers to digital finance.
- **Develop inclusive policies and innovative business models** that expand internet and mobile connectivity in underserved and rural areas. FSPs, governments, and telecom providers should build community partnerships and invest jointly in infrastructure, ensuring that rural populations are not left behind in the digital revolution. (lessons from the Internet para Todos Program)