

# THE ROLE OF TELECOMMUNICATION SECTORS IN FINTECH ADOPTION IN AFGHANISTAN'S BANKING SECTOR

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**Abstract.** Telecom infrastructure and financial technology (FinTech) are jointly shaping the future of banking and financial inclusion worldwide. FinTech, namely mobile and digital payments, offers a potential route to greater inclusion and efficiency in unstable environments like Afghanistan, where political instability, restricted banking access, and low literacy are common. However, dependable telecommunications networks, supportive laws, and public confidence are essential for the long-term adoption of FinTech. This article examines Afghanistan's banking and telecommunications environment, highlighting its unique opportunities and challenges. The example of Malaysia, a nation that has quickly grown digital finance through coordinated telecommunications investments, open rules, and inclusion initiatives, is then used to make comparisons. We examine the interdependence between telecoms and fintech in Afghanistan, highlighting potential opportunities (such as digital remittances, mobile money, and migrant finance) and identifying constraints (such as connectivity and regulatory gaps, and low trust) based on the literature and current information. The article concludes with evidence-based suggestions for Afghanistan, including targeted literacy initiatives, modernizing regulations (fintech sandbox, e-money licensing), integrating digital identity/customer identification, strategic telecom investment (ubiquitous broadband), and consumer protection measures. The study concludes that Afghanistan must adopt a coordinated "digital infrastructure, policy-trust" strategy, as exemplified by Malaysia, to close the financial inclusion gap and build a more robust banking industry.

**Keywords:** *Afghanistan, telecoms, FinTech, banking sector Afghanistan, mobile money, regulation*

## Introduction

Digital financial services have transformed how people in developing economies access banking and payments. Digital financial services, made possible by recent fintech developments in the financial sector, have had a tremendous impact on emerging economies and developing nations. Without physical branches, consumers may save, pay their bills, and send money through mobile banking and e-money platforms (Basnayake et al., 2024; Munachi et al., 2024; Feyen et al., 2021; Khera et al., 2021; Manyika et al., 2016). Though these services rely fundamentally on telecommunications, without appropriate mobile coverage, internet access, or devices, FinTech cannot effectively reach its users (Mothobi and Kebotsamang, 2024). In Afghanistan, years of war and political instability have slowed the growth of the banking sector, and formal financial services remain inaccessible to most citizens. As of 2021, only about 10 percent of adults had a bank or mobile money account (Zaheer, 2023). Afghanistan's financial system is now mainly cash-based, a practice that is both essential and historically common. Years of war, frequent cash shortages, and outrages such as the infamous Kabul Bank crisis have seriously stunned public confidence in formal banking. For most Afghans, the idea of returning to the bank is more likely a risk due to security concerns (Azadi and Siddique, 2024; McLeod, 2016; Boone, 2011).

Despite this, mobile connectivity has grown swiftly and, by early 2025, is likely to reach nearly 51 percent of the population (Kemp, 2025). Telecommunication is not just about communication; it is the foundation of modern financial systems, social inclusion, and resilience. Mobile money, enabled by telecommunications, is transforming economies, reducing inequalities, and expanding opportunities around the world (Magwedere and Marozva, 2025; Asongu and Le Roux, 2024; Atta-Aidoo et al., 2024; Inoue, 2024; Asongu, 2023; GSMA, 2023). The rapid growth of mobile networks in Afghanistan is one of the most encouraging steps toward improving access to financial services. With supportive, forward-looking policies and regulations, mobile platforms can offer people safer and more convenient ways to save money, receive payments, and access basic banking services without a physical bank branch nearby. However, improvement depends on reliable network coverage, affordable phones and data, strong regulation, and local security and situations, all of which shape people's trust in digital channels (Magwedere and Marozva, 2025; Nazari, 2025). Mobile connectivity has just become the backbone of financial inclusion for many in Afghanistan. Indeed, Afghanistan has a long-term commitment: sufficient income and mobile networks will enable millions of financially excluded people to connect and transform their lives in many ways. Constraints remain due to some uncertainty. This article examines the connection between telecommunications infrastructure and fintech adoption in Afghanistan's banking sector. It reviews Afghanistan's current telecommunications connectivity and its operating environment, and examines how these factors enable or hinder innovations such as mobile payments or e-wallets.

As Afghanistan's financial system rebuilds amid challenging and uncertain circumstances, its situation can be compared to other emerging economies. This study draws insights from the Malaysian experience. Malaysia has rapidly achieved near-global digital connectivity and has implemented robust fintech initiatives, including e-wallets and digital banking licenses. Its well-coordinated public-private strategy and transparent regulatory structure provide helpful guidance for Afghanistan's fractured financial environment.

### ***Literature review***

Fintech significantly enhances financial facilities and inclusion in low-income countries. To demonstrate, Kenya's M-Pesa was launched in 2007 by Safaricom, a mobile money transfer service that enabled users to send and receive money via their phones. By 2023, M-Pesa had over 51 million active users and processed transactions worth over \$50 billion annually, accounting for nearly a quarter of Kenya's GDP (WEM, 2025). Besides, mobile money and digital payments have a strong positive impact on women's savings, access to credit, and economic empowerment in emerging markets. However, outcomes depend on the policy and technological environment (Slotta, 2025; Lian, 2022). Telecommunication has been repeatedly cited as a key factor in digital financial empowerment (Mothobi and Kebotsamang, 2024). The affordability of smartphones and mobile broadband access is essential for the effective implementation of mobile banking. Hence, digital finance plays a vital role in enhancing access, utilization, and quality of financial services in developing countries. The use of these platforms has been associated with a positive impact on economic growth and people's well-being (Mothobi and Kebotsamang, 2024; Perlman and Wechsler, 2019).

Likewise, internet infrastructure and affordability, given that the highest correlation coefficients are found between digital payment-making and internet usage levels

(Antonijević et al., 2023). Hence, Internet penetration is strongly correlated with higher account ownership and digital payment usage (Antonijević et al., 2023). On the other hand, countries with poor connectivity tend to lag behind in fintech adoption (Warokka et al., 2025). According to the GSMA (2023), Afghanistan ranks low globally in the Mobile Connectivity Index, reflecting low smartphone usage and network access. The overall score is well below 35, placing it among the countries with the least conducive environments for mobile internet, which reflects low smartphone usage and limited network access. Though rural access is still a challenge, Uzbekistan and Kyrgyzstan are steadily progressing, expanding e-government, digital infrastructure, and cashless payments; Tajikistan is making progress, especially in digital finance; however, high internet costs, slow speeds, and poor infrastructure are impeding broader transformation; and Kazakhstan stands out as a regional digital leader, with strong e-government services, smart cities, and a growing influence in regional digital cooperation. Central Asia shows a range of digital development trajectories, from rapid progress to significant limitations. Turkmenistan lags far behind due to limited internet access, tight government control, weak infrastructure, and low international engagement, which keep it isolated from the global digital economy (Ali, 2024).

In early 2025, a total of 22.3 million mobile phone connections were active in Afghanistan, equivalent to 51.6 percent of the total population. While some of these connections may only provide voice and SMS services, others may not include internet access. Therefore, 13.2 million Afghans were internet users in early 2025, which translates to a 30.5% online penetration rate (Kemp, 2025). However, almost all Malaysians have access to the internet, which highlights the existing access gap. As a result, Malaysia has the second-highest internet penetration rate in Southeast Asia. As of 2022, about 94% of the population was connected to the internet. This is not surprising, as Malaysia has one of the best internet access and infrastructure in the region, not only through broadband internet connections, but in the same year, it is estimated that 89% of Malaysians had access to mobile internet via their smartphones (Slotta, 2025). At the same time, even minimal access to technology, if properly regulated, can improve people's and women's financial empowerment and control (WFPUN, 2025; 2024). Hence, the literature suggests that the Afghanistan case is a serious one, but not exceptional. The question is how to apply lessons learned from other developing fintech ecosystems while adapting to Afghanistan's unique security and social conditions.

### **Malaysia**

Malaysia is highlighted as a digital finance success story among emerging markets, supported by strong connectivity, supportive policy frameworks, and extensive adoption of digital financial services. Malaysia has long had high internet penetration and digital adoption rates. In 2023, 97.1% of populated areas had access to 4G mobile broadband coverage, and approximately 96.4% of households had internet access (Gong, 2025). The main focus of this transformation is Bank Negara Malaysia's Financial Sector plan 2022-2026, which explicitly prioritizes the digitalization of the financial sector by strengthening digital infrastructure, expanding open data ecosystems, and fostering innovation through the development of fintech and regulatory environments with the aim of accelerating the adoption of digital financial solutions (BNM, 2022). Malaysia has achieved near-universal digital connectivity. As of 2023, 97.1% of populated areas had access to 4G mobile broadband, and 96.4% of households used the internet (Kemp, 2023; Wong, 2023). The National Fiber and Connectivity Plan (NFCP) and Digital

Agenda (MyDIGITAL) included partnerships to expand fiber and 4G connectivity, even in rural areas. By ensuring that both urban and rural Malaysia have extensive 4G coverage, the government laid the groundwork for all digital services. Banks and fintech companies can assume that a high percentage of customers are reachable via mobile or web. With this, consider the budget 2026, accelerating Malaysia's digital transformation for all (INTAN, 2025; MyDIGITAL, 2025). Malaysia had 43.3 million active mobile phone connections as of early 2025, which accounted for 121% of the country's total population. However, keep in mind that some of these connections may lack internet access, while others may only provide voice and SMS services. As a result, 34.9 million Malaysians were internet users, representing an online penetration rate of 97.7% (Kemp, 2025).

Therefore, mobile banking and e-wallet applications are common, and Malaysians often use mobile phones for government services, shopping, and payments. Mobile banking will overtake internet banking as the financial channel within five years, reaching 2025. In other words, Malaysia is rapidly becoming mobile-centric. Nearly three in five people have used digital payments in the past three months. Younger Malaysians continue to be the most passionate adopters of the technology, with e-wallet usage highest among 25–34-year-olds, where almost two in three use 11% increase in the use of online bank transfers among the 35-44 age group, indicating a broader demographic shift towards digital banking (MalayMail Web Portal, 2025). For regulatory support, Bank Negara Malaysia plays a practical role in advancing digital finance by setting clear, business-friendly rules and working closely with industry players. The launch of national digital banking licenses and e-payment standards made digital services more affordable, secure, and easy to use. Government inducements and strong data protection have encouraged people to trust and adopt e-wallets in their daily lives. Malaysia has focused on financial inclusion and trust beyond technology, helping people feel comfortable using digital payments. Programs like e-Belia have combined financial education with small incentives, while the national identity card MyKad has made it easier to open an account. Consistent regulation and a stable banking system have built public trust and encouraged many Malaysians to regularly use digital payments (Teo, 2025; FNM, 2022; BNM, 2020).

## Materials and Methods

This study adopts a qualitative, relative approach, drawing on secondary data. By building on existing material for Afghanistan's Fintech, supplemented by a comprehensive review of recent scholarly articles, industry reports, and some reputable news sources. This study specifically examines the interplay and vital role of telecommunications and Fintech in the context of Afghanistan, and draws on insights from Malaysia's experience with selection: Malaysia was chosen for its success with similar economic and social stratification and a proactive FinTech agenda that provides facilities for the country. An extensive review of the existing literature was conducted to examine the evolution of the Malaysian fintech landscape and to extract insights relevant to the Afghan context. Academic journals, policy frameworks, regulatory reports, and industry analyses were systematically reviewed, with particular attention to fintech innovation, telecommunications development, and internet penetration trends. These aspects of literature provide a comprehensive picture of how digital financial ecosystems emerge and mature within supportive institutional and infrastructural

environments. So, the Malaysian experience is reviewed not only as a case of technological advancement, rather, it is a broader process shaped by coordinated public policies, sustained investment in digital infrastructure, and increased user adoption of digital financial services. Previous studies highlight the role of regulatory transparency, public-private partnerships, and widespread connectivity in fostering trust and accelerating adoption across sectors.

## **Results and Discussion**

### ***Afghanistan banking and telecom landscape***

Afghanistan's banking sector is strengthened by the Central Bank of Afghanistan (DAB), established in 1939, which regulates monetary policy, issues the national currency (Afghanis), and supervises all licensed financial institutions in the country. There are currently 12 licensed banks operating in Afghanistan. This includes three state-owned banks, seven private commercial banks, and two branches of foreign banks, all of which are supervised by the Afghanistan Bank. Popular names in this group include Afghan National Bank, Pashtun Bank, Kabul New Bank, Afghanistan International Bank (AIB), Azizi Bank, Ghazanfar Bank, and Afghan United Bank (DAB, 2025). Afghanistan's banking sector remains small and fragile, and its banking system is still developing and expanding (Barrai and Jweied, 2025). A World Bank report from mid-2023 shows that only about 10% of Afghan adults have a bank account or use mobile money, a figure that is well below the global average (Zaheer, 2023). Nearly 85 percent of adults in Afghanistan are financially deprived and do not have an account with a formal financial institution, a rate significantly higher than the average for low-income countries and among the highest rates globally. Financial deprivation is caused by limited access points, high costs of financial services, products that do not meet the needs of low-income households, security challenges, cultural and religious factors, low trust in the financial system, and poor financial literacy. These barriers disproportionately affect women, with only 7 percent of Afghan women having a bank account compared to 23 percent of men (Zaheer, 2023; DAB, 2020).

To address these challenges, Da Afghanistan Bank (DAB), with technical assistance from the World Bank, launched the National Financial Inclusion Strategy (NFIS) for 2020-2024 in September 2019. The strategy aims to reduce financial exclusion by about 15 percent through the expansion and diversification of financial services, improving access to finance for small and medium-sized enterprises and the agricultural sector, strengthening consumer protection, and promoting digital financial services. Through strong coordination between public and private stakeholders and effective implementation, NFIS aims to double account ownership so that 27 percent of Afghan adults, including more women, have access to formal financial accounts, thereby contributing to economic growth and public welfare (Zaheer, 2023). Afghanistan's fintech sector is still in its infancy, but it has the potential to advance financial inclusion. Only a small number of startups face systemic challenges such as poor connectivity and low financial literacy.

### ***Challenges to FinTech adoption in Afghanistan***

Lack of infrastructure is a challenge, as rural Afghanistan is plagued by unreliable telecommunications and electricity. In parts of the country, mobile phone coverage has

fallen below 50 percent, and frequent outages disrupt service (BCM, 2025). This not only limits user access but also deters investors; for example, a fintech startup cannot guarantee service continuity if towers go down due to fuel shortages or conflict. Even in cities, internet bandwidth is often insufficient for smartphone apps. The digital divide is also gendered: many young people in rural areas often lack phones or access to them due to cultural constraints. Thus, without fundamental improvements in connectivity, any fintech solution will only reach a limited elite. Moreover, cybersecurity and trust are other challenges, as Afghanistan's banking sector has a legacy of mistrust. The collapse of Kabul Bank in 2010–11 (fraudulent loans, government bailout) made citizens cautious of formal banks (World Bank, 2024). After the Kabul Bank crisis, people became more cautious about the financial system, and their concerns extended even to everyday services, such as using ATMs and the risk of fraud. In addition, Afghanistan lacks a credit bureau and a strong consumer protection agency, so the risk of fraud is high. As one report noted, low awareness and trust, and limited digital and financial literacy, can be barriers to the adoption of financial technology. People are worried about fraud, unauthorized withdrawals, and losing money due to an unstable currency. This psychological barrier is reinforced by the Taliban-era habit of hoarding cash. Overcoming such distrust requires both strong security measures and confidence-building (e.g., official guarantees or community endorsements).

Due to regulatory gaps and institutional capacity constraints, a comprehensive legal framework for digital finance is lacking. There are no clear laws for mobile money services, e-wallet providers, or fintech companies. The Central Bank of Afghanistan has issued draft "e-money" regulations and memoranda of understanding with telecoms, but these are at an early stage. A fragmented regulatory environment means that some fintech players operate in gray areas. For example, before the Taliban takeover, Roshan Pay operated on a private basis rather than under an official license. This uncertainty discourages entrepreneurship and foreign partnerships. In addition, Afghanistan's regulatory capacity is limited due to brain drain: few local officials have experience in modern payment systems. Mobile money providers operate under temporary licenses. This uncertainty stifles innovation. In addition, economic and political instability are other challenges. Long-lasting conflict and macroeconomic pressures make long-term planning difficult. High inflation and exchange rate fluctuations can erode the value of digital assets. Sanctions and banking isolation mean that Afghan banks cannot easily settle foreign transactions, a major obstacle to cross-border remittances and foreign fintech partnerships. Perhaps most international payment networks (SWIFT, Visa/MasterCard) have limited access to Afghan banks due to these concerns. This not only limits remittances through formal channels but also makes every day digital purchases (e.g., e-commerce, overseas study fees) almost impossible. Any fintech strategy must grapple with these geopolitical constraints.

Literacy barriers are also a challenge, meaning that a large segment of the population may not be accessible by typical FinTech solutions that require reading or a legal ID. Furthermore, financial and technical literacy is low. Therefore, user training and simple user interfaces are crucial, but difficult to implement at scale. Failure to address these gaps will lead to distrust and inequality in access. In addition, another challenge for fintech in Afghanistan is the country's limited financial system. There are few banks and financial services, and payment options are underdeveloped, so many people cannot easily access formal financial services. Fintech relies on a connected network of banks,

digital payments, and user trust, but this network is weak in Afghanistan. As a result, new digital financial solutions often struggle to reach those who need them most.

### ***Opportunities for growth***

Despite the obstacles, there are several high-impact opportunities for fintech advancement in Afghanistan. These opportunities can serve as entry points for rapid improvements, such as expanding mobile money. A simple step is to fully utilize existing mobile networks for payments. One approach, therefore, is to promote partnerships between mobile network operators (MNOs) and banks, enabling operators to work with the country's banks to deploy a mobile wallet with broad interoperability. Even if this is limited to basic features (balance checking, fund transfers, credit top-ups), it would be a significant improvement over cash. This would create a broad agent network (they already have stores selling SIM cards), and these agents could be used to log in and deposit/withdraw cash. Certainly, the WFP pilot showed that mobile wallets can be used on basic feature phones; beneficiaries used SMS and USSD technology in a closed pilot to receive cash aid (WFPUN, 2024). Scaling such pilots (with government or NGO aid funding) could stimulate familiarity and trust. Alongside, Afghanistan has a large expatriate population. Currently, much of the remittance flow goes through costly remittance networks. A formal digital remittance platform (mobile or web) could reduce costs and speed up delivery and trust. Migrant bonds or savings vehicles (on secure platforms) are also conceptually attractive, as they would channel foreign exchange into development if trust is built. Indeed, Diaspora remittances participation through digital tools could stimulate digital participation and enable foreign exchange flows. As well, simplify digital identity and customer knowledge. If Afghanistan adopts a universal digital identity system (expanding the current Tazkira database with biometrics and possibly embedding chips like Malaysia's MyKad), it will simplify customer knowledge processes for fintechs. A unified digital identity would allow for instant verification over the phone and enable individuals to open e-wallets or accounts remotely. Afghanistan could aim to roll out a (mobile Tazkira) with UN support, which would immediately increase the usable population. Even a phased rollout (initially in urban areas) would greatly reduce the barriers to customer knowledge for providers. Along with public sector payments (digital Aids, Wages), Governments and international organizations provide Millions of dollars in grants and salaries annually. Converting at least some of this to digital payments would facilitate the adoption of this technology. Perhaps, if government employee salaries were paid through mobile phone accounts instead of cash wallets, thousands of workers would be encouraged to use fintech.

In the same way, G2P (government-to-person) payments have dramatically increased account ownership elsewhere. While Afghanistan's economy is informal, there are targeted subsidies (e.g., for oil or food) that could be piloted into digital ones. Besides, leveraging the region and partnerships could benefit from regional cooperation in telecommunications and finance. For example, connecting rural areas to a reliable mobile network or participating in SAARC (South Asia) fintech workshops could bring expertise and possibly investment in infrastructure. China's Belt and Road Initiative includes digital infrastructure; working with China to build fiber optics or 5G towers in Afghanistan is a possible opportunity. In finance, lessons learned from the C5+1 (Central Asia plus other countries) or Islamic Development Bank initiatives could be leveraged. Technical partnerships with Malaysian fintechs or other fintechs that may see Afghanistan as a new market could also be explored. Supporting entrepreneurship and

startups can be another way to encourage small-scale innovation, even under current restrictions. International donors could fund fintech incubators in Kabul, inviting Afghan and expatriate developers to create solutions like payment apps, and Hackathons on topics such as e-wallet design or cash distribution could generate local interest. Ensuring that any fintech startup is Sharia-compliant (e.g., interest-free loans) could be acceptable to officials, who might then allow more flexibility. Likewise, focusing on youth can be another incentive for targeted programs that can further improve their financial inclusion. For example, youth and students should be taught digital literacy in their schools and educational institutions. Malaysia's success shows that when a significant portion of young users adopt e-wallets, the culture changes. Also, radio or television can broadcast segments on the safe use of mobile finance.

Based on the above analysis, this paper proposes the following multi-pronged strategy for Afghanistan's digital finance agenda. These recommendations are derived from international best practices adapted to Afghanistan's realities and are listed thematically: (1) Telecommunications Infrastructure Investment: The government (working with ATRA and authorities) should adopt a national broadband strategy. This could be similar to Malaysia's NCFP (National Fibre and Connectivity Plan), which sets targets for 100% 4G coverage in regional centers by 2023, creates incentives (subsidies or tax breaks for rural masts), and requires operators to expand to underserved areas under a universal service commitment. Consider partnering with China (CPEC infrastructure) or using satellite/television space for long-distance connectivity. Ensure mobile networks prioritize data access, not just voice/SMS. Provide predictable pricing or financing to ensure mobile operators' return on investment. (2) Regulatory Modernization: The Central Bank of Afghanistan (D-Afghanistan Bank) should finalize and promulgate comprehensive regulations for digital finance. (3) Establish a clear FinTech licensing regime, including mobile money operators, e-wallet providers, and digital banking consortia. (4) Set up an innovation sandbox to allow trial of new financial products with provisional approval.

(5) Implement e-money regulations that permit non-bank e-money issuers with minimum capital requirements and oversight. (6) Strengthen the payment system law, which requires basic interoperability, like a common QR code standard, unified switching for transactions, to avoid siloed services. (7) Harmonize telecom and financial regulation: possibly initiate a digital finance unit jointly by ATRA and DAB for coordination. (8) Enforce data privacy and cybersecurity laws, such as Malaysia's Personal Data Protection Act 2010 (PDPA), to protect user information and build trust. (9) Digital Identity and Know Your Customer (KYC Solutions). This is the faster issuance of biometric electronic cards linked to the national ID card (eTazkira). Consider creating a unified digital identity platform to facilitate instant KYC. Encourage fintech companies to use identity databases for privacy-friendly verification. If possible, negotiate with donors for funding to upgrade civil registration systems. A trusted digital ID card will make account opening easier and reduce fraud (lost cards, multiple ID cards). (10) Public-private partnerships (PPP): Encourage banks and telcos to form joint ventures. For example, negotiate partnerships such as an MNO partnering with a bank to share networks and brand representation. The government could underwrite initial investments to provide small grants to cover a mobile money startup's first-year operating costs. Also consider PPPs for payment infrastructure: for example, if DAB modernizes the payment network, license private companies to process payments.

(11) Financial Literacy and Inclusion Programs: Launch national digital literacy campaigns focusing on mobile finance. These could include radio/television programs or community workshops, possibly in schools, mosques, or community centers. Teach how to use e-wallets, check balances, and protect against fraud and scams. Special emphasis should be placed on young people, both men and women, and the rural poor; for example, networks of women-led NGOs could provide training for women (adapted from the UNESCO model of community facilitators). Where appropriate, work with Islamic scholars to reassure the public about the Shariah-compliant nature of fintech (e.g., no hidden fees). In addition, digitize government services: for example, enable electronic payment of utility bills to familiarize citizens with cashless transactions. (12) Consumer Protection and Trust: Create a simple digital financial complaint-handling system. Inform the public about fraud risks and safe practices. Consider an introductory deposit insurance scheme (even a small government-backed fund that guarantees a consumer's account balance up to a certain limit) to protect new users. Public awareness campaigns, such as billboards and radio ads, can emphasize that digital wallets are safe, regulated by the central bank, and convenient. This will gradually build trust. (13) Cybersecurity and Platform Resilience: Command or mandate basic security standards for any licensed fintech service (end-to-end encryption, secure PINs, login times). Regularly test telecom resilience to attacks or outages. Develop contingency plans and Unstructured Supplementary Service Data (USSD) so payments can still be made via SMS in the event of an internet outage. Ensure that emergency telecommunications links (such as military backup lines) are not used to block citizen connectivity. Afghanistan may also seek international technical assistance to build cybersecurity capacity in financial institutions. (14) Engage International Community: Leverage the benefits of international organizations to fund technical assistance and intermediary financing. For example, donors could fund pilot projects such as mobile school vouchers, digital agricultural payments to demonstrate the benefits of fintech. The government may offer tax incentives for foreign fintech companies to work in Afghanistan. FATF and UN groups may provide guidelines on sanctions evasion: channels for processing humanitarian transactions to enable remittances.

## Conclusion

Telecommunications infrastructure is a key player for any expansion of fintech-based banking in Afghanistan. As this study shows, the country's current telecommunications metrics (52 percent mobile penetration, 30 percent internet penetration) severely limit the scale at which people can access mobile financial services. However, Afghanistan is not invincible: other countries with challenging backgrounds have made significant strides in fintech adoption through targeted strategies. Malaysia's near-universal connectivity and supportive regulatory reforms have created one of the most dynamic digital finance ecosystems in Asia. For Afghanistan, the insights are clear. The priority must be to expand and stabilize telecommunications networks: more towers, more spectrum, more affordable data. Without this, no amount of e-wallet technology will reach ordinary Afghans, both urban and rural. At the same time, the regulatory environment needs a major overhaul: digital finance cannot flourish in a legal gray area. Creating a transparent fintech framework (even an interim one) will encourage investment and innovation, as Malaysia's digital banking licensing has done. Building a digital identity infrastructure will facilitate the entry of millions of citizens who were

previously unable to access it. Importantly, all of this must be accompanied by trust-building and participation efforts. Afghans have already seen financial promises broken; governments and international partners must work to ensure that new systems are seen as trustworthy and useful. Reaching out to young people, urban and rural communities, is essential to prevent the existing digital divide from widening. Programs such as digital cash for education as piloted by UNICEF or microinsurance payments via mobile phones could show their true value.

Lastly, Afghanistan's banking sector can leverage FinTech to drive inclusion and efficiency, but only if it is built on a strong telecommunications foundation. The Malaysian case shows that strategic investment, coherent policy, and public trust can turn connectivity into growth. If Afghan leaders adopt a similarly comprehensive digital financial strategy, one that aligns infrastructure upgrades with regulation and literacy efforts, the country could close its financial inclusion gap. This would strengthen the resilience of the Afghan economy, making it better able to withstand future shocks and integrate into the global financial system. The path will be difficult, but international experience shows that it is possible with a coordinated and sustained effort.

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### **Conflict of interest**

The authors confirm that there is no conflict of interest involve with any parties in this research study.

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