

Enhancing the social handprint of financial service providers:

Using blockchain to foster financial inclusion

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Table of Contents

3 Executive Summary

8 Financial Inclusion and Blockchain Technology

20 Introducing the Global Financial Inclusion Framework: A New Way to Measure and Improve your Social Handprint

30 Insights from the Framework: Assessing Gaps and Evaluating Blockchain's Impact in Four countries

36 Looking Ahead: Priorities for the Blockchain Industry

39 Annex

83 Endnotes

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An illustrative example of the importance of financial inclusion: A woman had moved to the U.S. to provide a better life for her family in her native country. After she succeeded in finding a job, a crisis struck – her son in her native country became gravely ill, and she needed to urgently send money home for medical care. Unfortunately, the traditional methods to send remittances required long wait times and extensive travel for her family to withdraw funds. Fortunately, she found a solution that used public blockchain networks to transfer funds quicker, cheaper, and to more convenient cash in/cash out locations. She not only solved her crisis, but she and her family now use that payment solution to send and receive payments on a regular basis and explore other financial services.

1 | Executive Summary

Financial inclusion, or access to and use of essential financial services, remains a significant global challenge for billions. Financial service providers are increasingly interested in understanding their social handprint – or their impact on society – both to understand their potential contribution to financial inclusion and broader economic development as well as to drive sustained business growth. Blockchain technology may help spur new financial solutions to achieve a positive social handprint while also achieving positive business outcomes. As with any technological innovation, the need for robust governance and responsible design principles are key to successful implementation. This paper presents a framework to assess a financial solution's capability to contribute to financial inclusion and implement steps to improve performance. The paper also outlines insights on specific areas public blockchain networks are well suited to fill in gaps from traditional finance solutions, and suggested priorities for the blockchain industry to enhance its social handprint.

Financial Inclusion and the 'Social Handprint'

1.4B+
people lack access to essential financial services

Financial inclusion remains a significant challenge, with over 1.4 billion people (24% of the world's adult population) lacking access to essential financial services.[1] Essential financial services – payments, savings, credit – are a key enabler of many development goals, including poverty reduction, improved health outcomes, and economic development. However, many financially underserved populations do not have access to high quality or trustworthy financial solutions, and struggle to achieve financial health or improve their economic opportunities.

Financial inclusion is a journey that starts with access to financial services. Access is a prerequisite to increase the usage of a wide range of financial services that meet the needs of the financially underserved. Digital financial services (DFS), particularly mobile money, has expanded access to a range of services (e.g., sending money, making payments, storing money, receiving loans) to most people with a mobile device.



A financial service provider's social handprint – or impact on society – can contribute to financial inclusion, economic development and drive sustained business growth. Financial service providers can improve their social handprint by offering solutions in ways that can help address aspects of financial inclusion and also support economic development. A focus on a positive social handprint can also help companies find new markets, catalyze innovation and drive business growth. For example, mobile money has increased access for many underserved while creating many profitable new business models for financial service providers.

Financial Inclusion and Blockchain Technology

The proliferation of innovative services on public blockchain networks has spurred new solutions with positive social handprints. Two innovations in public blockchains – stablecoins and cash ramps (which facilitate exchanges between fiat currency and cryptocurrency) – have enabled fast and affordable payment use cases, including across borders and between a variety of real-world and digital assets. For example, financially underserved populations can now use low-cost blockchain-powered payment services that employ stablecoins to convert between currencies and cash on/off ramps to facilitate cash withdrawals. Similar solutions can be found in savings, investment, and credit use cases.

Traditional financial service providers are also successfully integrating public blockchain networks to better meet the needs of the financially underserved. In some cases, augmenting traditional finance processes with blockchain has allowed for providers to offer more innovative services, reduce costs, and improve the user experience. Interviews with a variety of international organizations, financial service companies, and subject matter experts indicated that successful use cases often use public blockchains in the background, where the user is not aware that blockchain is facilitating the process.

Assessing your Social Handprint: Introducing the Global Financial Inclusion Framework

PwC was commissioned by the Stellar Development Foundation to develop a global financial inclusion framework ("the Framework") to understand and assess the factors that render services or products financially inclusive. Financial inclusion is context dependent, with the specific needs and barriers of financially underserved varying by region and demographics. The Framework provides a flexible way to assess how a financial solution contributes to financial inclusion in that specific local context. The Framework also identifies 'value parameters' – the main criteria that help determine how well a financial solution fosters financial inclusion. These value parameters are grouped in four main dimensions: Access, Quality, Trust, and Usage. The first three dimensions – access, quality, and trust – can be used to design for inclusion, while the fourth dimension – usage – measures a solution's potential for impact.

Value Parameters


Access


Quality


Trust


Usage

Financial service providers can use our global financial inclusion framework to assess and enhance their social handprint. The Framework aims to recognize possible performance gaps within these value parameters to improve a financial solution's ability to meet the needs of the financially underserved. The assessment methodology also provides options for quantitative metrics that can be used to measure progress or contribution to national or global financial inclusion goals. The Annex (Section 6) includes an implementation guide to detail the process of conducting an assessment.

Insights from the Framework

An analysis of financial solutions conducted in four countries (Argentina, Colombia, Kenya, and the Philippines) found that blockchain technology demonstrated the ability to fill in gaps of traditional solutions for financially underserved populations.

Financial Inclusion Dimension	Insights of How Blockchain Addressed Financial Inclusion Barriers
Access 	1. **Increasing access by reducing costs:** Affordability remains a key barrier for many financially underserved. For several payment and savings solutions, blockchain-powered solutions eliminate manual points of settlement in favor of decentralized consensus, resulting in lower all-in costs to the user compared with traditional financial solutions. For example, a sample of 12 blockchain-powered payments solutions assessed across the four countries offered transaction fees of 0-1% for cross-border remittances compared to average fees of 2.7-3.5% for traditional finance institutions (fee presented for sending money between the U.S. and studied markets).[2]
Quality 	2. **Providing innovative solutions that meet local needs:** Financial services should be tailored to the local context to address specific barriers to financial inclusion. Blockchain technology often offers new opportunities for innovative solutions. For example, based on PwC research, stablecoin based wallets in Argentina are providing savers with a digital asset that hedges against inflation. 3. **Increasing speed of payments:** By reducing the number of intermediaries and simplifying transfer processes, decentralized public blockchain networks can settle cross-border payment in seconds. This speed provides significant value to the financially underserved, who need quick access to funds for daily and emergency expenses. For example, several stablecoin-based remittance providers between the U.S. and Columbia settle transactions virtually instantly, compared with average cross-border wire transfers of several days. 4. **Providing interoperable solutions with traditional payment infrastructure:** Financial solutions often do not integrate across platforms, technologies and assets, posing barriers for businesses and individuals to provide or access different payment or savings services. With protocols establishing a universal set of rules for all on-network transactions, public blockchain networks enable interoperability between on-network applications and digital assets. For example, some payment solutions leveraged the ability of public blockchain networks to connect to traditional payment infrastructure through regulated financial institutions on the network. This allowed users of these solutions to seamlessly move value between various financial service providers, assets types, and blockchain applications.
Trust 	5. **Improving security and privacy by design:** Distrust in financial institutions is a significant barrier to financial inclusion, often due to inconsistent security and privacy feature implementation by financial service providers. Utilizing advanced cryptography and secure consensus protocols, public blockchain networks are designed in such a way that makes it nearly impossible for malicious actors to tamper with network data. Some blockchain-powered corporate payments providers enable merchants to reliably and accurately keep track of their payments in real-time. Other blockchain-powered solutions use private keys for 'self-custody', allowing users to directly own and control their data and digital assets.

While many new blockchain-focused entrants demonstrate the ability to increase access and provide higher quality services for some use cases, they still have room to improve in building trust by exhibiting responsible and consistent governance practices. Interviews with blockchain solution providers and subject matter experts confirmed that building trust is the most critical challenge they face in increasing usage. Today, this is in part reflected by some solutions displaying a lack of corporate governance, limited time in market, and inconsistent data collection practices rather than the inherent capabilities of a public blockchain network. It may take time and additional support for companies building on blockchain to establish an ecosystem of stakeholders that can foster local and institutional trust.

Looking Ahead: Priorities for the Blockchain Industry

1. **Build innovative solutions that help solve barriers to financial inclusion, particularly around access, to enhance individual and collective social handprint.** Access to digital payments solutions often serve as an entrypoint to other essential financial services. The Framework outlined in this paper provides a blueprint for companies to assess and improve their social handprint by identifying areas to develop solutions that better meet specific needs of the financially underserved.

2. **Work with traditional financial institutions to leverage blockchain technology to its fullest potential to support financial inclusion.** Traditional financial services can enhance their social handprint by responsibly incorporating blockchain technology to improve the affordability, speed, interoperability, and transparency of their solutions. Blockchain-native solutions can also enhance their social handprint by leveraging the large user base or physical locations of traditional financial services.

3. **Work collaboratively with governments to build trust through improving security, privacy, transparency, and corporate governance.** The industry can work with policymakers on regulations for key areas of public blockchain that foster financial inclusion. Effective regulation can foster innovation and trust in good solutions to help keep out bad actors while protecting consumers.

4. **Promote education to stakeholders on the specific ways in which public blockchain networks contribute to financial inclusion.** As with technologies, public blockchain networks can be used in ways that both contribute to and detract from broader societal goals. By better articulating the cases where blockchain-powered solutions are solving problems for the financially underserved, financial service providers can foster greater trust from stakeholders, including users, financial institutions and governments.



2 | Financial Inclusion and Blockchain Technology

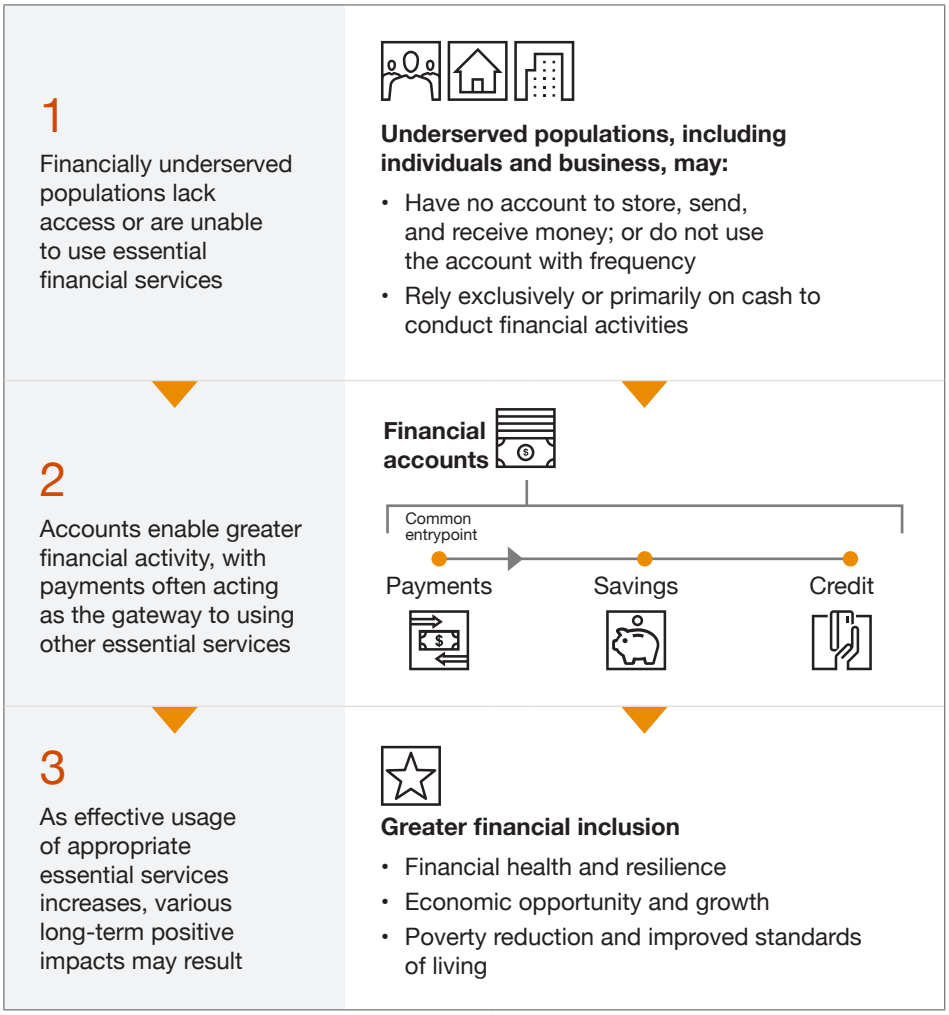
Financial inclusion remains a significant global challenge, with over 1.4 billion people lacking access to an account or essential financial services.[3] A financial service provider's social handprint – or impact on society – can contribute to financial inclusion, economic development and drive business growth. The growth and adoption of digital financial services (DFS), particularly digital payments, are rapidly expanding access to financial services for underserved populations. The increasing adoption of blockchain technology by traditional financial institutions, driven in part by innovative services on public blockchain networks, are resulting in new solutions with demonstrated success in contributing to financial inclusion.

The challenge and opportunity

What is financial inclusion, and why is access so important?

White Paper Definition of Financial Inclusion: Financial inclusion means people and businesses have access to and use essential financial services. Financial solutions should be high quality and trustworthy, thus promoting greater usage of services such as payments, savings, and credit.

FIGURE 1: High-level journey towards greater financial inclusion and impact





24%
(1.4B adults)
of the global adult population do not have accounts or access to essential financial services

Financial inclusion is a journey towards greater access to – and use of – essential financial services by financially underserved populations. The financial inclusion journey often starts with access to a basic financial account, enabling account owners to store, send, and receive money. Payment services, which facilitate transactions like remittances or receiving government payments and wages, are typically the first way in which accounts are used. Accounts also support savings and investments, which enable households to create a safety net and invest for the future. Through accounts and financial history, individuals and businesses may be able to borrow money to start or expand business operations.[4] Such financial services should be used in a consistent and effective manner to achieve longer-term financial goals.

While tremendous progress has been made, 1.4 billion still lack access to an account – and thus access to essential financial services. In 2021, the World Bank Global Findex survey reported 24% of the global adult population, or 1.4 billion adults, do not have accounts. The vast majority of underserved adults live in developing economies. The poor, women, rural populations, and those who are less educated are more likely to lack access to accounts.[5]

TABLE 1: Number of people and percentage who have not used financial services[6]

Financial service	Developing economies	High-income economies	World
Do not own account	~1.37B (29%)	~0.041B (4%)	~1.39B (24%)
Have not made or received a digital payment	~2.04B (43%)	~0.051B (5%)	~2.08B (36%)
Have not saved at a financial institution or using a mobile money account	~3.55B (75%)	~0.42B (42%)	~3.99B (69%)
Have not borrowed any money from a financial institution or using a mobile money account	~3.65B (77%)	~0.45B (44%)	~4.10B (71%)

Although obstacles to accessing and using financial services differ across countries and populations, cost, distance, and documentation are consistently cited as the top reasons people remain underserved. By understanding the barriers to financial inclusion reported by underserved populations, financial service providers can better design their solutions to facilitate greater access and usage – for example by providing solutions that are more affordable or more conveniently located. Commonly cited barriers to account ownership in developing countries identified by Findex and other country-level financial inclusion surveys include:

TABLE 2: Common barriers to financial inclusion reported by underserved populations in developing economies

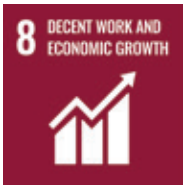
Dimension	Barrier
Access 	Financial solutions are too expensive (e.g., processing fees)
	Financial solutions are too far/physical access locations are inconvenient
	Lack of internet or mobile phone required for digital access
	Lack of necessary documentation and identification
	Lack of money/insufficient funds, or lack of sufficient collateral
	Problems with past banking or credit history (e.g., low credit score)
Quality 	Lack of suitable/satisfactory solutions, leading to reliance on informal services
	Low numeracy and financial literacy skills
	Lack of familiarity, confidence, or digital literacy to engage with digital financial solutions
	Language barriers
	Cultural/religious barriers (e.g., Islamic banking)
Trust 	Lack of trust and privacy concerns

Why is financial inclusion important?

Financial inclusion is a key driver of global development outcomes, such as the UN's Sustainable Development Goals (SDGs). The first SDG – ending extreme poverty – explicitly mentions the importance of access to financial services, enabling the poor to better manage daily expenses, invest in the future, and both climb and stay out of poverty.

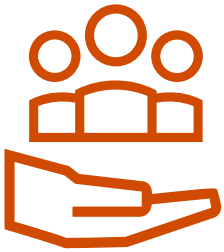
TABLE 3: How financial inclusion supports the SDGs[7]

Select SDGs	Role of essential financial services
	Remittance payments are a key source of income for many low-income populations. Savings and investment in business ventures, education, or other growth opportunities opens up economic opportunities.
	Credit helps smooth seasonal income and buy inputs (e.g., fertilizer). Efficient payments are also lowering the cost of inputs.
	Savings and credit help better manage medical expenses and bounce back from a health-related crisis.
	Savings help families better plan for and manage education expenditures, such as school fees and tuition.

Select SDGs	Role of essential financial services
	Savings and credit help women assert their economic power and develop financial autonomy, promoting gender equality.
	Financial inclusion is positively associated with macroeconomic growth as it broadens the base of financial intermediation and facilitates the flow of capital towards the most productive uses.
	Credit enables micro, small and medium enterprises to grow their business (the financing gap is estimated to be ~$5 trillion). Efficient payments also help to grow sales and enhance business functions.
	Equal access to essential financial services promotes economic mobility and wealth creation among traditionally disadvantaged or underserved groups.

Financial inclusion also helps drive economic growth by supporting productive investments and building financial resilience. Accounts help owners safely store their money and make productive investments such as in health, education and business. Households and businesses that have access to financial services are better able to withstand financial shocks. Research also shows a positive correlation for financial inclusion with economic growth and poverty alleviation.

Financial inclusion should be part of a larger multi-faceted approach to broader development goals. Financial inclusion itself is not the end goal, but an enabler to many development goals. To effectively promote positive long-term impacts like financial health, financial inclusion efforts should be paired with a holistic set of context-specific strategies that collectively tackle the social, economic, and structural problems that financial services alone simply cannot resolve.



What is a 'social handprint', and how does it relate to financial inclusion and a company's business model?

A company's social handprint represents their impact on society. Similar to a carbon footprint, which looks at the carbon dioxide that a product or service releases in the atmosphere, a "social handprint" looks at the impact that a product or service has on society. This can be both positive or negative, and measured by various social indicators including economic, health, financial, or educational outcomes.

For financial services, their social handprint is primarily represented by their impact on financial inclusion and potential to drive broader economic growth. Financial service providers often have a tremendous impact on society and broader economic growth. When solutions are designed and implemented in ways that can help advance financial inclusion, they can leave behind a positive social handprint by meeting the needs and supporting the goals of financially underserved populations, in a manner that supports balanced economic growth. On the other hand, financial services can also leave behind a negative social handprint by limiting access to their solutions or even having predatory or unfair practices that take advantage of underserved groups.

By demonstrating a positive social handprint, service providers can respond to stakeholder interest and build their 'license to operate'. Stakeholders are increasingly asking financial service providers to measure and track their social handprint. Investors are incorporating social criteria into investment criteria, while policymakers are assessing the risks and benefits of financial technology as they devise appropriate regulation. When service providers engage actively with stakeholders to demonstrate the value of their financial solutions, they can garner greater credibility and trust in their operations.

Financial inclusion also presents an opportunity for financial service providers to enter new markets and achieve sustained business growth. Extending access to previously-untapped market segments creates new revenue streams and diversifies product portfolios. The innovation required to develop, launch, and scale these solutions in an efficient and accessible manner may also lead to competitive advantages in the broader market. For example, mobile money in Kenya revolutionized access to low-cost, quick, on-demand payments, dominating the payments space and pushing traditional banks to respond through mobile services of their own. Innovation propels the market forward as a whole.



The role of public blockchain in financial inclusion

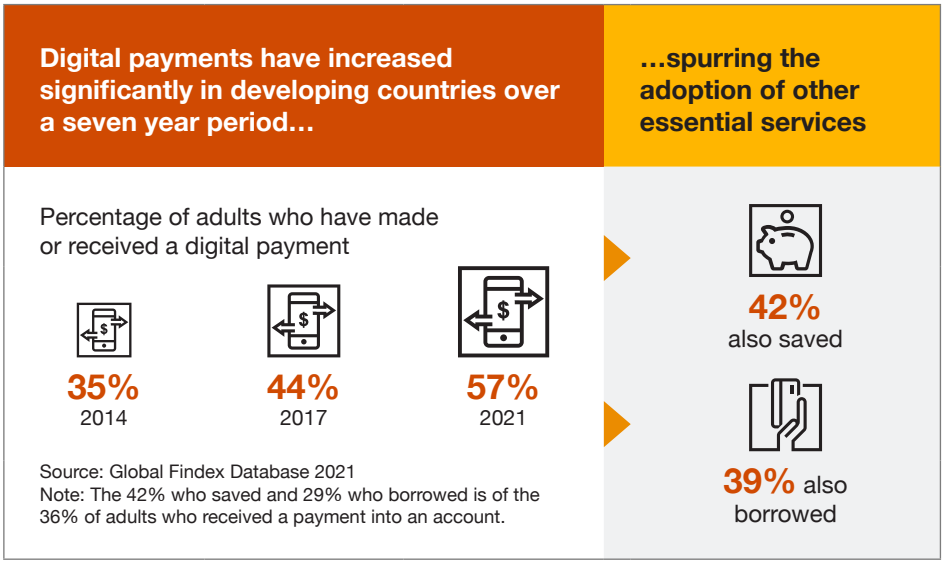
What are key opportunities to foster financial inclusion?

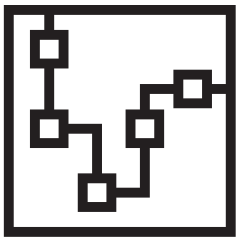
50%+
of adults with an account in Sub-Saharan Africa and South Asia have a mobile phone

The increasing use of digital technologies, particularly mobile money, is facilitating greater access to essential financial services. Mobile money, which offers the ability to send and receive payments using a mobile phone, has revolutionized how individuals previously reliant on cash now transact. In Kenya, for example, more than half of the population actively uses mobile money to pay for groceries, bills, school fees, and transfer money to one another.[8] Similar digital financial services that are accessible through mobile phones – from mobile banking to peer-to-peer payment apps to digital wallets – offer great potential to bring essential services to the underserved. More than half of adults without an account in Sub-Saharan Africa and South Asia have a mobile phone,[9] representing a large untapped market to leapfrog into mobile services that don't necessarily require the internet.[10]

Continued growth in digital payments may promote usage of other essential financial services. In developing economies, individuals who received a digital payment into an account were more likely to store, save, or borrow money (see Figure 2). Once an account is created to make or receive payments, it is relatively easy to store money in it. Almost half of mobile money users also use their account to store money.[11] Financial activity starts to be recorded, creating a history that can support loan applications. Digital payments solutions often serve as a gateway to a broader spectrum of essential financial services.

FIGURE 2: Payments as a gateway: payment users are more likely to save and borrow money





What is public blockchain, and how can it be relevant to financial inclusion?

Public blockchain networks open up new avenues for people to save, spend, and send money. A public 'blockchain' is a decentralized, distributed electronic ledger that uses software algorithms to manage and record transactions across a network of independently-owned computers, called nodes. These nodes work together to validate transactions in 'blocks' of data using consensus protocols. Once the contents of a block are agreed upon, it is cryptographically appended to other blocks in the 'chain', confirming the integrity of the network in the process. Transactions on public blockchain networks often involve an exchange of digital assets between users, who are assigned unique addresses akin to account numbers. In open, permissionless blockchains, digital assets can be minted by any network participant – provided they comply with the network's protocols and can properly add the asset's data to the blockchain. These digital assets come in several flavors which can facilitate various use cases relevant to financial services:

TABLE 4: Types of digital assets and financial use cases

Digital asset type	Description	Typical use cases
Crypto assets	Any digital store of value or medium of exchange (currency) that's stored on the blockchain.	Investments, payments
Stablecoins	A type of cryptocurrency designed for price stability. Stablecoin prices are linked to fiat currencies, commodities or other crypto assets.	Payments, foreign exchange, cross-border payments and transfers, savings (e.g., store of value against inflation)
Central bank digital currencies (CBDCs)	A type of digital asset that represents a nation's fiat currency and is backed by its central bank. As of 2023, only a handful of nations have issued CBDCs, although most countries are studying it.	Payments, cross-border payments and transfers
Security tokens	Digital assets that meet the definition of a security or financial investment, like stocks and bonds.	Tokenized versions of stocks (equity) and bonds, or of real world assets (e.g., real estate)

Public blockchain's properties of decentralized data validation and storage have introduced new processes for conducting financial transactions when compared to traditional financial technology. By providing network participants with access to a public ledger of transactions, data is no longer confined to a privileged set of holders. Blockchain consensus protocols implement a codified set of rules to allow nodes to reach agreement on the state of the ledger, which reduces the constraints of systems that require third-party validation. Public blockchain networks also allow for other systems and applications to build upon these networks, in some cases providing interoperability between the blockchain and traditional financial institutions.

There are different blockchain networks with varying technical features that enhance digital financial services. A fundamental feature of distributed ledgers is that they do not require a central clearing authority to confirm and settle transactions – the shared public database is duplicated across independent computers, with these nodes collectively "voting" on the validity of transactions every few minutes or seconds. However, the technical mechanism by which this consensus is reached can differ by blockchain network, resulting in differing levels of cost, efficiency, and immutability.

The growth of innovative services within public blockchain networks can underpin many recent financial use cases that contribute to financial inclusion: For example, stablecoins have allowed fast, low-cost payments between fiat currencies that reduce intermediaries. Combined with cash on/off ramps, financially underserved populations can now use these low-cost payment services and easily convert into and out of cash. These two innovative services are described in more detail below:

1 **The variety and number of stablecoins has proliferated in recent years.** Nearly 200 different stablecoins are available today, offering users the stability of a variety of traditional fiat currencies while maintaining the benefits of digital assets The largest stablecoins are pegged to the U.S. dollar. Through stablecoins, users can transact and save in the form of fiat currency that may otherwise be unavailable through the local banking system.

2 **The increasing availability of cash on/off ramps is broadening access to digital currencies across different jurisdictions.** Recognizing that physical cash remains an important medium among financially underserved populations in developing countries, cash-to-crypto on ramps or crypto-to-cash off ramps are important for real-world utility. There are hundreds of thousands of these access points utilized by different blockchain networks across the world, with the vast majority in the U.S. but an increasing number in India, Brazil, the Philippines, Spain, and Kenya.[12] These on/off ramps are helping make it easier for the underserved to take advantage of the benefits of both the digital and physical economy.

How is blockchain technology integrating with existing financial services to create new solutions?

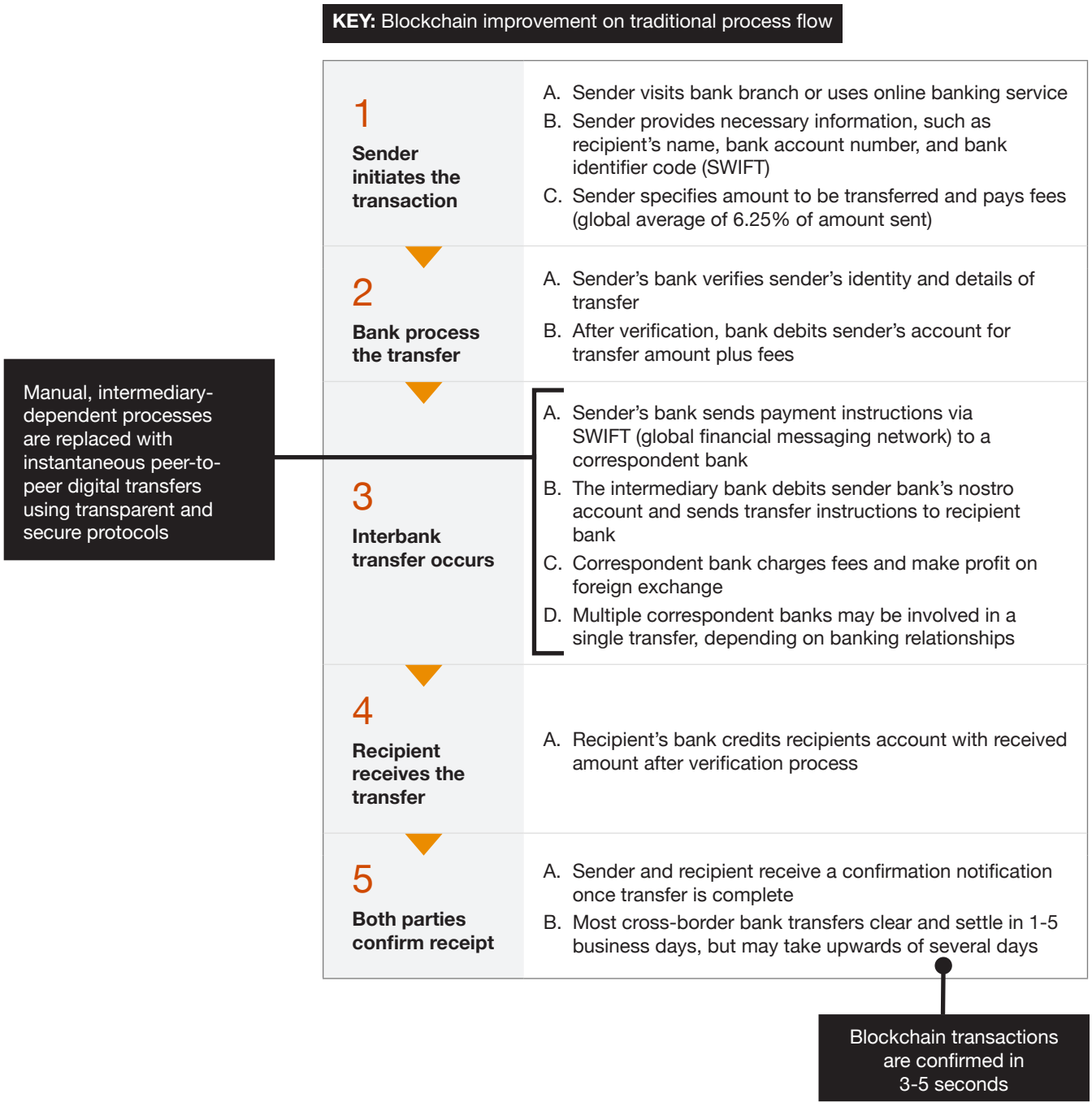
Blockchain has already demonstrated successful real-world use cases, many of them integrated with existing financial services. In addition to solutions that exist entirely within a digital blockchain ecosystem (often called DeFi, or decentralized finance), new solutions are emerging that combine the advantages of blockchain with existing financial infrastructure (e.g., banking systems, credit card networks, payment gateways). Regulated financial institutions, for example, now connect blockchain networks to traditional banking rails to enable the exchange of various fiat currencies and digital assets. This system creates interoperability between disparate domestic and regional payment schemes (e.g., ACH in the U.S., SPEI in Mexico), supporting seamless cross-border payments and the ability to cash in and out/off digital assets through local on/off ramps.[13]

TABLE 5: Financial services and use cases being powered by blockchain

Blockchain-powered use cases	Financial solutions demonstrating use of blockchain and integration with traditional financial services
PAYMENTS	
P2P (Person to Person)	
Cross-border remittances	Multiple financial service providers enable near-instantaneous cross-border payments through the use of stablecoins that can be traded in a global market. Cash on/off ramps enable convenient access to physical cash.
Local (domestic) friends and family payments	A South American financial service provider enables local digital payments, using either a bank account or a digital wallet. The solution leverages on/off ramps to convert cash (deposited at local agents) to digital assets (including stablecoins), and vice versa for withdrawals.
C2B (Consumer to Business)	
E-commerce	A financial service provider offers a near-instantaneous payment solution that integrates blockchain-powered C2B payments (using digital assets including stablecoins) with a merchant's existing e-commerce platform.
Bill payments	A North American financial service provider offers a blockchain-powered bill payments solution integrated with conventional platforms, allowing users to pay bills using digital assets (e.g., stablecoins).
Micro/nano payments for entrepreneurs	A financial service provider enables nano and micro payments for goods and content that traditional payment technology cannot facilitate due to cost-prohibitive fee structures.
B2C (Business to Consumer)	
Payroll disbursements	A North American financial service provider provides a payroll solution that offers employees the choice of receiving wages in either digital assets (e.g. stablecoins) deposited into a digital wallet, or via direct deposit into a bank account.
B2B (Business to Business)	
Company payments/ invoicing	A European financial service provider offers fast and auditable digital payment solutions for business accounts, with features such as browser-based invoicing, accounting, payment management tools, and integration with traditional payment solutions.
G2C (Government to Consumer)	
Humanitarian aid and social welfare benefits	A leading US financial institution streamlines government transfers by integrating blockchain-based payment options with existing traditional finance processes, providing funds to citizens with or without access to a bank account.
SAVINGS AND INVESTMENT	
Savings accounts	A cryptocurrency platform offers a digital wallet hosted on a blockchain network. Users can save using stablecoins as a store of value; some digital assets even generate yields.
Investment vehicles	A startup uses blockchain technology to provide access to real estate investing. By tokenizing real assets, investors can benefit from decentralization (e.g., smart contracts cut out intermediaries) and faster transactions.
CREDIT	
Personal loans and lines of credit	A credit provider offers mobile-based microloans using alternative credit scoring for risk assessment. The solution has a quick and convenient application process, fast settlements, direct value transfer, and helps users to build credit history by reporting to relevant bureaus.
Business (SME) loans and line of credit	A financial service provider offers digital asset-based working capital, lines of credit, and settlement services to licensed money service businesses. The provider serves as a regulated strategic partner for e-wallets, neobanks, FX providers, digital remittance companies, and payment companies.

As an example, blockchain technology is simplifying the process for remittance flows to reduce cost and time. Traditional cross-border remittances rely on the correspondent banking model, in which intermediary banks handle transactions on behalf of other financial institutions that do not have direct banking relationships with each other. Instead of financial intermediaries, blockchain solutions use cash on/off ramps to allow users to send and receive money in their local currency, reducing costs and time (see Figure 3).

FIGURE 3: TRADITIONAL P2P REMITTANCE PROCESS FLOW WITH BLOCKCHAIN IMPROVEMENTS[14]





3 | Introducing the Global Financial Inclusion Framework: A New Way to Measure and Improve your Social Handprint

Financial service providers are increasingly interested in understanding their social handprint to both drive business growth and demonstrate to stakeholders their contribution to society. Financial service providers can use our global financial inclusion framework to assess and improve their social handprint. The value parameters identified within the Framework – categorized along the dimensions of access, quality, trust, and usage – help determine a solution's ability to foster financial inclusion.





The assessment is a tool to enhance a financial solution's social handprint

Summary of the Framework: Assessing Your Social Handprint

What does the Framework do and who is it for?

Financial inclusion is very context dependent, with the composition of the financially underserved and their specific inclusion needs varying across regions and demographics. Every financially underserved population faces distinct needs and obstacles. For some, a low cost payment solution is the most pressing need, while for others, a savings solution in their language is what they require. The Framework therefore is designed to be flexible to recognize that inclusion challenges and the factors that render services or products financially inclusive differs across populations.

The Framework provides a methodology to assess the capabilities of a financial solution to enhance its social handprint for specific financially underserved populations. The assessment aims to assess how well a solution meets the needs of a specific financially underserved population. It uses 'value parameters' - or the main criteria that determine how well a financial solution fosters financial inclusion. It then identifies gaps within specific parameters in order to prioritize areas for improvement. The assessment also provides options for quantitative metrics related to financial inclusion that can be used to measure progress or relative performance with similar solutions. The metrics can also be used to assess a solution's potential contribution to national or global financial inclusion goals.

The primary audience for the Framework are companies and institutions providing financial services or products ("financial solutions"), particularly those using blockchain technology. These companies may be interested in considering financial inclusion as part of their overall mission, or as a means to serve new customers and markets, or as part of an effort to assess whether existing products and services are addressing financial inclusion needs.



What is the Framework's methodology?

The Framework methodology helps identify key value parameters relevant to helping foster financial inclusion. Financial solutions that have proven successful in meeting needs of underserved populations typically do well in four key dimensions: access, quality, trust, and usage. The methodology identifies specific parameters within each of these dimensions that can be assessed and measured.

The methodology then provides a process to assess gaps within the value parameters to improve the performance of the financial solution. The assessment process outlines steps to measure the solution's performance against a specific target population's needs.

Framework Methodology: Dimensions and Parameters of Value

What are the key dimensions and parameters of value that determine a solution's ability to foster financial inclusion?

Access, quality, trust and usage determine the ability of the solution to foster financial inclusion. Based on a review of the existing literature and evaluation of financial solution products, Table 6 below shows the dimensions of financial inclusion, and the parameters of value for each dimension.

TABLE 6: Dimensions of financial inclusion and usage of each dimension

Dimensions of Financial Inclusion	Parameters of Value	Intended Usage
Access. The ability of individuals, households, and firms to use available financial products and services—given constraints of price, distance, and time/effort	• Affordability • Connectivity • Ease of initiation	**Design for inclusion** Understand whether, and how, financial solutions are designed in a way that advances financial inclusion given identified needs and barriers of excluded populations
Quality The appropriateness and suitability of the financial solutions, including how they are delivered and whether clients are aware/capable of using them	• Suitability and appropriateness • Speed of use • Education • Scalability • Long-term competitiveness	
Trust The degree to which customers can rely on digital financial products and services to be secure, private, transparent, and compliant with applicable regulations	• Security • Privacy • Transparency • Corporate governance	
Usage Whether, and how, clients use financial services—based on observed consumption patterns and customer behavior	• Solution adoption • User engagement • Market impact	**Track outcomes** Understand how a solution is used and its potential for positive impact (e.g., financial health)

The parameters of value indicate key areas where a solution's potential contribution to financial inclusion can be assessed and measured. Financial solutions can be assessed according to each parameter, and performance measured over time (depending on available data).



Parameters of Value for Access

TABLE 7: Parameters of Value for Access

Parameters of value	Definition
Affordability	The extent to which the costs associated with using the financial solution are reasonable for underserved individuals or businesses. Additionally, the cost of using the solution relative to other comparable offerings on the market. *Potential metrics: % of payment fee, $ account fee*
Connectivity	The ease, proximity, and diversity of methods with which a user can access the financial solution, in terms of both digital and physical access (as relevant): **Digital:** the ability of the solution to function and/or be accessed across a range of digital devices and platforms, given different technical requirements and contextual preferences. **Physical:** the proximity and abundance of physical access points, such as bank branches, ATMs, or agent networks, as relevant to the user and use case in question. Depending on the service (e.g., payments, savings), cash in/cash out (CICO) locations may be particularly important if the underserved population predominantly transacts in cash. *Potential metrics: # of CICO locations within relevant target population region*
Ease of initiation	The level of effort required by the user to begin utilizing the solution, such as opening an account/wallet or initiating a transaction. This includes time and information required to sign up. *Potential metrics: Time taken/number of steps required to onboard, # of documentation*



Parameters of Value for Quality

TABLE 8: Parameters of Value for Quality

Parameters of value	Definition
Suitability and appropriateness	The extent to which the solution can accommodate the needs of the underserved population, in both financial terms and the user experience (UX): **Financial:** how the solution caters to and can be personalized to serve a variety of financial situations and user goals relevant to the service, such as a flexible loan repayment schedule for a seasonal farmer or the support for a variety of digital and fiat currencies for a remittance product. **UX:** the ease of use and intuitiveness of the financial solution, i.e., the extent to which the solution offers a well-designed, intuitive user interface with clear instructions and logical process flows that make it easy for first time users among a diverse user base (e.g., different languages, cultures, abilities, literacy) to effectively use the solution *Potential metrics: # of barriers addressed, # of features tailored for target population*
Speed of use	The speed with which the solution completes the financial task once initiated. This includes all the steps necessary to complete the financial task, including any in-person steps (e.g., getting cash from CICO location) *Potential metrics: Time for a payment transaction to be completed, time required for credit approval*
User education	The extent to which the solution promotes financial literacy and helps users with appropriate support required to effectively use the solution. *Potential metrics: # of educational materials available to user*
Scalability	The ability of the solution to scale and successfully serve current and potential users over time. Covers the technical (back-end) and financial aspects that enable a solution to function and stay competitive in an evolving marketplace, including interoperability, energy efficiency and reliability. *Potential metrics: # of payment rails solution connects with, GHG emissions associated with task, % service uptime*
Long-term value	The ability of the solution to deliver value and serve its stakeholders over time. Covers the (financial) value users receive from using the solution, and the value providers receive from offering the solution. *Potential metrics: % profitability of service to provider, $ value to user (relative to leading products)*



Parameters of Value for Trust

TABLE 9: Parameters of Value for Trust

Parameters of value	Definition
Security	The extent to which the solution protects financial information, users, and funds from unauthorized access, fraud, and other potential threats. Threats can include digital threats (e.g., scam, hacking) or physical threats (e.g., harm to users when completing over-the-counter or in-person transactions). *Potential metrics: # security breaches*
Privacy	The extent to which users have control over the personal data collected or generated by the solution, and the extent to which the solution uses, stores, shares, and protects personally-identifiable information with informed consent. Includes adherence to privacy regulations and internal policies. *Potential metrics: # locations where PII is stored*
Transparency	The degree to which the financial solution provides clear, accurate, and accessible information about its processes, fees, terms, and conditions, as well as the underlying transactions and operations – such that users can make informed decisions and have a robust understanding of how the solution functions. This also includes a stated commitment to consumer protections. *Potential metrics: # of disclosures to the user (e.g., fees, data privacy, dispute resolution, risks)*
Corporate governance	The adherence of the service provider to corporate governance and risk management practices that help to guard against risk, promote accountability and ethical conduct, and confirm the provider is able to deliver on its stated commitments to external stakeholders (e.g., consumers, investors). *Potential metrics: # independent Board members, # third party verifications of reserves*



Parameters of Value for Usage

TABLE 10: Parameters of Value for Usage

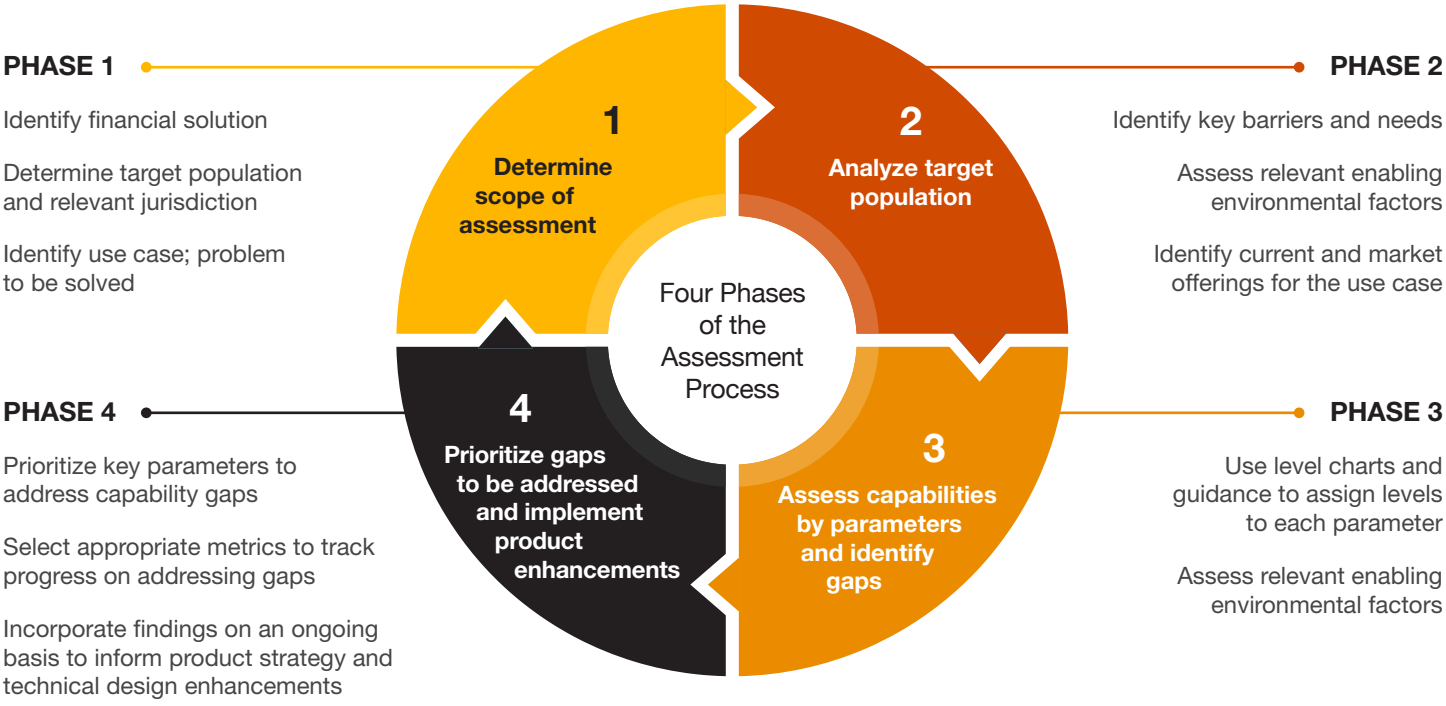
Parameters of value	Definition
Adoption and growth	The overall utilization and adoption of the financial solution, as measured by key performance indicators related to the volume of usage and/or the user growth rate (where possible, disaggregated by underserved populations): *Potential metrics: Total number of users (within target population where possible), User growth rate and net new users, total transaction volume (#) and value ($)*
User engagement	The extent to which the financial service is actively utilized by users, as measured by key performance indicators related to the depth and quality of usage (where possible, disaggregated by underserved users): *Potential metrics: Average regularity and frequency of use*
Market impact	The extent to which the solution positively influences and shapes the broader financial services market, including its impact on competition, market dynamics, and industry practices. Encompasses the effects of the solution on market participants, market structure, and the overall ecosystem. *Potential metrics: $ growth in market, # new competitors, $ reduction in average market fees*

Framework Methodology: Capability Assessment and outputs

What are the steps in conducting a capability assessment

The key steps of the assessment focus on identifying and addressing gaps in a financial solution's ability to meet the needs of a target population. Each financially underserved population(s) faces unique challenges to financial inclusion. The assessment provides a process for identifying these challenges of the target population, the enabling environment, and gaps in current financial solutions on the market. The assessment then looks at how well the solution meets a specific need (e.g., use case) for the target population, and how well it overcomes the unique barriers identified.

FIGURE 4: STEPS IN CONDUCTING A CAPABILITY ASSESSMENT (SEE ANNEX FOR DETAILED INSTRUCTIONS)



The assessment assigns levels for each value parameter based on how well it meets the needs of the target population. For each value parameter, a level is assigned from 1-4 based on the parameter and the type of data available, with "4" the highest score. Some parameters may be judged based against objective criteria (e.g., security). Other parameters may be judged based on how it performs relative to other solutions on the market (e.g., speed of use). Detailed guidance on scoring rubrics and criteria can be found in the Appendix.

TABLE 11: ILLUSTRATIVE LEVEL CHART AND SCORING RUBRIC: AFFORDABILITY PARAMETER WITHIN THE ACCESS DIMENSION

Level 1	Level 2	Level 3	Level 4
Affordability			
High price that may pose a significant financial burden	Moderately priced and relatively affordable	Priced at a lower range, and affordable	Available for free or minimal cost

What are the outputs of the capability assessment?

The assessment provides priorities for companies to improve existing or new solutions and metrics to measure progress. After highlighting and prioritizing parameters with relevant gaps, companies can then develop detailed action plans to address gaps and select metrics to measure progress. Over time, this should improve the usage of their solution within a target population.

Illustrative financial solution assessed

Financial Service
Savings and investment

Use case
Savings account

Jurisdiction
Argentina

Target population
Low income urban Argentinians looking to save in a stable currency

Barriers faced
Low financial literacy, lack of money to meet minimum balance requirements

FIGURE 5: SAMPLE ILLUSTRATIVE ASSESSMENT OUTPUT

Dimension	Dimension Level	Parameter	Parameter Level
Access	2.7	Affordability	3
		Connectivity	3
		Ease of initiation	2
Quality	2.8	Sustainability and appropriateness	3
		Speed of use	3
		Education	2
		Scalability	2
		Long-term value	4
Trust	2.3	Security	2
		Privacy	2
		Transparency	3
		Corporate Governance	2
Usage	3	Solution adoption	3
		User engagement	3
		Market impact	3

= Parameter scoring < 3

Prioritized key parameters to address gaps

Parameter	Current state	What best-in-class looks like
Ease of initiation	Gaps	Opportunities



4 | Insights from the Framework: Assessing Gaps and Evaluating Blockchain's Impact in Four Countries

A study applying the Framework to financial solution providers in four countries (Argentina, Colombia, Kenya and the Philippines) found that blockchain-powered solutions enhanced Access and Quality for financially underserved populations across several use cases. Both traditional and blockchain-powered financial solutions exhibited a lack of trust, commonly cited as a barrier to open an account with a financial institution among studied populations, however blockchain's shortcomings in this dimension were largely due to lack of disclosures and poor corporate governance. Usage remains a gap for today's blockchain-powered solutions primarily due to limited time in market.



Overview of major market gaps and blockchain's role

Where may blockchain technology help advance inclusive capabilities of today's financial solutions?

The global financial inclusion framework was applied to assess a sample of financial solutions in the Philippines, Argentina, Colombia, and Kenya. These countries were prioritized due to their diversity in income, regionality, unique financial inclusion barriers, and evidence of blockchain uptake. As financial inclusion challenges vary significantly between jurisdictions, conducting assessments at the country level can help to define the relevant gaps and possible opportunities specific to each population.

The Global Financial Inclusion Framework was applied to assess a sample of financial solutions in the Philippines, Argentina, Colombia, and Kenya.



Within each jurisdiction, solutions were measured from traditional financial service providers, companies building blockchain-powered solutions, and providers that have bridged the gap between blockchain and traditional finance. Financial solutions were assessed across comparable use cases with relevance towards advancing financial inclusion in the studied market. The study relied on publicly-available data including company websites, public blockchain network statistics, and other market information.

For the financial use cases assessed, solutions that incorporated blockchain demonstrated the strongest capability advancement in the dimensions of access and quality, followed by trust and usage. Blockchain not only helped to reduce transaction costs and improve transaction efficiency, but further enhanced the functionality of financial solutions by enabling interconnected services built upon a shared network. Today's blockchain solutions did not appear to advance the trust dimension significantly - which takes into account security, privacy, transparency and corporate governance - in part due to inconsistent data collection, security and reporting practices. Usage, namely adoption and market impact, remains relatively limited as the technology is still gaining widespread acceptance.

Blockchain technology boasts features of privacy, security, and transparency, so why does it appear challenging to establish trust?

The trust dimension within the Framework places an emphasis on corporate governance, disclosures, and adherence to local regulatory requirements, all of which are meant to safeguard users and establish trust. While blockchain technology often natively includes security, transparency, and privacy-preserving features, many of the blockchain solutions evaluated were provided by companies that have not or are not required to provide additional corporate disclosures, data collection practices, or a history of security breaches. Improving disclosures and corporate governance represents an opportunity for companies providing blockchain-powered solutions to build trust with stakeholders.

Traditional financial institutions often struggle to build and maintain trust, too. In the four studied countries of Argentina, Colombia, Kenya and the Philippines, of those that did not own an account with a financial institution, 25-40% cited lack of trust as a top barrier to opening an account. One of the fundamental challenges facing organizations harnessing blockchain technology is the paradigm shift from enterprise strategy to extraprise strategy. As blockchain is an ecosystem technology, many of the aforementioned considerations may no longer be dictated by a sole organization, rather they may be developed in a collaborative fashion with ecosystem stakeholders. This shift will require innovative new approaches to promoting trust, as laid out in the Framework.

TABLE 12: SUMMARY OF SAMPLE ASSESSMENT USE CASES NOTING EXTENT TO WHICH BLOCKCHAIN MAY ADVANCE FINANCIAL INCLUSION CAPABILITIES WITHIN EACH DIMENSION.

Three arrows (↑↑↑) represents potential for significant impact, sideways arrows (↔) indicate limited to no potential impact

Dimension	Savings accounts in Argentina	Remittances to and from the Philippines	C2B payments in Colombia	Domestic P2P payments in Kenya
Access	↑↑↑	↑↑↑	↑	↑
Quality	↑↑↑	↑↑	↑	↔
Trust	↑↑	↑	↔	↑
Usage	↑	↔	↔	↔

What are key market gaps in financial inclusion that blockchain has been able to address?

Within each studied country, the study identified gaps in the market and ways in which blockchain technology may fill gaps where existing traditional financial solutions may not adequately meet the needs of financially underserved populations. The study found blockchain technology has intrinsic features that are likely well suited to several of the value parameters (see Table 13 below). By performing well in these parameters, blockchain solutions were more likely able to better meet the needs of financially underserved populations.

TABLE 13: HOW BLOCKCHAIN IS HELPING ADDRESS MARKET GAPS

Dimension (Parameter(s))	Market gaps and features needed	How blockchain is helping address the market gap (with examples from assessments)
Access (Affordability)	**Financial solutions are too expensive.** High payment processing fees (e.g., transaction fees, merchant interchange fees) restrict access to and use of payment services	**Blockchain-powered payments eliminate manual points of settlement in favor of decentralized consensus, reducing costs:** • **Payment apps across the four countries:** A sample of 12 blockchain-powered payments solutions assessed across countries offered transaction fees of 0-1% for cross-border remittances compared to average fees of 2.7-3.5% for traditional finance institutions (fee presented for sending money between the U.S. and studied markets).1 • **Digital wallet solutions across the four countries:** A sample of seven blockchain-powered digital wallet solutions had no cost to open accounts, no minimum balance requirements, and no maintenance requirements,[15] compared with traditional Argentinian accounts that typically have fees and minimum balance requirements. Wallet savings solutions also have access to the 'blue dollar' exchange rate in Argentina, which converts USD to pesos at a lower exchange rate when compared to the traditional formal rate. • **Consumer-to-Business tools in Colombia:** Blockchain-powered tools are able to offer 1% fees on transactions, compared with the traditional 2-5% point of sale fees, as a result of a reduction in intermediaries.
Quality (Suitability)	**Solutions do not often meet specific needs of target populations.** Each financially underserved population has unique needs depending upon their particular situation.	**Blockchain-powered solutions enable innovative alternatives to existing limitations in the types of solutions available:** • **Stablecoin-based digital wallet savings in Argentina:** Today's savers in Argentina are limited by flexibility in savings currency options, exchange rates between pesos and USD, and the amount and frequency that can be exchanged. Stablecoin-based savings held in digital wallets on a blockchain network provide Argentinians with a more suitable way to save in a foreign currency and help manage the high inflationary environment

Dimension (Parameter(s))	Market gaps and features needed	How blockchain is helping address the market gap (with examples from assessments)
Quality (Suitability) continued	**Solutions do not often meet specific needs of target populations.** Each financially underserved population has unique needs depending upon their particular situation.	• **Peer-to-Peer remittance tools in Philippines:** Some blockchain-based remittance solutions have partnered with local pawn shops, one of the most common and convenient ways to conduct remittances in the Philippines, to safely transact at thousands of locations located throughout the country. By integrating with existing infrastructure commonly used to conduct traditional financial services in the region, blockchain networks are providing more flexibility in transaction mediums while still meeting customers where they'd like to be met.
Quality (Speed of use)	**Payments often take too long to complete.** For example, cross-border payments can take up to several days to clear and settle, impairing convenience and ease of use. In addition, many financial specialists have working capital needs that require fast payment settlement in order to keep their business operating.	**Blockchain allows for near-instant transaction settlement:** • **Consumer-to-Business payments in Colombia:** Many blockchain-powered solutions settle instantly, compared with traditional online payments and voucher systems. Voucher systems typically are "pay on receipt", and give customers 24 hours to pay in cash for products after delivery, posing liquidity issues for vendors. • **Remittance providers across all jurisdictions:** Many blockchain-powered remittance solutions leverage local on and off ramps to enable payments with the U.S. that can be deposited into digital wallets and bank accounts in just a few seconds. Cross-border transactions using stablecoin can reduce the number of intermediaries. Alternatively, the average cross-border wire transfer can take several days to arrive due to friction in the correspondent banking payments process.
Quality (Scalability)	**Payment solutions do not integrate across platforms, technologies, and assets.** Many businesses require multiple point-of-sale devices and payment processing systems to accommodate different payment methods. Individuals are often limited in who they can send money to, and how. Lock-in to a single service or provider can also adversely impact customer-centricity.	**Public blockchain networks enable interoperability between on-network applications and digital assets:** • **On/off ramps in all jurisdictions:** Many blockchain-powered solutions leverage on/off ramps that connect jurisdiction-specific traditional financial rails to public blockchain networks. By connecting public blockchains with traditional rails, providers of financial services such as cross-border transactions or currency exchanges can offer a variety of payment options that connect cash to digital assets. User accounts and data can also be ported between services and applications that are on the public blockchain network to enable more efficient data collection and maintenance processes, further increasing scalability.

Dimension (Parameter(s))	Market gaps and features needed	How blockchain is helping address the market gap (with examples from assessments)
Trust (Security, Privacy)	**Security and privacy features depend on each service provider's implementation, leading to inconsistent consumer safeguards.** Distrust in financial institutions and the financial system is a significant barrier in many countries. Additionally, new financial technologies are typically met with skepticism and concerns around user privacy and cybersecurity.	**Public blockchains are designed to have an open record of tamper-proof transactions, allowing for traceability of accounts and transactions:** • **Solutions offering self-sovereign digital identities, transparent payments and digital keys in all jurisdictions:** Many blockchain-powered solutions offer self-sovereign digital identities, which give individuals or businesses ownership over the ability to control personal data and other information tied to their accounts. These features are native to many blockchain platforms and establish an additional layer of trust in on-network activity. Many also use private keys for 'self-custody', allowing users to directly own and control their data and digital assets. Some corporate payments providers also enable merchants to reliably and accurately keep track of their payments in real-time.



5 | Looking Ahead: Priorities for the Blockchain Industry

These priorities are meant to serve as the basis for key actions to enhance the blockchain industry's social handprint. They include building innovative solutions for the financially underserved to improve access, work with traditional finance institutions, work collaboratively with governments, and promote communication to all stakeholders.

Priority #1

Build innovative solutions that solve key barriers for the financially underserved - particularly on access- that enhance social handprint.



KEY ACTIONS INCLUDE:

- **Leverage the Framework to understand and measure social handprint:** The Framework provides a plan to help facilitate an intentional approach to financial inclusion through more rigorous assessment.
- **Empower the financially underserved with access:** The financial inclusion journey starts with access, and most often through payments. Blockchain-powered solutions have proven success, particularly in the payments space, to improving access by lowering costs, enhanced connectivity, and making it easier to initiate services.
- **Evaluate the broader impact of solutions on sustainable development goals and economic growth:** Financial solution providers may evaluate and gather data to add to the evidence base on the links between blockchain-powered solutions and positive impact. This includes both how users are directly benefiting from the solution, and potential positive externalities on the community or broader economy.

Priority #2

Work with traditional finance institutions to leverage blockchain technology to help support financial inclusion.

KEY ACTIONS INCLUDE:

- **Identify potential financial institutions for financially underserved populations:** Traditional finance institutions often have solutions that could meet the needs of the financially underserved, but there are barriers related to access, quality or trust. Identifying these finance institutions as potential partners can provide new go-to-market or growth pathways for blockchain-powered solutions that can overcome these barriers.
- **Build creative new relationships:** Depending on the institution, collaborative relationships can take many forms including incorporating blockchain into the background of an existing solution, developing a seamless hand-off between solutions, or designing completely new solutions from the ground up.

Priority #3

Work collaboratively with governments to help build trust:

KEY ACTIONS INCLUDE:

- **Focus on the trust parameters of security, privacy, transparency and corporate governance:** Given the early stage of many blockchain focused companies, there is an opportunity to improve on these dimensions, particularly in corporate governance.
- **Support areas where policy guardrails are important to keep out bad actors and protect consumers:** As blockchain-powered solutions continue to scale, appropriate regulation becomes increasingly important to confirm market participants are putting in place appropriate controls.

Priority #4

Promote education to stakeholders on the specific ways in which public blockchain networks promote financial inclusion.

KEY ACTIONS INCLUDE:

- **Communicate social handprint using the Framework:** Leverage the Framework to communicate relative areas of strength where the solution is overcoming specific barriers of financially underserved populations. Identify usage within financially underserved populations to communicate the positive impact these solutions are making.
- **Communicate evidence and data linking blockchain-powered solutions to financial inclusion, sustainable development and economic growth:** Financial service providers with a positive social handprint can also measure and communicate their contribution to these goals. This provides a basis for dialogue with policymakers and other stakeholders and partners.
- **Promote education efforts for digital and financial literacy:** Communicating the benefits of using essential financial services, as well as the practical knowledge in how to use these services, is a common barrier to financial inclusion. By working together on digital and financial literacy among the financially underserved, the industry can lay the groundwork for adoption of a broader range of blockchain-powered solutions.

6 | Annex

a. Framework Implementation Guide

i. Phase 1: Determine the Scope of the Assessment

ii. Phase 2: Analyze the Target Population

iii. Phase 3: Assess Capabilities by Parameters and Identify Gaps

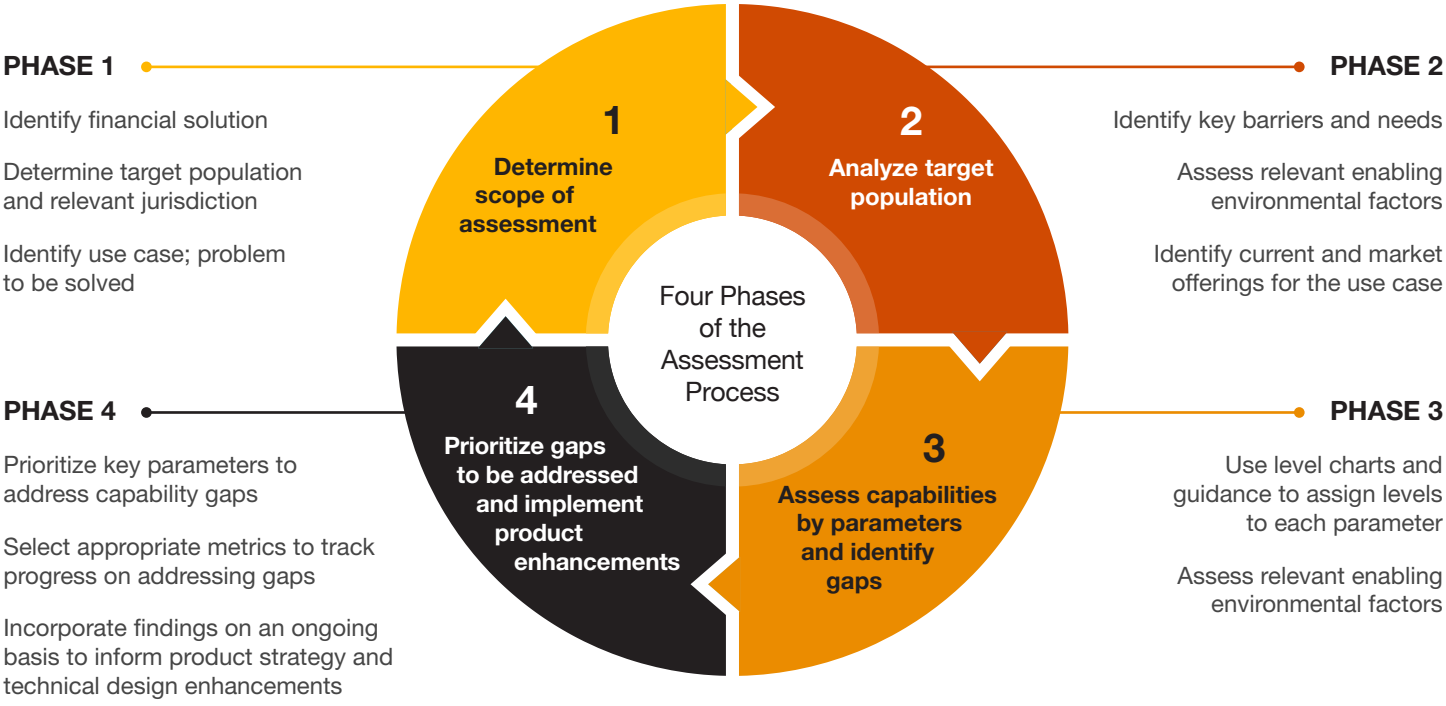
iv. Phase 4: Prioritize Gaps to be Addressed

v. Detailed Rubrics for Capability Assessments

b. Summary of Market Application Guides

6.a. Framework Implementation Guide Overview: The Four Phases of the Assessment Process

The global financial inclusion framework is designed to enable an individual or organization (the "assessor") to conduct an assessment of a financial solution's capabilities to support financial inclusivity of a target population. The assessor should complete four phases to measure the solution's influence on financial inclusion within a specific target population:



1 **Determine the scope of the assessment:** Assessors must identify the financial solution provided, provide a high-level description of the intended target population, and describe the intended use case.

2 **Analyze the target population**: To understand the needs of the target population, the assessor identifies significant barriers pertaining to the financial solution and intended use case, factors within the enabling environment that may influence the population's barriers, and the landscape of current market offerings.

3 **Assess the applicability of the solution provided and identify relevant gaps**: Assessors utilize the detailed parameter rubrics to determine the overall performance of the financial solution by evaluating the solution across the four dimensions of financial inclusion (access, quality, trust, usage) and surfacing any salient gaps/areas for improvement.

4 **Prioritize gaps to be addressed**: Assessors prioritize gaps based on level of importance, create a strategy to address improvement areas, and implement a robust monitoring system to enable progress in relevant areas.

Completion of these four phases may enable assessors to understand capability strengths and gaps towards promoting financial inclusion within the studied financial solution and confirm tangible steps are taken to prioritize improvement areas. Refer below for detailed guidance on each phase, as well as a provided example.

Phase 1 Determine the Scope of the Assessment

Step 1: Define the financial solution provided.

This includes its core objectives and type of financial solution: payments, savings and investment, and credit (see Table 1). The assessor can clarify the basic functionalities of the solution, understanding how customers may access and utilize the service, required technology/infrastructure, customer support challenges, etc. All of this information may be useful when comparing barriers/enabling factors in Phase 2.



Illustrative example: Mobile phone-based payment service. Users need to have sufficient internet access and a national identification card to use the application

TABLE 1: SELECT FINANCIAL SERVICES AND USE CASES

Financial Service	Use Case	
Payments	**P2P**	Cross-border remittances
		Local (domestic) friends and family payments
	C2B	E-commerce
		Bill payments
		Micro/nano payments for entrepreneurs
	B2C	Payroll disbursements
	B2B	Company payments/invoicing
	G2C	Humanitarian aid and social welfare benefits
Savings and Investment	Savings accounts	
	Investment vehicles	
Credit	Personal loans and lines of credit	
	Business (SME) loans and line of credit	

Step 2: Identify the use cases to be assessed.

Within each financial service, there are various use cases that may be relevant to advancing financial inclusion. This can include cross-border remittance facilities, bill payments, savings accounts, investment accounts, loans, etc. as well as any other unique features that differentiate it from other offerings. The assessor should choose one use case to evaluate against the Framework (see Section 2 in body).

Illustrative example: Payments, P2P; Solution involves the transfer of funds or money between individuals directly. Priority reason is for everyday transactions with local vendors for needed services/products.

Step 3: Define the specific target population that the financial solution aims to serve.

This may include regional specifics by country, demographics such as income level, rurality, age, gender, employment status, and any other relevant considerations. Understanding the demographics and financial needs of the target population is essential context for the assessment. Table 2 outlines example categories and demographic characteristics when defining a target population. It is important to note that solutions may serve multiple demographics or communities that may not be financially underserved in addition to these identified groups

Illustrative example: Lower-income individuals in Kenya; Based on Kenya's National Financial Inclusion Strategy, low-income individuals, especially in rural settings, often lack sufficient income and therefore access to affordable financial solutions.

TABLE 2: WAYS TO FURTHER DEFINE FINANCIALLY-UNDERSERVED POPULATIONS

Category	Example demographic/characteristic
Socioeconomic considerations	Lower-income individuals
	Individuals with limited education
	Racial and ethnic minorities
	Women
	Informal, unemployed, or underemployed individuals
	Individuals who may lack financial literacy or resources
	Individuals with disabilities
	Immigrants, migrants, and other displaced peoples
Geographic considerations	Living in rural areas
	Living in conflict-affected or high crime areas
	Living in areas prone to natural disasters
Sector-based classifications (vulnerable to financial risks)	Small-scale farmers or agricultural laborers
	Mining sector workers
	Informal economy workers
	Retail or trade sector workers
Business type	Micro, small, and medium enterprises (MSMEs)
	Entrepreneurs
	Women-owned businesses
	Other vulnerable or informal businesses (e.g., farmer-owned cooperatives, street vendors, home-based service providers)

Phase 2 Analyze the Target Population

Step 1: Identify the challenges and barriers faced by the target population in accessing and utilizing financial services.

While each population faces unique challenges, there are several commonly-cited barriers to financial inclusion (see Table 3). Barriers may vary significantly across different populations. For example, a group of unbanked populations may lack digital literacy and prefer traditional methods of transaction, which may be particularly relevant in areas with low digital penetration. In other cases, lack of money and insufficient funds may be a significant barrier for low-income populations, or migrant populations may lack sufficient identification.

Potential resources for this step: Assessors may engage with target populations directly through surveys, interviews, or focus groups, or leverage other government reports to collect valuable insights into specific needs and pain points of the target population.

Illustrative example: A major challenge of the target population is possessing necessary documentation and identification - 46% of survey respondents cite this as a significant hurdle in opening an account.

TABLE 3: COMMON BARRIERS TO FINANCIAL INCLUSION CITED BY UNDERSERVED INDIVIDUALS AND BUSINESSES

Financial inclusion dimension	Barrier
Access	Financial solutions are too expensive (e.g., bank account fees)
	Financial solutions are too far / bank locations are inconvenient
	Not having a mobile phone or lacking internet access
	Lack of necessary documentation and identification
	Problems with past banking or credit history (e.g., low credit score)
Quality	Lack of suitable solutions, leading to reliance on informal financial services. Suitability can depend on a number of factors, depending on specific consideration of the underserved group.
	Low numeracy and financial literacy skills
	Lack of familiarity, confidence, or digital literacy to engage with digital financial solutions
	Language barriers
Trust	Lack of trust and privacy concerns in the financial solution provider or intermediaries

Step 2: Identify the enabling factors that facilitate or hinder the adoption of the financial solution.

This includes the policy, legal, and regulatory frameworks, infrastructural considerations, as well as socio-cultural norms, each of which influence the ability of solutions to advance financial inclusion. For example, in regions with low internet connectivity, the development of low bandwidth digital products or the provision of additional physical access points might be a necessary consideration to confirm the product is accessible. While these vary across countries, more common barriers within the enabling environment are listed in Table 4.

Potential resources for this step: Assessors may use the market guides, engage with target populations directly through surveys, interviews, or focus groups, or leverage other government reports to collect valuable insights into specific enabling factors in the given context.

Illustrative example: Low mobile phone penetration, low internet speed, and/or limited or unreliable internet connectivity; only 29% of Kenyans use the internet and main obstacles include service outages, expensive services, and variation in accessibility based on rurality as cited by the "Freedom on the Net 2022 Report" by Freedom House.

TABLE 4: COMMON BARRIERS TO FINANCIAL INCLUSION RELATED TO THE ENABLING ENVIRONMENT

Category	Barrier
Policy and regulatory barriers	Weak or inadequate consumer protection laws
	Discriminatory regulations or laws restricting access for certain demographic groups
	Stringent identifications regulations or lack of national ID system
	Lack of supportive policies for financial innovation and digital financial services, including blockchain
Infrastructure barriers	Low mobile phone penetration, low internet speed, and/or limited or unreliable internet connectivity
	Inadequate financial and payment infrastructure (e.g., limited ATMs, banking outlets, mobile money agents)
Data and information barriers	Lack of inclusive credit reporting systems
	Limited access to reliable customer data and insights
Socio-cultural barriers	Discriminatory customs or traditions related to using financial services
	Low levels of financial literacy and awareness
Macro-economic barriers	High levels of poverty
	High rates of inflation

Step 3: Conduct a thorough analysis of current market offerings catering to the target population's needs.

This will involve identifying any existing solutions similar to the one being provided and seeing their strengths/ weaknesses. If similar solutions exist, investigate why they might not have successfully met the needs of the target population. Possible reasons could include inadequate customization for the specific demographic, high fees, lack of trust, or poor accessibility. On the other hand, if no similar solutions exist, explore the reasons behind this gap, such as regulatory challenges, technological limitations, or market perceptions.

Potential resources for this step: Assessors may perform internal competitive intel and marketing research, and third party industry analysis tools to develop an accurate picture of the competitive landscape. Assessors may overlay national financial inclusivity plans and policies in this analysis to identify differentiating features of inclusive tools for the relevant market and compare to existing offerings.

Illustrative example: Traditional banks and fintech solutions in Kenya offer quick fund transfers and cash in cash out capabilities. Additionally, these futures are accessible at low cost. Mobile banking in Kenya usually provides tiered fee services, and while no bank account is required for the user, mobile network operators work with commercial banks on the backend to deliver services. The Kenyan market is dominated by a few players, making entry difficult. Based on PwC analysis, remittance costs between Kenya and Europe and Asia tend to be higher than domestic fees. Given the prevalence of cash in daily transactions, a solution with cash out functionality should perform better than one without.

Phase 3 Assess Capabilities by Parameters and Identify Gaps

Step 1: Choose relevant criteria to evaluate the solution against all parameters within the four dimensions of financial inclusion.

Potential resources for this step: Assessors can read the descriptions for each criteria as well as possible metrics to use contained in the detailed rubrics. Based on this review, they can determine what is suitable for their evaluation given the type of solution provided, intended use case, and local context.

Step 2: Calculate the average of levels across the parameters within each dimension to determine the overall performance across the four dimensions: access, quality, trust, usage.

Aggregate levels may reveal capability gaps and improvement areas across the different dimensions, ultimately leading to opportunities to improve the solution's impact on financial inclusion.

Phase 4 Prioritize gaps to be addressed

Phase 4 is applicable only when the assessor is the solution provider and may influence design decisions of the financial solution.

Step 1: Identify and organize "gaps" by priority level based on their significance and potential impact on financial inclusion.

This may be organized on a high, medium, or low basis, or short-term and long-term objectives. Prioritization may be based on barriers of the target population, abilities of the assessor, and overall goals of the organization.

Potential resources for this step: Assessors may review the results of Phase 3 and determine the more material gaps the solution faces based upon the businesses strategic priorities and the financial inclusion impact of the solution.

Illustrative example: "Transparency" is prioritized as high.
i. Transparency: Received a Level 1. Cost and contract disclosures available to users. However, these disclosures are not easily accessible and data is unclear to users. This can lead to significant lack of trust among the targeted population, which may deter new users and therefore limits the solution's beneficial impact on financial inclusion. The assessor can take practical steps to address these issues and therefore should be prioritized as a high, short-term priority.

Step 2: Define a clear strategy to address prioritized gaps, through monitoring of measurable metrics.

For prioritized gaps, assessors may identify specific opportunities for improvement. These opportunities may correspond with metrics that are aligned with the goals of financial inclusion and the specific parameter. They can either constitute the same metrics as outlined in the detailed rubrics below or other metrics designed by assessors. Chosen metrics should provide meaningful insight into the effectiveness of the solution.

Potential resources for this step: Based on internal review and discussions, assessors define the current state and what works as it relates to the given parameter. Then, analysis of improvement opportunities in comparison to a leading practice may reveal tangible efforts that can be made to improve scoring. This could be based on a score of 4 or "desired end state" as defined by internal leadership. Lastly, assessors may decide which metrics are most suitable for tracking based on the identified improvement areas.

Illustrative example: Improving transparency's score of 1 to 4

ii. **What works:** Cost disclosure contains all relevant information on fees, charges, penalties, and other costs associated with using the solution. The contract disclosure clearly articulates the terms and conditions agreed to by the user.

iii. **Opportunities:** Other disclosures must be publicly accessible including data privacy, dispute resolution, and risks. This creates more transparency around use of the solution as well as enhances trust among users. Additionally, accessibility of these disclosures can be improved by creating clear navigation tools on the Provider's website.

iv. **Metrics to track progress:** Number of disclosures published and document open rate (% open rate)

Step 3: Assign specific roles/responsibilities for implementing strategy and tracking progress.

This helps confirm that the assessment process is well-organized, and accountability is assigned to relevant stakeholders. Dedicated teams can include individuals with expertise in data analysis, project management, product development, and any other relevant areas. Tasks may include data collection and reporting to clearly outline data collection methods and intervals for each identified gap, regular review meetings to discuss the assessment's progress and make informed adjustments, and effective communication channels to keep all stakeholders informed of progress and developments.

Potential resources for this step: Cross functional alignment and cooperation is needed to confirm roles and responsibilities are complete and complementary. Consistent meetings, review, and communication may be needed to understand the best assignment of roles.

Illustrative example: A cross-functional team is formed comprising professionals from different departments such as Legal, Compliance, Product Management, and User Experience. With the primary objective of improving disclosures on the provider's website, the Legal and Compliance departments update and refine privacy policies, risk disclosures, and dispute resolution procedures. They use plain language and clear explanations to make the disclosures more user-friendly and understandable to the general audience. To improve accessibility, the UX specialists improve the website's design to confirm disclosures are readily available and easy to find. The entire team, as well as internal leadership continuously monitor user interactions and feedback to gauge the impact of the changes and identify further areas for potential improvement.

Capability Assessment Detailed Rubrics

The following detailed assessment rubrics are leveraged to perform Phase 3 as outlined above. Dimensions consist of parameters, which in turn possess definitions, evaluation criteria, and possible metrics to measure. For example, one of the parameters in the "access" dimension is "affordability." Affordability is defined as, "The cost of using the solution relative to other offerings on the market. Costs can include cost by transaction type, interest rates, balance requirements, penalties & fees, and other possible hidden costs." Criteria to evaluate the affordability of a solution include "income and affordability analysis" and "competitive landscape." See below for a list of the four dimensions and their respective parameters, criteria, and metrics:



1. Access

1a. Affordability

Definition: The cost of using the solution relative to other offerings on the market. Costs can include cost by transaction type, interest rates, balance requirements, penalties & fees, and other possible hidden costs.

POSSIBLE CRITERIA TO EVALUATE FOR SCORING

Criteria	Description	Sample metrics
Income and Affordability Analysis	**Assessors may evaluate how expensive the solution is considering all-in cost factors.** • This involves reviewing pricing models, fees, transaction costs, subscription plans, or any other associated expenses. • It is important to note not all cost factors may be apparent. For example, minimum balance requirements among savings accounts pose a "cost" to users, especially individuals who are financially constrained. Therefore, assessors must evaluate all potential factors that may be viewed by consumers as a "cost" when evaluating solutions against this criteria. **Costs should be evaluated against relevant income levels and financial flexibility of target populations.** • As determined by national reports, central bank repositories, existing surveys, customer feedback, etc. Certain countries may also publish consumer expectations of pricing for related solutions (Note: this may differ not only between countries, but also between target populations within countries based on demographic characteristics) .	**All** • Average total cost of service **Payments** • % Margin of Payment **Savings** • Interest rate earned • Minimum balance requirements **Credit** • Interest rate charged • Credit score and collateral requirements
Competitive Landscape Assessment	**Assessors may evaluate the pricing of competing or similar solutions used by the target population.** • Industry reports, intelligence platforms, and other potential third-party services may offer these insights if not already known. • Assessors should include competitive solutions that exhibit significant adoption.	

ILLUSTRATIVE EVALUATION OF CRITERIA

Level 1	Level 2	Level 3	Level 4
Income and Affordability Analysis:			
The solution is associated with a high cost that may pose a significant financial burden to users. The price point is prohibitive for many, making it difficult for them to afford or justify the expense.	The solution is moderately priced, making it relatively affordable for users. While there may be some cost involved, it is within a reasonable range for the value provided. Users can reasonably consider the solution without it being a major financial strain.	The solution is priced at a lower range, offering good affordability for users. The cost is accessible and manageable for a broader range of individuals, confirming that it does not create a significant financial barrier.	The solution is either available for free or incurs a minimal cost. It is highly affordable for users, eliminating any financial obstacles for accessing and utilizing the solution. This score indicates the highest level of affordability.
Competitive Landscape Assessment:			
The solution is significantly more expensive than competing solutions within the market. Its pricing poses a notable financial burden to users, making it less affordable compared to alternatives.	The solution is priced at a moderate level compared to other solutions in the market. While there may be some cost involved, it remains within a reasonable range in comparison to competing options, making it relatively competitive within the market.	The solution offers a lower price point compared to other solutions available in the market. It provides good affordability for users, presenting a cost advantage over competing alternatives and making it accessible to a broader range of individuals.	The solution is either available for free or incurs minimal costs compared to competing solutions. It offers a significant affordability advantage, eliminating financial barriers and making it the most accessible option in the market.

1b. Connectivity

Definition: The ease, proximity, and diversity of methods with which a user can access the financial solution, in terms of both digital and physical access:

- Digital: the ability of the solution to function/be accessed across a range of digital devices and platforms, given different technical requirements and contextual preferences.
- Physical: the proximity and abundance of physical access points, such as bank branches, ATMs, or agent networks, as relevant to the user and use case in question. Depending on the service (e.g., payments, savings), cash in/cash out (CICO) locations may be particularly important if the underserved population predominantly transacts in cash.

POSSIBLE CRITERIA TO EVALUATE FOR SCORING

Criteria	Description	Sample metrics
Accessibility of platform/ device to target population	**Assessors may evaluate the accessibility of the solution across major devices and/or platforms used by the target population.** • This may include mobile phones, operating systems, web browsers, etc. • Integration into applications already in use by target populations may promote efficient adoption and use of solutions. This may also benefit other parameters such as ease of initiation, affordability, etc.	• % of target population using the platform the solution is available on • # of integrations (e.g. with social media apps, messaging apps)
Bandwidth requirements	**Assessors may evaluate if a solution operates on lower bandwidth, as this may be ideal for certain populations.** • In areas where access to high-speed internet or unlimited bandwidth is limited or expensive, low-bandwidth may prove more valuable. – Ideal functionalities: checking account balances, make simple transactions, text-based communication (SMS). **In some cases bandwidth may not be an effective criteria to evaluate.** • If the target population resides in urban environments with sufficient access to high-speed internet, high bandwidth may be suitable as it enables multimedia content and can accommodate more data-intensive applications • However, more often than not, target populations may reside in areas where low bandwidth requirements are preferred.	• Internet speed/ bandwidth required for average usage (in mbps)

Criteria	Description	Sample metrics
Evaluation of cash in, cash out ("CICO") points among target population	**If physical access points (branches or CICO locations) are required by target populations, providers should confirm solutions are compatible with them and there are sufficient, accessible locations near target groups.** • Many underserved communities rely on cash in/cash out ("CICO") services. • CICO locations include banks/traditional FI's, mobile money agents, post offices, retail stores, money transfer agents, and microfinance institutions. • How to assess current state/need of physical access points: government reports, inclusion strategies, target population surveys. • Work with CICO locations (e.g. Moneygram, etc.) may enhance accessibility.	• Average distance/ time/cost to nearest CICO • # of CICO's serving of financially-underserved populations

ILLUSTRATIVE EVALUATION OF CRITERIA

Level 1	Level 2	Level 3	Level 4
Appropriateness of platform/device to target population			
The product is not accessible on any major devices/platforms currently used by the target population.	The product is accessible on a few devices/ platforms currently used by the target population.	The product is accessible on most major devices/ platforms currently used by the target population.	The product is optimized for accessibility on all major devices and platforms used by the target population, in addition to being seamlessly integrated into other commonly used applications such as social media apps, messaging apps, etc.
Bandwidth requirements			
The product requires a consistently fast and stable internet connection with substantial bandwidth to function optimally.	The product performs well with a reasonably good internet connection and requires a moderate bandwidth for smooth operation.	The product can function adequately across varying internet speeds, including both low and high bandwidth environments, without significant performance issues.	The product has minimal bandwidth requirements and can operate seamlessly in low-bandwidth environments, making it accessible to users with limited internet access.
Evaluation of cash in, cash out ("CICO") points among target population			
Users have limited options for accessing cash services, as the number of physical locations where transactions can be conducted is very restricted.	Users have a reasonable number of physical locations available to conduct cash transactions, providing some convenience and accessibility.	Users have ample options with numerous physical locations available for cash transactions, resulting in high convenience and accessibility.	Users have access to a large number of physical locations across multiple areas, enabling increased convenience and accessibility.

1c. Ease of Initiation

Definition: The level of effort required by the user to begin utilizing the solution, such as opening an account/wallet or initiating a transaction. Takes into account the simplicity and ease of the sign-up process, the time taken/number of steps required to onboard, the amount of information required from the user (e.g., documentation/identification, email address), and other pre-requisites (e.g., a bank account).

POSSIBLE CRITERIA TO EVALUATE FOR SCORING

Criteria	Description	Sample metrics
Complexity of onboarding process	**Assessors may evaluate the time taken/number of steps required to complete the onboarding process.** • The more complex/time-intensive the solution is, the more difficult it may be for targeted populations to implement. • Initiation tests can measure the time it takes to create new accounts, sign up, etc. This may be compared to competing solutions, industry reports, or existing user surveys. **Assessors may evaluate the perceived difficulty in completing the onboarding process across target populations.** • Clear instructions, FAQ's, and video tutorials may make the onboarding process more efficient and effective. • Consistent user experience (visual elements, navigation patterns, etc.) across devices and platforms used by the target population may promote easier processes. • Where relevant, assistive technologies, user disability accommodations, and translation services may enable easier adoption across user types.	• Average time to initiate (min, hour) • # of steps to start using the solution • User feedback (e.g., customer effort score from "very easy" to "very difficult") • # of user errors and/or # of support tickets/help requests opened • # of users who left a conversion process without completing it
Required Documentation	**Assessors may evaluate documentation requirements for use of financial solutions, as easier obtained, or less, documentation is generally better for financially underserved populations.** • Many may not possess identification documents (e.g. National ID's, driver's license, etc.). • Beyond basic ID, other documentation requirements such as proof of address (utility bill, bank statement, rental agreement) or other financial information (existing bank account details, tax identification numbers, employment information, income verification documents) are even more unlikely. **Assessors may evaluate the ability of the solution to leverage used apps/systems, email sign on, etc. to alleviate documentation hurdles.** • Where signing up via application, only emails may be required for sign up; however, if solution requires cash or linkage to the traditional financial system, users may need some sort of formal identification.	• # of ID requirements (e.g. 2 forms from the following list, etc.) • % of individuals within target population that possess required documentation

ILLUSTRATIVE EVALUATION OF CRITERIA

Level 1	Level 2	Level 3	Level 4
Complexity of onboarding process			
The onboarding process of the solution requires significant effort from the user. There are multiple steps involved or cumbersome procedures that can make it challenging for users to get started.	The onboarding process of the solution requires some effort from the user, but it is relatively manageable. There might be a few steps or requirements that users should fulfill, but they are not overly burdensome.	The onboarding process of the solution is straightforward and requires minimal effort from the user. There are minimal barriers and users can quickly and easily get started without much hassle.	The onboarding process of the solution is effortless for the user. There are no significant barriers or procedural hurdles. Users can start using the solution immediately without any friction or obstacles.
Required Documentation			
Users must provide a significant volume of personal or financial information and complete multiple complex forms or documentation requirements. Many of which may not be available to targeted populations.	Users must provide a reasonable amount of personal or financial information. However, targeted populations likely have the ability to acquire all needed documentation.	Users must provide only essential personal information. The requirements are straightforward and the targeted population already possesses these forms (e.g. national ID)	Users can start using the financial product immediately without providing any documentation or personal information.

2. Quality

2a. Suitability and Appropriateness

Definition: The extent to which the solution can accommodate the needs of the underserved population, in both financial terms and user experience.

- Financial: how the solution caters to and can be personalized to serve a variety of financial situations and user goals relevant to the service, such as a flexible loan repayment schedule for a seasonal farmer or the support for a variety of digital and fiat currencies for a remittance product.
- UX: the ease of use and intuitiveness of the financial solution, i.e., the extent to which the solution offers a well-designed, intuitive user interface with clear instructions and logical process flows that make it easy for first time users among a diverse user base (e.g., different languages, cultures, abilities, literacy) to effectively use the solution.

POSSIBLE CRITERIA TO EVALUATE FOR SCORING

Criteria	Description	Sample metrics
User needs assessment	**Assessors may evaluate if the solution addresses salient needs/ barriers to financial inclusion of the target population.** • This may include lower transaction fees, greater access to CICO locations, more efficient remittance periods, currency conversion capabilities, etc. • All needs may vary based on several demographic and regional factors. • This includes region, age, income levels, employment status, education level, etc. • Identification of prevalent needs may include: analysis of market guides or other external sources, Interviews with representatives of target populations conducted in the past. Construction of financial profiles may help to understand affordability, government working relationships. **Assessors may evaluate the User experience needs of the target population.** • This may include greater educational resources, customization options, numerous supported languages, etc. • Differentiators may include customization/personalization through user preferences, dashboard configuration, personalized financial goal setting, etc. **Assessors may evaluate how well the solution integrates with other financial products/services.** • May address desires for all-in-one products from target populations.	• Addresses main barriers that financially excluded populations may face, based on user surveys (Y/N) • # of CICO locations • # of accessibility features provided • # of languages supported • Compliance with accessibility standards (physical and digital) (Y/N) • User satisfaction, e.g., customer effort score, net promoter score • # of integrations with other financial services (including from other service providers) • Cross-sell ratio: % of customers using more than one financial product/ service

Criteria	Description	Sample metrics
Competitive Landscape Assessment	**Assessors may evaluate the features/capabilities of products currently in the market and how well they address target population needs/barriers.** • Industry reports, intelligence platforms, and other potential third-party services may offer these insights if not already known. • Is the solution unique to these existing solutions or address needs of the target population that existing solutions are incapable of addressing?	• # of solutions with similar purpose compared to provided solution • Reviews of existing solutions (Satisfactory/ Unsatisfactory)

ILLUSTRATIVE EVALUATION OF CRITERIA

Level 1	Level 2	Level 3	Level 4
User needs assessment			
The solution has limited or minimal alignment with user needs and does not enable integration with other financial solutions. It does not adequately address the core requirements or pain points of the target users.	The solution partially addresses user needs, with certain gaps or areas where it falls short, and offers some level of integration with a few financial solutions. It may address some aspects or offer partial solutions to existing pain points, but it does not meet all user requirements or expectations.	The solution demonstrates good suitability by effectively addressing the majority of user needs and is moderately integrated with multiple financial solutions. It aligns well with target population requirements, providing practical and relevant solutions to their pain points. While there may be some minor areas for improvement, overall, the solution adequately meets user needs.	The solution exhibits excellent suitability by fully understanding and addressing user needs, as well as enabling thorough integration with a wide array of financial solutions. It provides comprehensive and tailored solutions that align precisely with user requirements. The solution goes above and beyond in meeting and exceeding user expectations, offering a highly suitable and improved experience.
Competitive Landscape Assessment:			
The solution does not effectively address the needs of the target population compared to competing solutions. It lacks essential features and functionalities that users require, while competing solutions offer superior solutions.	The solution partially addresses some user needs but falls short compared to competing solutions. While it offers certain functionalities, there are significant gaps or areas where competitors provide better and more holistic solutions.	The solution demonstrates comparable suitability to meet user needs when compared to competing solutions. It offers features and functionalities on par with competitors, providing a satisfactory level of alignment with user requirements.	The solution excels in addressing the needs of the target population compared to competing solutions. It offers more holistic and tailored solutions, exceeding user expectations and outperforming competitors in meeting user needs.

2b. Speed of Use

Definition: The speed with which the solution completes the financial task once initiated. Examples across each financial service include:

- Payments: the time it takes for a payment transaction to be completed
- Savings: the time it takes for a deposit or withdrawal to be processed; interest posting speed/frequency
- Investment: the time it takes for an investment trade to be executed; after selling an investment, the time it takes for funds to be available
- Credit: the time it takes for loan funds to be disbursed to the borrower once a loan is approved

POSSIBLE CRITERIA TO EVALUATE FOR SCORING

Criteria	Description	Sample metrics
Transaction processing time	**Assessors may evaluate processing times across different financial use cases to enable adequate speed and comparability to industry benchmarks.** • Internal system monitoring and analytics tools can provide insights (application monitoring, log monitoring, distributed tracing, real user monitoring, etc. • Processing speed should be evaluated across different scenarios to confirm consistent performance. • Peak usage periods, high transaction volumes, etc.	**Payments** • Time it takes for a payment transaction to be completed **Savings** • Time it takes for deposit/withdrawal to be processed • Interest posting speed/frequency **Investment** • Time it takes for investment trade to be executed • Time it takes for funds to be available (post sale) **Credit** • Time it takes for loan funds to be disbursed
Competitive Landscape Assessment	**Assessors may evaluate the speed of products currently in the market that are either already used by the target population or emerging.** • Industry reports, intelligence platforms, and other potential third-party services may offer these insights if not already known. • If actual speeds cannot be measured and/or verified, user surveys can discern whether current transaction processing times are an issue to target populations.	

ILLUSTRATIVE EVALUATION OF CRITERIA

Level 1	Level 2	Level 3	Level 4
Transaction Processing Time:			
The solution is associated with significant delays or long processing times, resulting in a slow user experience. Users may encounter extended wait times or encounter multiple steps that impede the speed of completing a transaction or service.	The solution offers a moderate speed of use, where users can reasonably complete transactions or services within a reasonable timeframe. While there might be some minor delays or steps involved, overall, the process is manageable and does not significantly hinder the speed of completion.	The solution provides a fast and efficient user experience, enabling users to complete transactions or services quickly. The process is streamlined, reducing any unnecessary steps or waiting periods. Users can complete their desired actions with relative ease and in a timely manner.	The solution offers an instantaneous user experience, where users can complete transactions or services in real-time or near real-time. The process is designed for immediate execution, confirming minimal to no delays.
Competitive Landscape Assessment:			
The solution's speed of use is significantly slower than other solutions available on the market. Users may experience notable delays or inefficiencies.	The solution's speed of use is somewhat slower than other solutions available on the market. There are some delays or steps that affect the user experience.	The solution's speed of use is on par with other solutions available on the market. It offers a similar level of efficiency and user experience.	The solution's speed of use is faster than other solutions available on the market. Users can complete tasks more quickly and efficiently compared to competing products.

2c. Education

Definition: The extent to which the solution equips its (active or potential) users with the information, knowledge, skills, and support required to effectively use the solution and achieve financial goals and other positive impacts. Can be delivered through a range of channels such as user guides, tutorial videos, in-app guidance, or customer service. Covers product-specific guidance as well as general financial literacy required to make informed decisions when using the service.

POSSIBLE CRITERIA TO EVALUATE FOR SCORING

Criteria	Description	Sample metrics
Availability and usage of financial literacy resources	**Assessors may evaluate if easily accessible educational resources are integrated within user experiences to inform use of solutions.** • This may include tutorials/guides on how effectively to use the solution as well as why target populations consistently use the solution, FAQ's, other knowledge bases that may provide education broader financial topics tangential to the solution provided. • Assessors may also evaluate the extent of real-time educational assistance provided to users. This can include training sessions on specific financial topics, on-demand feedback, etc. • Assessors may evaluate if other financial education resources are provided to promote financial literacy beyond immediate use of the solution. • This may include blogs, in-person training/seminars, etc. **Assessors may evaluate the usage of provided financial education resources by the target population.** • Are provided educational resources being used by the target population? • Are there recurring help tickets/issues from the same users, or help tickets based on the same questions?	• Accessible educational marketing materials detailing features and benefits of the solution (Y/N) • % of support tickets/help requests that are resolved • # or % of users participating in or completing training sessions or educational programs • Financial literacy score of target population

ILLUSTRATIVE EVALUATION OF CRITERIA

Level 1	Level 2	Level 3	Level 4
Availability and usage of financial literacy resources:			
The solution provides minimal educational resources, information, or support to users. There is a lack of comprehensive documentation, tutorials, or guidance, making it difficult for users to acquire the necessary knowledge and skills to effectively use the solution.	The solution offers basic educational resources, such as user manuals or basic tutorials, to help users get started. While some foundational information is provided, there may be room for improvement in terms of depth or accessibility of educational materials.	The solution provides good educational resources, comprehensive documentation, tutorials, and user support. Users have access to well-structured educational materials that cover various aspects of using the solution.	The solution excels in providing excellent education to users. It offers holistic and user-friendly educational resources, interactive tutorials, video guides, and a robust support system. Users are equipped with ongoing support to improve their use of the solution.

2d. Scalability

Definition: The ability of the solution to scale and successfully serve current and potential users over time. Covers the technical (back-end) and financial aspects that enable a solution to function and grow.

POSSIBLE CRITERIA TO EVALUATE FOR SCORING

Criteria	Description	Sample metrics
Infrastructure and technology assessment	**Assessors may evaluate if the solution possesses the necessary underlying systems, architecture, or technologies to support operations and accommodate growth.** • Infrastructure flexibility - can resources be dynamically allocated based on demand? • Hardware/software/network scalability, readiness, load balancing, etc. • Interoperability - can the solution integrate with systems and services commonly used by the target population? • Systems and rails: ACH, SWIFT, Fedwire, other local rails • Stores of value: cash, digital wallets, bank accounts • Other integration: operational integrations between solutions e.g., linking a savings account and credit account for automatic repayments	• Integrated with SWIFT, ACH, and other required rails (Y/N)
Performance assessment	**Assessors may evaluate historical growth, reliability, and overall satisfaction to determine if the solution is viable to scale.** • Transaction volume - how has the solution handled growing transaction volume in the past? Can it handle increasing volumes without sacrificing speed or accuracy? • User Growth Rate - how has user growth rate evolved over time? Has the solution responded to growing user rates efficiently? • Customer feedback - has growth or increased traffic ever corresponded with negative customer reviews due to slowing processes?	• % of time solution is operational and available to users • # of errors during growth periods • CPU, memory, storage utilization

ILLUSTRATIVE EVALUATION OF CRITERIA

Level 1	Level 2	Level 3	Level 4
Infrastructure and technology			
The solution has significant limitations in handling increased workloads and lacks interoperability with other systems. Its infrastructure is rigid and challenging to adapt for growth.	The solution shows some scalability, but improvements are needed to efficiently handle rapid growth and increase interoperability with other systems. Infrastructure flexibility requires enhancement.	The solution demonstrates efficient scalability, adapting well to growing workloads. It exhibits good interoperability with other systems and offers reasonable infrastructure flexibility.	The solution excels in scalability, effortlessly handling substantial growth. It seamlessly integrates with other systems, and its highly flexible infrastructure easily accommodates increasing demands.
Performance and user experience			
The solution shows poor performance and inconsistent user experience during periods of growth. It frequently experiences errors, downtime, and service disruptions, hindering its ability to handle increased user demand effectively.	The solution exhibits acceptable performance under normal conditions, but there have been occasional issues during periods of growth. Some users may experience minor disruptions or slower response times, impacting overall user experience.	The solution demonstrates reliable performance and user experience during most periods of growth. It maintains a high level of uptime and stability, enabling smooth operations and satisfying user expectations.	The solution excels in performance and user experience even during significant periods of growth. It consistently operates at optimal levels, with minimal downtime or errors, providing a seamless and satisfying user experience.

2e. Long-term value

Definition: The ability of the solution to scale and successfully serve current and potential users over time. Covers the technical (back-end) and financial aspects that enable a solution to stay competitive in an evolving marketplace:

Value proposition for users and providers: the (financial) value users receive from using the solution, and the value providers receive from offering the solution. The interplay between these two value propositions contributes to the overall quality and financial sustainability of the solution, enabling it to serve users over time.

POSSIBLE CRITERIA TO EVALUATE FOR SCORING

Criteria	Description	Sample metrics
Market share and dynamics	**Assessors may evaluate if the solution has a significant market share compared to its competitors.** • A higher market share indicates a greater presence/acceptance among the target population, as well as a solution more likely to remain competitive in the long-term. **If the solution has yet to be launched, the assessor may evaluate current market dynamics to assess if dominant players exist and potential room for new entrants.** • If the market is dominated by one or two players, the assessor may evaluate how the solution compares to these.	• % of market held by solution • % of market held by other players
Customer retention	**Assessors may evaluate the ability of the solution to retain existing customers over time.** • High retention indicates users find value in the solution and are satisfied. • Customer satisfaction, personalized services, and continuous improvements are crucial for high customer retention rates. • Efficiency improvements may increase customer retention and promote long-terms success - Inherent transparency provided by blockchain solutions enable streamlining and sustainability by reducing costs which can trickle down to cost-savings for customers.	• Customer satisfaction scores • Customer turnover rates • % of legacy customers vs % new • Efficiency cost savings transferred to customers (Y/N)
Innovation and adaptability	**Assessors may evaluate the ability of the solution to adapt to changing market conditions and user needs.** • Innovation includes introducing novel features, technologies, or services that set the solution apart from competitors. • Adaptability includes responsiveness to emerging challenges and opportunities e.g., regulatory changes, customer expectations, technological advancements, cybersecurity threats, etc.	• Update frequency (annually, monthly, etc.)

ILLUSTRATIVE EVALUATION OF CRITERIA

Level 1	Level 2	Level 3	Level 4
Market share and dynamics			
The solution has minimal or unknown market share, struggling to gain traction in the market. Its presence is limited, and it faces challenges in attracting customers compared to competitors.	The solution maintains a moderate market share, but it faces strong competition from other players. While it has some presence in the market, there is room for improvement to expand its share.	The solution has a substantial and stable market share, demonstrating competitive strength. It competes effectively with other players, but continuous efforts are required to maintain and improve its market position.	The solution possesses a dominant market share or has immense potential to gain majority market share. It outperforms competitors and is a market leader, well-positioned for long-term success and growth in the highly competitive market.
Customer retention			
The solution experiences high churn rates. Users are not staying engaged, and there is a lack of loyalty, leading to significant customer turnover.	The solution demonstrates moderate retention, but there is room for improvement. While some users remain loyal, others may switch to competitors due to certain shortcomings.	The solution exhibits good retention practices, with a satisfactory level of user loyalty. Users tend to stay engaged and satisfied, contributing to a stable customer base.	The solution boasts high user loyalty and low churn rates. Users are consistently engaged and committed to the solution, leading to a strong and loyal customer base.
Innovation and adaptability			
There is little evidence of new features or updates, and the solution appears stagnant compared to more dynamic competitors. This lack of adaptation poses a risk to its long-term competitiveness, as it may fall behind emerging trends and customer demands.	The solution may introduce occasional updates and enhancements, but a more proactive approach is needed to stay competitive. It can cater to some market demands, but failure to keep up with evolving technologies may result in a gradual decline in market relevance.	The solution regularly introduces relevant updates and enhancements, showing an understanding of customer needs and market trends. While it may not be a market leader in innovation, it remains competitive and capable of meeting the evolving demands of its target users.	The solution stays ahead of the competition by actively responding to market demands, embracing emerging technologies, and being a trendsetter in the industry. Its capacity to anticipate and meet future customer needs positions it as a dominant force in the market.

3. Trust

3a. Security

Definition: The extent to which the solution protects financial information, users, and funds from unauthorized access, fraud, and other potential threats. Threats can include digital threats (e.g., scam, hacking) or physical threats (e.g., harm to users when completing over-the-counter or in-person transactions).

POSSIBLE CRITERIA TO EVALUATE FOR SCORING

Criteria	Description	Sample metrics
Installed security measures	**Assessors may evaluate the extent of implemented digital security measures to protect against cyber threats and confirm the safety of sensitive financial data.** • Data encryption: Does the solution possess industry-standard encryption protocols and algorithms to safeguard data integrity and confidentiality? • Secure authentication: Does the solution possess multi-factor authentication, password policies, biometric authentication, hardware tokens, etc.? • Network security: Does the solution possess robust firewall measures, secure network configurations, etc.? **Assessors may evaluate the extent of implementing physical security measures to safeguard infrastructure, data centers, and ensure customer comfort.** • Data center access controls: Does the provider restrict physical access to data centers where sensitive information is stored? • Surveillance and monitoring: Does the provider possess adequate surveillance systems to monitor data centers as well as CICO locations where relevant? • Disaster recovery: Do off-site disaster recovery facilities exist?	• Compliant with industry security standards (Y/N)
Historical security breaches	**Assessors may evaluate the security of their systems by observing historical patterns as it relates to digital and physical security breaches** • Many in underserved financial groups, especially rural communities, distrust digital solutions due to perceived security threats. • Analysis of historical physical security threats at physical access points may inform assessors on safety in various regions.	**All** • # of security breaches or incidents • Compliance with data security standards such as ISO 27001 (Y/N) **Payments/Credit** • # of fraudulent transactions as a % of total **Savings** • $ lost across user accounts

ILLUSTRATIVE EVALUATION OF CRITERIA

Level 1	Level 2	Level 3	Level 4
Installed security measures			
Digital security measures, such as encryption and secure authentication, are compromised, leading to unauthorized access. Additionally, the physical security of data centers and facilities is weak, resulting in breaches and theft.	While some digital security measures are effective, instances of unauthorized access or data breaches due to vulnerabilities occur. Physical security practices should be improved.	Robust digital security measures, including encryption, secure authentication, and continuous monitoring for potential threats exist. Physical security protocols are effective, with restricted access to facilities, data centers,etc.	Leading digital security measures, including strong encryption algorithms, multi-factor authentication, and regular security audits. Physical security practices are thorough, with restricted access, video surveillance, and advanced safeguards.
Historical security breaches			
History of frequent/severe security breaches.	While there have been a few security breaches in the past, the overall security performance is moderate.	Good security track record, only a few minor incidents or none at all.	Robust and proactive security posture, no known security incidents.

3b. Privacy

Definition: The extent to which users have control over the personal data collected or generated by the solution, and the extent to which the solution uses, stores, shares, and protects personally-identifiable information with informed consent. Includes adherence to privacy regulations and internal policies.

POSSIBLE CRITERIA TO EVALUATE FOR SCORING

Criteria	Description	Sample metrics
Data collection practices	**Assessors may evaluate if robust private policies are in place that clearly outline how the provider collects, uses, stores, and shares users' personal information.** • This includes frequent privacy impact assessments, policy reviews, and data protection impact assessments. • The assessor confirms compliance with privacy standards and that personal identifiable information is not shared with any unauthorized organizations. • This may also include informing users on potential signs of phishing attacks and other attempted breaches. **Assessors may evaluate the visibility and prominence of consent mechanisms to confirm users' are fully aware of how information is collected and used.** • Review user interface to enable adequate access and review of privacy/consent preferences, consent records, etc.	• Compliant with privacy standards such as GDPR or CCPA (Y/N) • Personal identifiable information (PII) not shared with other organizations (Y/N)
Historical privacy breaches	**Assessors may evaluate the extent of historical privacy breaches.** • Incidents include unauthorized individuals or entities gaining access to sensitive personal and financial information of users without their consent, or in violation of privacy regulations. • Can include data breaches, phishing attacks, insider threats, third-party data breaches, lost or stolen devices, social engineering, etc.	• # of reported identity theft incidents

ILLUSTRATIVE EVALUATION OF CRITERIA

Level 1	Level 2	Level 3	Level 4
Data collection practices			
The solution collects and shares user data extensively without clear consent, leading to privacy concerns and potential risks of data misuse.	While there are efforts to protect user privacy, the solution's practices may not be fully transparent, and some user data sharing occurs without clear disclosure.	The solution respects user privacy by providing clear consent mechanisms, reducing data sharing, and offering options for users to manage their data preferences.	The solution places a strong emphasis on user privacy, providing control over personal data, implementing strong security measures, and enabling transparent data handling practices.
Historical security breaches			
The solution has experienced multiple privacy breaches in the past, suggesting weak data protection practices and potential threats to user privacy.	While there have been some privacy breaches, the solution's overall track record indicates a reasonable level of privacy protection, with room for improvement.	The solution has a relatively good privacy track record, with only a few minor breaches or with no known breaches.	The solution demonstrates a robust and proactive privacy posture, with no known privacy breaches.

3c. Transparency

Definition: The degree to which the financial solution provides clear, accurate, and accessible information about its processes, fees, terms, and conditions, as well as the underlying transactions and operations – such that users can make informed decisions and have a robust understanding of how the solution functions.

POSSIBLE CRITERIA TO EVALUATE FOR SCORING

<table>
<tr><th>Criteria</th><th>Description</th><th>Sample metrics</th></tr>
<tr><td>Existence of sufficient disclosures</td><td>Assessors may evaluate the thoroughness of current disclosures. This may include the following:
Cost — Necessary information including fees, charges, interest rates, penalties and other costs associated with the solution etc.
Contract — Terms and conditions including rights/obligations, termination of accounts, etc.
Data Privacy — What data is collected, how it used, who it is shared with, how users can manage/control their data; consent mechanisms.
Dispute Resolution — Contact information, process details, internal escalation practices, rights and protections, timeframes, etc.
Risks — Market risks, credit risks, operational risks, etc.; probability.

Assessors may evaluate how accessible disclosures are to users, where they are located, the clarity of them, etc.
• Website, app, plain language</td><td>• Transparency/ disclosure index (+1 for each disclosure): Costs, Contract, Data privacy, Dispute resolution, Potential risks</td></tr>
<tr><td>Transaction Transparency</td><td>Assessors may evaluate how well the provider discloses the use of customer funds within the digital system or platform.
• Open access to codebase, ability to trace funds from deposit to withdrawal, real-time updates on transactions.</td><td>• Use of funds easily traceable/viewable (Y/N)</td></tr>
</table>

ILLUSTRATIVE EVALUATION OF CRITERIA

Level 1	Level 2	Level 3	Level 4
Existence of sufficient disclosures			
Solution provider possesses 2 or less mentioned disclosures above and/or the solution lacks clear and easily accessible disclosures.	Solution provider possesses 3 of 5 mentioned disclosures above and/or disclosures are not easily accessible or prominently displayed.	Solution provider possesses 4 of 5 mentioned disclosures above and/or the solution offers clear and easily accessible disclosures.	Solution provider possesses 5 of 5 mentioned disclosures above and the solution makes it easy for users to access and understand all relevant information.
Transaction transparency			
The solution provides limited or no visibility into user transactions and use of customer funds. Users cannot track how their funds are being used by the provider, and there is a lack of public access to essential financial data and records.	The solution offers some basic visibility into user transactions and use of funds, but it may be limited or not fully comprehensive. Users can access certain information, but some details may not be disclosed. Some financial data is accessible to the public, but not all details are made available.	The solution provides reasonable transparency into user transactions and fund utilization. Users have access to essential information about their funds and how they are being used by the provider. Key financial data is made available to the public, but there may be some information that is not transparent.	The solution offers a high level of transparency into user transactions and use of funds. Users can easily track and monitor their funds, knowing precisely how they are being utilized. Financial data is readily accessible to the public, enabling visibility and accountability.

3d. Corporate Governance

Definition: The adherence of the service provider to corporate governance rules, regulations, and leading practices that help to guard against risk, promote accountability and ethical conduct, and confirm the provider is able to deliver on its stated commitments to external stakeholders (e.g., customers, investors). Includes risk management, frameworks, internal standards & policies, and (audited) financial statements.

POSSIBLE CRITERIA TO EVALUATE FOR SCORING

Criteria	Description	Sample metrics
Existence/ Monitoring of relevant corporate governance metrics	**Assessors may evaluate if they have ambitious and thorough corporate governance practices in place and confirm consistent monitoring of performance against various relevant metrics. This may include:** • Assessing board composition and independence to confirm adequate representation of key stakeholders. • Confirming executive compensation is tied to non-financial metrics such as promoting financial inclusion among underserved communities, customer satisfaction, talent development, etc. • Confirming current risk management practices are aligned with industry leading practice; necessary policies, procedures, and controls are in place. • Existence of "Ethical Code of Conduct" and necessary responsibilities to enforce it.	• % of independent directors on company board • CEO/Executive compensation tied to non-financial performance (Y/N) • Transparency and disclosure evaluations (Y/N) • Third-party audited financial statements (Y/N)
Compliance with regulatory requirements	**Assessors may evaluate the amount of historical incidents of non-compliance, as well as any related financial penalties** **Assessors may evaluate compliance with all relevant regulatory requirements. This may include:** • Know your customer (KYC) and Anti-Money Laundering (AML) require verification of identity of customers and monitoring of transactions to detect conspicuous activity • Consumer protection regulations require providers to protect consumers from unfair practices, confirm transparency disclosures, and safeguard their rights • Data protection and privacy laws aim to safeguard customer information • Other relevant regulatory requirements include Payment Services regulations, E-Money regulations, banking regulations, etc.	• Any historical incidents of non-compliance (Y/N) • $ amount of regulatory fines levied • Compliance with KYC regulation (Y/N) • Compliance with AML/CTF regulations (Y/N) • Compliance with relevant consumer protection regulations (Y/N)

ILLUSTRATIVE EVALUATION OF CRITERIA

Level 1	Level 2	Level 3	Level 4
Existence/ Monitoring of relevant corporate governance metrics			
The solution provider does not implement or monitor any of the relevant corporate governance metrics.	The solution provider partially implements and monitors some relevant corporate governance metrics, but there are significant gaps and inconsistencies in addressing certain aspects of corporate governance.	The solution provider implements and monitors a substantial number of relevant corporate governance metrics, showing a clear commitment to align with industry standards and regulatory requirements.	The solution provider implements and consistently monitors the relevant corporate governance metrics, showcasing thorough and effective oversight, risk management, and ethical conduct.
Compliance with regulatory requirements			
The solution provider is not compliant with any relevant regulatory requirements and/or has a history of significant non-compliance incidents and financial penalties, indicating a lack of adherence to regulatory standards and potential risk to stakeholders.	The solution provider demonstrates partial compliance with some regulatory requirements, but there are notable instances of non-compliance or past financial penalties that need improvement.	The solution provider is generally compliant with a significant portion of regulatory requirements, with occasional minor incidents of non-compliance or past financial penalties that have been addressed and corrected.	The solution provider is compliant with all relevant regulatory requirements and has never been non-compliant or received any financial penalties, showcasing a strong commitment to upholding regulatory standards and protecting the interests of stakeholders.

4. Usage

4a. Solution Adoption

Definition: The overall utilization, acceptance, and integration of the solution into the users' lives or business processes (where possible, disaggregated by underserved populations)

POSSIBLE CRITERIA TO EVALUATE FOR SCORING

Criteria	Description	Sample metrics
User acquisition and growth	**Assessors may evaluate historical and current user growth rates to estimate adoption among target populations.** • Adoption rates and patterns segmented across various user demographics may enable assessors to understand limitations of their offerings as well as how well the solution is addressing the targeted population. • Relevant demographic segments include region, income, age, employment status, etc. • Have previous marketing campaigns/strategies influenced adoption among target populations?	**All** • Total # of users • Total # of active users • Total # of new user sign-ups • User growth rate (%) • Conversion rate (%) • Retention rate (%) • Churn rate (%)

ILLUSTRATIVE EVALUATION OF CRITERIA

Level 1	Level 2	Level 3	Level 4
User acquisition and growth			
The solution experiences limited user acquisition and slow growth among the targeted population. Despite efforts to attract users, it faces challenges in expanding its customer base; marketing strategies may need improvement to increase user interest and adoption.	The solution shows moderate user acquisition and gradual growth among the targeted population. It attracts new users at a reasonable rate, but there is room for improvement to accelerate growth; marketing strategies are somewhat effective.	The solution experiences high user acquisition and notable growth among the targeted population. It successfully attracts a significant number of new users, establishing a strong presence in the market; marketing strategies are effective.	The solution achieves exceptional user acquisition and experiences rapid, exponential growth among the targeted population. It attracts a surge of new users, quickly becoming a dominant player in the market; marketing efforts are outstanding.

4b. User Engagement

Definition: The extent of ongoing interactions, participation, and usage intensity of users with the solution over time (where possible, disaggregated by underserved users)

POSSIBLE CRITERIA TO EVALUATE FOR SCORING

Criteria	Description	Sample metrics
Active involvement of users	**Assessors may evaluate the frequency of use to determine how actively involved users are.** • Includes observing logins, transactions, or other use activities. **Assessors may evaluate the depth of interactions of users to determine how actively involved users are.** • Includes observing features, functionalities, and services explored by users. • Surveys allow capturing of original purpose compared to concurrent usage. **Assessors may evaluate the scale of utilization to determine how actively involved users are.** • This may be measured by the volume of transactions or monetary amount transacted over a certain period of time.	**All** • # of times user logs into the solution over a period of time (average or per unique user) • # of transactions a user completes within a specified time period (average or per unique user) • Total transaction volume processed by service/platform over period of time • Total value ($) of transactions conducted

ILLUSTRATIVE EVALUATION OF CRITERIA

Level 1	Level 2	Level 3	Level 4
Active involvement of users			
The solution experiences infrequent usage and interactions are limited in scope. Challenges in attracting and retaining users' interest and involvement persist.	The solution experiences regular usage, with room for improvement to deepen the level of engagement. It has captured a reasonable user base, but efforts may be needed to increase the frequency/ depth of interactions.	The solution has a significant number of users who actively and consistently interact with it. The solution has successfully captured and retained users' attention, resulting in a sizable and dedicated user base.	The solution possesses highly involved and deeply engaged users. It enjoys widespread and frequent utilization, making it a preferred choice among users.

4c. Market Impact

Definition: The extent to which the solution positively influences and shapes the broader financial services market, including its impact on competition, market dynamics, and industry practices. Encompasses the effects of the solution on market participants, market structure, and the overall ecosystem.

POSSIBLE CRITERIA TO EVALUATE FOR SCORING

Criteria	Description	Sample metrics
Analysis of Competitive Landscape	**Assessors may evaluate how the solution has impacted the competition through influencing launch of new products, changing market share, etc., as a way to measure impact.** • Competitor business models may change as indicated by changing prices, enhanced marketing tactics, newly announced business relationships with other industry players, or even replicating the provider's business model. • Competitors may launch new solutions that compete with or imitate certain aspects of the solution. • Customer feedback/testimonials may provide tangible evidence of how the solution has impacted the competitive landscape through changing customer behavior/loyalty.	• $ change in average industry price of similar products • # of similar solutions on the market launched by competitors
Third-party recognition	**Assessors may evaluate if launching the solution has resulted in industry recognition as a way to measure market impact.** • This may include industry bodies or other local/national media outlets.	• Any recognition by industry bodies or media outlets (Y/N)

ILLUSTRATIVE EVALUATION OF CRITERIA

Level 1	Level 2	Level 3	Level 4
Competitive Landscape Assessment			
The solution has had limited impact on the market, resulting in minimal responses from competitors. There have been no significant changes in competitor behavior, business models, or market share fluctuations in reaction to the solution's introduction.	The solution demonstrates a moderate impact on the market. Some response from competitors is prompted. While there are observable adjustments in competitor strategies and solution offerings to address this competition, the overall market dynamics remain relatively stable.	The solution has significant impact on the market, driving notable responses from competitors. Competitors may launch new solutions, modify business models, or make strategic moves to compete effectively with the disruptive solution.	The solution achieves exceptional market impact, leading to widespread changes in the industry. Competitors undergo significant shifts in their strategies and offerings, responding decisively to the solution's influence.

Level 1	Level 2	Level 3	Level 4
Third-party recognition			
The solution has received limited or no third-party recognition form reputable industry bodies or media outlets. There is minimal acknowledgment or attention from external entities regarding the solution's significant or impact on the market.	The solution has garnered some third-party recognition from industry bodies or media outlets. While there is acknowledgment of the product's presence in the market, the recognition may not be extensive or widespread.	The solution has achieved significant third-party recognition from reputable industry bodies, media outlets, and other external entities. There is notable acknowledgment of the solution's importance, value, and impact on the market.	The solution has earned exceptional third-party recognition from multiple prestigious industry bodies, leading media outlets, and other reputable entities. The solution is widely regarded as groundbreaking and transformative.

Summary of Market Application Guides



Philippines

State of Financial Inclusion

According to the country's National Strategy for Financial Inclusion (NSFI), lack of access to financial services disproportionately affects millions of lower income, unemployed, and less educated Filipinos.[16] Overall, the Bangko Sentral ng Pilipinas (BSP) found that 34.3 million Filipinos (44% of the total adult population) did not have a formal financial account in 2021, down from 51.2 million in 2019. While the country has seen significant strides in expanding account ownership, gaps and disparities still remain: account ownership in the lowest socioeconomic class was half that of the highest class, and adults who had completed at least college education were more than twice as likely to own an account than elementary graduates. However, unlike many other countries, account ownership in rural areas was equivalent to urban areas in 2021, and women were more likely to have an account than men.[16]

To consistently track financial inclusion cross countries, the World Bank's Global Findex Database measures account ownership and usage of different financial services. In 2021, the Philippines displayed a significantly lower rate of overall financial inclusion when compared to other neighboring East Asia & Pacific (EAP) countries.[17] This trend continued for digital payments, savings (formal and informal), and formal borrowing.

		Philippines	Regional (EAP)[18]
Account ownership	Have an account at a financial institution or mobile money service	**51%**	83%
Payments	Made a digital payment	**39%**	75%
Savings	Saved any money	**54%**	61%
Credit	Borrowed any money from a formal financial institution or using a mobile money account	**19%**	37%
	Borrowed from family or friends	**41%**	25%

Main Barriers to Financial Inclusion

Using demand-side data from BSP surveys of banked and unbanked Filipinos, the top barriers to financial inclusion include:

- **Cost concerns:** Among Filipinos who do not own any type of formal account, lack of money was the primary reason for not owning an account, cited by 45% of the unbanked.[19]
- **Lack of documentation:** Lack of documentary requirements was cited by 40% of the unbanked as a barrier to account ownership – followed by lack of knowledge on the process and a perceived lack of need for an account.[19]
- **Low awareness of digital solutions:** Among those with a mobile phone and internet access, lack of awareness was the top reason for not using electronic platforms for financial transactions[19].

Enabling Environment

Characterized by an ambitious financial inclusion strategy and forward-thinking consumer protection regulations, an increasingly digital populace, and a robust payments infrastructure, the enabling environment in the Philippines creates a supportive landscape for financial service providers that aim to advance financial inclusion goals. Highlights include:

- **The NSFI's set of key performance indicators and 2028 financial inclusion targets,** with goals around the usage of digital financial services, transaction account ownership, the rate of formal savings, and more.[20]
- **High digital connectivity but a strong continued preference for cash:** 76% of adults have both a mobile phone and internet access, but only 60% of them conducted financial transactions online in 2021[21]
- **A national ID system with ~78 million users,** half of which have digital IDs that can be leveraged for e-KYC by private sector financial service providers[22]

Recent warnings by major regulators on the use of cryptocurrencies as a means of payments may delay the widespread adoption of financial solutions using digital assets. The Securities and Exchange Commission has postponed a legal framework for the crypto industry, and the BSP has halted the issuance of 'virtual asset service provider' licenses until 2025.

Market Landscape Overview

The financial system in the Philippines relies on both bank and non-bank financial institutions. While commercial banks have a strong presence in urban areas, rural regions rely heavily on community banks and microfinancing institutions. With cash being the dominant form of payments, pawnshops and agent networks have established robust country-wide cash in/cash out infrastructure. The government strongly promotes digital services throughout the country, such as by using digital mediums for certain government subsidies and salaries.[23] This push is creating a robust fintech marketplace from digital payments and mobile wallets to digital lending.



Kenya

State of Financial Inclusion

According to the 2021 FinAccess Household Survey, 83.7% of the adult Kenyan population had an active account with a formal regulated/licensed financial services provider (e.g., commercial banks, mobile banking services, mobile money providers, etc.) in 2021 – driven largely by the near-ubiquitous use of mobile money[24]. Only 11.6% of the population was excluded from accessing financial services and products from either formal or informal providers, down from 41.3% in 2006. While the usage of two or more types of financial services has increased from 18.8% in 2006 to 75.3% in 2021, overall financial health measured across three core outcomes has decreased in recent years.[25] Those in the lowest wealth quintiles, the young, those with no education, and rural populations displayed the lowest rates of access to formal financial services. Women and agricultural workers were also more likely to access financial services through informal means.

To consistently track financial inclusion cross countries, the World Bank's Global Findex Database measures account ownership and usage of different financial services. In 2021, Kenya displayed a significantly higher rate of overall financial inclusion when compared to other neighboring Sub-Saharan countries.[26] This trend continued for digital payments, savings (formal and informal), and borrowing.

		Kenya	Regional (Sub-Saharan Africa)[27]
Account ownership	Have an account at a financial institution or mobile money service	**79%**	**55%**
Payments	Made a digital payment	**76%**	**46%**
Savings	Saved any money	**67%**	**56%**
Credit	Borrowed any money from a formal financial institution or using a mobile money account	**40%**	**14%**
	Borrowed from family or friends	**54%**	**41%**

Main Barriers to Financial Inclusion

Using demand-side data from FinAccess and World Bank surveys of banked and unbanked Kenyans, the top barriers to financial inclusion include:

- **Insufficient funds:** Of those without an account, 82% cite lack of sufficient funds as a reason.[28,29]
- **Cost:** Of those without an account, 46% cite financial services being too expensive as a reason.[28,29]
- **Lack of identification:** Of those without an account, 46% cite lack the necessary identification as a reason.[28,29]

Enabling Environment

Characterized by a robust payments system that has supported an unprecedented success story in the adoption and use of mobile money, the enabling environment in Kenya creates a supportive landscape for financial service providers aiming to incorporate digital technologies into other use cases. Highlights include:

- **The integration of mobile money into nearly all aspects of ordinary life,** with 81% of adult Kenyans owning a mobile money account[30]
  - Cash remains the dominant form of paying daily expenses, highlighting the importance of cash in/cash out infrastructure[30]
- **A well-established National Payments System** regulated by the Central Bank of Kenya and governed by strong legal and regulatory frameworks, confirming that payment service providers operate in a customer-centric manner[31]
- **An emerging national ID system** (NIIMS, commonly known as Hudama Namba) that will expand digital ID penetration for use within e-KYC identification and authentication processes[28]

Market Landscape Overview

With almost twice as many Kenyans using mobile money as those who own bank accounts, the market for financial services in Kenya is largely defined by the features and integrations offered by mobile money providers.[32]Mobile money accounts offer a suite of services across payments (P2P, B2B, B2C, and even C2G with support for the government's eCitizen portal) and have expanded into instant credit and more traditional savings features.



Colombia

State of Financial Inclusion

According to the country's 2021 National Financial Inclusion Report, rural populations, women, elderly, migrants/ refugees, unemployed, and informal workers have a high risk of financial exclusion.[33] Significant regional disparities exist, where the population in Bogota, Antioquia, Huila, and Valle use at least one financial product. Conversely, 45% of the population in Vapues, Vichada, and Guainia use at least one financial product. The gender gap between men and women's account ownership is at 6%. For younger adults, lower rates of account ownership and lower rates of usage for credit, payment, and investment products persist. However, account ownership increased in 2021, surpassing the rate of account ownership by Colombians over the age of 65 for the first time. In addition, the report discusses the financial inclusion of Venezuelan migrants, 15% of whom owned at least one financial product.

To consistently track financial inclusion cross countries, the World Bank's Global Findex Database measures account ownership and usage of different financial services. In 2021, Colombia displayed a significantly lower rate of overall financial inclusion when compared to other neighboring Latin American and Caribbean countries.[34] This trend continued for digital payments, savings (formal and informal), and formal borrowing.

		Colombia	Regional (Latin America and the Caribbean)[35]
Account ownership	Have an account at a financial institution or mobile money service	**60%**	**74%**
Payments	Made a digital payment	**42%**	**59%**
Savings	Saved any money	**32%**	**42%**
Credit	Borrowed any money from a formal financial institution or using a mobile money account	**19%**	**30%**
	Borrowed from family or friends	**29%**	**26%**

Main Barriers to Financial Inclusion

Using demand-side data from surveys of banked and unbanked Colombians, some of the top barriers to financial inclusion include:

- **Cost concerns:** Among Colombian adults who do not own any type of formal account, lack of money was the primary reason for not owning an account, cited by 65% of the unbanked.[36]
- **Lack of sufficient funds and collateral:** Lack of sufficient funds is the second most common reason for not possessing an account, cited by 63% of surveyed respondents.[36]
- **Lack of documentation:** Although 91.6% of respondents possess a national ID, 43% of people without accounts cite that they lack the necessary documentation.[36,37]

Enabling Environment

Characterized by an objective-driven financial inclusion strategy, supportive consumer protection regulations, and an emerging digital financial ecosystem, Colombia aims to encourage deep investment in digital services and advance financial inclusion in the immediate future. Highlights include:

- **Robust consumer protection laws,** including the Debtor Support Program and Law 1328, enables consumers to redefine conditions of loans and guarantees adequate access to financial education.[38]

However, significant investment in physical infrastructure is still required to enable sufficient internet access to those in rural communities. 61% of Colombians have access to the internet, which is 12% below the regional average.[39] Additionally, payment instruments in Colombia are not fully interoperable, which increases the costs for Colombians to switch payment channels and financial institutions.

Market Landscape Overview

The financial system in Colombia is showing positive trends, but more work is needed to increase awareness and usage of all accounts. As cited by the National Financial Inclusion Strategy, 90% of the adult population has access to at least one financial product but only 74% use a financial product consistently.[40] Growth of savings accounts and financial education prove to have a positive relationship, as illustrated by 48% of individuals with primary education or less having an account compared to 65% of secondary education or more with an account. As a result, many emerging providers are beginning to offer accompanying educational resources.



Argentina

State of Financial Inclusion

According to the country's National Financial Inclusion Report, rural workers, informal workers, unemployed, women, and migrants/refugees, have the greatest risk for financial exclusion.[41] A key finding is that individuals in Buenos Aires and the neighboring suburbs have greater access to financing and access points than people in the northeastern and northwestern provinces. Thus, the Inclusion strategy will use geographical, social, and gender lenses to advance its goal of increasing the access of underrepresented groups to financial services and to expand financial services geographically across the country. Furthermore, the strategy includes a focus on supporting entrepreneurs and SMEs, recognizing that they are less likely to be integrated into the larger economy.

Argentina's inflation rate will have significant implications for financial inclusion. Financial solution providers should consider the suitability of their products and services in the context of high inflation rates because the inflationary environment impacts the financial needs of Argentinians. For instance, high inflation influences how Argentineans choose to save. Many avoid traditional savings accounts in Argentinian Pesos and prefer other approaches such as holding savings in real estate or in other currencies.

To consistently track financial inclusion cross countries, the World Bank's Global Findex Database measures account ownership and usage of different financial services.[42] In 2021, Argentina displayed a similar rate of overall financial inclusion when compared to other neighboring Latin American and Caribbean countries. Individuals in rural areas and those with less than a primary education are most likely to lack a formal account. Additionally, compared to regional peers, Argentina performs worse with respect to promoting account ownership across all demographics, providing education beyond primary school, raising income levels, and savings rates.

		Colombia	Regional (Latin America and the Caribbean)[43]
Account ownership	Have an account at a financial institution or mobile money service	**72%**	**74%**
Payments	Made a digital payment	**59%**	**59%**
Savings	Saved any money	**39%**	**42%**
Credit	Borrowed any money from a formal financial institution or using a mobile money account	**32%**	**30%**
	Borrowed from family or friends	**26%**	**26%**

Main Barriers to Financial Inclusion

Using demand-side data from surveys of banked and unbanked Argentines, the top barriers to financial inclusion include:

- **Cost concerns:** Almost half of people who do not have an account say that financial services are too expensive. Expense is the second most common reason given for not owning an account.[44]
- **Lack of sufficient funds and collateral:** 69% of surveyed respondents cite insufficient funds as the primary reason for not possessing an account.[44]
- **Digital literacy:** Rural populations especially have trouble accessing and easily using the full range of appropriate financial products and services that can empower them to achieve financial well-being.[45]
- **Lack of trust:** More than a third of underserved individuals cite distrust as a reason for not using financial solutions. This prevents many from opening accounts or using the full breadth of products and services available to them.[46]

Enabling Environment

In Argentina, most dimensions of the enabling environment indicate an overall supportive environment for financial service providers, although the landscape for digital financial services requires greater clarity. The past 5-6 years of policy developments have included significant financial innovation, including the launch and implementation of a National Financial Inclusion Strategy, developing regulations to promote digital payments (including interoperability between bank accounts and digital wallets and QR payments), MSMEs lending, etc. However, socio-cultural and macro environment barriers persist which continue to promote financial inclusion among select demographics. Highlights include:

- **Significant investments in physical infrastructure** promote access, including growing domestic internet accessibility and increased coverage of access points. 85% of Argentinians have access to the internet, as compared to 75% among regional counterparts.[47]

Argentina's inflationary environment continues to erode domestic purchasing power, which disincentivizes saving in domestic currency. Inflation has persisted at ~24% annually for the past 20 years.[48] In addition, despite government efforts to provide public financial education, financial literacy remains low. These will be two key enabling factors to improve in the near term.

Market Landscape Overview

The financial system in Argentina is showing strong growth. Digital payments are growing fast, up 54% in 2022 while amount traded per adult increased 25% in real terms, with various existing legacy and digital players.[49] Savings, if possessed, are likely stored in accounts in Uruguay or USA due to the hyperinflation of the Peso; legacy banks are unable to offer savings instruments that are safe from the volatile peso. Lastly, the credit environment is dominated by five legacy institutions, and predicted future growth of credit is expected to decrease through 2025.

Endnotes

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2 PwC analysis of 12 applications operating in Colombia, Argentina, Kenya, and the Philippines for which transaction fees were publicly disclosed. This was compared to the World Bank's "Remittance Prices Worldwide" database for sending $200 from the U.S. to the respective countries using traditional finance institutions for Colombia, Philippines, and Kenya (Argentina is not included in the database). Fees do not include network provider, bank, or foreign exchange fees

3 World Bank Group. (2021). Global Findex Database 2021. Retrieved August, 2023, from https://www.worldbank.org/en/publication/globalfindex/Data

4 Other types of financial services such as insurance provide innovative mechanisms for risk management and risk transfer.

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10 USSD (Unstructured Supplementary Service Data) allows users to interact with financial services by dialing a specific code followed by a series of menu prompts, enabling transactions such as balance checks, fund transfers, or bill payments without internet access. SMS (Short Message Service) involves sending and receiving text messages via a cellular network to and from a designated number, providing an interface to conduct financial transactions.

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13 Financial institutions that connect disparate payment systems are called "anchors" on the Stellar blockchain network. Anchors provide fiat-to-digital and digital-to-fiat on and off ramps to support new payment services.

14 Representative process diagram based on PwC analysis.

15 PwC analysis included a sample of seven blockchain focused services operating in Colombia, Argentina, Kenya, and the Philippines for which account opening fees were publicly disclosed.

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25 Financial health was constructed from a composite index of three main life goals (sub-indices with equal weighting) – ability to manage day-to-day needs; ability to cope with shocks; and the ability to invest in future goals.

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