Unlocking Inclusion: A Policy Blueprint for Interoperable Payment Protocols

IGF Dynamic Coalition on Digital Financial Inclusion

Ayden Férdeline, David Higgins, Jeremiah Lee, Smriti Parsheera,
Stephanie Perrin, Ian Jacobs, Caroline Sinders, Vineel Reddy Pindi

Lillestrøm, Norway, June 25, 2025

About the IGF Dynamic Coalition on Digital Financial Inclusion

The Internet Governance Forum Dynamic Coalition on Digital Financial Inclusion promotes the development and adoption of open, interoperable payment protocols as a foundation for inclusive digital finance. This intersessional working group of the annual United Nations Internet Governance Forum brings together stakeholders from across sectors to explore policy, technical, and governance solutions that ensure digital financial systems are accessible, secure, and aligned with public interest goals.

The Dynamic Coalition is recognised by the Internet Governance Forum Secretariat.

Abstract

Despite the rapid expansion of digital financial services, systemic barriers such as fragmentation, regulatory divergence, and exclusionary architectures continue to impede global digital financial inclusion. This policy blueprint proposes a comprehensive framework for interoperable payment protocols as foundational infrastructure to advance equitable access to financial systems. Drawing from multistakeholder consultations and expert research, it outlines guiding principles for inclusive governance, adaptive technical standardization, flexible regulatory design, and user-first ecosystem development. Emphasizing interoperability as a digital public good, the policy blueprint advocates for systems that are secure, accessible, and locally adaptable, while maintaining global compatibility. It highlights the critical role of public investment, regulatory oversight, and participatory design in mitigating risks of digital exploitation, systemic exclusion, and monopolistic capture. Positioned as a strategic intervention, interoperable payment protocols are framed not merely as technical tools but as enablers of broader financial empowerment. The blueprint underscores that achieving meaningful financial inclusion requires sustained commitment across policy, infrastructure, and education—ensuring that no user, institution, or region remains disconnected from the evolving global financial landscape.

Table of Contents

1. Introduction

For billions of people globally, access to financial systems means access to opportunities—whether sending remittances home, building savings, or launching a small business. However, despite the rapid expansion of digital financial services, barriers such as fragmented systems, high transaction costs, and regulatory inconsistencies continue to exclude vulnerable populations from participating fully in global financial ecosystems. Bridging this gap requires innovative, scalable, and inclusive solutions that enable secure and affordable financial transactions across diverse jurisdictions and infrastructures.

At the heart of this transformation is the concept of interoperable payment protocols: adaptive technical standards that integrate disparate financial systems into a unified global network. Unlike proprietary systems that may be profit-driven and therefore reinforce silos and limit accessibility, interoperable payment protocols can act as public goods, facilitating inclusive participation while maintaining security and efficiency. While models vary – ranging from open, protocol-based networks like Interledger to centralized digital public infrastructures such as Brazil's PIX – there remains an opportunity to prioritize inclusivity, collaboration, and, where appropriate, shared ownership. By leveraging existing standards and protocols and enhancing them where necessary to ensure accessibility, internationalization, and localization, we can facilitate compatibility across borders, currencies, and platforms. This could empower individuals, institutions, and communities regardless of location or technological capacity.

This approach aligns with global ambitions, including the G20 Roadmap for Enhancing Cross-Border Payments, emphasizing speed, transparency, and universal access as critical targets. Achieving these goals requires regulatory flexibility to achieve a balance between risk and innovation, ensuring that both small institutions and large legacy banks have the tools and support to modernize and grow. Financial inclusion initiatives must prioritize underserved populations and address systemic barriers. This means supporting self-sustaining capacity-building efforts that empower individuals and communities. Such efforts should promote local ownership and entrepreneurship and potentially leverage external investment to initiate growth, while ensuring long-term development is grounded in inclusive, stable financial ecosystems that do not rely on any single funding source. While interoperable payment protocols have the potential to enable individuals and institutions globally, it must also be said that their impact depends on the availability of baseline infrastructure and supportive regulatory environments. These innovative new networks don't just build themselves. They need help.

In this blueprint we ask some of the key questions that must be addressed in this fast-moving environment.

We propose a forward-looking set of principles and policy recommendations to foster the regulatory and technological conditions necessary to adopt interoperable payment protocols. Drawing from expert interviews and desk research, it provides actionable insights to policymakers, regulators, and stakeholders working to dismantle the barriers to digital financial inclusion. By embracing a globally coordinated yet locally adaptable approach grounded in user-first principles and privacy-by-design, this blueprint offers a pathway to a more inclusive financial future where no individual or institution is left disconnected.

While this document focuses on digital payments, it is important to recognize that payments are not the end goal of financial inclusion but a foundational step toward broader participation in financial services. In many markets, digital payments act as a gateway—establishing the infrastructure, trust mechanisms, and user engagement necessary to enable savings, credit, insurance, and other financial tools. Yet in other contexts, especially where formal credit histories are lacking, financial inclusion begins with credit, often informal or semi-formal, before payments or savings channels are fully developed. Increased access to financial services requires increased financial and digital literacy. Safeguards must be in place to prevent the financial system from producing negative effects: indebtedness, security risk, privacy risks. Understanding where payments sit in the broader financial journey is essential: they create the transactional rails upon which inclusive services can be layered, but only if those rails are open, secure, and designed with user-first principles. The Dynamic Coalition's work on interoperable payment protocols must therefore be understood not as an isolated technical effort but as a strategic intervention that enables future financial functionality. Looking ahead past this blueprint, the Dynamic Coalition will need to grapple with emerging questions about where to focus our efforts next—whether that is responsible credit, accessible savings mechanisms, or protections against data misuse and digital exploitation. Abuse of financial and personal data, the opacity of algorithms in credit scoring, and the rise of predatory digital lending practices must also be part of the inclusion conversation. Payments may be the first call, but the larger opportunity—and responsibility—lies in shaping an ecosystem where that first step leads to safe, fair, and sustained financial empowerment.

2. Guiding Principles for the Inclusive Design and Governance of Interoperable Payment Protocols

2.1 Open and Inclusive Governance

Governance in the context of interoperable payment protocols refers to the processes and structures that guide their development, adoption, and oversight. Unlike traditional financial systems, often controlled by centralized institutions, interoperable payment protocols offer an opportunity to embrace multistakeholder models, similar to how the Internet is governed. Interoperable payment protocols can operate in federated environments, integrating elements of both centralized and decentralized systems to facilitate seamless transactions across diverse payment networks. By adopting a multistakeholder approach, governance frameworks can help ensure these systems remain accessible, fair, and representative of global needs.

This flexibility accommodates the complexity of integrating both centralized and decentralized systems, allowing for the coexistence of traditional financial institutions and decentralized networks. This creates a unique opportunity to establish governance structures that uphold equity, promote innovation, and enhance financial inclusion while reducing barriers to participation. Specifically, inclusive governance frameworks would do the following:

- Adopt best practices from established models (e.g., the Modern Paradigm for Standards and/or the Universal Digital Public Infrastructure Safeguards Framework), focusing on participatory, rights-based approaches that uphold equity, inclusivity, and human rights.

- Support inclusive community-led development of financial systems that reflects diversity of language, culture, capacity, and institutional size, fostering co-creation and shared ownership of interoperable financial systems, remembering that a primary goal of these new payment systems is greater financial inclusion.
- Promote multistakeholder governance by ensuring meaningful participation from civil society, small businesses including smaller financial institutions, perspectives from developing economies, underserved and/or traditionally excluded communities.
- Promote iterative and adaptive governance that evolves with societal and technological needs, ensuring that accessibility, inclusivity, and safety remain foundational principles throughout the protocol lifecycle.
- Encourage the development of independent oversight mechanisms to minimize risks of centralization or control by a single nation, organization, or entity. Such mechanisms should be aligned with governance principles but remain adaptable to the specific context of each protocol.

<u>Guiding questions for regulators and policymakers:</u>

Governance and Oversight of Interoperable Payment Systems

- What governance frameworks are needed to ensure interoperable payment protocols, including digital public infrastructure, remain inclusive, adaptive, and accountable to all, especially underserved populations?
- What is needed so that governance frameworks are both inclusive and effective at scale?
- What models exist for federated or distributed oversight that balance efficiency with accountability, accessibility, and ongoing participatory input?
- Should a permanent, multistakeholder review body be created to evaluate and advise on digital payment systems across public and private sectors? If so, what powers would such a body need to prevent substandard deployments and hold governments or private actors accountable for exclusionary or high-risk decisions?

Public Infrastructure, Sovereignty, and the Role of Digital Public Infrastructure

- Should critical infrastructure be treated as public goods, even if operated by commercial entities? What are the essential features of public good financial infrastructure? How do we prevent commercial platforms from capturing or enclosing public goods? Can regulation ensure that users—and the commercial entities themselves—contribute back to the public goods they rely on?
- What regulatory approaches are needed to protect the public interest in a space increasingly shaped by commercial competition?
- How should sovereign states govern digital public infrastructure as a digital extension of cash, i.e. maintaining autonomy while enabling interoperability across borders?
- In what ways can digital public infrastructure be understood as a national asset and a cornerstone of financial sovereignty, akin to the way central banks manage physical currency?

Equity, Inclusion, and Representation

- How will we ensure that protocol development processes are not dominated by powerful actors or exclusive to elite voices?
- What metrics of inclusion should regulators use to evaluate success beyond technical deployment?
- Beyond adoption rates, what indicators can help track equity of access, affordability, user empowerment, and meaningful long-term use?

Market Dynamics, Monopoly Risks, and Consumer Protection

- How should we balance innovation and competition without reinforcing monopolies or dependency on private platforms?
- What safeguards must be built into protocol development to prevent digital exploitation and promote fair, competitive markets?
- How can regulatory frameworks address the competitive interests embedded in tech architectures, like we see in other platform ecosystems?

[1] https://open-stand.org/about-us/principles/
[2] https://dpi-safeguards-framework.org/frameworkpdf

- What lessons from the telecoms sector and Internet governance can inform how we prevent dominant players from crowding out consumer choice or undermining interoperability?
- How does multistakeholder governance help ensure consumer protection and empower public institutions to maintain oversight?

Localization, Adaptability, and Global Consistency

- How do we ensure meaningful global coordination without enforcing uniformity or erasing local needs?
- What mechanisms allow for regional adaptation and innovation while safeguarding against fragmentation, incompatibility, or exclusion?

Literacy, Education, and Institutional Responsibility

- Where does financial education and digital literacy fit into the governance of interoperable payment protocols?
- How can public institutions embed financial and digital literacy as foundational, non-negotiable elements of financial inclusion, rather than leaving them to market forces?

Monitoring, Enforcement, and Redress

- How will regulators stay up to date on emerging risks like fraud, predatory lending, and data misuse?
- What proactive enforcement, reporting, and redress mechanisms are needed to protect users, especially vulnerable populations?

International Law, Human Rights, and Multilateral Institutions

- How can international legal frameworks be used to advance financial inclusion as a human right, in alignment with the UN Declaration on the Right to Participate in Economic Life?
- What role should multilateral institutions play in incubating, enforcing, and promoting global accountability for inclusive financial infrastructure?

2.2 Technical Standardization

- Interoperability is underpinned by adhering to broadly recognized messaging, authentication, and settlement process principles.

These shared technical standards are what allow different financial systems—whether domestic or cross-border, public or private—to communicate and transact with one another.
Without interoperability, financial ecosystems risk becoming fragmented, exclusionary, and costly to navigate, particularly for smaller institutions and underserved populations. Technical standardization should:

- Enhance accessibility and inclusion by promoting compatibility across diverse infrastructures, ranging from advanced systems to basic debit cards.
- Accommodate varying data sovereignty requirements, balancing privacy considerations with the need for seamless transaction processes and respect for existing taxation, anti-money laundering (AML), and countering anti-terrorism financing (CFT) regulations.
- Take a flexible approach that supports voluntary, market-driven adoption, enabling different tools for different contexts and innovation pathways.
- Avoid privileging only the highest-end integration approaches which, while technically robust, can drive up costs, limit local adaptability, and challenge sovereignty. Inclusion requires fit-for-purpose standards that empower responsible local solutions and prevent lock-in to closed or externally controlled ecosystems.

<u>Guiding questions for regulators and policymakers:</u>

- What are the most significant gaps in existing technical standards?
- Are today’s mechanisms serving inclusion—or reinforcing exclusion?
- What risks do rigid standards pose to innovation, local adaptability, or competition?
- How can we ensure standardization enhances—not inhibits—financial inclusion across diverse contexts?
- How do we achieve our goals when (well-intentioned) standards create lock-in, increase costs, or prioritize external control over local needs?

2.3 Regulatory and Design Considerations

Interoperable payment protocols require flexible and adaptive regulatory frameworks that respect diverse priorities and trade-offs across jurisdictions. Rather than prescribing alignment, regulations should take a risk-based approach and provide a foundation for mutual understanding that protects fundamental rights while accommodating diverse local and regional priorities. The following regulatory goals, design requirements, and system features should guide this approach:

Regulatory Design Goals

- **Complement cash:** Digital financial systems should be promoted as an accessible and inclusive means of payment while ensuring cash remains a viable complement in order to support those who lack access to digital tools, and to provide a fallback in case of disruptions to digital infrastructure.

- **Balanced financial integrity protections:** Frameworks should balance the necessity of anti-money laundering and counter-terrorism financing, an individual's human right to privacy, and compliance effort for a range of financial institution sizes and operational maturity. Protocols must include mechanisms for judicious oversight to verify compliance and prevent data misuse. Rules should be designed with transparent processes for monitoring and enforcement, guided by the principle: How will these rules be overseen and evaluated? Reporting mechanisms should be flexible and respect regional variations while incorporating safeguards for privacy, including principles such as data minimization, the ability to object to automated decision-making, and other data subject access rights, including the right to rectify inaccurate records.

- **Interchange and network fees:** Harmonized regulations should ensure fees are known fully, and proportional to the cost of facilitating the payment, rather than the value of the payment.

- **Shadow economy reduction:** Interoperable payment protocols can support the transition of informal financial activities into formal systems, increasing visibility of economic activity and improving compliance with taxation, consumer protection, and labor regulations. However, safeguards must be in place to prevent coercive or intrusive measures, such as forced usage and demonetization, and to ensure economic activity does not become a means for persistent, non-targeted surveillance.

- **Multi-currency accounts:** Regulators and national governments should permit individuals to hold and use multiple currencies.

System Design Requirements

- **Local interoperability:** Local payment methods should not require the sender and recipient to use the same service provider.

- **Foreign interoperability:** Financial service providers should facilitate cross-border payments with a similar user experience as a local payment. This includes minimizing cost, settlement time, and complexity. Systems must navigate jurisdiction-specific identity and compliance requirements without excluding vulnerable or unbanked populations.

- **Technical interoperability across asset types:** Support integrating local currencies and digital currencies such as stablecoins and Central Bank Digital Currencies where regulatory and consumer safeguards are met. Emerging technologies must only be integrated into interoperable systems once they meet established technical, legal, and ethical standards.

User-Centered Features

- **Customer authentication and authorization:** User authentication must protect people from actions being taken on their behalf without their consent. User authorization must affirm an authenticated person's intent and the expected consequence of approving an action. Methods should prioritize usability with accommodation for a variety of devices and user contexts without degrading security.

- **Electronic identification and trust services:** Digital identity documents should be controlled by individuals with attestation of authenticity provided by authoritative agencies to inquiring parties.

Attestation should include compensatory measures to ensure inclusivity for individuals lacking formal identification. Strong privacy protections should underpin these systems, ensuring voluntary participation and informed consent.

Guiding questions for regulators and policymakers:

- What kind of regulatory frameworks are needed to ensure interoperability without imposing rigid conformity or stifling innovation?
- How can we uphold strong protections for human rights—particularly privacy, autonomy, and non-discrimination—without defaulting to the lowest common denominator across jurisdictions?
- In what ways can regulation encourage inclusive system design and mitigate risks such as exclusion, coercion, or digital overreach (e.g. forced usage, surveillance, or demonetization)?
- How can regulatory systems ensure that local and national standards are respected, while still allowing for cross-border compatibility and seamless trade?
- What tools are needed to support proportionate, risk-based oversight of compliance—including for smaller or less-resourced institutions—without increasing regulatory burden or undermining user trust?
- How can regulators enable innovation (such as CBDCs) while maintaining safeguards against misuse, market concentration, or consumer harm?

2.4 Consumer-Focused Ecosystem Design

Applications and systems built on interoperable payment protocols must prioritize usability, accessibility, inclusivity, and trust. Recognizing that conflicts among stakeholders are inevitable, we suggest that end-users be positioned as the preeminent stakeholders, with their needs taking precedence in resolving design conflicts. Other stakeholders are then prioritized in a clear, hierarchical manner to guide decision-making. The following principles and design goals ensure a user-first, consumer-focused design:

Foundational Principles

- **Put users first:** End-users must be treated as the primary stakeholders in system design. When design trade-offs arise, user needs should take precedence.

- **Protect the consumer:** Trust and protection must guide all design decisions, with clear mechanisms to prevent fraud, ensure redress, and guarantee informed consent.

- **Inclusion is non-negotiable:** Systems must be usable by people across literacy levels, connectivity conditions, abilities, and geographic locations.

- **Design for trust:** Systems must be transparent by default—about fees, risks, dispute processes, and the real consequences of user actions.

Design Goals and Features

- **Simplified interfaces:** Develop intuitive services compatible with low-tech environments and varying literacy levels, ensuring no user is left behind. Systems should support diverse device constituencies, balancing advanced capabilities with universal usability.

- **Accessibility features:** Address the needs of diverse groups, including individuals with disabilities, older adults, and those in remote areas. This includes incorporating options like offline functionalities, voice-guided support, and scalable designs that accommodate a variety of devices without degrading capabilities.

- **Consumer protection:** Build trust by establishing robust safeguards such as predictable fee structures, proactive fraud prevention, and accessible dispute resolution mechanisms. Build confidence in redress systems with public reporting on complaints and resolutions.

- **Financial literacy empowerment:** Develop educational tools and initiatives that help users effectively and safely engage with digital financial systems. Education should highlight the differences between digital and physical transactions, including the risks of scams, psychological manipulation techniques of fraudsters, and over-indebtedness. Programs should focus on demystifying digital financial tools and foster an understanding that digital money is not 'magic.'

- **Co-created and adaptive design:** Foster co-creation processes involving end-users, particularly from marginalized communities, to ensure the solutions meet their unique needs. Incorporate ongoing feedback mechanisms to refine designs and build deeper trust with users.

- **Transparency and trust:** Trust must be treated as an overarching principle across all aspects of the ecosystem. Ensure appropriate transparency in user interactions, including fee structures, complaint handling mechanisms, and system performance. New financial payment systems should correct the transparency faults in current banking systems, which often obscure security risks, fees, and the repercussions of errors and omissions such as late payments on creditworthiness. Publish clear, accessible data about issues like complaint resolution and fraud prevention to reinforce accountability.

<u>Guiding questions for regulators and policymakers:</u>

- How do we ensure that digital financial infrastructure empowers users, especially in low-trust environments?
- What does it mean to truly design for the user, when users span languages, literacies, abilities, and device access?
- Who defines the user experience, and whose needs are prioritized when trade-offs are required?
- How do we protect trust at scale, when trust is hard to earn but easy to lose?

3. Potential Support from Governments and Regulatory Bodies

3.1 Promote Protocol-Based Standards

Governments and regulatory bodies should emphasize incentivizing and promoting the adoption of interoperable payment protocols as a foundational layer for payment systems, ensuring they remain flexible and adaptive to local contexts. Key actions include:

- Encouraging voluntary adoption through incentives such as grants, tax breaks, or subsidies rather than mandates, to foster innovation and experimentation, while recognizing that market incentives alone will not ensure inclusion. Public investment is also essential to absorb risk and promote long-term public benefit.
- Supporting public-private partnerships to fund and maintain these protocols as public goods and core elements of DPI, with strong accountability structures to ensure they serve community needs, not just commercial interests.
- Encouraging and providing support for the participation of consumer councils and civil society in developing technical standards.
- Utilizing existing international standards where possible while ensuring they support accessibility, internationalization, and localization. Where existing standards are inadequate, work to enhance or extend them to meet these requirements effectively. The focus must be on transparency and accessibility to the citizen, not on fee structures that benefit standards bodies or block participation.

3.2 Support Flexible Regulatory Frameworks

Effective international cooperation requires frameworks that balance financial inclusion, competition, innovation, accessibility, and security. Policymakers should:

- Develop bilateral, multilateral, and/or multistakeholder agreements to align regulatory and legal frameworks in a way that supports interoperability.
- Advocate for proportionate oversight mechanisms to ensure accountability without overburdening smaller or newer institutions, enabling their growth and participation in the ecosystem.
- Ensure that interoperability is key in their own development of digital currencies.
- Recognize that governments—not markets—must take the lead in ensuring the underserved are not left behind. This means investing in public infrastructure, enforcing minimum standards for accessibility, and providing baseline protections where market forces fall short.

3.3 Foster Local Adaptability

Protocols must support local financial ecosystems by enabling last-mile inclusion and innovation at the community level. This includes:

- Facilitating seamless integration for small-scale and community financial institutions to connect to global systems while preserving local priorities.
- Supporting modular and adaptable standards that meet regional needs without sacrificing global interoperability.
- Leveraging regulatory mechanisms to block exclusionary practices, cap extractive fees, and prevent consolidation that undermines fair competition.
- Investing directly in infrastructure for underserved regions, and reducing reliance on voluntary corporate goodwill to serve those markets.

3.4 Incentivize Inclusion Through Sustainable Capacity Building

Successful innovation requires investment. But investment in inclusion is often perceived as high-risk or low-return—especially by private institutions. Governments and regulatory bodies must be prepared to take on this risk where the private sector cannot. Key actions include:

- Providing targeted grants or subsidies for smaller financial players and underserved constituencies to adopt and implement interoperable open payment technologies, ensuring these efforts align with user-first principles and serve communities holistically.
- Funding educational initiatives that (1) build digital literacy and financial empowerment skills and (2) address inclusion gaps, such as creating local financial institution(s) tailored to community needs.
- Supporting civil society and consumer protection groups to participate in the development and oversight of these efforts.
- Prioritizing sustainable funding models that bridge initial donor funding with mechanisms to empower local financial institutions to sustain their ongoing costs. This reduces long-term dependency on donors, increases local ownership, and enhances data sovereignty.
- Engaging with large, existing legacy banks to explore opportunities for expanding their reach to underserved populations. This can include incentivizing banks through public-private partnerships or policy mechanisms to adopt more inclusive practices and develop services tailored to low-income communities.
- Supporting legacy banks complements broader financial inclusion efforts by leveraging their existing infrastructure to enhance system capacity and scalability. However, such efforts must be grounded in public responsibility—ensuring that inclusion is not left to market discretion, but treated as a matter of regulatory and moral obligation.
- Establishing cost-control and risk-sharing mechanisms that help smaller institutions scale without compromising their ability to serve vulnerable populations. This may include public underwriting, shared digital infrastructure, or access to compliance tools.

This policy primer reflects insights from interviews, desk research, and over 12 months of deliberations by members of the Dynamic Coalition on Digital Financial Inclusion, in consultation with subject matter experts. The views expressed do not necessarily represent those of all contributors, their institutions, or all members of the Dynamic Coalition. We extend our gratitude to those who shared their expertise, which has shaped this vision for interoperable financial inclusion.

Dynamic Coalitions are open, multistakeholder, and bottom-up initiatives formed by individuals or organizations to coalesce around a set of Internet governance issues of common interest, identify specific policy problems, and provide targeted solutions. Anyone interested is welcome to join and contribute to DC activities. While Dynamic Coalitions operate autonomously and outside of the IGF decision-making structures, they are recognized by the IGF Secretariat and function within the IGF framework, adhering to its principles and code of conduct. The views and opinions expressed by Dynamic Coalitions do not necessarily reflect those of the United Nations Secretariat. The designations and terminology employed may not conform to United Nations practice and do not necessarily imply the expression of any opinion whatsoever on the part of the United Nations.

Interledger
FOUNDATION

The Interledger Foundation is proud to support the work of the UN Internet Governance Forum Dynamic Coalition on Digital Financial Inclusion.