

# Assessing Peru's Retail Payments Interoperability Strategy: A Case Study

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BANCO CENTRAL DE RESERVA DEL PERÚ

## Monetary Operations & Financial Stability Department

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## Executive Summary

In recent years, Peru has made significant strides in the digitalization of its payment systems, leading to a gradual decline in cash use. Despite this progress, the adoption of digital payments remains markedly low compared to other countries in the region. This lag can be attributed to several challenges in both the demand for and the supply of services, with a notable issue being the lack of interoperability in the retail payments market. Up to 2022, this shortfall was evidenced by the inability to transfer funds across different digital wallets or immediate payment functionalities provided by Payment Providers, Agreements, and Systems. This lack of interoperability directly impedes the widespread adoption of digital payments across both instruments (such as digital wallets and cards) and payment infrastructures (including account-to-account and card-to-card transfers, and electronic money), and it tends to concentrate payments among a few providers. This concentration does not foster the entry of new payment service providers like fintech and big tech companies, nor does it facilitate the implementation of new infrastructures, such as account-to-card payment rails, which would promote competition and the introduction of new services.

Since 2022, the Central Reserve Bank of Peru (BCRP) has promoted the widespread adoption of retail digital payments through a mandated, phased Interoperability Strategy. Phase 1 focused on integrating digital wallets, Phase 2 is enhancing capabilities for instant mobile transfers via QR codes, and Phase 3 is dedicated to implementing electronic money. Launched in collaboration with industry partners in October 2022, the strategy aims to make digital payments universal, enabling seamless transactions across various financial providers —digital wallets, banks, credit unions, and microfinance institutions, thereby ensuring that even small transactions are unrestricted by financial affiliations or the necessity for cash, effectively removing barriers to transactions.

According to the reviewed literature, increased interoperability within the retail payments ecosystem can significantly benefit all participants and end users (consumers and merchants). These benefits include greater convenience, enhanced efficiency, increased competition, and improved financial inclusion. Additionally, the right incentives for ongoing innovation contribute to the development of new use cases, increased value added, and high-quality services.

The swift implementation and adoption of interoperable services in Phases 1 and 2 of the Strategy were facilitated by several factors: the regulatory leadership of the BCRP, the agile design and implementation of both the Strategy and regulations (delivered in sprints), collaborative efforts between the industry and regulators, gradual and secure service rollout, a focus on user experience, the private sector's commitment to maintaining free peer-to-peer (P2P) transfers, ongoing industry monitoring to optimize processes (using dashboards), and support in designing a business model that ensures the sustainability of these interoperable services.

One of the main impacts of the Strategy on the payment ecosystem has been the addition of new actors, the rollout of new services, increased user access, and a significant rise in the use of digital payment instruments. Additionally, more entities are now offering instant mobile transfer services via the Automated Clearing House (CCE); microfinance institutions are increasingly active in providing digital services; and fintechs are entering both into the BCRP's QR Registry and as technology providers, leading to heightened competition in card payment acquisition. Overall, the entry of new players such as telecommunications companies and fintechs is expected to continue.

In summary, the Strategy has accelerated the adoption of digital payments, a trend that has been ongoing for several years and is reshaping the country's retail payments ecosystem.

## I. Introduction

Internationally, the widespread adoption of digital payments has advanced significantly over the last decade as new actors have entered the payment market, introducing new services and use cases, increasing account access, boosting confidence in the financial system, and receiving support from regulatory authorities, particularly central banks. This trend intensified post-pandemic due to changes in usage habits and the demand for safer, more efficient, and contactless payment options.

In Asia, notable examples include Thailand, Singapore, and China, where the private sector has played a central role in popularizing payments through digital service innovation (wallets, QR codes, contactless payments, etc.), and the authorities, such as central banks, have provided regulatory frameworks and facilitated public-private dialogue spaces to continually revise regulatory environments. India is also a global success story, with the implementation of the UPI Platform in 2016, one of the ten platforms operated by the public-private NPCI company. In Europe,<sup>1</sup> the expansion of digital payments has been more complex due to coordination among all European bloc authorities and the varied needs of each country (the Payment Services Directive was launched in 2007 and revised in 2013 and 2018). In the U.S., the Federal Reserve launched FedNow in 2023 to complement the private sector's offerings, especially to include medium and small payment actors.

Latin America has been part of this trend, with countries promoting, fortifying, or actively engaging in the advancement and proliferation of innovations, as well as the increased usage and accessibility of retail or low-value digital payments. Strategies vary across countries depending on the maturity of their payment industries, specific service demands, and the regulatory landscape. For example, Argentina, Chile, Peru, among others, opted to pursue a regulatory in line with the progress made by the private sector in their respective markets. They enacted regulatory reforms facilitating the interconnection and interoperability of each country's payment infrastructures and services. Conversely, instances such as Costa Rica, Mexico, and Brazil, opted to establish their own retail payment platforms (SINPE Móvil,<sup>2</sup> Codi,<sup>3</sup> and Pix,<sup>4</sup> respectively) to position themselves at the heart of infrastructure interconnection, assuming all potential risks related to information security, platform availability, customer service, etc., with varying outcomes.

Recently, Ecuador and Colombia have joined this trend. In the former case, regulation was issued to enable the interoperability of payment services, while in Colombia, the Central Bank announced in December 2023 that it had selected a technology provider to implement its own platform.

In Peru, the BCRP has taken the lead in driving the widespread adoption of digital payments and has issued regulation to facilitate a phased implementation of interoperability. Following the successful implementation of Phase 1 (digital wallets), Phases 2 (instant mobile transfers) and 3 (electronic money) are currently progressing decisively. Launched in October 2022, the BCRP's Interoperability Strategy aims to promote widespread use of digital payments, enabling individuals to pay digitally regardless of

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<sup>1</sup> TARGET Instant Payment Settlement (TIPS) was launched in Europe in 2018.

<sup>2</sup> The Central Bank of Costa Rica launched its National Electronic Payments System in 2010 and SINPE Móvil in 2019

<sup>3</sup> The Bank of Mexico introduced its Codi (Digital Collection) Platform in 2019

<sup>4</sup> The Central Bank of Brazil implemented Pix in 2021.

their financial provider (wallet, bank, credit union, or microfinance institution). thereby ensuring that even small transactions are unrestricted by financial affiliations or the necessity for cash, effectively removing barriers to transactions.

The Strategy emerged in response to a highly fragmented digital payments ecosystem, characterized by various infrastructures that neither provided access to new actors nor offered new services according to user demand. Moreover, cash usage remained notably high, with over 80% of Peruvians relying on it for payments, within a context of significant economic informality.

The article is structured as follows: Section II delves into a literature review to clarify definitions, concepts, and international organizations' perspectives on interoperability; Section III outlines the Peruvian payment market's status as of December 2022, serving as a benchmark for comparisons and subsequent analysis of the Strategy's impact; Section IV provides a detailed description of the BCRP's Interoperability Strategy and analyzes its effects on the Peruvian payment market; and Section V presents the conclusions.

## II. Literature Review

The Bank for International Settlements (BIS) defines interoperability as the technical,<sup>5</sup> semantic,<sup>6</sup> and business<sup>7</sup> compatibility that enables the joint use of a system with others (Boar et al, 2021). Accordingly, banks and other payment service providers (PSPs) participating in different systems or jurisdictions can execute, clear, and settle payments between systems without engaging in multiple systems. Furthermore, the BIS emphasizes that interoperability is a means rather than an end, the goal being to enable end users to transact seamlessly with each other, irrespective of their geographical location or PSP choice.

Similarly, the World Bank (WB) states that payment systems consist of the following elements: infrastructure,<sup>8</sup> scheme rules,<sup>9</sup> and applications<sup>10</sup> (WB, 2021). Thus, interoperability implies communication between two or more of these elements. Technical, legal, and commercial agreements among payment system participants are essential, facilitated by new regulation. Additionally, the WB underscores the importance of understanding use cases and interoperability objectives before opting for this alternative. Finally, it emphasizes the importance of encouraging adoption for successful interoperability, achievable through participant and end-user education.

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<sup>5</sup> Technical compatibility refers to systems using the same technical standards, enabling direct connectivity of hardware and software infrastructures.

<sup>6</sup> Semantic compatibility means systems operate using the same language, ensuring data is uniformly and consistently interpreted across systems.

<sup>7</sup> Business compatibility involves systems aligning on the rights and obligations of transferring money between them, such as access rules, settlement processes, and risk management.

<sup>8</sup> Infrastructure comprises the hardware and software that enable payment clearing and settlement.

<sup>9</sup> Scheme rules refer to the set of regulations, procedures, and technical standards governing the payments system.

<sup>10</sup> Applications are end-user payment services that leverage the functionalities underlying a payments system.



The Consultative Group to Assist the Poor (CGAP) notes that interoperability enhances the value proposition of payment services by allowing users to transfer money outside their PSP's network (Negre et al, 2021). For instance, an individual can pay another person with an account at another PSP, or a merchant acquired by a different PSP. The CGAP highlights that implementing interoperability is a complex process requiring three elements: a governance model,<sup>11</sup> an economic model,<sup>12</sup> and an operational model.<sup>13</sup> It stresses that interoperability can be industry- or regulator-driven, with no single model for implementation (Box 1). However, experience from other countries shows that a participatory process, where PSPs contribute to defining the interoperability model's rules, is more likely to succeed.

The Center for Latin American Monetary Studies (CEMLA) points out that the concept of interoperability is "multidimensional," primarily referring to the ability for a transfer order to be processed independently of the technological platform, the PSP, or the telecommunications company (Telco). Additionally, Morales and Pérez (2016) emphasize that interoperability is crucial not only for ensuring the security and efficiency of payments (processing, clearing, and settlement) but also for promoting competition among PSPs by eliminating barriers between them, thereby fostering price competition, economies of scale, and a greater number of transactions, which, in turn, impact cost reduction in payment systems and providers. Lower costs result in greater access to digital payments, thus favoring financial inclusion.

Bianchi et al. (2023) examine interoperability across four dimensions: telecommunications network interoperability (whether a customer from one Telco can send payments to a customer from another), platform interoperability (the ability to send money off-platform), agent network interoperability (convenience in depositing and withdrawing cash through agents), and data interoperability (based on data ownership). The authors conclude that the lack of interoperability can affect competition in both the telecommunications and payment markets, even discouraging the entry of new companies. They also find that the positive effects of interoperability may be limited if there is a dominant player in the market with strong network externalities, or if consumers face high information costs related to fees and service costs.

Another dimension regarding interoperability, beyond definitions and concepts, concerns its implementation timing. In this regard, Bourreau and Valletti (2015) highlight the challenge of determining when and how to intervene in the market to ensure interoperability, acknowledging that it can entail both benefits and costs. They also point out that it is important to ascertain whether interoperability can be implemented at a low cost and that regulation should not inhibit innovation. They further emphasize that interoperability becomes a regulatory option if applied when commercial agreements are no longer feasible and, possibly, only in the presence of a dominant position in the market.

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<sup>11</sup> A governance model that balances competition and cooperation among PSPs.

<sup>12</sup> An economic model that encourages PSP participation through potential increased earnings.

<sup>13</sup> An operational model including the technology needed to connect participants securely and efficiently.

## BOX 1

## International Experience in Retail Payments Interoperability

International experience suggests that there is no single model for implementing interoperability in retail payments.

**Kenya and Tanzania** pioneered the trend beginning in 2007 and 2009, respectively, through regulations that enabled electronic money transactions on mobile devices via telecommunications companies. This progress fostered interoperability among closed electronic money systems, initiated by the industry and achieved through the establishment of shared rules and bilateral connections between service operators. Users can now seamlessly send and receive money across different electronic money networks.

In **Australia**, the regulatory authority prompted the industry to enhance retail payments. In response, the industry proposed the New Payments Platform (NPP), an instantaneous retail payments system. Formed in 2014, a consortium, including the Reserve Bank of Australia (RBA) and financial institutions, funded the development and operation of NPP as founding shareholders. Concurrently, the RBA crafted a new platform for the real-time, individual settlement of payments. Launched in 2018, NPP operates continuously, enables payments via mobile number or email, and utilizes a distributed infrastructure without a centralized switch but with a centralized database.

In **India**, the National Payments Corporation of India (NPCI)—a nonprofit founded by the Reserve Bank of India (RBI) and the Indian Banks' Association—launched the Unified Payments Interface (UPI) in 2016. This 24/7 real-time retail payments system leverages an Application Programming Interface (API) standard to ensure interoperability among different entities and a centralized router or switch to facilitate the system's operation without a centralized directory. Settlements within this system occur on a deferred basis through the RBI's settlement system.

In **Brazil**, the Central Bank closely collaborated with the industry to design Pix, an instant payment scheme, operational 24/7, since 2020. The Central Bank also manages the platforms necessary for its operation, including a centralized database and a real-time settlement platform, and has mandated the participation of major payment service providers. In **Argentina**, since 2020, the Central Bank has required compulsory interoperability among payment infrastructures such as electronic funds transfer and payment card clearing houses.

### III. Dynamics and Challenges of Peru's Retail Payments Ecosystem

#### A. Stakeholders in the Retail Digital Payment Ecosystem

Peru's payments ecosystem for low-value digital payments consists of **Payment Service Providers (PSPs), Payment Arrangements, and Payment Systems** (Appendix 1). PSPs are corporate entities that provide payment services enabling fund transfers through various methods such as payment cards, electronic wallets, mobile payments, and online transactions. Payment Arrangements facilitate the transfer of funds among their participants, involving at least three entities, one of which must be a financial sector entity. Payment Systems are specialized Payment Arrangements recognized by the



BCRP due to their systemic significance, as defined under the Payment Systems and Securities Settlement Law<sup>14</sup> and its regulations.<sup>15</sup> Such recognition is based on criteria like the volume and value of transactions among participants.

**The BCRP oversees these retail payment entities**, fostering a secure, efficient, and competitive environment for digital transactions. The main Payment Systems and Payment Arrangements at the retail level include:

1. **Card-based Payment Arrangements** (hereafter referred to as APTs,<sup>16</sup> the original abbreviation used in Peru's payments system), involving card brands, issuers, acquirers, and payment facilitators, as outlined in the APT Regulation.<sup>17</sup> Card brands such as Visa and Mastercard establish transaction processing rules and provide the technological infrastructure via processors and acquirers (e.g., Niubiz, izipay) to facilitate fund transfers through card codes (PAN/BIN).<sup>18</sup> Issuers, predominantly financial institutions, provide various options including credit, debit, and prepaid cards to consumers. Meanwhile, acquirers and payment facilitators primarily engage in merchant onboarding to enable card acceptance.
2. **Electronic Money Payment Arrangements** (hereafter referred to as APDEs,<sup>19</sup> the original abbreviation used in Peru's payments system), which handle the processing and settlement of electronic money transfers among participating issuers. Currently, an APDE managed by Pagos Digitales Peruanos (PDP) facilitates electronic money transfers through the Bim digital wallet. This arrangement includes a wide range of financial sector entities but constitutes less than 2% of Peru's transaction volume.
3. **Yape**, a Payment Arrangement managed by Banco de Crédito del Perú (BCP), allows clients of associated financial institutions to transfer funds using the Yape digital wallet via mobile number or QR code. Yape leverages the Visa card payment infrastructure (rail) through Visa Direct (via the Niubiz processor) and operates a user directory maintained by BCP.
4. **Plin**, a Payment Arrangement managed by BBVA, Scotiabank, and Interbank, facilitates transfers through a mobile banking feature, using a mobile number or QR code. Plin also utilizes the Visa payment card infrastructure (Visa Direct via the Niubiz processor) with a user directory overseen by the technology provider YellowPepper.
5. **Clearing and settlement systems for checks and other negotiable instruments** are managed by the Automated Clearing House (hereafter referred to as CCE,<sup>20</sup> the original abbreviation used in

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<sup>14</sup> Law 29440: <https://www.bcrp.gob.pe/docs/Sistema-Pagos/Ley-29440.pdf>

<sup>15</sup> Circular 012-2010-BCRP: <https://www.bcrp.gob.pe/docs/Transparencia/Normas-Legales/Circulares/2010/Circular-012-2010-BCRP.pdf>

<sup>16</sup> *Acuerdos de Pago con Tarjetas*.

<sup>17</sup> Circular 0027-2022-BCRP: <https://www.bcrp.gob.pe/docs/Transparencia/Normas-Legales/Circulares/2022/circular-0027-2022-bcrp.pdf>

<sup>18</sup> Personal Account Number / Bank Identification Number.

<sup>19</sup> *Acuerdos de Pago de Dinero Electrónico*.

<sup>20</sup> *Cámara de Compensación Electrónica*.

Peru's payments system), Peru's leading electronic clearing and settlement services company. These systems allow clients of participating financial institutions to conduct (credit and instant) interbank transfers using an interbank account code (hereafter referred to as CCI,<sup>21</sup> the original abbreviation used in Peru's payments system), along with other negotiable instruments. The CCE establishes the procedures and technological infrastructure necessary for the settlement of transactions among participants. Settlement occurs in the clearing accounts maintained at the BCRP, on a deferred basis relative to the payment instructions.

Further, there are additional players in Peru's payment ecosystem:

6. **Electronic Money Issuing Companies** (hereafter referred to as EEDs,<sup>22</sup> the original abbreviation used in Peru's payments system) are primarily engaged in issuing electronic money and are regulated by the Superintendency of Banking, Insurance, and Pension Funds (SBS). Currently, four EEDs operate in the country: Peruana Soluciones, Tarjetas Peruanas Prepago (TPP), Servitebca, and GMoney. These companies are not part of the Bim APDE and largely process transactions using the payment card infrastructure (via the Niubiz processor). Since June 2023, they have access to the CCE's clearing and settlement services and the BCRP's Real-Time Gross Settlement (RTGS) system.
7. **Fintechs** are companies that leverage technology to provide financial services such as fund transfers and bill payments. In 2022, approximately 154 fintechs were operating in the country,<sup>23</sup> of which 18.2% offered payment services, including digital wallets, payment cards, and payment solutions for merchants. While there is no specific regulation for fintech companies in Peru, the current regulatory framework governs some of their activities; for example, the BCRP monitors payment fintechs, as they could be considered PSPs.
8. **Banco de la Nación (BN)**, which serves as the Peruvian government's financial agent, has implemented the interoperable immediate transfer service in the CCE since Q4 2023.

## B. Retail Payment Instruments<sup>24</sup>

**Cash is the dominant payment method in Peru.** According to a 2022 Ipsos Peru survey,<sup>25</sup> 89% of Peruvians utilized cash for transactions, with 56% relying exclusively on it. This trend is influenced by various factors, including the substantial informal economy—71.9% of the workforce as of September

<sup>21</sup> *Código de Cuenta Interbancario*.

<sup>22</sup> *Empresas Emisoras de Dinero Electrónico*.

<sup>23</sup> Fintech Business Guide 2022/2023 (EY Perú).

<sup>24</sup> This section presents data as of December 2022 for the purpose of assessing impacts in the following section of the document.

<sup>25</sup> Payment Methods Survey 2022 (Ipsos Perú):

<https://www.ipsos.com/sites/default/files/ct/publication/documents/2022-08/Ipsos%20Udapte%20-%20Payment%20options.pdf>

2023<sup>26</sup>—and attributes of cash such as anonymity, low traceability, absence of user fees, and simplicity of use.

**However, cash usage is not without drawbacks.** It is inefficient for high-value and non-face-to-face transactions. Furthermore, the pervasive use of cash in retail transactions generates unrecognized societal costs. These include production, storage, distribution, withdrawal, transportation, and verification expenses, as well as the challenges of exact change and the risks of counterfeiting, loss, and theft. Merchants often feel that accepting card payments is costlier due to the discount rates charged by acquirers. Yet, the operational costs associated with cash transactions can make merchants indifferent to the choice of payment instrument.<sup>27</sup>

**Over recent years, there has been a decline in cash usage and a notable advancement in payment digitalization in Peru.** This shift has been propelled by an increase in payment service offerings by the private sector (digital wallets, QR code payments, 24x7 immediate transfers, contactless payments, etc.), a rising demand for digital payments following changes in consumer behavior due to the COVID-19 pandemic, and regulatory guidance from the BCRP. In December 2022, non-cash retail payments reached 388 million transactions per month (Figure 1). In the same year, the average number of digital transactions per person was approximately 174 (Figure 2); and, according to Ipsos Perú,<sup>28</sup> 29% of Peruvians used QR codes for payments, especially in restaurants (58%) and convenience stores (50%), and for taxi services (35%).

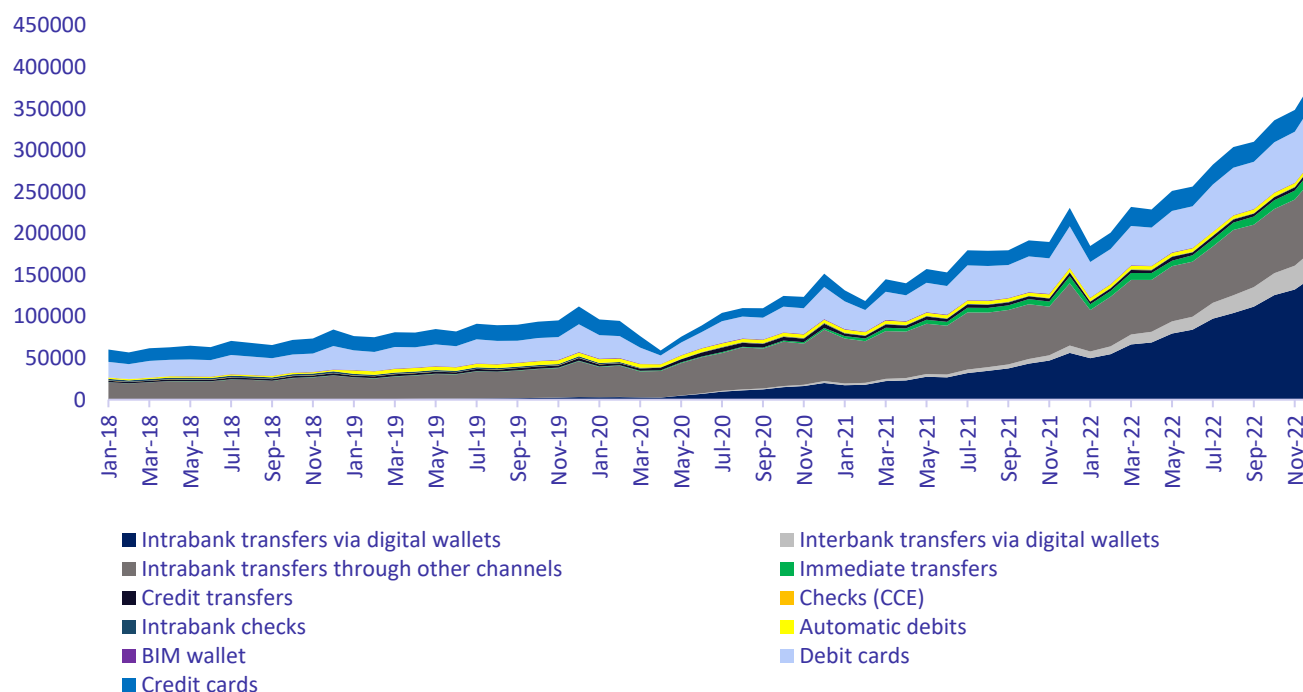
**Figure 1**  
**Peru: Monthly Digital Payment Transactions**  
**(Thousands, Jan. 2018 – Dec. 2022)**

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<sup>26</sup> Permanent National Employment Survey (EPEN), National Statistics Institute (INEI), Oct. 2022 – Sep. 2023: <https://m.inei.gob.pe/media/MenuRecursivo/boletines/11-informe-tecnico-mercado-laboral-tercer-trimestre.pdf>

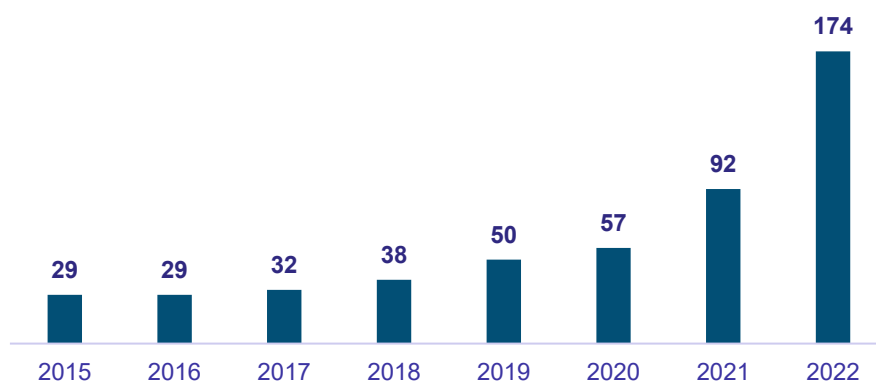
<sup>27</sup> Rochet and Tirole (2011) developed the “tourist test” to estimate an interchange rate that equalizes the costs of accepting cash and card payments, thereby making merchants indifferent between the two methods.

<sup>28</sup> Payment Methods Survey 2022 (Ipsos Perú): <https://www.ipsos.com/sites/default/files/ct/publication/documents/2022-08/Ipsos%20Udapte%20-%20Payment%20options.pdf>



Source: BCRP

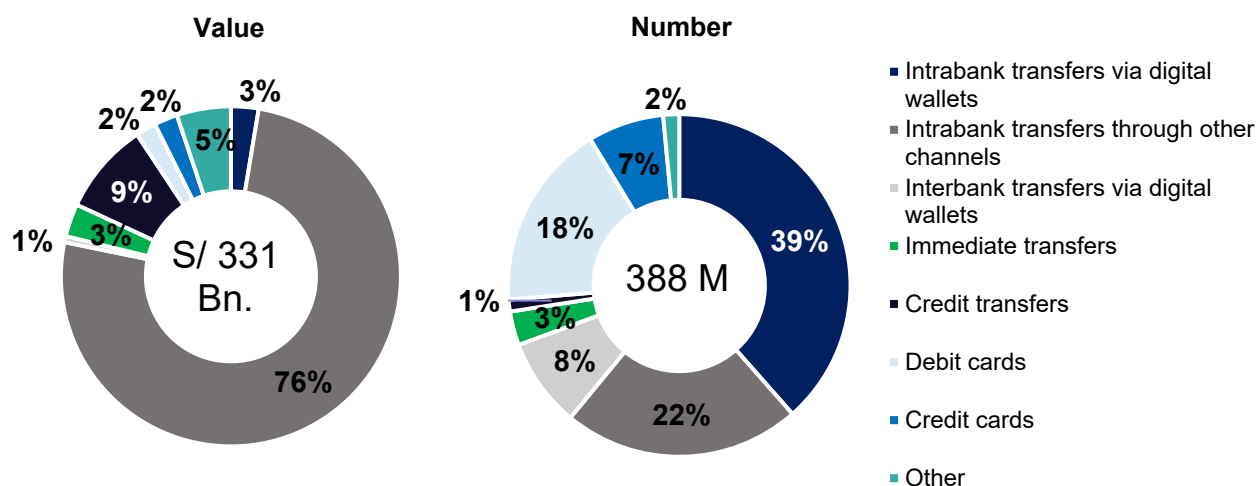
**Figure 2**  
**Peru: Per Capita Digital Payments**



Source: BCRP

The data reveals a high concentration in intrabank retail payments and those made using digital wallets (Figure 3). In December 2022, intrabank transfers (i.e., money transfers between accounts within the same financial institution) accounted for 61% of the total number of retail payments and 79% of their value. In contrast, transactions using digital wallets comprised 47% of the total number of retail payments but only 4% of their value, with the average transaction size being S/ 58.

**Figure 3**  
**Retail Payments by Instrument**  
**(Dec. 2022)**



**Prevalence of “intrabank” payments (i.e., within the same institution).** The high concentration of intrabank digital retail payments (where both the payer and the recipient are within the same institution) may reflect a market structure where the main service offering continues to be provided by each institution through its own internal systems and is not made available via the CCE or any other interconnected infrastructure. This is often the case for utility, payroll, and collecting account payments.

### C. Diagnostic: Lack of Interoperability

**The lack of interoperability in payment services limits the widespread adoption and use of digital payments.** Despite noted progress, the adoption of digital payments in Peru remains low compared to other countries in the region.<sup>29</sup> This is due to various challenges in both the demand and supply of payment services,<sup>30</sup> with one key issue being the lack of interoperability. Until 2022, the latter was evident in the inability to transfer funds between different digital wallets or immediate payment features provided by PSPs, Payment Arrangements, and Payment Systems.

**As of now, two digital wallets dominate the Peruvian payment market, and until 2022, they did not interoperate: Yape from BCP and Plin from BBVA, Interbank, and Scotiabank.** By the end of 2022, Yape had over 11 million users, compared to approximately 8 million for Plin.<sup>31</sup> It should be noted that Plin is embedded within mobile banking apps, whereas Yape operates as a standalone wallet. Although both Payment Arrangements allowed other financial entities to participate in their

<sup>29</sup> For an international comparison on financial inclusion and digital payments see García and Andía (2022). *¿Qué nos dice el Global Findex 2021 sobre la inclusión financiera en el Perú?* Moneda Magazine, (191), 18-23.

<sup>30</sup> For insights into existing challenges in the demand and supply of payment services in Peru, see: BCRP (2023): *CBDC: Promoviendo los pagos digitales en el Perú*.

<sup>31</sup> BCP, BBVA, Interbank, and Scotiabank are the largest banks in Peru based on credit, deposit, and equity rankings.

ecosystems,<sup>32</sup> they were closed schemes, as users of Yape and Plin could only transfer money to other users within the same ecosystem, not between Yape and Plin.

**Furthermore, payment card rails did not connect with account-to-account payment rails.** The Yape and Plin digital wallets process payments through the Visa payment card infrastructure (via the Visa Direct service through the Niubiz processor), which was not interconnected with the CCE's account transfer processing services. For example, this lack of interconnection prevented users of the immediate transfer service from transferring money from their mobile banking apps to users of digital wallets like Yape and Plin using the beneficiary's mobile number or QR code.

**Additionally, QR codes could not be read by all digital wallets and mobile apps in the QR ecosystem** (Appendix 2). For instance, QR codes displayed by individuals and merchants affiliated with Yape could not be read by the Plin wallet, and vice versa. While some acquirers, such as Niubiz and izipay, offered their affiliated merchants the ability to display a single QR code at point-of-sale (POS) terminals to accept payments from different digital wallets, merchants without a POS had to display as many QR codes as there were digital wallets in the market. It is worth mentioning that the BCRP maintains a register of participants in the QR code payment service (QR Registry), established by the QR Code Payment Service Regulation,<sup>33</sup> which includes major digital wallets and QR code providers for payments.<sup>34</sup>

**Moreover, electronic money accounts were not interconnected with deposit accounts.** The Bim APDE, managed by PDP, functioned as a closed scheme, as it was not interconnected with other electronic money issuers or regular bank accounts, for example, through the CCE. This prevented Bim wallet users from transferring money to users of Yape or Plin, and vice versa. Similarly, EMICs operated as closed schemes providing non-interoperable payment services. This was due to the lack of interconnection between electronic money accounts of different entities and deposit accounts, except via prepaid card payments processed on the payment card infrastructure.

**Finally, existing conditions in the retail payments market hinder the entry of new payment service providers, such as fintechs (Box 2).**

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<sup>32</sup> Nine entities participate in Yape: BCP, Mibanco, Caja Huancayo, Caja Ica, Caja Cusco, Caja Trujillo, Caja Piura, Caja Sullana, and Caja Tacna. Nine entities participate in Plin: BBVA, Interbank, Scotiabank, Banbif, Caja Arequipa, Caja Ica, Caja Sullana, Banco Alfin, and Caja Huancayo.

<sup>33</sup> Circular 0003-2020-BCRP: <https://www.bcrp.gob.pe/docs/Transparencia/Normas-Legales/Circulares/2020/circular-0003-2020-bcrp.pdf>

<sup>34</sup> QR Code Payment Service Registration: <https://www.bcrp.gob.pe/docs/Transparencia/Normas-Legales/Circulares/2020/circular-0003-2020-bcrp-registro.pdf>



## BOX 2

**Barriers to Fintechs in Peru's Payments Market**

In September 2023, Peru's agency for the defense of competition and intellectual property (Indecopi) released a study on the fintech industry, outlining several competitive obstacles faced by fintech companies in the local payments market:

1. **Opening and maintaining bank accounts:** Banks have occasionally restricted the opening of accounts by fintech companies or have closed them, citing risks associated with Anti-Money Laundering and Counter-Terrorism Financing (AML/CTF). This increases costs for fintechs and their clients due to the fees required for interbank transfers and prolongs transaction times.
2. **EEDE Authorization:** To date, only four companies have been authorized to operate as EEDEs. This restriction may be due to the significant costs and the extended timeframe needed to obtain the necessary authorization.
3. **CCE Access:** Previously, only banks, finance companies, municipal, and rural credit unions had access to the CCE. However, EEDEs were granted access to the CCE in June 2023.<sup>35</sup> Although it is possible for fintechs to gain indirect access through EEDEs, this option has not been fully utilized due to the limited availability of financial institutions willing to assume this role.
4. **Interoperability:** The digital wallet market has developed without interoperability among different platforms. However, since October 2022,<sup>36</sup> the BCRP has been promoting interoperability among digital wallets, QR codes, bank accounts, and electronic accounts.
5. **Open Banking:** Currently, banks monopolize and have exclusive access to customers' transactional data, which provides them with a comparative advantage, for example, in the customization of financial services. Open Banking, which advocates for the sharing of customer data, has the potential to level the playing field between established financial institutions and other players such as fintechs.

Additionally, the study identifies underdeveloped infrastructures in areas such as telecommunications (e.g., internet penetration in rural areas), digital identification, and API architecture as significant barriers. These deficiencies impede the development of services offered by fintech companies.

<sup>35</sup> Circular 0010-2023-BCRP: <https://www.bcrp.gob.pe/docs/Transparencia/Normas-Legales/Circulares/2023/circular-0010-2023-bcrp.pdf>

<sup>36</sup> Circular 0024-2022-BCRP: <https://www.bcrp.gob.pe/docs/Transparencia/Normas-Legales/Circulares/2022/circular-0024-2022-bcrp.pdf>

## IV. The BCRP's Interoperability Strategy

### A. The Importance of Interoperability

**Interoperability enables a user to conduct a transfer or digital payment to any individual or merchant**, regardless of the digital wallet, feature, or mobile app used, or the financial institution where their funds are held. Essentially, interoperability allows customers to carry out transactions outside the closed ecosystem or scheme created by their PSP, thereby fostering greater adoption and use of digital payment services.

**According to the literature review, increased interoperability within the retail payments ecosystem offers potential benefits to both participants and end users (consumers and merchants):**

1. **Greater convenience:** Users can make payments more easily, at lower costs, and in less time to users of different PSPs. Without interoperability, users must undergo lengthy and expensive processes to transfer funds to users of other entities, or they might incur costs to maintain multiple accounts.
2. **Increased efficiency:** The implementation of shared infrastructures reduces operational costs for participants, thereby creating economies of scale. Without interoperability, participants need to connect to multiple systems or establish bilateral connections between systems.
3. **Enhanced competition:** Interoperability levels the playing field between large and small institutions and encourages the entry of new participants into the payment ecosystem, attracted by lower integration costs. Additionally, users can choose the provider that offers them the best value proposition, user experience, and price. Without interoperability, users need to contract with various account, wallet, or app providers, or choose the same PSP as their friends or clients to transact directly with them.
4. **Greater financial inclusion:** Improved convenience enhances user experiences in making payments, which encourages more people to enter the financial system to use payment services and, subsequently, more complex financial services.
5. **Incentives for the global economy:** Interoperability in retail payments not only facilitates domestic transactions but also paves the way for connections with payment systems in other countries, thereby boosting international economic interactions.

Moreover, properly designed and implemented interoperability is expected to generate **appropriate incentives to continue innovating** and creating new use cases, value added, and high-quality services.

### B. Strategy Objectives and Phases

From May to August 2022, the BCRP crafted the Retail Payments Interoperability Strategy (the Strategy) to enhance digital payment adoption nationwide. The Strategy unfolds in four distinct phases, targeting various scopes and deadlines for entities within the retail payments ecosystem:

**Phase 1:** In this phase, the country's largest digital wallets, Yape and Plin, were required to become interoperable. This allowed Yape users to make payments using mobile numbers to Plin users, and vice versa. The compliance deadline for this phase was March 2023.

**Phase 2:** This phase required interoperability between digital wallets and immediate transfer services offered in mobile banking apps by banks, credit unions, and financial institutions such as Banco Falabella, GNB, Banco Pichincha, Caja Cusco, and Caja Sullana. This would allow, for instance, a user of immediate transfers on any of these platforms to transfer funds using a mobile number to a user of Yape or Plin, and vice versa. Additionally, all entities registered in the QR Registry were required to provide interoperable services, ensuring that all QR codes registered could be read by any registered digital wallet. The compliance deadline for this phase was September 2023.

**Phase 3:** This phase included the electronic money accounts offered by EEDs and the electronic money transfer service of the Bim APDE, enabling interoperability between electronic money accounts and deposit accounts. For example, with the implementation of this phase, users of the Bim wallet could transfer funds using a mobile number or QR code to users of digital wallets linked to bank accounts, such as Yape and Plin, and to users of immediate transfers in mobile banking, and vice versa. The compliance deadline for this phase was December 2023 for the Bim APDE and 180 calendar days for the EEDs after accessing the CCE.

**Phase 4:** This phase aims to integrate new participants, such as fintechs, into the retail payments ecosystem using a payment initiation model. The rollout of this phase is slated for 2024.

## C. Strategy Implementation

### REGULATION

**On October 7, 2022, the BCRP introduced Phases 1 and 2 of the Strategy with the issuance of the Regulation on Payment Service Interoperability** (the Interoperability Regulation).<sup>37</sup> This regulation governs the interoperability of payment services provided by PSPs, APDEs, and Payment Systems, aiming to foster nationwide interoperability. It underwent a comparative legislative review during drafting.

The Interoperability Regulation covered the following key points:

1. **Interoperability Requirement:** Applies to Regulated Entities<sup>38</sup> offering digital wallet services, immediate payment features embedded in mobile banking apps, immediate transfers via mobile banking apps, and other services designated by the BCRP.
2. **Interoperability Deadlines:**
  - a. Phase 1 (deadline: March 31, 2023): Yape (BCP) and Plin (BBVA, Scotiabank, and Interbank).

<sup>37</sup> Circular 0024-2022-BCRP: <https://www.bcrp.gob.pe/docs/Transparencia/Normas-Legales/Circulares/2022/circular-0024-2022-bcrp.pdf>

<sup>38</sup> List of Regulated Entities: <https://www.bcrp.gob.pe/docs/Transparencia/Normas-Legales/Circulares/2023/circular-0013-2023-bcrp-anexo.pdf>

- b. Phase 2 (deadline: June 30, 2023): Yape and Plin (remaining participants), banks, municipal credit unions, finance companies, and entities in the QR registry.
3. **Interoperability Principles:** In implementing interoperability, entities must promote competition, efficiency, security, non-discriminatory practices, fairness, high-quality service, user-oriented design, accessibility of payment services, and information transparency.
4. **User Experience (UX) Guidelines:** Digital wallets and mobile apps should ensure seamless access for interoperable transfers, disclose applicable user fees or commissions before transaction confirmation, and avoid excessive security validations that may disrupt user experience.
5. **Sanctions and Enforcement Procedure:** The Interoperability Regulation specifies various infractions and the applicable penalties.

Subsequently, on July 11, 2023, the BCRP revised the Interoperability Regulation,<sup>39</sup> aiming to enhance operational security and stability during the implementation of Phase 2 and to include technology providers. The amendment extended the deadline for meeting the Phase 2 interoperability targets to September 13, 2023, and established deadlines for the implementation of Phase 3.

## PHASE 1

**On March 31, 2023, Regulated Entities successfully completed the deployment of interoperable payment services under Phase 1, enabling seamless transactions between the Yape and Plin wallets.** The rollout began in the last week of March with a control group, which included members of the BCRP's Task Force on Retail Payments Interoperability (the Task Force) in charge of verifying implementation. Mass deployment to users occurred progressively between April 1 and May 8. This gradual and synchronized rollout aimed to ensure optimal user experience with the new interoperability functionality and compliance with regulatory standards. Additionally, measures were taken to ensure that the mass transaction flow between both ecosystems did not affect the availability of the payment service.

**To ensure compliance with Phase 1, continuous implementation monitoring was conducted** (Figure 4). The following activities were carried out:

1. By October 31, 2022, all Phase 1 Regulated Entities had submitted an Interoperability Schedule, as required by regulations, detailing weekly activities necessary to achieve interoperability between Yape and Plin.
2. Between October and December 2022, the Task Force met with representatives from Yape, Plin, the CCE, and entities providing immediate transfer services to gather industry feedback on improving user experience guidelines, security, and other relevant aspects.
3. On January 31, 2023, progress reports were filed following regulatory requirements. In these reports, entities related to Yape and Plin identified certain technical challenges encountered during the development stage, affecting critical testing and production timelines. Nonetheless, these challenges

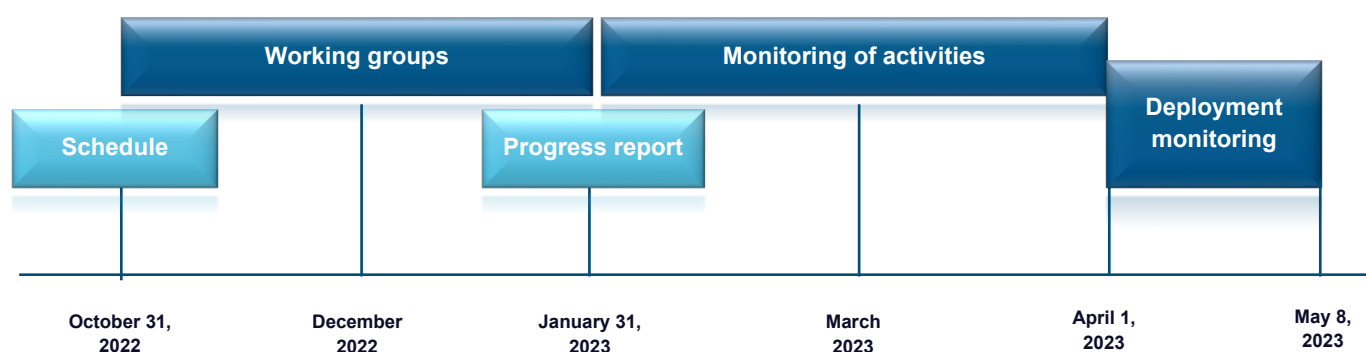
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<sup>39</sup> Circular 0013-2023-BCRP: <https://www.bcrp.gob.pe/docs/Transparencia/Normas-Legales/Circulares/2023/circular-0013-2023-bcrp.pdf>

were addressed through collaborative efforts between technology providers and the Regulated Entities, thereby preventing disruptions to the production release.

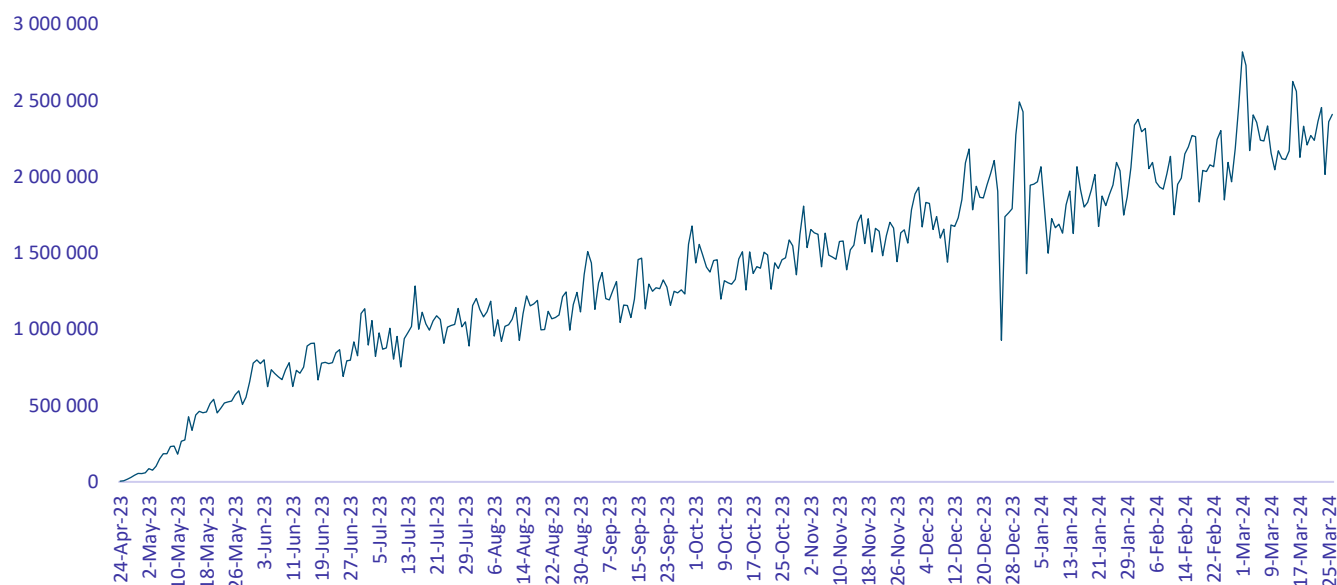
4. From January to March 2023, a weekly monitoring system was established to closely track the resolution of these technical issues and the progress in interoperability implementation between Yape and Plin, in collaboration with their service provider, YellowPepper. Every Thursday, Regulated Entities reported on the progress made and any incidents encountered during the week, providing solutions. This monitoring was essential to ensure regulatory compliance by March 2023.
5. Between April 1 and May 8, daily monitoring of the gradual scaling of interoperability to end users of the Yape and Plin wallets was carried out. This involved ongoing communication with both Payment Arrangements, confirming a gradual scaling in both the iOS and Android stores. Finally, on May 8, 2023, interoperable services were successfully deployed to 100% of users of both wallets.

**Figure 4**  
**Phase 1 Supervision Timeline**



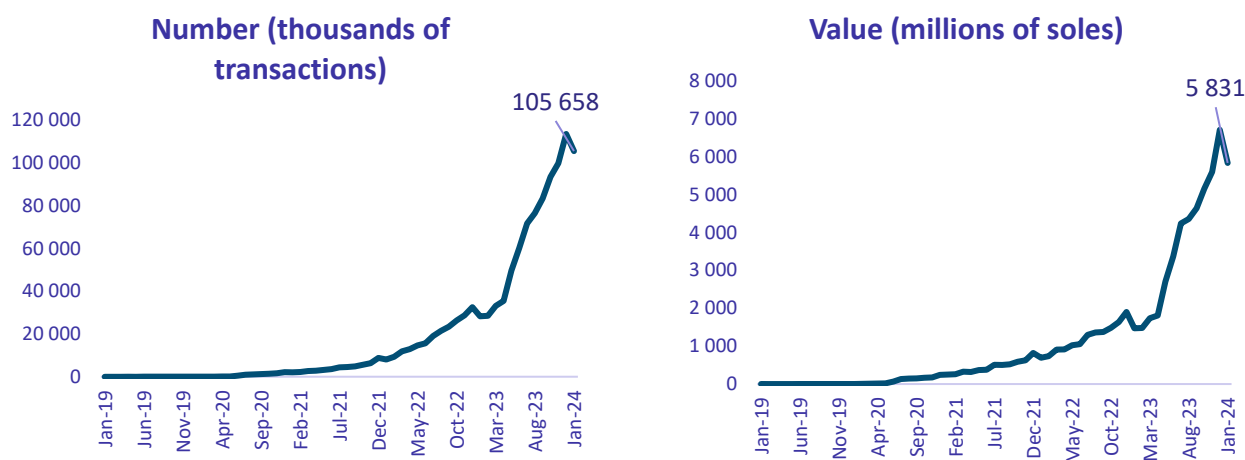
Following the 100% deployment to users, increased interoperability under Phase 1 of the Strategy led to exponential growth in operations between both wallets, reaching 2.8 million daily transactions in March 2024 (Appendix 4; Figures 5a and 5b).

**Figure 5a**  
**Daily Transactions between Yape and Plin**  
**(As of Mar. 26, 2024)**



Source: BCRP

**Figure 5b**  
**Interbank Transfers via Digital Wallets**  
**(As of Jan. 2024)**



Source: BCRP

Phase 1 implementation significantly boosted the adoption of digital payments. Nevertheless, after several months of implementation, there is a pressing need to further enhance user experience, service offerings from PSPs and financial institutions, platform availability, and more. In this light, the BCRP has identified several areas for prioritization to sustain the momentum of digital payments in 2024:

- Optimize infrastructure availability and efficiency indicators (regulation on service quality).<sup>40</sup>

<sup>40</sup> Circular 0009-2024-BCRP (Regulation on the Quality of Interoperable Payment Services delivered by Providers, Payment Arrangements, Payment Systems, and Technology Providers) was published on March 26, 2024, in the official gazette *El Peruano*.



- Enhance user experience (additional guidelines on user experience).
- Assess new use cases (public transportation, offline payments).
- Increase transaction security and efficiency (user enumeration).
- Establish governance rules for ecosystems.
- Ensure that financial institutions and technology providers deliver data continuously, in a synchronized manner, and reliably.
- Implement industry working groups.

## PHASE 2

On September 13, 2023, Regulated Entities achieved production deployment of interoperability among digital wallets, instant transfers, and QR codes. In parallel with the oversight of Phase 1, the following activities were conducted to ensure compliance with Phase 2:

1. On October 31, 2022, all Regulated Entities under Phase 2 submitted an Interoperability Schedule as mandated by the regulations, detailing the weekly activities required for compliance with Phase 2.
2. From January to March 2023, four working groups focused on QR code implementation were established (Box 3). Groups 1 and 2 (acquirers and wallets) aimed to integrate acquirers with wallets not previously within their ecosystems; Group 3 (QR Code providers) discussed standardizing QR Codes in the QR payment market; and Group 4 (dual functionality of wallets and providers) aimed to determine the integration model for wallets offering QR Code services.

### BOX 3

#### QR Code and Digital Wallet Providers' Working Groups

The foundation for digital payment interoperability was established by the Regulation on QR Code Payment Services<sup>41</sup> in February 2020, which led to the creation of the Registry of QR Code and Digital Wallet Providers (QR Registry). As part of the interoperability initiative, the BCRP mandated that entities registered in the QR Registry form working groups. These groups were aimed at sharing experiences to define a unified model for QR code payments and a single QR code for digital transactions. Consequently, four working groups were established in January 2023:

- The first and second groups focused on QR code providers who also served as payment card acquiring processors. Their objective was to establish the necessary contacts and coordination so that all wallets in the QR Registry could read their codes. This goal was achieved ahead of the schedule set for Phase 2, leading to the successful conclusion of both working groups.
- The third group concentrated on QR code providers with the goal of laying the foundations for a unique QR code for Peru's payments ecosystem. Participants

<sup>41</sup> Circular 003-2020-BCRP: <https://www.bcrp.gob.pe/docs/Transparencia/Normas-Legales/Circulares/2020/circular-0003-2020-bcrp.pdf>

presented their models for an Industry QR Code (CCE, Niubiz, izipay, Bim) but consensus was not reached. This group is scheduled to reconvene in Q2 2024 to define the standard QR model.

- The fourth group was composed of digital wallet providers (some of whom also served as QR code providers) and aimed to establish an integration model to enable their QR codes to be read interchangeably.

Given the requirements and needs to achieve the objectives of the last two groups, a decision was made to merge them to define a unified model and QR code for Peru's digital payments ecosystem.

As a result, from April 2023, 12 meetings were held biweekly with the working groups, aiming to:

- Differentiate between P2P payment models and QR code payment models displayed by merchants.
- Define an industry-accepted standard for QR codes, ensuring compatibility across systems and providers.
- Facilitate communication across payment platforms and applications, allowing for seamless transactions regardless of the QR code source, thus promoting interoperability.
- Foster widespread adoption of digital payments with a unified system that is easy to implement by merchants and consumers.
- Recommend the adoption of standardized security practices to protect transactions and users' financial information.

After the presentation of payment models by participants, the definition of a unique and suitable model for Peru's ecosystem is expected to begin in Q2 2024.

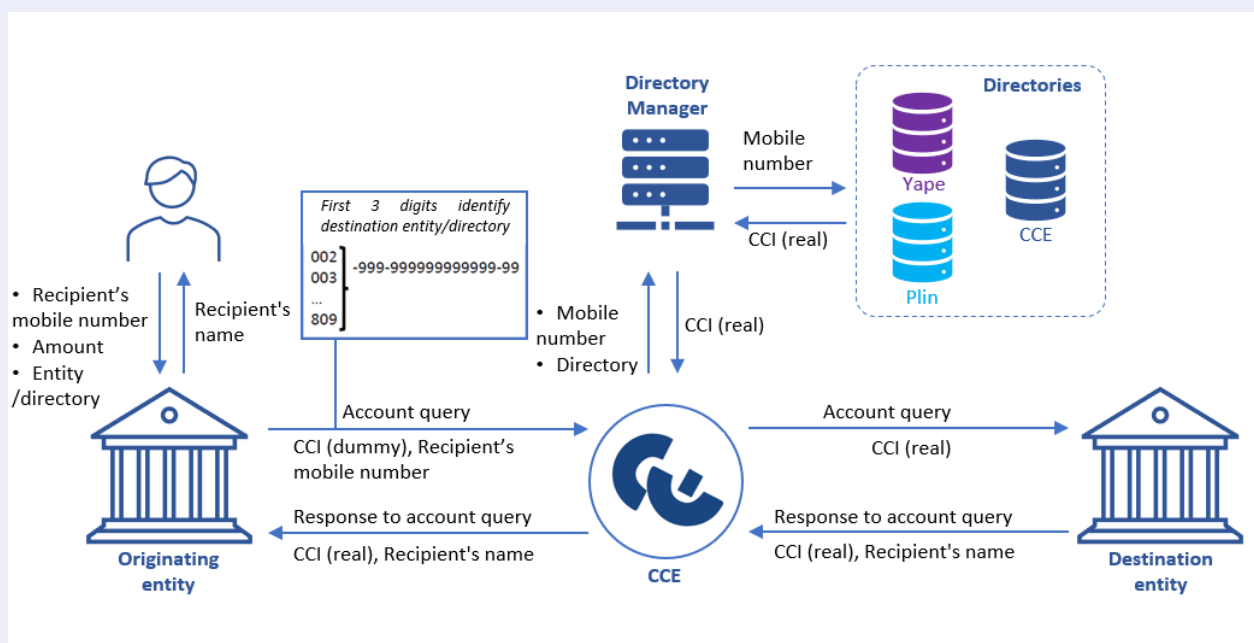
3. On March 31, 2023, progress reports were received from entities required to achieve interoperability in Phase 2. It was noted that the advancements and developments by CCE and YellowPepper were crucial for meeting the deadlines established in their schedules. The BCRP meticulously supervised the progress of both technology providers, particularly CCE, which is recognized as a Payment System and was obligated to implement account masking functionality by no later than June 30, 2023 (Box 4).

## BOX 4

## Operational Model for CCE Interoperable Transfers

In response to the growth of digital payments and in accordance with the Interoperability Regulation of October 2022, the CCE has developed an interoperability project through its immediate transfer service. This initiative includes the masking of destination CCIs and the transfer of funds via its infrastructure to achieve interconnection among directories available in Peru's payment ecosystem (currently, Yape, Plin/YellowPepper, and CCE).

## Operational Model for CCE Interoperable Transfers



Source: CCE

The operational model for CCE transfers comprises the following elements:

1. **Initiation:** The originating user initiates a transfer inquiry through the CCE by accessing their financial institution's app. The user selects the recipient from their phone contact list using an alias, or in some cases, the recipient's CCI or a QR Code.
2. **Directory Inquiry:** An account query is conducted using the recipient's mobile number, which includes the directory where the user is registered (Yape, Plin, or CCE). The inquiry is processed by the CCE's Directory Manager (DM), who then sends it to the associated directory to retrieve the actual CCI.
3. **Verification:** Once the CCI is retrieved, the CCE consults with the recipient bank (where the beneficiary's account is held) to confirm the actual CCI and the beneficiary's name. These details are then transmitted to the originating entity via the CCE.
4. **Recipient Identification:** Subsequently, the recipient's name is displayed in the originating user's app.

5. **Transfer Execution:** After retrieving the actual CCI, the originating entity issues a transfer order to the recipient's financial institution, following the procedures established by the CCE for immediate transfers.

Under this model, the CCE offers contact masking and scanning services to all entities that have implemented its immediate transfer service. It is important to note that this model will be expanded to include EEDEs as part of Phase 3 of the Interoperability Strategy.

**As of this report's latest update, Regulated Entities under Phases 1 and 2 have gone live;** i.e., their applications now facilitate fund transfers using mobile numbers across various market ecosystems. However, some areas for improvement have been identified in the connections of specific entities (Caja Metropolitana, Financiera Confianza, Financiera Efectiva, etc.), which are being addressed with expected implementation by Q2 2024.

**Furthermore, all QR codes within the payment ecosystem are readable by the available digital wallets.** However, there are still some exceptions, such as the entities operating with electronic money, Bim and GMoney. These are actively implementing necessary improvements to achieve interoperability with the rest of the ecosystem as part of Phase 3. In the case of Bim, interoperability with Yape through Niubiz is already established. Additionally, providers Agora and Wayki are actively working to ensure their QR codes are compatible with the rest of the ecosystem. For Agora, it has been decided that QR codes displayed in retail stores should be readable by other wallets; a collaborative implementation plan with the Intercorp Group is currently under development.

**Meanwhile, interoperable transfers developed during Phase 2 are currently undergoing stabilization and show significant potential, with more than 110,000 transactions per day; i.e., 3 million monthly transactions (Appendix 5).**

### PHASE 3

**EEDEs are now eligible to access services provided by the CCE and the RTGS system.** In June 2023, the BCRP amended the Regulations for Clearing and Settlement Services and for the RTGS,<sup>42</sup> to enable EEDE access under Phase 3. Previously, EEDEs lacked access to the CCE's immediate transfer services, limiting electronic money interoperability with bank accounts and across different electronic money ecosystems. Furthermore, including EEDEs as participants in the RTGS ensures that these entities maintain settlement accounts at the BCRP, funded with the full amount backing the electronic money issued, thereby facilitating the settlement of obligations arising from transactions processed through the CCE.

**In July 2023, the BCRP set compliance deadlines for interoperability among Regulated Entities under Phase 3.** On July 11, 2023, the BCRP updated the Interoperability Regulation,<sup>43</sup> stipulating a

<sup>42</sup> Circular 0010-2023-BCRP: <https://www.bcrp.gob.pe/docs/Transparencia/Normas-Legales/Circulares/2023/circular-0010-2023-bcrp.pdf>

<sup>43</sup> Circular 0013-2023-BCRP: <https://www.bcrp.gob.pe/docs/Transparencia/Normas-Legales/Circulares/2023/circular-0013-2023-bcrp.pdf>

December 2023 deadline for the Bim APDE and 180 calendar days for EEDes to comply with CCE requirements.

**Regulated Entities under Phase 3 are making strides in developing interoperable payment services.** The GMoney and TPP EEDes have completed the necessary documentation to participate in the RTGS and are concurrently collaborating with the CCE to secure access to immediate transfer services. The Bim APDE is advancing its technical infrastructure to integrate with the CCE using a “sponsor” model, facilitating indirect access through an existing CCE participant, Financiera Compartamos. The latter has already joined the CCE for immediate (interoperable) transfers via CCI and mobile. It is worth mentioning that BIM achieved interoperability with the Yape and Plin wallets through Niubiz in Q4 2023.

In sum, significant progress has been noted in each electronic money ecosystem during Phase 3:

**PDP (Bim):** +1M users

- Connected to Yape and Plin (Oct. 2023)
- Connected to the CCE (Mar. 2024) via the Sponsor Model

**GMoney:** +700K users

- Connected to the RTGS (Feb. 2024)
- Connection to the CCE in process

**TPP:** +250K users

- Connected to the RTGS (Mar.-Apr. 2024)
- Connection to the CCE in process

Furthermore, the Task Force has spearheaded a range of initiatives that underscore the BCR's regulatory leadership and the collaborative public-private effort to enhance digital payment service interoperability. From June 2022 to March 2024, these initiatives encompassed promotional activities, working groups, bilateral meetings, and payment committees (Box 5).

## BOX 5

### Activities of the BCRP's Task Force on Retail Payments Interoperability

The BCRP Payments Committee was established to design and implement the Interoperability Strategy. It is chaired by the General Manager and comprises the Manager of Monetary Operations & Financial Stability, the Legal Manager, the Deputy Manager of Payments and Financial Infrastructures, the Advisor to the General Manager, and the Task Force on Retail Payments Interoperability. From June 2022 to March 2024, the following activities were carried out:

50 Payments Committee sessions

180 meetings with Regulated Entities (Phases 1, 2, and 3):

- With each entity: banks, municipal credit unions, finance companies, EEDes.

- With payment rails, processors, and directory network managers (DNMs): CCE, YellowPepper, Niubiz.
- With card brands and acquirers: Visa, MasterCard, Niubiz, izipay, Kushki.
- With fintechs, technology providers, and Telcos: Associations, Minka, Novatronic, Bitel.
- With public entities and authorities: BN, the Lima Transport Authority, and the SBS.

35 sprints to cover the following, among other items:

- 11 UX working groups, 4 information security working groups, 4 QR code working groups.
- 3 Circulars: interoperability regulations, schedule of deadlines, Service-Level Agreements (SLAs).
- 6 Regulated Entities sanctioned, with formal communications sent to their CEOs.
- 0 Regulated Entities undergoing sanction proceedings.

Dissemination:

- 4 presentations to central banks (Ecuador, Panama, Honduras, Chile).
- 2 studies: 2023 SECO Research Coaching Program, White Paper.
- 8 articles published in the *Moneda* magazine (3 by the BCRP and 5 by Regulated Entities).
- Other presentations: *Semana del Ahorro* 2023 and 2024; FepCmac Seminars (Lima and Tacna); Payments Course 2022 and 2023, Course for Journalists; 13<sup>th</sup> Financial Cooperative Convention (Ecuador); HubFintech (Uruguay); FLAR Instant Payments Forum (Ecuador); 2023 SECO Seminar (Switzerland).

## D. Next Steps

**Moving forward, the agenda includes the rollout of Phase 4 of the Strategy and improvements in service quality, user experience, and business models for participants. These initiatives encompass:**

1. **Phase 4:** Collaborating with the SBS and the World Bank, the BCRP is developing a roadmap for the gradual introduction of Open Banking in Peru. Additionally, the BCRP is delving into legal and technical aspects concerning the implementation of a retail payments platform with open API architecture, with the goal of streamlining payment initiation and facilitating the onboarding of new participants. This evaluation process entails studying the legal frameworks of various countries with regulations on payment initiation and Open Banking (Appendix 7).
2. **Service Quality:** Despite the successful implementation of Phases 1, 2, and 3, several aspects warrant optimization. These include service quality levels in interoperable operations, platform availability, service quality provided by Directory Managers, and response times of intermediate infrastructures (Box 6).



**BOX 6****Quality of Interoperable Payment Services**

In July 2023, the BCRP began drafting the Regulation on the quality of interoperable payment services provided by PSPs, Payment Arrangements, Payment Systems, and Technology Providers. This effort involved active and continuous collaboration with industry stakeholders to gather insights into their service experiences and identify areas for enhancement. The objective of this Regulation is to establish Key Performance Indicators (KPIs) for evaluating the performance of interoperable payment services in accordance with the SLAs that Regulated Entities are required to fulfill. The Regulation was officially published on March 26, 2024.<sup>44</sup>

According to the Regulation, Regulated Entities may assume one or more roles in the provision of interoperable payment services, including:

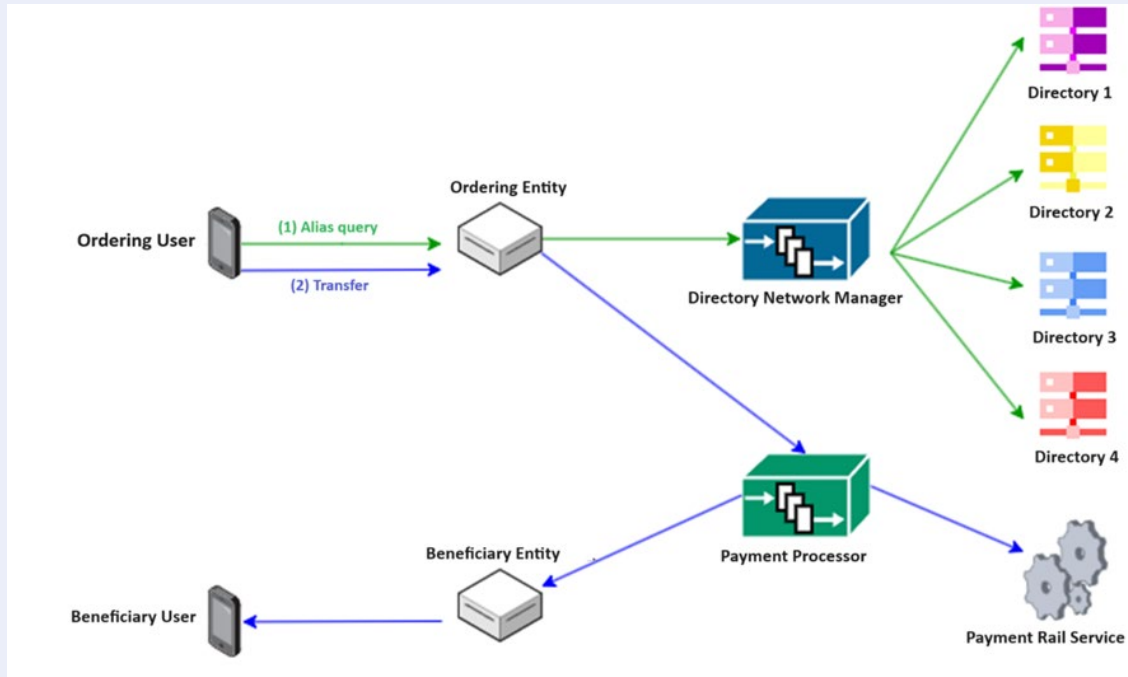
- **Initiating Entity:** A Regulated Entity that provides digital wallet or mobile banking functionality, enabling users to initiate payments.
- **Receiving Entity:** A Regulated Entity that offers digital wallet or mobile banking functionality, capable of receiving transfers or payments.
- **Directory Manager:** A Regulated Entity of a technological nature that acts as an aggregator for queries made to the directories within the interoperable ecosystem.
- **Directory Provider:** A Regulated Entity tasked with maintaining a database of users eligible for the interoperable service, providing details such as mobile numbers, names, payment credentials, and other identifiers.
- **Payment Processor:** A Regulated Entity of a technological nature responsible for processing payments and interfacing with payment rail services to facilitate transfers.
- **Payment Rail Service:** A protocol that enables the electronic movement of funds between an initiator and a recipient through a network or Payment System.

Interoperable payment services can be conceptualized as comprising two operational layers:

- **Inquiry:** This initial layer enables the initiating user to search for a beneficiary by querying an alias (such as a mobile number) to identify the financial institutions where the beneficiary is registered.
- **Transfer:** This subsequent layer allows the initiating user to confirm and execute payments or transfers to the beneficiary, facilitated by a Payment Processor.

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<sup>44</sup> Circular 0009-2024-BCRP: <https://www.bcrp.gob.pe/docs/Transparencia/Normas-Legales/Circulares/2024/circular-0009-2024-bcrp.pdf>



Based on the roles and operational layers described above, the following KPIs will be assessed:

- **Availability:** This KPI measures the uptime, or availability, of the contact search functionality using aliases, and transfers initiated from a digital wallet or mobile banking app. It quantifies the proportion of time these services are operational, using the following formula:

$$Availability = \left(1 - \frac{I}{T}\right) \times 100$$

Where:

I = Duration of service unavailability

T = Total operational period

Regulated Entities should strive for values approaching 100%.

- **Effectiveness:** This KPI measures the success rate of the contact search functionality using aliases, and transfers initiated from digital wallets or mobile banking apps. It is calculated as follows:

$$Effectiveness = \left(\frac{Error}{Total}\right) \times 100$$

Where:

Error = Total number of unsuccessful attempts within the measurement period

Total = Total number of attempts during the measurement period

Regulated Entities should aim for values nearing zero.

- **Performance:** This KPI measures the efficiency of the contact search functionality using aliases, and transfers initiated from digital wallets or mobile banking apps.

Regulated Entities and technology providers involved in these processes must establish agreements and implement control mechanisms to ensure that transactions or queries are completed within the target time frame.

$$R_1 \geq (\% \text{ of } (T) \leq t \text{ seconds})$$

Where:

T = Successful queries or transactions within a specified range.

% de (T) = Percentage of queries or transactions from T that are completed in a time  $\leq t$  seconds.

$R_1$  = Value achieved by the Regulated Entity, which must be greater than the operator on the right.

Regulated Entities are expected to achieve values above the proposed percentile.

For this indicator, the use of simple arithmetic mean times was discarded due to their statistical inability to guarantee a normal distribution. Instead, a percentile approach is employed, which captures a specific percentage of events within a dataset over designated times (Ramírez R. and Ramírez W., 2015). This method is robust, objective, and practical, ensuring that most queries or transfers are completed within a specified maximum duration.

Regulated Entities are required to report KPIs as well as compliance with the SLAs established by the BCRP. These reports must be submitted on a daily and/or monthly basis, depending on the type of KPI and the specified evaluation period. Additionally, technology providers performing roles such as Directory Managers, Payment Processors, and Directory Providers must provide the BCRP with detailed data used in the calculation of KPIs to facilitate verification and the generation of relevant statistics.

Additionally, the Regulation details the responsibilities of Regulated Entities and specifies the essential minimum protocols required for incident management in the context of interoperable services. Unlike closed ecosystems, where each entity manages its own incidents, interoperable services introduce more complex challenges related to monitoring, responsibility allocation, coordination, and impact management. Consequently, the BCRP will establish a mechanism to facilitate coordination among Regulated Entities, ensuring that incidents are promptly resolved and do not compromise service quality. To expedite the process, Article 13 of the Regulation allows Regulated Entities up to seven (7) business days to appoint a liaison officer.

The Regulation mandates that initiating entities implement user counting and enumeration mechanisms. In connection with this requirement, these entities must submit their detailed implementation strategies and timelines to the BCRP. This measure is designed to mitigate the risk of unauthorized data retrieval, including the mass collection of usernames and mobile numbers, through automated bots or web-scraping techniques.

In summary, the BCRP continues to collaborate closely with various industry stakeholders to ensure the effective implementation of KPIs, SLAs, incident protocols, and data transfer procedures. To this end, the BCRP has established four periods of gradual adaptation and continuous improvement, aimed at progressively enhancing service quality within the interoperable payments ecosystem.

3. **User Experience:** The adoption of payment wallets and mobile banking applications hinges not only on their functionalities and innovations but also on the quality of user experience (UX) they offer. The financial sector, equipped with specialized teams, plays a pivotal role in enhancing UX, leading to broader user adoption and increased transfer volumes.

In line with these efforts, interoperability implementation has created new UX challenges (Box 7). Initially met with resistance from entities concerned about potential impacts on their established UX for wallets and mobile apps—well-received by users—the BCRP's willingness to open collaborative working groups with participants has paved the way for successful interoperability implementation, resulting in positive outcomes for end users and increased adoption.

### BOX 7

#### User Experience (UX)

In Peru, providers of low-value payment services have pursued different strategies for implementation. Some financial entities chose to introduce specialized payment wallets, like Yape. Others integrated payment or transfer functionalities within their existing mobile apps, as seen with Plin and bank apps.

For both approaches, User Experience (UX) in payment systems can be defined as the comprehensive experience of an individual with a digital wallet or payment functionality within a mobile banking app. This experience encompasses attitudes and emotional reactions, along with the ability to successfully complete a transfer or payment (Albert and Tullis, 2022).

Article 8 of the Regulation includes UX as a fundamental element for regulatory compliance. The BCRP developed UX guidelines in collaboration with Regulated Entities; and conducted prototype testing of interoperable transactions with assistance from a UX consultant.

Throughout the Regulation's implementation, the BCRP monitored and validated interoperability prototype functionalities with each Regulated Entity owning mobile applications. Collaborating closely with them, the BCRP provided feedback and observations to address any potential noncompliance issues. One year into Phase 1 and as part of ongoing improvement efforts, the BCRP has identified areas for enhancement to be implemented in subsequent stages.

In response, the BCRP will release further UX guidelines for short and medium-term implementation. These will be developed in collaboration with Regulated Entities through new working groups and accompanied by user testing. The new guidelines would initially cover the following points:

- **Single flow for selection of the destination Regulated Entity:** The selection of the destination entity must be made without additional options or alternative paths; i.e., choices such as "other banks," "other entities," "other destinations," or similar should not be implemented.
- **Highlighting brand names and logos equally:** Ensure that all brand names and logos representing each entity are displayed in the same size and proportion to prevent one entity from standing out over another.

- **Visible access to the “Payment to Contacts” feature or similar:** The option for fund transfer using a mobile number (“Payment to Contacts” feature or similar) must be prominently accessible on the login screen or immediately after logging into the digital wallets and/or mobile banking apps of each entity.
- **Information included on the confirmation screen:** The confirmation screen should not be overloaded with information and should only include the information indicated in the Regulation.
- **Notifications of successful transfers:** Users initiating and receiving interoperable transactions should be notified upon successful completion.
- **Obfuscation of names and surnames:** Regulated Entities must implement functionality to obfuscate users’ names and surnames during transaction processes.
- **Accurate and timely error messages:** Error messages provided by Regulated Entities to users should be in simple language and display accurate and timely information.
- **Accessible Help Center:** Entities must ensure easy Help Center access for resolving user inquiries and complaints related to interoperable transactions.
- **Standardization of QR codes:** In QR codes displayed by merchants, entities must include a standardized message conveying to users that they can scan and pay with any digital wallet or mobile banking app.

4. **Business Model for Participants:** As interoperable transactions become increasingly stable, it is essential to assist participants in designing a business model that ensures the financial sustainability of interoperable transfers. Following this approach, the experience from other countries (Appendix 6) suggests that person-to-person (P2P) transfers should remain cost-free to ensure widespread adoption, while person-to-merchant (P2M) transfers could be monetized with competitive fees compared to other payment instruments.
5. **New Use Cases:** The BCRP will coordinate efforts between public and private stakeholders to digitize payments, facilitating innovations and necessary pilots to generate new use cases. The main use cases identified to date include public transportation payments —coordination between digital wallets and the Lima Transport Authority (ATU)— and offline payments (in remote areas without internet connection).
6. **Digital Payments Forum:** The BCRP will convene banking, financial, municipal credit union, fintech, and convenience store associations, as well as financial and non-financial entities, to establish a public-private working forum known as the Digital Payments Council. This council will oversee thematic working groups tasked with defining industry standards, minimum security requirements, new use cases, and other relevant matters.

## E. Lessons Learned

**The successful implementation and swift adoption of interoperable services in Phases 1 and 2 were facilitated by several key factors, offering valuable insights for future endeavors:**

1. **Regulatory leadership by the BCRP:** To catalyze nationwide digital payments, the BCRP proactively crafted the Interoperability Regulation. This framework incorporated principles of

efficiency, security, and competition, alongside provisions for equitable access and ecosystem sustainability. Importantly, industry feedback on implementation timelines and technological implications was integrated, streamlining the process for swift interoperability adoption in payment services.

2. **Agile methodology:** Utilizing agile methodologies, the Task Force accelerated the development of the Regulation within a remarkably short period of less than two months, initiating the first sprint on August 10, 2022.
3. **Industry-regulator collaboration:** The Task Force fostered strong collaboration with stakeholders, conducting meetings and workshops while maintaining close dialogue with the SBS. Continuous communication and coordination with all market participants have been maintained, ensuring alignment with regulatory requirements and addressing stakeholder queries promptly.
4. **Incremental service deployment:** Gradual and controlled deployment strategies were employed to optimize the user experience and facilitate real-time issue resolution during production rollout.
5. **User-centric approach:** By establishing user experience guidelines within the regulatory framework, the introduction of interoperable payment functionalities was made intuitive and accessible, driving rapid user adoption. Industry collaboration and prototype testing further refined these guidelines, ensuring alignment with end-user expectations.
6. **Free P2P transfers:** Stakeholder commitment to free interoperable transfer services for individuals, aligned with accessibility principles outlined in the Regulation, underscores a dedication to inclusive digital payment solutions.
7. **Continuous monitoring:** The BCRP has implemented real-time monitoring dashboards for operations and rejected transactions to take immediate action and continue improving digital payment services.
8. **Sustainability:** The BCRP has been supporting participants in designing a business model to ensure the sustainability of interoperable transfers<sup>45</sup>.

## F. Impact on Retail Payments

Interoperability has introduced heightened competition to the retail digital payments ecosystem. One of the primary impacts of the Strategy on the retail payments landscape is that new players have entered, new services have been implemented, and user access has improved. Notably, financial entities are increasingly positioned to offer immediate mobile transfer services via the CCE, including BN, Banco Ripley, and Compartamos Financiera, among others.

Moreover, microfinance institutions, including cooperatives, credit unions, and finance companies, are increasingly active in offering digital services to their clientele. Caja Cusco, for instance, has launched its Wayki wallet, while the Federation of Municipal Credit Unions (FEPCMAC) is in the process of

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<sup>45</sup> International experience suggests that to ensure adoption, immediate interoperable P2P payments should remain cost-free; however, there is potential to levy competitive fees on merchants for received payments (P2M).



implementing its own wallet to serve multiple credit unions. The participation of fintech firms, both in the BCRP's QR Registry and as technology providers, also plays a role in shaping the payments ecosystem by fostering competition in interconnection costs.

Increased competition is evident across various segments of the retail payments market, notably in the payment card industry, where banks are increasingly engaging in direct acquisition ventures. Anticipated participation of EEDEs in the Immediate Transfer service within the CCE is also on the horizon. Overall, this ongoing trend suggests a continual influx of new players into the retail payments ecosystem. This includes Telcos (such as Bitel) and fintech firms adopting the sponsorship model and Banking as a Service (BaaS), potentially implemented by Alfin Banco. The latter recently signed an agreement with the Fintech Association of Peru, indicating potential developments in this direction.

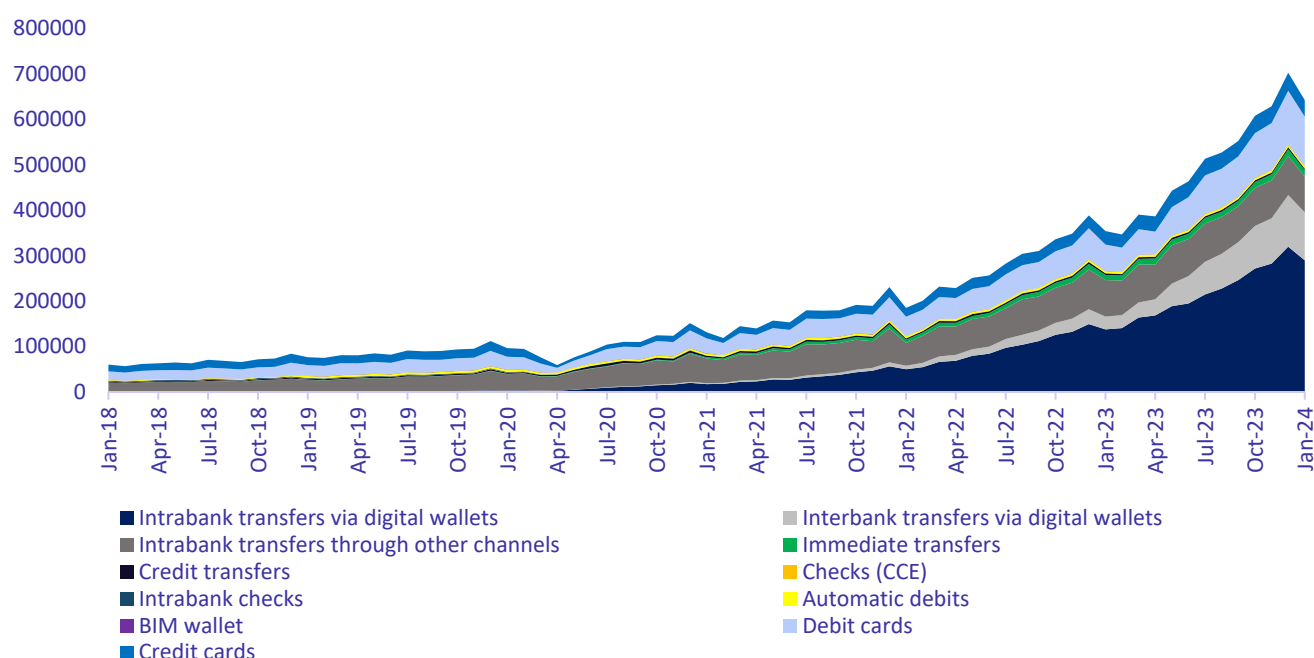
**Table 1**  
**Expanded Access and Enhanced Services in the Payments Ecosystem**

	Wallets	QR Codes	Acquirers	CCE Participants	Technology Providers
Banks	--	BBVA	Openpay	Ripley, BN	Alfin
Microfinance Institutions	Wayki, FEPCMAC	Wayki	--	Cooperatives, Finance Companies	--
Fintechs	Prex	Prex, Bim	Kushki, Alignet	--	YellowPepper, Minka, Niubiz, Novatronic
Telcos	BPAY	BPAY	--	--	--
EEDEs	Ligo, W, Kontigo	GMoney	--	GMoney TPP	--
Other	izipayYA	CCE	--	Facilitating Acquirers	--

Source: BCRP

**The Strategy has significantly bolstered activity in the digital payments market**, evident from the upswing since March 2023, following a brief post-pandemic downturn (Figure 6). This surge is predominantly fueled by digital wallet transactions.

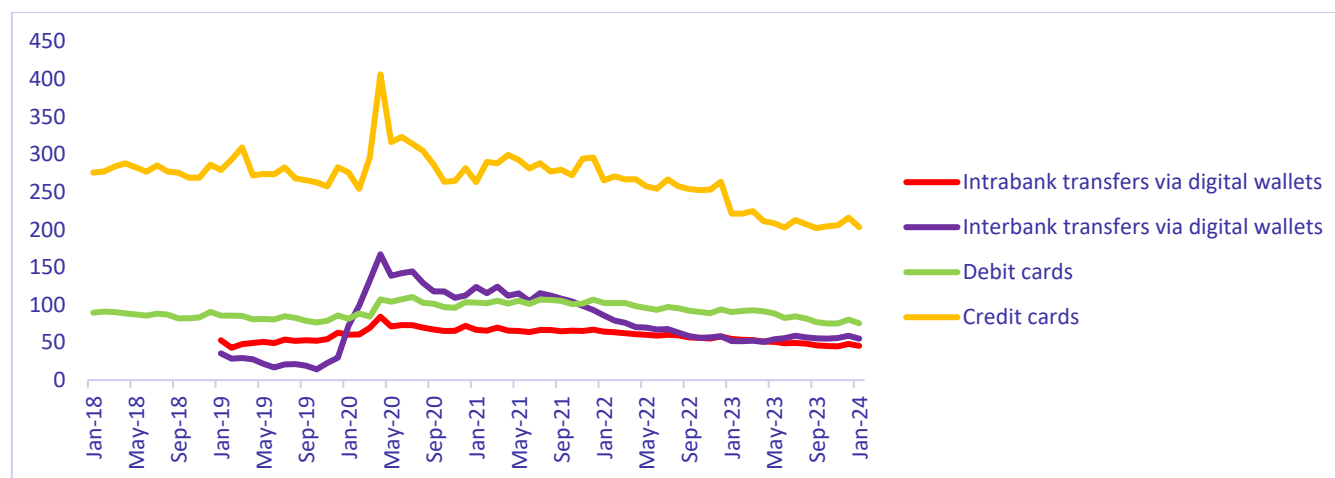
**Figure 6**  
**Monthly Digital Payment Transactions by Instrument**  
 (Thousands, Jan. 2018 – Jan. 2024)

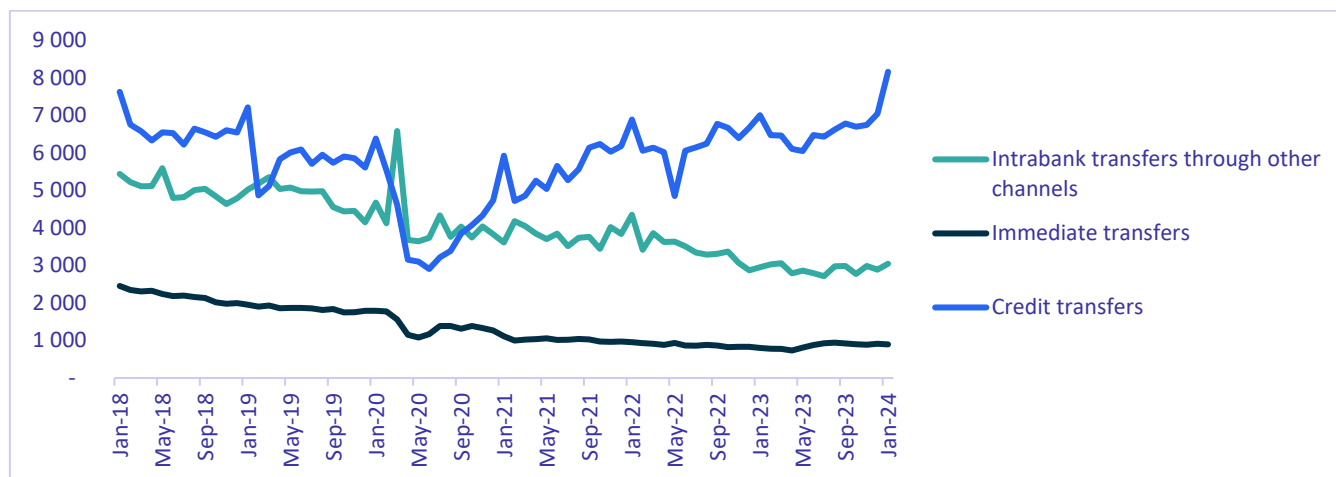


Source: BCRP

Digital payments are increasingly challenging cash transactions. Between 2018 and September 2023, the average transaction value declined, with digital wallet transactions averaging less than S/ 50. This trend suggests a shift towards using digital wallets for low-value purchases, replacing cash in day-to-day transactions.

**Figure 7**  
**Average Transaction Value by Payment Instrument**  
 (Jan. 2018 – Jan. 2024)





The evidence suggests that the Strategy has hastened the adoption of digital payments, altering the landscape of the country's retail payments ecosystem. The table below highlights key metrics:

**Table 2**  
**Retail Payments Market Indicators**  
**(2013 – 2023)**

	2013	2022	2023
Use of cash	95%	75%	.-
Number of digital payments per capita	+30	+150	+250
Value of digital payments (times GDP)		6,3	6,1
Number of participants in the RTGS System (electronic)	21	41	43
Number of participants in the CCE System	22	33	34
Number of entities in the QR Registry	.-	8	15
Number of EEDEs	0	4	4
Value of electronic money in circulation	0	+ S/ 40 Million	+ S/ 50 Million
Number of card market acquirers	1	2	5

Moreover, interoperability may be reshaping the digital payment landscape, transitioning from an intra-bank to an interbank ecosystem. This shift promotes competition, spurs innovation, and ultimately benefits users:

**Table 3**  
**Retail Payments**  
**(2022 – 2023)**

	2022	2023	YoY Change	Share 1/ (2022-2023)
Intrabank transfers	159	290	+82%	57% - 58%
Interbank transfers (digital wallets)	19	65	+245%	7% - 14%
CCE	13	16	+28%	5% - 3%
Card payments	81	113	+38%	29% - 23%
Other 2/	5	6	+22%	2% - 1%
<b><u>TOTAL</u></b>	<b><u>277</u></b>	<b><u>490</u></b>	<b><u>+76%</u></b>	

1/ Calculated as the percentage of transactions to total retail payments in the respective year.

2/ Includes e-money, Bim, automatic debits, etc.

Source: Subgerencia de Pagos Minoristas BCRP.

## V. Conclusions

1. Interoperability has enabled improved competition, greater access to new players, enhanced payment service offerings, and significant growth in the adoption of digital payments by the population. This has been made possible through the commitment and effort deployed by the private sector, public-private collaborative work, and the ongoing support of the BCRP. The Strategy is reshaping the payments ecosystem and the matrix of digital payment usage in the country, facilitating the transition from a predominantly "intrabank" ecosystem to a more interbank, open, and decentralized one.
2. As of March 2024, Phase 1 (digital wallets) has surpassed 2.5 million daily transactions (+70 million per month), and Phase 2 (banking applications and QR codes) has exceeded 100,000 and 400,000 daily transactions (+3 and +12 million per month) respectively. Meanwhile, Phase 3 (electronic money accounts and deposit accounts) is in full deployment, with the Bim APDE and the GMoney and TPP EEDEs integrating into the CCE.
3. Various areas for improvement have been identified, including user experience, service availability from providers and financial entities, and information security. The BCRP will take collaborative actions in these areas to continue scaling digital payments securely, efficiently, and under competitive conditions.
4. For Phase 4, design is underway of a regulatory framework for companies such as fintechs, big techs, and Telcos to access the interoperable ecosystem under fair and non-discriminatory conditions within an Open Payments model with Payment Initiation, thereby safeguarding the ecosystem from potential risks.



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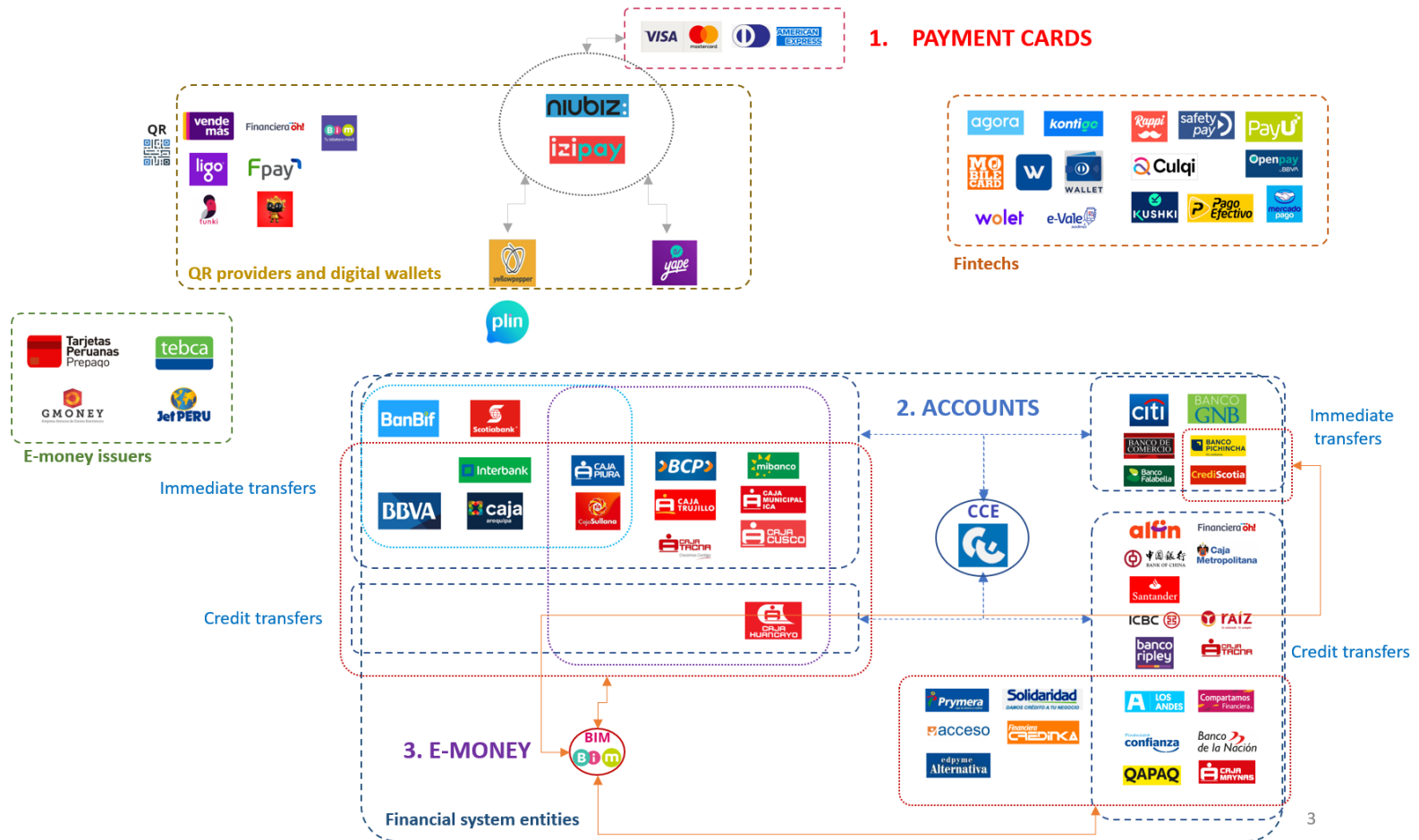
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## VI. Appendices

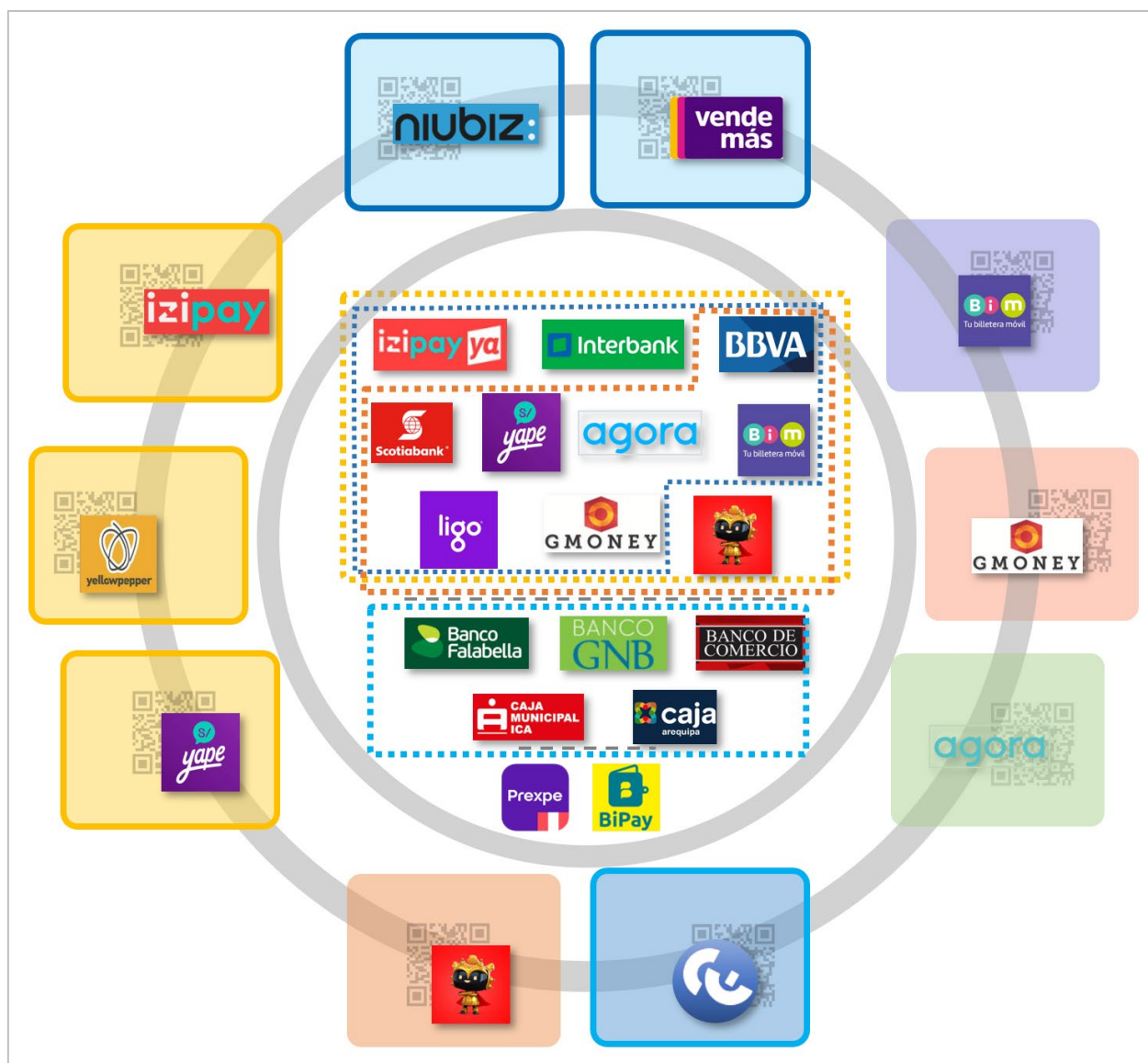
### Appendix 1 Peru: Retail Payments Ecosystem – Entities 2022



## Appendix 2

### QR Code Payments Ecosystem (2022)

The following diagram represents the QR code payments ecosystem. The outer ring displays all QR code providers within the ecosystem, while the inner ring contains all the wallets in the payments ecosystem that facilitate payments via QR codes.



### Appendix 3 Comparative Legislation on Interoperability

Bank of Mexico (CoDi®)	Central Bank of Brazil (Pix)	Reserve Bank of India (UPI)
<p>CoDi® is a platform developed by the Bank of Mexico to facilitate transfer and payment transactions via electronic transfers, using mobile phones.</p> <p><b>1. Constitution of Mexico</b></p> <p>Art. 28 - The Central Bank will regulate the FX market, as well as intermediation and financial services, and has the necessary authority to enforce such regulations and ensure compliance.</p> <p><b>2. Bank of Mexico Act</b> Dec. 23, 1993</p> <p>Art. 2 - The Bank of Mexico is committed to fostering the development of the financial system and ensuring the effective operation of payment systems.<sup>46</sup></p>	<p>The Central Bank of Brazil (BCB) created Pix, an instant payment scheme that allows users—individuals, businesses, and government entities—to generate payment or transfer requests.<sup>49</sup></p> <p><b>1. Law 12865, Brazilian Payments System (SPB)<sup>50</sup></b></p> <p>Art. 7. Payment agreements and payment institutions must observe the following principles established by the BCB:</p> <p>I. Interoperability within and between payment schemes.</p> <p>Art. 9.- The BCB will:</p> <p>VII. Oversee payment schemes and enforce appropriate sanctions;</p>	<p>The Unified Payments Interface (UPI) is a payments system platform developed by the National Payments Corporation of India (NPCI), an initiative of the Reserve Bank of India (RBI) and the Indian Banks' Association (IBA) under the provisions of the Payment and Settlement Systems Act, 2007.</p> <p>The functions and responsibilities of the NPCI include:</p> <p>a. Operating the UPI platform.</p> <p>b. Setting standards, regulations, and guidelines; and defining the roles, responsibilities, and obligations of UPI participants. This includes managing transaction processing, resolving</p>

<sup>46</sup> <https://www.banxico.org.mx/marco-normativo/marco-juridico/ley-del-banco-de-mexico/%7B9BCADA4D-1CFD-92F0-DEC1-634AC4F7BB12%7D.pdf>

<sup>49</sup> <https://www.bcb.gov.br/en/financialstability/pixparticipants>

<sup>50</sup> [https://www.bcb.gov.br/content/financialstability/paymentssystem\\_docs/Laws/Law12865.pdf](https://www.bcb.gov.br/content/financialstability/paymentssystem_docs/Laws/Law12865.pdf)

<p>3. <b>Circular No. 8/2019</b> May 20, 2019</p> <p><b>Amendment to Circular 14/2017 to regulate CoDi® and mandate its use for banks with over 3,000 clients</b><sup>47</sup></p> <p>The Bank of Mexico has amended its regulations to (i) outline the obligations of SPEI participants necessary for the proper functioning and adoption of the CoDi® collection requests scheme.</p> <p><b>Section I Bis</b> <b>Obligations regarding CoDi® transfers:</b></p> <p><b>9a.</b></p> <p>II. If a participant is a credit institution or an electronic payment provider and manages a minimum of three thousand demand deposit or electronic payment accounts, and it allows its issuing clients to generate payment requests through mobile apps, it must enable all eligible account holders to</p>	<p>VIII. Oversee payment institutions and apply sanctions as necessary.</p> <p>§ 2 The BCB will define interoperability criteria within and across payment schemes.</p> <p><b>2. BCB Resolution No. 150/2021</b> October 6, 2021, effective from 11/01/2021</p> <p>Provides guidance on interoperability among payment schemes. The regulation specifies that interoperability should enable users to make or receive payments from a single account, whether it is a deposit or a payment account.<sup>51</sup></p> <p>Annex I: Regulates the provision of payment services under the payment agreements within the SPB, as stipulated in Law 12865 and Resolution 4282 (November 4, 2013).</p>	<p>disputes, and scheduling settlement batches.<sup>52</sup></p> <p><b>1. Payment and Settlement Systems (PSS) Act, 2007</b><sup>53</sup></p> <p>The PSS Act regulates and supervises payment systems in India and designates the RBI as the authority for this purpose.</p> <p><b>Chapter IV</b> <b>Regulation and Supervision by the RBI</b></p> <p><u>Section 10:</u> Power to determine standards.</p> <p>(2) [...] the RBI may [...] issue such guidelines, as it may consider necessary for the proper and efficient management of the payment systems generally or with reference to any particular payment system.</p> <p><u>Section 18:</u> Power of RBI to give directions generally.</p>
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<sup>47</sup> <https://www.banxico.org.mx/marco-normativo/normativa-emitida-por-el-banco-de-mexico/circular-14-2017/%7B09910831-DD20-8D60-9D26-1997F4A1C6B9%7D.pdf>

<sup>51</sup> <https://www.bcb.gov.br/estabilidadefinanceira/exibenormativo?tipo=Resolucao%20BCB&numero=150>

<sup>52</sup> [https://www.centralbankofindia.co.in/sites/default/files/UPI\\_FAQ\\_CBI\\_V1.pdf](https://www.centralbankofindia.co.in/sites/default/files/UPI_FAQ_CBI_V1.pdf)

<sup>53</sup> <https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/PSS29042022228C43D5250B4A69A12899CD5054894C.PDF>

<p>do the same according to the rules specified for CoDi® Transfer Orders.</p> <p>Any other participant not covered by the previous paragraph may allow their clients to generate transfer requests in response to payment requests, using software provided by the participant or a third party authorized by the participant, and installed on their mobile devices.</p> <p><b>Transitory Provisions</b></p> <p><b>First.-</b> This Regulation will come into effect on September 30, 2019.</p> <p><b>Press Release</b>  <b>Launch of the CoDi® Platform</b>  September 30, 2019<sup>48</sup></p> <p>The Bank of Mexico announces that starting today, banks participating in the Interbank Electronic Payments System (SPEI) with over 3,000 client accounts are required to process payment and transfer requests via the CoDi® platform.</p> <p><b>4. Bank of Mexico Act</b></p>	<p><b>Chapter VII</b>  <b>Interoperability</b></p> <p>Art. 38. The interoperability rules within or between arrangements must ensure that end users can use a single deposit or payment account for all payment transactions.</p> <p><b>3. BCB Resolution No. 1/2020</b>  August 12, 2020</p> <p>Establishes the Pix payment scheme and approves its Regulation:</p> <p>Art. 3. Participation in Pix is mandatory for financial institutions and payment institutions authorized by the BCB, with more than 500,000 active client accounts, including checking, savings, and prepaid payment accounts.</p> <p><b>Pix Rulebook</b>  Appendix to BCB Resolution No. 1/2020</p> <p><u>Participants</u></p> <p>The criteria for participating in Pix are broad and flexible, designed to enhance the scheme's security and efficiency and to</p>	<p>[...] the RBI may, if it is satisfied that for the purpose of enabling it to regulate the payment systems or in the interest of management or operation of any of the payment systems or in public interest, it is necessary so to do, lay down policies relating to the regulation of payment systems including electronic, non-electronic, domestic and international payment systems affecting domestic transactions and give such directions in writing as it may consider necessary to system providers or the system participants or any other person either generally or to any such agency and in particular, pertaining to the conduct of business relating to payment systems.<sup>54</sup></p>
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<sup>48</sup> <https://www.banxico.org.mx/publicaciones-y-prensa/miscelaneos/%7BCB1171B9-4806-04EF-D191-C57F6A082B35%7D.pdf>

<sup>54</sup> <https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/86706.pdf>



<p><b>Chapter V</b> <b>Issuance of Regulations and Sanctions</b></p> <p>Art. 36 Bis. Breaches of regulations issued by the Bank of Mexico, as authorized by this law or other laws referenced in Art. 26, will incur an administrative fine. The Bank of Mexico will impose this fine as follows:</p> <p>A fine equal to 1,000 days of the minimum daily wage in Mexico City, effective on the day the breach occurs, up to five percent of the total paid-in capital and capital reserves of the involved financial intermediary or entity, as reported last before the date of the breach.</p> <p>a) This applies to financial intermediaries and entities engaged in lending, deposit-taking, or service activities that breach this Act or its provisions or fail to comply with additional regulations issued by the Bank of Mexico as authorized by other legislation.</p>	<p>promote competition within the ecosystem. Participation in Pix is open to all financial and payment institutions authorized by the BCB that provide transaction accounts. Payment institutions not authorized by the BCB may also participate, subject to specific conditions. It is important to note that end users are not considered participants in the Pix ecosystem.</p> <p><u>Mandatory Participation</u></p> <p>Institutions, including fintechs, with over 500,000 active client accounts, covering checking, savings, and prepaid payment accounts, are mandated to participate in Pix. Upon reaching 500,000 transaction accounts, BCB-authorized institutions are required to apply for Pix affiliation within 90 days as “transaction account providers.”</p> <p><u>Voluntary Participation</u></p> <p>Pix is optionally available to financial and payment institutions that manage transaction accounts and have not reached the regulatory account threshold. This includes payment institutions either not authorized by the BCB or in the process of obtaining such authorization, provided they comply with the necessary requirements.</p>	
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	<p>These institutions will be considered part of the SPB and subject to risk-based proportional supervision.</p> <p><u>Disciplinary Actions</u> (Pix Regulation, Chapter XIX)</p> <p>Non-compliance with the Pix Regulation, whether partial or complete, may lead to one of three possible sanctions: fines, suspension (up to 60 days), or exclusion. These sanctions may be applied individually or cumulatively. The BCB establishes criteria for sanctions based on the severity of the breaches. Affected institutions have the right to challenge these sanctions within a 10-day period.</p> <p>Exclusion or suspension from Pix leads to the immediate loss of both direct and indirect access to the Transaction Account Identifier Directory (DICT). If a suspension or exclusion becomes final, the affected institution is required to promptly notify its end users.</p>	
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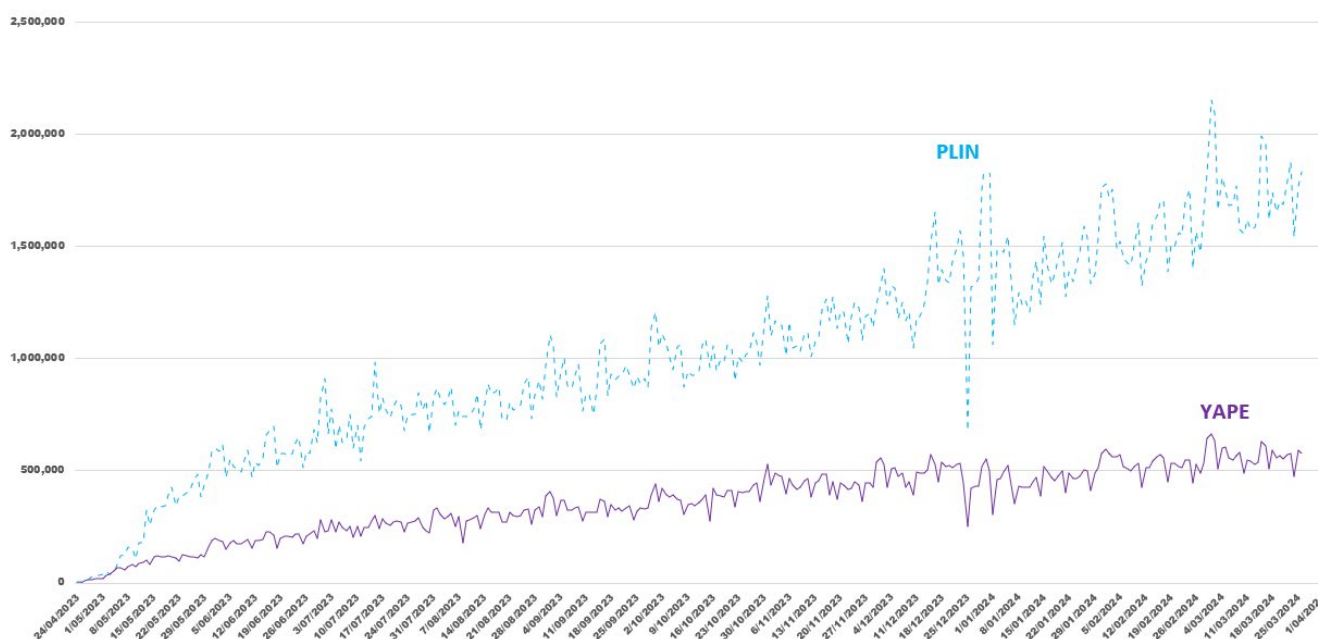
## Appendix 4

### Development of Interoperable Transactions: Phase 1

After the full deployment of the interoperable service between the Yape and Plin wallets on May 8, 2023, transaction volumes from both services significantly increased, further intensifying from May 27 onward. Transaction volumes consistently peak on Saturdays due to increased commercial activity, and typically decline by Sunday. Notably, transactions initially surge in the early days of each month and accelerate again in the last two weeks.

As of March 26, 2024, 2.4 million daily transactions occurred between Yape and Plin. The total transaction value on that date reached S/ 143 million, with the average transaction value of interoperable transfers standing at S/ 59.6 each. On the same date, transactions from Plin to Yape neared 1.8 million per day, including those reported by banks such as BBVA, Interbank, and Scotiabank, while transactions originating from Yape totaled approximately 0.6 million per day.

**Daily transactions between Yape and Plin (per digital wallet)**  
(As of Mar. 26, 2024)

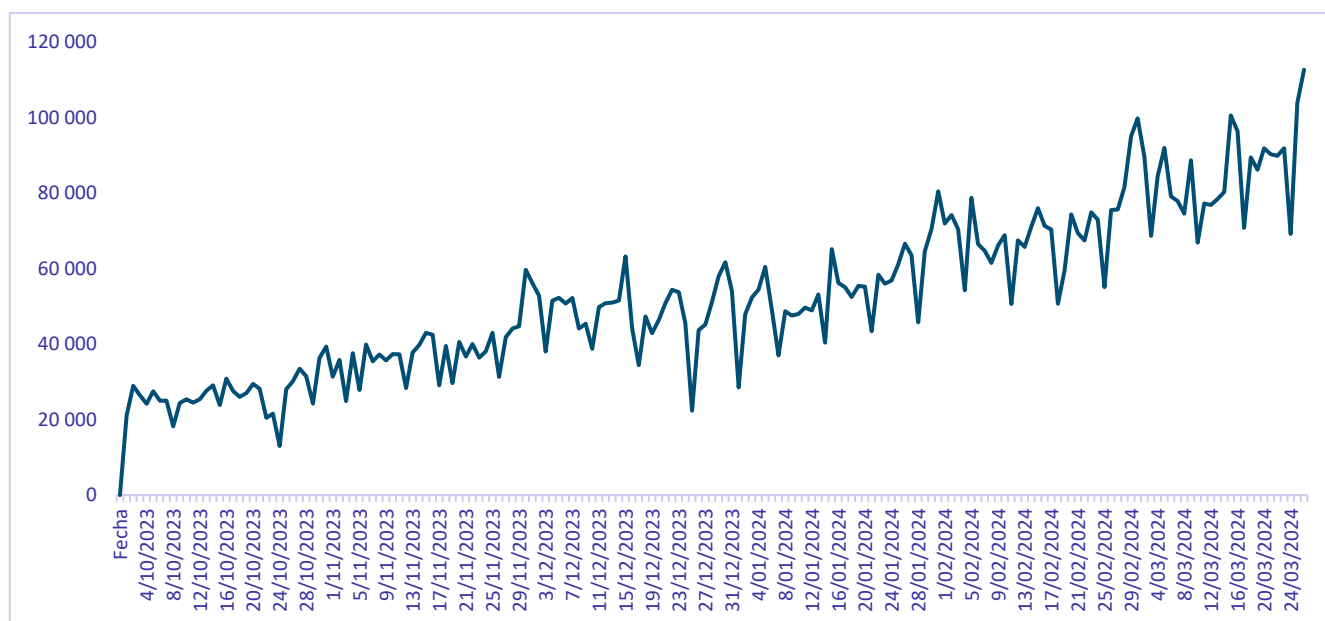


## Appendix 5

### Development of Interoperable Transactions: Phase 2

Following the complete rollout of Phase 2 of the interoperability implementation on September 13, 2023, transactions among entities connected to the CCE significantly increased, particularly starting from October 4, 2023. Transaction volumes show substantial seasonal increases on Saturdays due to heightened commercial activity, which typically diminishes by Sunday. On a weekly basis, transactions consistently rise at the beginning of each month and intensify further in the last two weeks.

#### Daily transactions of Phase 2 (As of Mar. 26, 2024)



As of March 26, 2024, entities connected to the CCE have completed 9.4 million transactions since September 13, 2023. On March 31, 2024, transaction values peaked at S/ 375 million, with the average value of interoperable transfers standing at S/ 142.

## Appendix 6

### UPI (India) and Pix (Brazil) Fee Structures

#### UPI Model (India)

Under RBI regulations, neither individuals nor merchants incur fees for making payments via UPI. Additionally, the government subsidizes the merchant discount rate (MDR), which is capped at 0.75%.

However, UPI transactions do involve a switching fee imposed by the NPCI on all participants, along with inter-participant fees that include interchange rates and PSP fees. The NPCI Board sets a uniform switching fee for all participants, both large and small banks, while the NPCI Executive Committee determines the fees between participants.

#### Pix Model (Brazil)

In the Pix system, PSPs are restricted from charging fees to individuals, except when receiving payments for purchases, but may freely charge merchants. Merchant discount rates within Pix are significantly lower than those for other payment methods like cards, averaging just 0.29%.<sup>55</sup>

Pix does not impose a membership or annual fee; however, it does apply a transaction fee of US\$ 0.01 for every 50 transactions settled, applicable to all recipient PSPs to help cover operational costs. Additionally, while interchange fees are explicitly prohibited under Article 96 of the Pix Regulation,<sup>56</sup> direct participants are permitted to levy fees on indirect participants.

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<sup>55</sup> Virtual Workshop “Deep Dive into Pix”, Nov 2022.

<sup>56</sup> Pix Regulation:

<https://www.bcb.gov.br/estabilidadefinanceira/exibenormativo?tipo=Resolu%C3%A7%C3%A3o%20BCB&numero=1>

## Appendix 7

### Key Regulations on Payment Initiation

EU	Brazil	India	Chile	Mexico
Relevant Legislation				
<p><b>Directive (EU) 2015/2366</b> (Payment Services Directive 2, PSD2): PSD2 has been progressively implemented since 2018, with provisions related to Open Banking taking effect in 2021 (European Banking Authority Announcement). Adopted by the European Parliament and the Council in November 2015.<sup>57</sup></p> <p><b>Payment Services Directive 3</b> (PSD3): On June 28, 2023, the European Commission issued a press release announcing the enactment of the foundational principles that underpin the conceptual pillars of PSD3. The proposal still requires submission to the legislative bodies of the</p>	<p><b>Joint Resolution No. 1</b> (May 4, 2020): Regulates the Implementation of Open Banking (issued by the BCB).</p> <p><b>Law No. 13709</b> (August 2018), Personal Data Protection Law: Grants exclusive ownership rights over information and data to individuals.</p> <p><b>Open Banking API Manual</b> (latest version July 22, 2021)</p> <p><b>BCB Notice 33455</b> (April 2019): Announces the fundamental requirements for implementing the Open Financial System (Open Banking) in Brazil (issued by the regulator).</p>	<p><b>Open Finance Regulation:</b> Established by the RBI in coordination with other entities such as the Securities and Exchange Board of India (SEBI), the Insurance Regulatory and Development Authority (IRDA), the Pension Fund Regulatory and Development Authority (PFRDA), and the Financial Stability and Development Council, among others.</p> <p><b>New Data Protection Law</b> (August 2023)</p> <p><b>KYC Guidelines 2021</b></p> <p><b>RBI's Customer Rights Charter</b> (December 2014): Enumerates customer rights, including "the right to privacy" and "the right to</p>	<p><b>Law No. 21521 - Fintech Law</b> (January 4, 2023): Promotes competition and financial inclusion through innovation and technology in financial services.</p> <p><b>Law No. 19628 on the Protection of Private Life</b> (latest version August 26, 2020, to May 8, 2023): Defines sensitive data.</p> <p>Regarding the enactment of the Fintech Law, the Financial Market Commission (CMF) will define a schedule for implementing Open Finance, including provisions for payment initiation service providers. Some deadlines are specified: full implementation completed</p>	<p><b>Law on the Regulation of Financial Technology Institutions - Fintech Law</b> (2018)</p> <p>On March 10, 2020, the Bank of Mexico issued <b>the first Open Banking rules</b>, focusing on public data, including ATM locations and details about financial products offered by each institution.</p> <p><b>New Provisions</b> (2021): Based on the PSD2 model.</p> <p><b>Open data</b> were required to be made available for sharing starting June 5, 2021..</p> <p>The Regulation is expected to soon extend to the sharing of customers'</p>

<sup>57</sup> <https://eur-lex.europa.eu/legal-content/ES/TXT/?uri=celex%3A32015L2366>

<p>European Parliament and the Council for evaluation and amendments. The final version is expected to be available by the end of 2024, with implementation deadlines set for around 2026.<sup>58</sup></p>	<p>This regulatory framework is the result of ongoing efforts by the BCB and the National Monetary Council (CMN).</p> <p>Payment initiation is implemented as part of Phase 3 of the Open Banking rollout.<sup>59</sup></p>	<p>grievance redress and compensation.”</p> <p><b>Regulation on Account Aggregators</b> (2016): The RBI announced the creation of a new licensed entity known as Account Aggregator (AA), authorized to consolidate a client's financial information held across various financial institutions.</p>	<p>within 18 months from the enactment of the provisions dictated by the CMF, and within a maximum of 36 months from the entry into force of such regulations for other entities that the CMF qualifies as Information Provider Institutions. Existing .payment initiation service providers must apply for registration within 12 months of the publication of this regulation (they may continue operating in the interim).<sup>60</sup></p> <p>The CMF scheduled a consultative meeting for February 2024 to discuss payment initiation services as part of the implementation of the Open Finance System under the Fintech Law.<sup>61</sup></p>	<p>transactional data. This second set of rules is anticipated to be announced by the National Banking and Securities Commission.<sup>62</sup></p>
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<sup>58</sup> <https://www.tecalis.com/es/blog/psd3-que-es-directiva-servicios-pago-payment-services-directive-fintech-banca-financiero-open-finance>

<sup>59</sup> <https://americasmi.com/insights/mas-alla-de-pix-la-iniciacion-de-pagos-de-la-banca-abierta-acelera-los-pagos-por-camara-de-compensacion-ach-en-brasil/#:~:text=“Iniciación%20de%20pagos”%3A%20el,en%20nombre%20de%20otra%20entidad>

<sup>60</sup> <https://www.bcn.cl/leychile/navegar?idNorma=1187323>

<sup>61</sup> <https://www.cmfchile.cl/portal/prensa/615/w3-article-78030.html>

<sup>62</sup> <https://www.eleconomista.com.mx/opinion/Finanzas-abiertas-regulacion-innovacion-y-competencia-20230907-0028.html>



Regulation Objectives				
<p>The standard for payment services is focused on harmonizing definitions, opening the payment market, and protecting consumers.<sup>63</sup></p> <p>It allows the payment initiation service provider to assure the beneficiary that the payment has been initiated, thereby:</p> <ul style="list-style-type: none"> <li>- Encouraging the beneficiary to deliver goods or provide services without delay.</li> <li>- Offering the possibility to make online purchases even for those who do not possess payment cards.</li> <li>- Addressing the lack of regulation for payment initiation services under the previous Directive 2007/64/EC.</li> </ul>	<p>The BCB issues regulations and self-regulation guidelines. It is expected that the participating institutions will be responsible for standardizing technology, operational procedures, security standards, and certifications, as well as the implementation of interfaces. The BCB may also engage in coordinating the initial self-determination by regulating, approving decisions and revisions, vetoing, imposing restrictions, or regulating aspects that were not previously agreed upon.</p>	<p>The RBI has provided technical support to merchants and designed UPI to include Third-Party Providers (TPPs).</p> <p>The legislation enables the RBI to promote financial inclusion and fulfill its goal of ensuring the system's stability and resilience..</p>	<p>The objective of regulating Open Finance is underpinned by several key principles: financial inclusion and innovation, the promotion of competition, protection of financial customers, safeguarding of processed data, preservation of financial integrity and stability, and the prevention of money laundering, as well as the financing of drug trafficking and terrorism.<sup>65</sup></p>	<p>Art. 76 of the Fintech Law refers to Open Banking and mandates that all financial institutions share information using standardized APIs, thereby facilitating data exchange between banks and authorized third parties.</p>

<sup>63</sup> <https://www.tibco.com/es/reference-center/what-is-psd2>

<sup>65</sup> <https://www.bcn.cl/leychile/navegar?idNorma=1187323>

<ul style="list-style-type: none"> <li>- Ensuring the protection of EU consumers' personal data.</li> <li>- Providing a low-cost solution for both merchants and consumers in e-commerce.<sup>64</sup></li> </ul>				
Participants				
<p>Any payment service provider, including account managing payment service providers, can offer payment initiation services. All banks with a banking license are required to participate.<sup>66</sup></p>	<p>Mandatory participants (Art. 6): a) account service providers; and b) payment initiation service providers.</p> <p>Mandatory for the largest banks in the S1 and S2 segments (Santander, Bradesco, Itau).</p> <p>Voluntary for other authorized financial institutions (fintechs and neobanks are not required</p>	<p>No further details are provided regarding regulation in this area.</p>	<p>Those who qualify as payment initiators.</p> <p>Oversight by the CMF, which will have all the powers conferred by <i>Decreto Ley</i><sup>68</sup> No. 3538 (1980).</p>	<p>Participation is mandatory for all financial institutions, which are required to share data via APIs. These entities had 12 months from the publication of the first provisions. Therefore, as of June 5, 2021, they should have already been exchanging open data information.<sup>69</sup></p>

<sup>64</sup> <https://eur-lex.europa.eu/legal-content/ES/TXT/HTML/?uri=CELEX%3A32015L2366>

<sup>66</sup> <https://www.inbestme.com/es/es/blog/que-es-open-banking/>

<sup>68</sup> *Decreto Ley* refers to a legislative instrument issued by the executive branch, typically when the national legislature (Congress) is not in session or has been suspended. This mechanism allows the executive to enact laws that address urgent matters, operating under special legal powers.

<sup>69</sup> <https://belvo.com/es/blog/estado-regulacion-open-banking-mexico/#:~:text=Las%20entidades%20financieras%20han%20tenido,participar%20como%20solicitantes%20de%20datos>

	<p>by regulation, except under the principle of reciprocity).</p> <p>In the case of payment initiation, any fintech or merchant may obtain a special license to initiate a Pix transaction within their own application.<sup>67</sup></p>			
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<sup>67</sup> <https://americasmi.com/insights/mas-alla-de-pix-la-iniciacion-de-pagos-de-la-banca-abierta-acelera-los-pagos-por-camara-de-compensacion-ach-en-brasil/#:~:text=En%20cambio%2C%20en%20el%20caso,dentro%20de%20su%20propia%20aplicaci3n>