

Modelo Peru: A Mobile Money Platform Offering Interoperability Towards Financial Inclusion

Like most emerging markets, Peru suffers from low banking penetration and faces challenges to providing financial services. Beginning in 2015, a strategy called Modelo Peru emerged as a collaboration between financial institutions, telecom companies, and the government, with the goal of launching a mobile money platform to better serve the nation's unbanked and underbanked. The platform's main innovative feature is interoperability among these three groups to achieve scale and breed competition among e-money issuers.

Yet after two years the project continues to struggle to align all involved financial institutions toward its development objective, as well as ramp up the number and value of transactions the mobile platform handles. Important challenges to success include investing in a wider distribution network that more effectively reaches the unbanked, and building a strong digital ecosystem that makes the platform relevant and understandable to users. These challenges require better collaboration from the parties involved as well as strong political will. Absent those, mobile financial services in Peru will remain an alternative financial service rather than a tool for financial inclusion.

Emerging markets face various challenges in their attempts at widespread provision of financial services. Peru is no exception. Despite having been one of Latin America's fastest growing economies between 2010 and 2014, only 29 percent of Peruvian adults own an account in a financial institution, far below the regional average of 51 percent.¹ In fact, although it is considered an upper-middle income country, Peru's account penetration is similar to the average of the countries with lowest income and banking interest rates in the region (33 percent).²

Among the reasons that Peruvians lack a bank account is the perception that the costs of maintaining one—including commission, transaction, and transport costs—outweigh the benefits. In rural areas, the average time it takes to access a financial attention point (a financial institution office, ATM, or agent) is 1.5 hours, compared with the national average of 22 minutes, and just seven minutes on average in Lima and Callao Province.³

Thus, while the infrastructure of attention points has increased considerably in recent years, disparities among regions remain significant. Currently, 68.9 percent of Peruvian districts have a financial system presence, 56.4 percent of which have access only to agents. Still, 5 percent of the adult population—a group that is among the poorest in Peru⁴—has no access to any kind of financial attention point at all.⁵

In this context, and with almost 70 percent of the Peruvian economy having a certain degree of informality,⁶ the preference for cash is very strong. Some 90 percent of transactions in the country are made in cash.⁷ The main costs associated with the exclusive use of cash are inconvenience (time, transportation, queues) and security (risk of theft and counterfeit currency).

By contrast, the mobile phone market has grown considerably and is more widespread in the country. Peru reached a mobile subscriber rate of 66 percent in 2015, above Latin America's average rate of 65 percent.⁸

As a result, when officials looked for a logical solution to Peru's lack of available financial services, they settled on a broad channel based on mobile phones. However, because the availability of 3G networks is still limited throughout the country, an inclusive solution required a technology that does not require a smartphone or mobile internet.⁹

To address its banking issues, the Peruvian government took a proactive stance, defined by a strong country commitment and a regulatory environment conducive to financial inclusion. And despite its many challenges, Peru has been considered as the country with the best enabling environment for financial inclusion in the world for several consecutive years, paving the way for creation of a mobile money platform.¹⁰

This note examines Modelo Peru's Billetera Movil, or Bim, "the world's first fully-interoperable national mobile money platform" supported by financial institutions, the government, and telecommunication companies to serve the unbanked and underbanked. This innovative model has gained international attention due to its design based on interoperability among the three groups. After almost two years in operation, it is useful to understand the advances

and challenges of the project, and to gather lessons for other similar cases in the future.

The potential impact of mobile money

Several countries with low banking penetration rates have created mobile money platforms to promote financial inclusion. The first and most successful case was Kenya's M-Pesa, primarily used for person-to-person (P2P) remittances. Before that technology became widespread, most transfers of money were made via cash or informally through third parties.¹¹ M-Pesa increased per-capita consumption levels and brought 2 percent of Kenyan households out of poverty between 2008 and 2014, increasing financial resilience and savings, especially for female-headed households.¹²

Access to mobile money reduces both fixed and variable costs of transfers and makes consumption smoothing more effective. It also enables families and individuals to protect themselves against shocks such as income and health risks, and allows individuals to reach a wider network of social support, as physical proximity is not necessary for P2P money transfers.

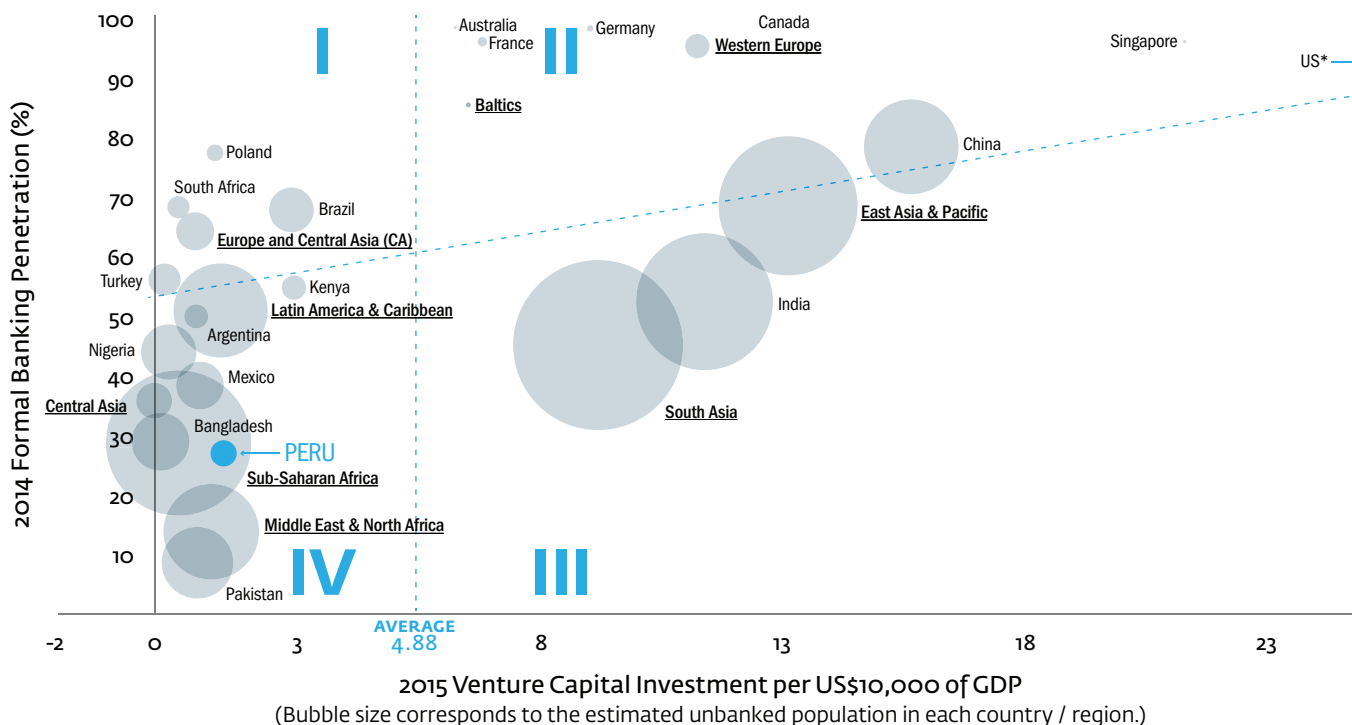


FIGURE 1 "The Banking-FinTech Development Space"—Peru appears currently in Quadrant IV

Peru displays values similar to other countries with high shares of unbanked populations and relatively low activity in venture capital investment, a proxy for the development of technological ecosystems. Source: See Saal, Matthew et al. 2017. "Digital Financial Services: Challenges and Opportunities for Emerging Market Banks." EM Compass Note 42. IFC, August 2017.

*The values for the US are outside the shown scale, i.e. 50 for x-axis and 94 percent for y-axis. The values for Peru are 1.6 for x-axis and 29 percent for y-axis.

Mobile financial services (MFS) providers are business models as for-profit businesses. They can be mobile network operators (MNOs) like Vodafone in the case of M-Pesa, or they can be companies that develop the platform and then partner with MNOs to provide connectivity to end users, as is the case with Pagos Digitales Peruanos (PDP) in Peru. These companies also partner with banks, governments, and others to allow customers to carry out different transactions, generating a digital ecosystem.¹³ Regardless of the business model, an effective distribution network is critical, including a network of agents or franchisees to help customers set up accounts and make transactions. Agents are entrepreneurs themselves, as they are paid a commission for every account they open or transaction they facilitate. Customer care, service quality, and cash management depend directly on these actors, which highlights their importance.

Background of Modelo Peru's creation

In 2013, the Electronic Money Law was enacted in Peru, establishing a legal framework for mobile money to serve as a tool for financial inclusion. The law determined that enterprises authorized to issue electronic money can be considered either financial institutions or electronic money provider enterprises supervised by the regulator (Superintendency of Banks, Insurance Companies and Private Pension Fund Managers-SBS). In addition, complementary norms were published, such as a regulation that creates simplified accounts. These accounts reduce Know-Your-Client and Anti-Money Laundering requirements, and can be opened merely by presenting a valid identity card containing the recipient's full name and current address. However, they also have limits on account balances (about \$600) and transaction size (about \$300), with total transactions between two parties limited to \$1,200 per month. Electronic money provider enterprises, created by the new legislation, can then offer these simplified bank accounts.

The Peruvian Bank Association (ASBANC) approached Banco de la Nación—the bank that represents the Peruvian government in commercial transactions—as well as microfinance institutions and rural savings and credit union representatives, to create a joint interoperable platform large enough to reach the unbanked, and with the potential for rapid scale. One challenge when deploying such platforms is the reluctance to embrace opportunities of open standards and collaboration, as competition on digital platforms is “asymmetric,” and there is a risk of collaborators competing for each other's customers (scale versus value leakage).¹⁴

In Peru, most commercial banks are located in the coastal regions, with 59 percent of bank branches located in the capital city of Lima. By 2015, only 31 percent of the districts in Peru had access to the private banking system. In the same year, Banco de la Nación expanded the number of its branches, ATMs, and agents to increase access to financial services by 20 percent.

As commercial banks—which hold the vast majority of assets in the financial system—do not reach several locations in the country, building an inclusive digital ecosystem necessarily implied working jointly with other institutions. In addition, interoperability would also be needed between telecommunications providers (telcos) within the platform, since these providers' mobile network coverage is just as uneven, with some zones only covered by one provider, and some with no coverage at all. Therefore, an inclusive solution implied equal use of the platforms by users from different mobile services providers.

In July 2015, Peru launched the National Strategy for Financial Inclusion, known as ENIF, to allow financial institutions, telcos, the regulator, and different government actors to work together.

Platform design and business model

Also in July 2015, ASBANC launched Pagos Digitales Peruanos (PDP), the company in charge of designing, maintaining and managing the joint interoperable platform. PDP's shares are 51 percent owned by ASBANC's nonprofit Center of Financial Studies (CEFI) and 49 percent by the rest of the electronic money issuers. Telecom companies and the government have an interest in the platform working and are critical allies for Modelo Peru and ENIF to advance, but are not part of the decision-making structure of PDP.

Ericsson won the bid from a group of 22 different money solutions providers to develop the platform¹⁵—named Billetera Movil (Bim) and launched in February 2016—which connects banks and telecoms with the unbanked population.¹⁶ Over 30 mobile money issuers can operate on the platform, with each generating their own transactions report while having an intermediary like the PDP settle all transactions.¹⁷

The platform is simple. It connects low-income residents to financial services via short message services (SMS) messaging. The process of signing up and opening an electronic wallet is completely free and can take less than a minute. In addition, all participating financial institutions offer their services through Bim so that the branding effort can be focused exclusively around the name “Bim.”¹⁸

Bim is innovative and maximizes the reach of all actors on the platform:

- **Electronic money issuers:** Users can make transactions within the platform, regardless of the financial institution the other party is working with, without commissions for transactions between institutions. Users don't need to know what institution other parties are working with.
- **Telecommunications companies:** Bim works with Peru's three main telecommunications companies (Movistar, Claro, and Entel), covering around 90 percent of the mobile market, and is coordinating to include Bitel, the telco that holds most of the remaining market share.
- **Between cash-in/cash-out institutions:** Users can reach any agent in Bim's network, regardless of their contract.

Operation of the platform

Users can be individuals or non-financial businesses, including government actors, electronic money issuers, and distribution networks such as agents and certain ATMs. Agents perform actions directly with platform users, enrolling new users to Bim, facilitating transactions (payments, mobile top-ups, and transfers), and performing cash-in and cash-out operations. By early 2017, Bim already had 8,500 physical points of sale (POS), 19 percent of the all available points in the country. Most of the remaining points are not directly owned by any bank but operate through aggregator networks, that is, firms that are allowed to affiliate and manage agents' operations for more than one financial institution. Most of them have not yet joined Modelo Peru.¹⁹

Users can open an e-wallet account without a preexisting bank account, Internet access on their phone, or credit.²⁰ A new user merely needs to present a personal national identification number, select a passcode, and choose a financial institution with which they will create an account. In line with regulation, the money stored in the e-wallet is safeguarded by a trust fund created by each e-money issuer.

The platform allows users to perform the following operations:

- Cash in (mainly through agents),
- Cash out (through agents and recently through ATMs of the banks BBVA and Banco de la Nación),
- Make person-to-person transfers,
- Buy airtime, and
- Pay for specific services, e.g., person-to-business (P2B) or person-to-government (P2G).

PROMOTING GOVERNMENT-TO-PERSON TRANSACTIONS AMONG THE POOREST

The Ministry of Development and Financial Inclusion is currently working on a pilot to evaluate the potential of digitizing payments for cash transfer programs through Bim. The potential beneficiaries of these programs are among the poorest of the population. Currently, cash transfers are made through deposits in savings accounts (where there is a Banco de la Nación office available) or in cash, using transport companies that deliver the money at a designated place and time. The latter transfer process is used for around 20 percent of the total beneficiaries of Juntos and Pension 65 and implies significantly higher costs both for the government and the beneficiaries (who often must travel long distances to reach a payment point).

Carolina Trivelli, former Minister of Development and Social Inclusion and former CEO of PDP, believes this is a positive initiative but is skeptical that it is a strategy that would build a wide ecosystem to expand the use of Bim.²¹ Government-to-person operations with the most vulnerable populations may reduce costs for government but do not have clear benefits the poor in the short run because the remotest areas also do not have any cash-in/cash-out points for Bim.²² Furthermore, it could take significant time for people with less digital capabilities, including the elderly, to adopt the use of the platform.

Nicolas Besich, Principal Researcher at Videnza Consultores who conducted a project on the promotion and use of Bim among Juntos beneficiaries in Catacaos, Piura, highlighted that these users' limited education levels could complicate their adoption of Bim. Also, even when 77 percent of the users he contacted had a cellphone in the household, less than half of the actual beneficiaries are effective owners of the cellphone. However, the potential reduction in transaction costs related to receiving money would be significant if the distribution network reaches these populations.²³

Other G2P operations may have more potential to begin with. These include the National Scholarship Programs, per diem for health workers, salaries of military personnel based far from their homes, and subsidies for new mothers.²⁴ Subnational government payments, on the other hand, are desirable but pose a significant coordination channel given the fragmentation of payment systems and the degree of autonomy over payments policy at the local level.²⁵

Currently, two payment options are possible: (1) RUS, a simplified tax for self-employed taxpayers and microbusinesses payed to SUNAT (National Superintendence of Tax Administration); and (2) payments to a technological institute called TECSUP. Fees are only applied for transfers and cash-out transactions and are meant to cover the cost of SMS from PDP to the mobile network operators.

Pagos Digitales Peruanos is partnering with Banco de la Nación to provide government-to-person (G2P) operations such as facilitating payments for cash transfer programs to the poor (Box 1). In addition, PDP has agreements with some enterprises to promote supplier payments from shopkeepers via Bim (business-to-business transactions, or B2B).

Slow Adoption

Adoption of the Bim platform has been slow, however. Peruvians in general continue to prefer cash transactions, and they maintain a high level of distrust of financial institutions, which have traditionally been associated with excessive fees, and the difficulty and inconvenience when needing to solve problems within the system are the main reasons for this perception. In addition, there is a widespread lack of understanding of electronic money,

and an associated fear of not having someone to contact or provide assistance if something goes wrong.²⁶ Clearly, substantial financial education is required to help the unbanked become more comfortable with digital payments.

The implementation of Peru’s National Strategy for Financial Inclusion by all the parties responsible for it is critical for Bim to have a proper environment to operate. PDP message campaigns need to tackle this by convincing consumers that the new platform offers a simpler way to store money and make payments and other financial transactions, but that it also retains a concrete connection to financial institutions.

Significant progress in this stage of Bim’s rollout would require agents to succeed, since they are instrumental in building trust with the local population and instilling confidence in them to use electronic money. However, it has been difficult to work with banking agents that already had direct relationships with each bank.

Bim’s launch meant twice the work for these agents. They needed to operate using two separate technologies (phone and point of sale), and had to render accounts twice to the bank. As agents are not used to working with phones, it took them twice as long to learn how to operate Bim’s interface,

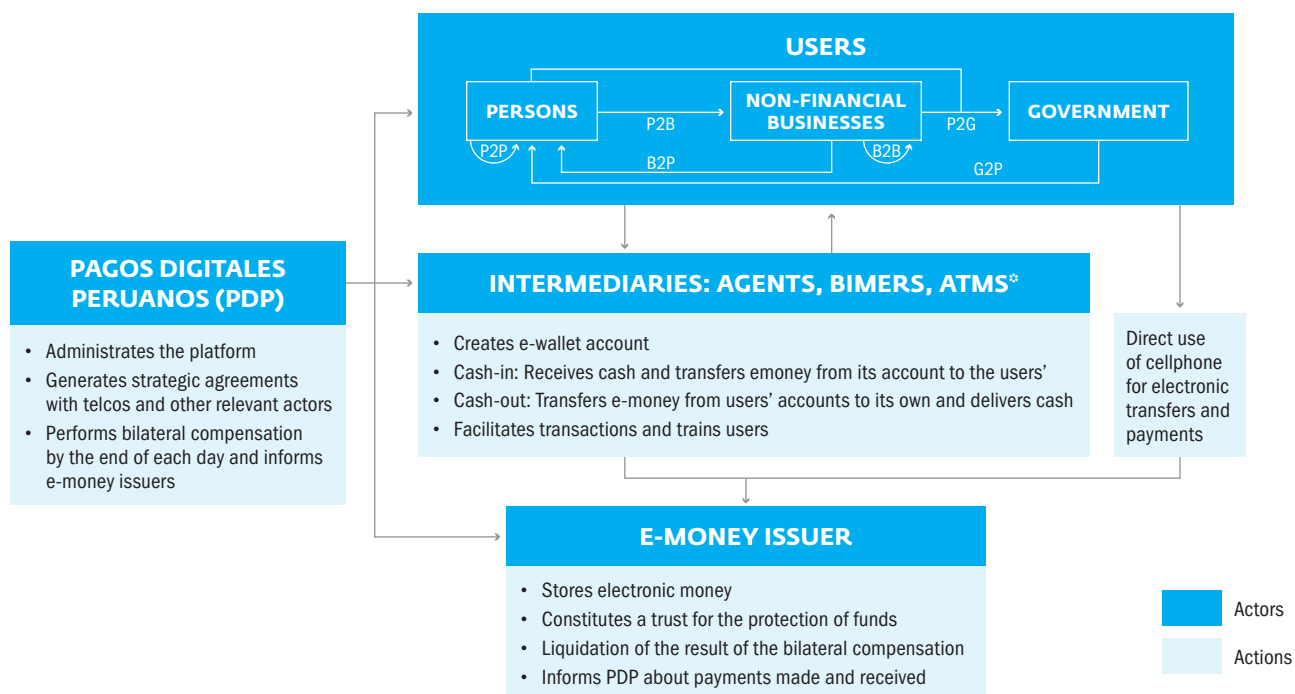


FIGURE 2 Main actors and their activity on the platform

Source: Abad, Liliana, Vásquez, Jose Luis and Milton Vega. 2016. “Regulación de Pagos Minoristas: Modelo Peru.” *Revista Moneda* 168. BCRP (Banco Central de Reserva del Peru); BBVA. 2013. “El marco regulatorio del dinero electrónico en el Peru y la inclusión financiera.” *Observatorio Economico—Inclusion Financiera Peru*; Antón-Díaz, Pablo, and Tomás Conde. 2017. “Modelo Peru: Unique Model, Unique Challenges, Bright Future.” Brief 001. Center for Financial Inclusion and Institute of International Finance.

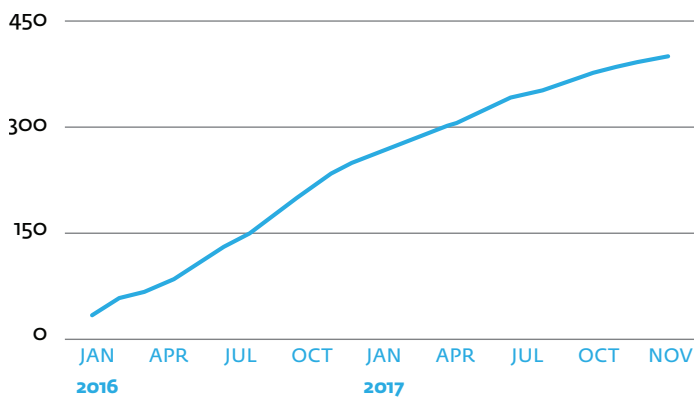


FIGURE 3 Number of users in thousands

Source: *Semana Económica*. 2017. “Dinero electrónico: los planes de la Billetera Móvil en el 2018”. <http://semanaeconomica.com/articulo/mercados-y-finanzas/banca-y-finanzas/257808-dinero-electronico-losplanes-de-la-billetera-movil-en-el-2018/>

compared with the use of POS. Also, as Bim is not yet widely used, some agents routinely forget to charge their phones or do not prefund their Bim accounts. This generates a self-reinforcing problem: even if there is demand for the use of the agent, their inability to help potential Bim customers discourages user adoption of the platform, and this lack of interest further limits incentives for the agents to use it.²⁷

Bim has yet to gain a presence in rural or unbanked areas, due to the limited number of agents in these regions. Historically, banks have not ventured far into rural areas due to high transaction costs and low profit margins. They have been more inclined to prioritize existing networks on the platform rather than develop new ones, taking advantage of an alternative transaction channel while gathering transactional information from clients.

According to Trivelli, it is especially challenging to accomplish the needed investment from financial institutions in more agents throughout the country because it is costly to implement and, after the platform is widely used, they will be used less.²⁸ In addition, it must be noted that expanding agent networks is also challenging, as they perform banking services and require a certain size and degree of formality to be accepted as agents by the regulator.

PDP has now postponed the goal of reaching unbanked areas immediately and has refocused efforts on peri-urban areas—where there remains a large proportion of the population with limited access to the financial system.

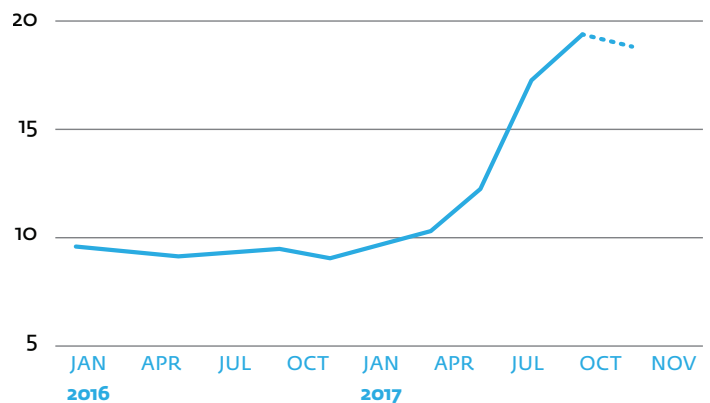


FIGURE 4 Average value of transactions in Peruvian Sol (PEN)

Source: *Semana Económica*. 2017. “Dinero electrónico: los planes de la Billetera Móvil en el 2018”. 20 soles are equal to ca. \$6.

To address challenges related to agents using two systems instead of one (a cellphone and a POS) and also to add more attention points for customers, PDP has partnered with Ericsson and three banks: BCP, BBVA, and Banco de la Nación, to ensure that:²⁹

- All BCP agent networks can now be used for cash-in and cash-out operations (approximately six thousand agents),
- All BBVA agent networks can now be used for cash-in and cash-out operations (approximately 1000 agents), and more than 1,800 ATMs can be used for cash-out operations,
- All Banco de la Nación agents (6500), ATMs (900), and branches (600) can now be used for cash out operations.

PDP is piloting a strategy with some small businesses in Lima known as “Bimers.” These businesses act as promoters of the platform, creating their own Bim e-wallets, making cash-in operations in an agent for their wallet, and then performing operations for other people and gaining a small commission for each facilitation. This model is said to be an “uberization” of agents, as it includes promoters that do not require a license but only an ID to operate. The practice has been accepted by the regulator.³⁰

As for the future, PDP has planned other partnerships to build a stronger digital ecosystem that will incentivize people to use the platform more frequently. By April 2018, it is expected that Bim will be connected connect to the POS network of the company working with Mastercard, which will enable users to transact with some 80,000 businesses.³¹

Other future projects include: incorporating the payment of more services such as utilities and international remittances; including the fourth most important telco operator (Bitel) in the platform; and creating a mobile app for smartphones to bring additional functionality to those users who own one.³² Also, government-to-person and person-to-government operations will be promoted at the national and subnational levels. These operations represent an important opportunity to strengthen the digital ecosystem, but they will also require strong coordination with the government.³³ Engaging and coordinating with the government at different levels is pivotal for PDP to develop the ecosystem required for the use of the platform.

Despite challenges, it is expected that the Bim platform will continue to gain broader use among Peruvians, though progress may continue to be slow. Expansion will be driven by growing agent networks and increased use of Bim for government-to-person transactions, which will render it necessary for certain groups of the population.

Bim is still in a nascent stage, and similar platforms have been operation much longer. Kenya's M-Pesa platform, for example, has been operating for over 10 years.

Conclusion

The use of mobile money in Peru can help the country achieve nation-wide financial inclusion, while also increasing financial resilience for the poor. Modelo Peru emerged as a result of collaboration between financial institutions, telecom companies, and the Peruvian government, in a context where financial inclusion was a priority for the government and regulatory policy was favorable.

Modelo Peru's Bim platform is innovative because of its interoperability on three levels--government, telecoms, and financial institutions. And in contrast to other mobile money platforms, competition is provided inside the Bim platform and not between platforms. However, interoperability has also brought the challenge of aligning all relevant parties' incentives. And use of Bim has lagged expectations.

The primary challenge to more widespread use of Bim among Peru's underbanked and unbanked in the short run is the size and scope of the distribution network throughout the country. This requires a significant investment on a distribution network whose use will diminish as the platform is more widely used and the money stays in the network rather than having the constant need for cash-out operations. As challenging as this may be, it is pivotal

for the success of Modelo Peru, as evidence has shown the importance of distribution strategies for FinTech solutions. It is expected that the new approach of "Bimers" will help achieve this more rapidly.

In addition, it is critical that a digital ecosystem is developed, so that the platform is created for various transfers and payments. To this end, PDP will need to work on both the demand and the supply sides.

Regarding the demand side, campaigns will need to tackle the negative perceptions of financial institutions, address financial literacy issues, and promote the concept and convenience of electronic money given the society's strong preference for cash. In addition, the prevalence of P2P internal remittances within the country is significant in Peru and should be seen as an opportunity for Bim. Among the young population involved in internal migration, 38 percent sent remittances to their former household and 60 percent received remittances in 2013.³⁴

As to the supply side, PDP is already working on new partnerships and strategies, with government-to-person being one possibility, as described above. These initiatives could be complemented with others such as person-to-government (payment of local and national taxes), person-to-business (payment for services), and business-to-person (payment of salaries, for example). Different incentive schemes could be established to promote the use of Bim over other channels for these types of payments (for instance, longer deadlines or discounts when paying through Bim). All of these initiatives, however, will require a strong coordination among several actors in addition to political will from different governmental actors.

To date, the adoption and popularity of Bim demonstrate that well implemented regulation is necessary but not sufficient to the success of a mobile money platform. Political will and the cooperation of all related actors are also critical.

Without ensuring a wider distribution network and developing the required ecosystem, Modelo Peru will likely remain an alternative financial service where banking services are already available, instead of effectively promoting financial inclusion for the unbanked and underbanked. However, this platform still has plenty of space to mature. If it can address the challenges it faces, it has the potential to produce an important development impact and create a precedent for other interoperable financial inclusion efforts. ■

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PREVIOUS EM COMPASS NOTES ABOUT FINTECH

Please see also these IFC Thought Leadership publications about trends for fintech companies in emerging markets: EM Compass Notes How Fintech is Reaching the Poor in Africa and Asia: A Start-Up Perspective (Note 34); Digital Financial Services: Challenges and Opportunities for Emerging Market Bank (Note 42); Blockchain in Financial Services in Emerging Markets Part I (Note 43); Blockchain in Financial Services in Emerging Markets Part II (Note 44) and the report Blockchain: Opportunities for Private Enterprises in Emerging Markets (October 2017).

- ¹ World Bank Global Findex Database. 2014. <http://www.worldbank.org/en/programs/globalindex>
- ² See classification by GSMA of commercial mobile financial services in Latin American and the Caribbean. Type I Markets (low income, low interest rates) under this classification are Bolivia, El Salvador, Guatemala, Nicaragua, and Paraguay. Under this classification, Peru is considered a “hybrid” since it has similar account penetration rates but higher GDP per capita than these markets.
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- ¹⁷ Trivelli, Carolina. 2017. “Modelo Peru.” Interview by Paola del Carpio. (September 12, 2017).
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- ²⁰ Ibid.

- ²¹ Carolina Trivelli is a Peruvian economist specialized in social policy, rural development, and financial inclusion issues. She is a senior researcher at the Peruvian think tank Instituto de Estudios Peruanos. She is also Chair of the Consultative Group to Assist the Poor (CGAP) housed at the World Bank, and chair of the board of Pagos Digitales Peruanos, the company that runs the interoperable platform for electronic money in Peru. Trivelli was the first Minister of Development and Social Inclusion in Peru (2011-2013).
- ²² Cash transfer programs reach areas in Peru where there is no bank coverage at all. In these cases, the transfer is made at a central point for different areas at a certain day and time. It is costly for the government because it must contract a security company that physically transfers cash. It is also costly for users because some of them must travel very long distances.
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- ³³ Better Than Cash Alliance. 2016.
- ³⁴ Franco Gavonel, Maria. 2017. “Patterns and Drivers of Internal Migration Among Youth in Ethiopia, India, Peru and Vietnam.” Young Lives Working Paper 169. Oxford.