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Financial inclusion

New Banking, Banking for All: the "Peru Model"

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Abstract

The Peru Model for financial inclusion is based on the creation of an ecosystem for mobile payments based on electronic money, with the aim of making formal financial services available to most of the population. It is a single platform where financial institutions, telecommunications companies and customers interact, in an innovative fashion. The innovation is twofold: in the access channel and in the product. Its success depends to a large degree on the positive network externalities that are generated. We identify three groups of potential customers of electronic money: "Early Adopters", "Majority Adopters" and "Late Adopters". The Peru Model hopes to minimize the perceived barriers to financial inclusion: distance, fees, documents required, security and trust in financial institutions.

The Peru Model

The Electronic Money [1] law passed in Peru in 2012 is considered to be one of the cornerstones of what we know today as the Peru Model. The Peru Model, created by Asbanc, is an ecosystem of mobile payments, based on electronic money, which aims to convert this means of payment into a mainstream option in Peru. The project endeavours to promote the use of this new channel for formal financial services by making them more accessible, particularly for the neediest groups. While it is not the first time that the telecoms and banking sectors have joined forces to contribute to improving the quality of life through financial inclusion, there are high hopes for this initiative, given that it offers a single platform which can be used by all parties involved in providing these services. It is an experiment without precedents. On the one hand, the institutions in the country's financial system: banks, savings & loan and micro-finance bodies; on the other, the telecommunications firms. Above both of them is the government, in a regulatory and supervisory capacity.

On the other side we have the consumers and the technology required to access electronic money. A basic mobile phone, with no need for a mobile data tariff, will be the point of entry for Peruvians into the new mobile payment system. Simply by keying in a code, the consumer will be able to access a wide range of financial services, such as cash-in/cash-out, paying for purchases, making transfers, taking out micro-insurance policies, making deposits, paying invoices, etc. According to the 2011 National Household Survey (ENAHO [2]), 71% of adult Peruvians have a mobile phone [3] and yet only 21% have an account in the formal financial system (Global Findex, 2011, World Bank)[4].

Network externalities and the single platform

The success of the Peru Model depends to a large extent on large-scale use of electronic money and thus being able to maximise the resulting economies of scale. This is where the term "network externalities" comes in. We say that network externalities – positive ones – exist when the utility resulting from using a product increases with the number of people using that product. In other words, each additional user confers an extra benefit to the existing ones. The theory of network externalities has been much used to explain value creation in the network economy (Economides, 1996; Shapiro & Varian, 1999; Liebowitz, 2002; among others). The direct benefits derive from interaction between users, while the indirect ones derive from the producers, who are motivated by economies of scale to develop new goods and services that are compatible with this technology.

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[1] See Sánchez & Tuesta (2013) for an analysis of Peru's Electronic Money law.

[2] This survey was carried out by Peru's National Statistics & IT Institute.

[3] This figure is corrected for people owning several SIM cards. The number of mobile phones owned as a percentage of the adult population was 171% in 2011.

[4] The most recent Asbanc (2013) figures for the Peruvian economy show that between 25% and 30% of the Peruvian population is banked.

In the financial context, the theory of network externalities has been applied in the study of mobile banking (Gowrisankaran & Stavins, 2004), ATM networks (Kauffman & Wang, 2002) and clearing and settlement houses (Ackerberg & Gowrisankaran, 2003). The results obtained by Kauffman & Wang (2002) show that banks which share their ATM networks enjoy additional benefits from the growth of their own individual networks. As such, the benefit of sharing a single platform, as in the case of the Peru Model, will enable both financial and telecoms firms to obtain further gains as a result of this larger network. As more consumers use the same payment system, more merchants will accept it, and vice versa. In turn, the utility for consumers will grow, since the payment system will be more practical.

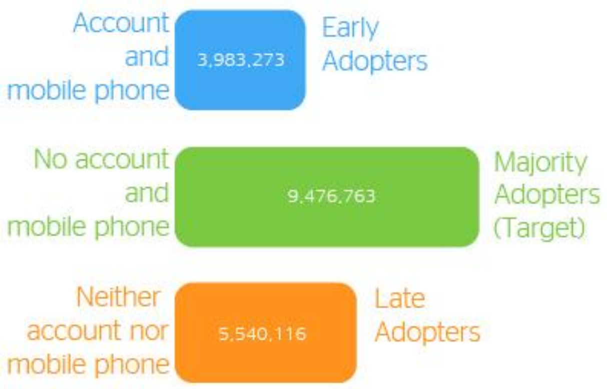
The terms “standardisation”, “interoperability” and “compatibility” are closely connected to the concept of network externality. The interaction between these characteristics is crucial for the success of the Peru Model, as it is for any network. There is interaction in the sense that standardisation increases compatibility and this in turn increases network externalities, creating greater value for users, which leads to the network growing through combining pre-existing networks. Another advantage of standardisation is the reduction in the costs to the users of coordination and search. Finally, Tirole (1988) argues that standardisation prevents what is known as excess inertia, which occurs when users have to choose between several technologies, thus delaying their adoption.

At what point will electronic money be taken up, and by whom?

A simple way of calculating the approximate number of potential users of electronic money is to apply the Bayes’ theorem. Assuming that people with a bank account also have a mobile phone, the probability of having a bank account, knowing that the individual has a mobile, is nearly 0.3 (0.296). Therefore, the probability of people with mobiles not having an account is 0.70. When we apply these probabilities we can identify several groups of individuals by the ease with which they can be expected to start using electronic payment systems and the moment at which they can be expected to do so. A first group of potential users, “Early Adopters”(nearly 4 million adults), are people with both an account and a mobile phone. The characteristics of this group mean that its members are the most likely to become electronic money users from the outset. The second group, “Majority Adopters”, is extremely interesting in terms of financial inclusion. These are people who have a mobile phone but do not have a current account, and there are nearly 9.5 million of them. What is particularly interesting about this group is that as individuals they are accustomed to using a mobile handset and, thus, accessing formal financial services using this new channel can bring them out of their present state of financial exclusion. We would expect this group to start using electronic money very shortly after the first group. Finally, we have identified a third group which will be more difficult to bank, “Late Adopters”. This group is composed of adults who have neither a mobile phone nor a bank account: there are a little over 5.5 million of these. Nevertheless, setting up the mobile payment system could increase this group’s interest in acquiring a mobile phone and so to be able to access the formal financial system easily and cheaply, using network externalities. This group would begin to sign up as increasing numbers of the second group did, and this would be expected to take place at a later stage, as a consequence of the increasing use of electronic money. In short, these are approximate figures which try to map out an idea of what impact the mobile payment system could have. An analysis of other scenarios could be considered if the assumption that everyone with a bank account has a mobile phone were relaxed.

Potential users of electronic money

Number of adults (+15 years)



Source: BBVA Research with Global Findex data (World Bank) & ENAHO 2011 (INEI)

Expectations for Financial Inclusion

The Peru Model is hoping to make a meaningful contribution to expanding financial inclusion, with several million Peruvians, who as of today are excluded from the formal financial system because of market failures, starting to use the system. Financial exclusion, understood as a problem of social exclusion, affects a very high percentage of the population of Peru (nearly 80% of the adult population [5]) and of the developing world in general.

Asbanc estimates that by 2019 at least 5 million Peruvians currently excluded from the formal banking system will be using this mobile banking system. While it is true that this lack of participation in the system could be due to voluntary exclusion, we are interested in the involuntary reasons that point to market failures as the main reason for not using formal financial services. To be precise, based on the Global Findex database, for 24% of the non-banked the distance is a problem; of these, 36% are concentrated in the lowest income quintile [6]. Over 55% of the total number who are excluded state that they do not have an account because the bank charges are too high[7]. This is very possibly the reason for the appearance of another figure, that of the indirect user (someone using a family member's account), generally for saving; 11% of the excluded, in all, do this. Not having the necessary documents is perceived as a problem by 16% of the adult population without a bank account. Finally, lack of trust in the financial system is holding back the participation of 37% of excluded individuals, a percentage which grows as the income level rises.

The Peru Model tries to palliate many of these perceived obstacles to financial inclusion. Major progress has been made with the issue of distance: people will no longer have to make long journeys to cash their wages, send remittances or make a deposit. All these transactions will be carried out using an extensive network of banking correspondents throughout the country, including rural and remote areas. Nor will they have to visit a bank branch; it will be possible to conduct basic financial operations in establishments that they already use on a regular basis (supermarkets, gas stations, pharmacies, etc.). The costs to users of this system, in terms of banking fees paid by individuals, are likely to be minimal or even nil. The pricing policy will be decided by banks

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5: Global Findex (World Bank)
6: The percentage of women giving this reason is higher than in the case of men, 28%, compared to 18.7%.
7: It is interesting to note that most of the individuals who perceive the high cost of services as a barrier (59%) are in the fourth income quintile.

depending on their own strategies. Competition between banks to win this new customer base as it joins the electronic payment systems market could drive down prices for the consumer. The paperwork necessary to operate the Peru Model will also be very limited. Electronic money operations can be carried out with a personal identification number and a telephone number; with these it will be possible to open one of these simplified accounts which will permit operations with limited sums of money (a maximum of PEN2,000 a year, equivalent to approximately USD700). Finally, regarding security, this system has major advantages over cash. It eliminates the risk of theft, since the money is in an account which is accessed via a personal operations key, and not in the mobile handset. Furthermore, none of the operations carried out leaves a trace in the telephone.

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