



Advancing financial access for the world's poor

Rural Adoption of Mobile Payments

*Results of Telecomm/Mifon pilot in Santiago
Nuyoo, Oaxaca, Mexico*

February 2013

Agenda

1. Pilot context

2. Data analysis of general current behavior and usage

3. Identifying customer profiles

Introduction

- Telecomm is a decentralized government agency that operates the telegraph services, bridges data connectivity across the territory, and operates a domestic remittance service (cash-to-cash). It has converted its branch network of more than 1,600 branches, mostly in rural areas, into banking correspondents.
- In order to test the potential adoption of mobile banking and the viability of low-cost access points in underserved communities, in January 2012 Telecomm started a pilot in Santiago Nuyóo, a small rural community in southern Mexico.
- Telecomm opened an agency in the community, and installed mobile network communications infrastructure to offer local voice and text services (local calls, local SMS) along with a mobile wallet (cash in/out, balance inquiries and P2P payments)*.
- Telecomm provided 316 cell phones to people in the community to test usage of the services (covering 80% of the adult population). This product was called “Pagos Móviles”.

Study purpose

- The purpose of this study was to
 - Measure the aggregated use of mobile accounts (overall characteristics of transaction pool) in order to validate the viability of a Telecomm's office in the community.
 - Provide qualitative information of customer profiles, usage per segment and key elements of value for the costumers.

Some demographics of Santiago Nuyóo

- Santiago Nuyóo is a town and municipality in Oaxaca in south-western Mexico. It is part of the Tlaxiaco District in the south of the Mixteca Region. According to the INEGI 2010 Census, the municipality had a total population of 1,966. It takes local people over two hours by truck to travel to nearest town to have access to mobile coverage and bank branches.
- There are three phone booths in Santiago, where people can make and receive phone calls. The average cost per minute is 5 Mexican pesos (about USD \$0.40/min).
- On average, about 70% of the people in Santiago Nuyóo receive income related to farming activities.
- Most adults have little education, in contrast with the younger population who often attends at least secondary school. A large number of people in the community studied at most elementary school.
- The television signal can only be seen through satellite TV that has a monthly cost of \$ 169 pesos. Most homes have this service.
- There is internet service in high school, at the public library and in two businesses that provide this service



Pilot context

- The telegraph office was opened in 2011 acting as a cash in-out point.
- The mobile account “Pagos Móviles” began operations in January 2012.
- The coverage area extends to a total of 945 people
 - 650 live in the community of Santiago Nuyoo, the rest in the surrounding areas
 - 396 of them are adults
- Telecomm provided 316 cell phones to people at no cost including a “level 2” bank account (basic deposit account with limited balance and transactionality).
- A financial education program was deployed in the community to facilitate the adoption.
- The mobile account allows:

Type of Transaction	Fee MXN Pesos
Deposits in bank account	\$0
Cash withdrawal (in branch)	\$12.10
P2P Transfers	\$3.71
SMS Balance Inquiries	\$2.00

- The service is limited to the coverage area.
 - However, a debit card is associated to the mobile account which allows the usage of ATMs and POS outside the coverage area (for example in Tlaxiaco, 52.4 Kms away)
 - This debit card cannot be used within the community, as there are no ATMs or POS.

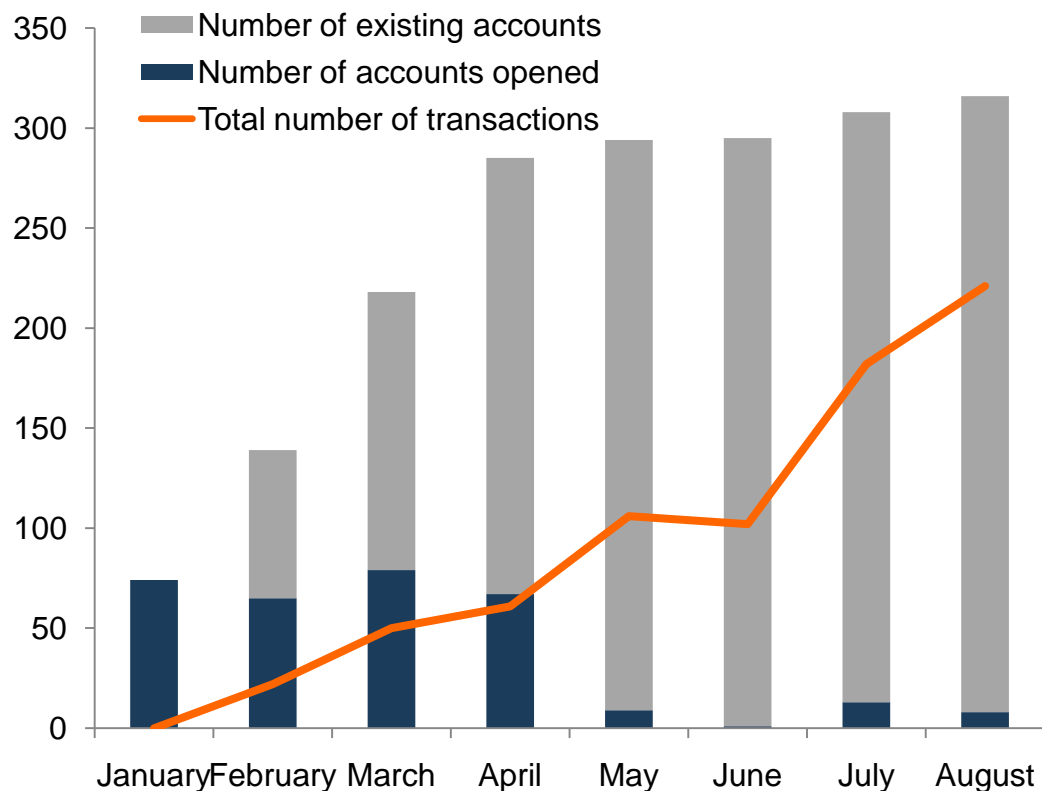
Agenda

1. Pilot context

2. Data analysis of general current behavior and usage

3. Identifying customer profiles

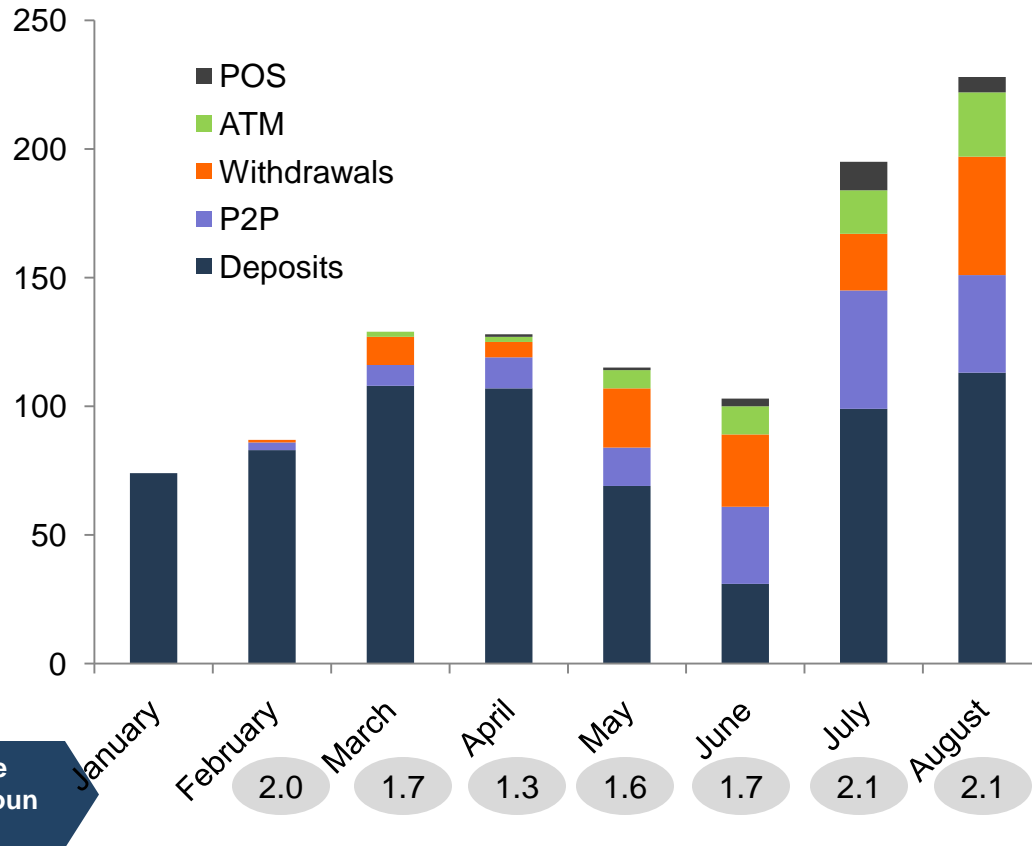
Number of accounts



- All accounts were opened during the activation of the voice service
- After 8 months of operation, a total of 316 mobile accounts were opened (80% of adults in the community).
- Of these, 90% were opened between January and April.

Transactional analysis

Total number of transactions

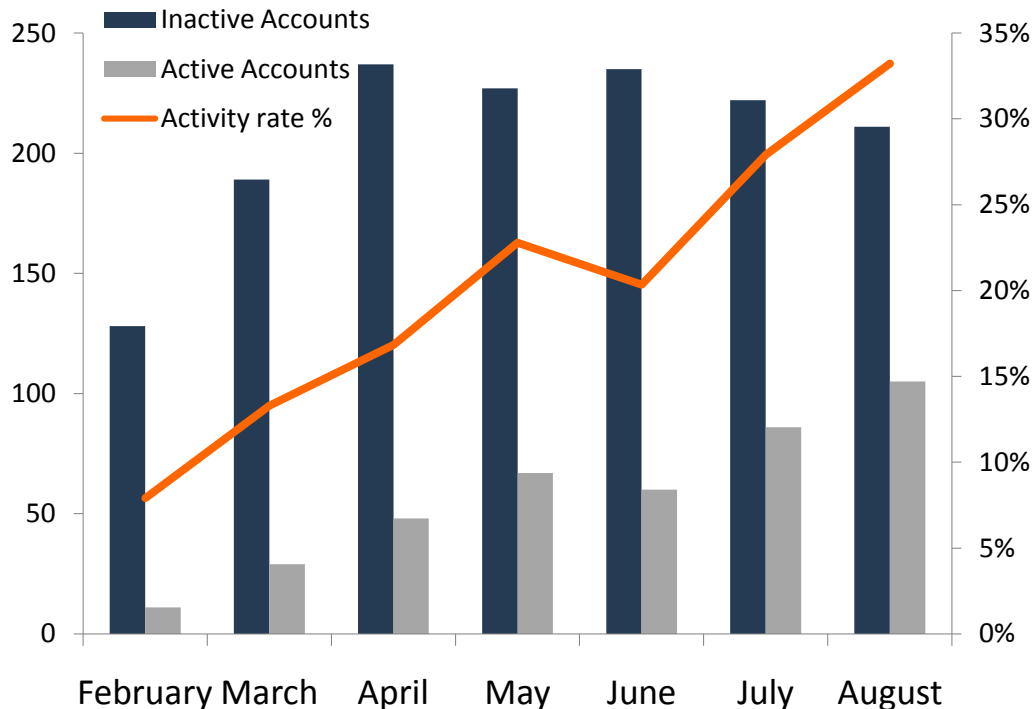


- The total number of transactions consistently increased during the eight months of the pilot, except in June where the number of deposits decreased*.
- For the entire period each active customer averaged 1.8 tx per month.
- Under a stable scenario (Jul-Aug) :
 - The average transactional rate was 2.1 tx per month.
 - Marked diversification in the type of transactions.
 - The deposit in bank account is the most frequent transaction.
- **Promotion P2P:** From May to June, there was a promotion to encourage P2P payments. This might have had a positive effect on the usage of P2P transactions for those months, reaching a 29% of the total transactions made (June). This decreased to 17% by August.

* The annual town fair was held in June, which elicits significant community participation and sponsorship. It is possible that this might have affected the cashflows and usage of individuals using this service.

** Only takes into account active costumers.

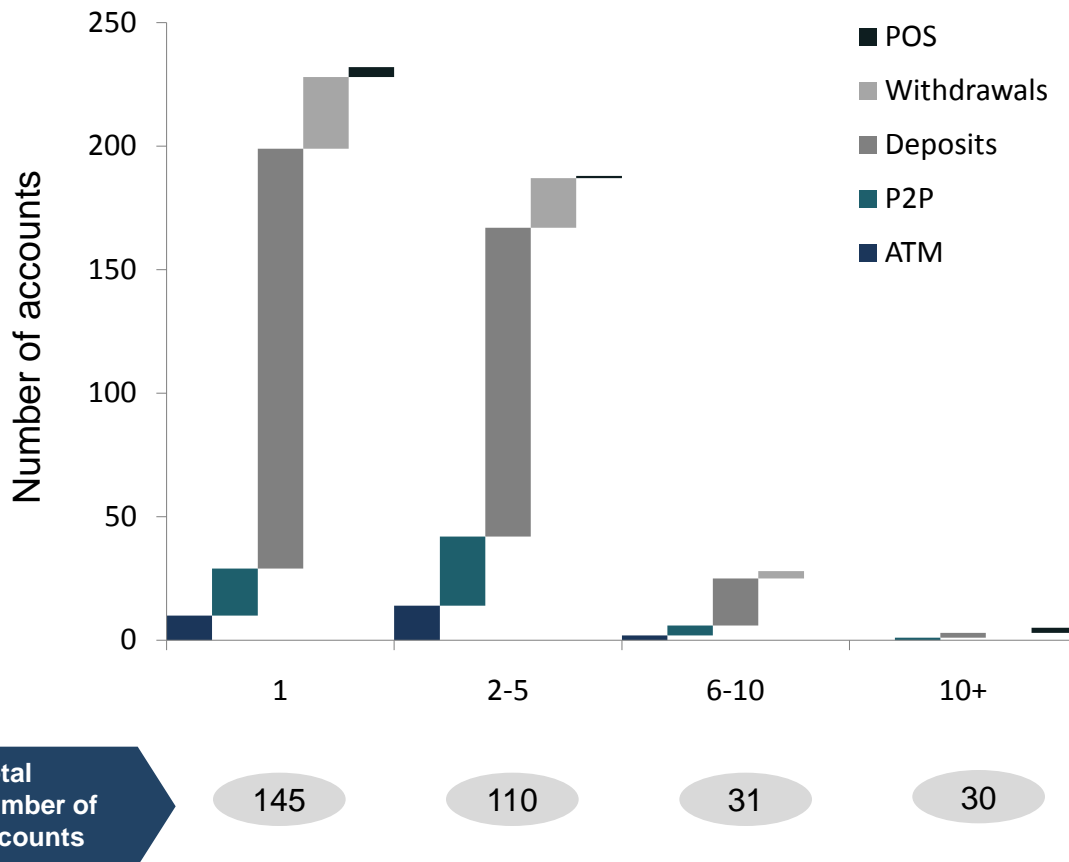
Customer activity



- **The activity rate* consistently increased over time.**
- The average activity rate was:
 - 33% in August
 - 26% average from May to August.
- While half of the users never transacted, 33% became active users.
- Activity rate is high compared to general benchmark - mobile money deployments across the world frequently experience activity levels between 10%- 20%**

Transactionality

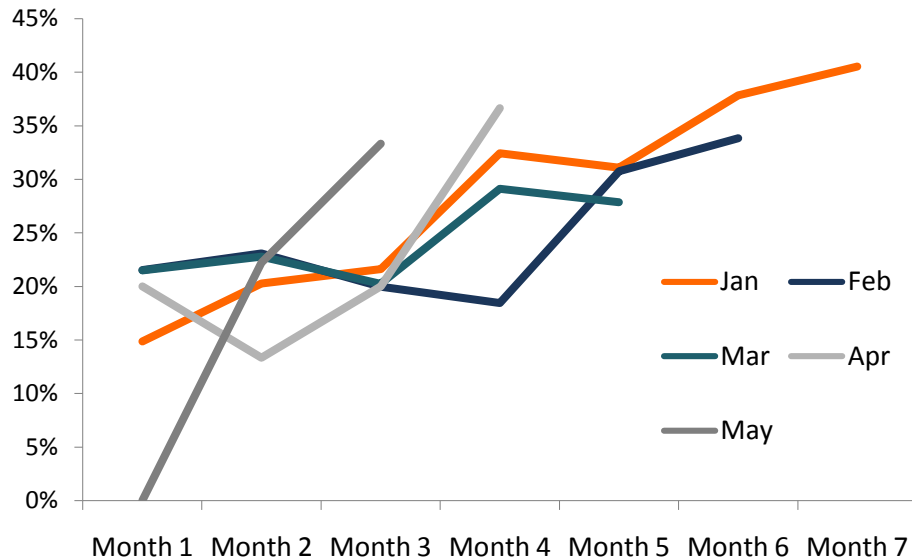
Distribution of Transactions per account
Total number of transactions per account Jan-Aug



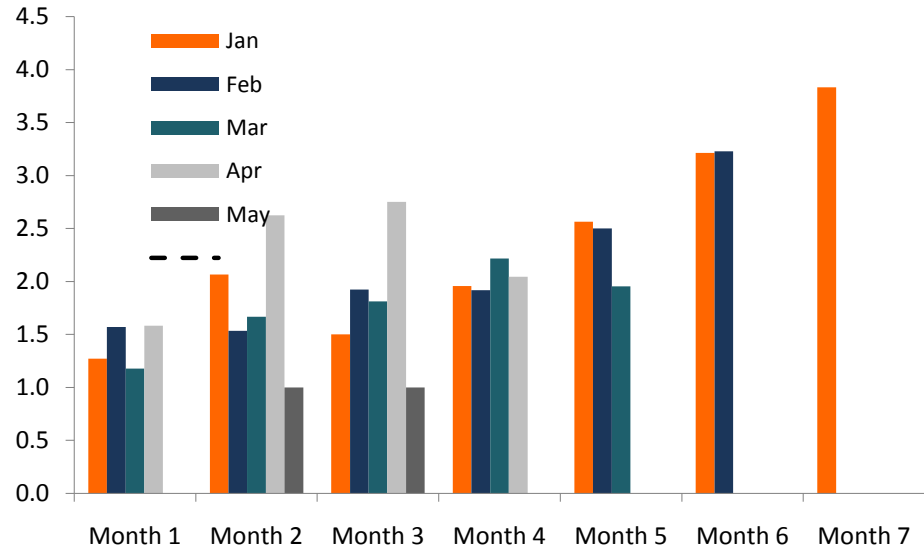
- The accounts were classified by the number of transactions performed in the period Jan-Aug
 - 54% of the costumers (170) did only one deposit. Of these, 85% (145) never transacted again.
 - The remaining 46% performed more than one transaction.
- 16% of the costumers performed one or more P2P transactions (50% of the active users)
- 6% of active users made more than 20 transactions in 7 months.
- Cash withdrawal in the branch is twice as common than cash withdrawal in ATMs. The first one has a fee of \$12 pesos; while withdrawals in ATMs are free, but there are no ATMs nearby the community.

Vintage analysis

Vintage Analysis: Activity rate (%)



Vintage Analysis: Average number of transactions



- By end of pilot period (Aug):
 - The average activity rate for the oldest vintage (8 months) was 40%
 - All of the vintages reached a 33% activity rate in August
- On average, the number of transactions per account after the 4th month of operation exceeds 0.4 transactions per month (for all the vintages)
- Even though the age of the vintage is positively correlated to the activity level, the accounts opened in January have a higher transactional rate per month compared to other vintages.

Agenda

1. Pilot context
2. Data analysis of general current behavior and usage
- 3. Identifying customer profiles**

Qualitative analysis

- In the quantitative analysis of the transaction pool, three types of customer profiles were identified (hypothesis):
 - “**Savers**”, balance that exceeds \$100 pesos (amount deposited – amount withdrawn) and more than 4 tx between January and August [48%]
 - “**Sending money**”, customers that send or received more than 4 P2P by August [22%]
 - “**Transactional**”, made 12 or more transactions by August with a balance of less than \$100 pesos [3%]
- During interviews, we found out that some people have additionally a “Banorte Facil” account*, which they used primarily for savings. This was not taken into account in this study and therefore we believe that the results underestimate the potential savings.
- Assessment included the use of cellular phones, use of the account (savings vs. transactional), P2P transfers (sending or receiving)
- We conducted 10 in-depth interviews with different types of users (particularly extreme users) according to the identified profiles.
- Additionally we did a “focus group” with 3 customers in order to complement the results.

Perception of most users

- The following quotations reflect a general perception of the value of “Pagos Móviles”
 - *“Phone calls and texting are services that I had never dreamed of”.*
 - *“Paying for goods or services with the mobile saves me money or can improve my business.”*
 - *“Once you get it, one gets used to it and even is willing to pay more for the service”*
- Most people do not know about the possibility or advantages of using the debit card for withdrawing at ATMs or for paying in a POS.
- For most users it is important to have certainty about their balance and the execution of transactions, therefore many users verify the balance before and after making a P2P transaction.

Characterization of customers' needs

Need	Description	Solution Financial Product
Savings	Saves money safely for a specific purpose in the future. (E.g. purchase of school supplies or a catastrophic event)	Savings account in a known and safe institution
Reduce expenses or "prevent myself from spending"	By going "cashless" it creates the feeling that you don't have money to spend and therefore limits your expenses to necessary goods or certain amounts	Savings account
Improves business	"Increases sales because now I can sell remotely or my costumers prefer to pay with Pagos Móviles"	P2P
Security	"When I go out of town I don't take cash with me and feel more secure"	Debit card, ATM and POS
Transportation costs savings	"I do not spend \$100 pesos to go to Nuyoó for paying the satellite TV"	P2P
Time saving	"Facilitates my payments and I still have time to do something else"	P2P
Facilitates a transaction	"I do not have to search for coins to give change, I save time"	P2P
Transactional account	"I receive my money and can pay my suppliers with my account"	P2P, Debit card, ATM and POS

Value perception vs demographics

		Savings	Expenses control	Improves my business	Security	Transportation	Time saving	Less use of change	Transactional account
Activity	Laborer					✓	✓		
	Housewife		✓			✓			
	Wage-earner	✓	✓				✓		
	Merchant	✓			✓			✓	✓
Income	High	✓	✓		✓		✓		
	Medium		✓			✓			
	Low					✓			
Location where person lives	Nuyoó (center)			✓				✓	
	Outside the center				✓	✓	✓		

Segmenting customers based on financial behavior

High

Using mobile for P2P transfers

Low

Using the phone to send or receive money is related to 1) ease/comfort/trust in using technology, and 2) indirect value in core business (i.e. increasing sales)

High

Using savings account as a transactional account

Using the account as a transactional account (temporary store of funds, card-based transactions), is related to 1) distance to nearest point of access for cash-in/out and 2) intensity of economic activity

Low



Result: Six market segments

Using mobile for P2P transfers

High

Low

High

Super users

Entrepreneurs with higher than average education, with enthusiasm for technology, **generally merchants** and often female

6%

Mobile Skeptical

Micro-merchants* with little enthusiasm for technology, open to participate but do not promote the service. Sensitive to service level.

5%

“Substitute for mattress”

They are generally farmers and housewives who **ordinarily save and are risk-averse**. Older age group.

30%

Remote

Mainly use mobile to pay bills, they **generally live outside Nuyoó** and seek to reduce transportation costs.

5%

Employees

They have fixed income (employed, retired, receive remittances). **Often live or work in Nuyoó** and think it's more practical to use cash

6%

Non users

Very low income levels, frequently laborers with **low education**. Some tried the service and found no value in it.

49%

Using savings account as a transactional account

Low



* Micro-merchants: merchants whose average ticket size is low, < \$4 USD

Segmentation overview

	Super users	Mobile Skeptical	"Substitute of mattress"	Remote	Employees	Non users	Total
Total	6%	5%	30%	5%	6%	49%	--
Activity*							
Housewife	21%	17%	29%	23%	13%	19%	22%
Farmer	5%	8%	39%	15%	6%	13%	28%
Merchant	47%	33%	10%	15%	0%	6%	13%
Taxi driver	5%	17%	4%	15%	6%	6%	6%
Salaried/fixed income	21%	25%	18%	31%	75%	19%	30%
Residence*							
In Nuyoó	79%	75%	77%	46%	94%	100%	75%
Outside Nuyoó	21%	25%	23%	54%	6%	0%	25%
Gender*							
Female	63%	54%	51%	46%	38%	45%	50%
Male	37%	46%	49%	54%	63%	55%	50%
Age*	31	38	44	34	35	39	40

*Only takes into account the non users that made a transaction and found no value in it.

Main Findings: “High” mobile phone usage to send money

High

Using savings account as a transactional account

Super users

Remote

Low

Income & Expenditures

- ✓ Merchants (47%)
- ✓ Monthly income above \$6,000 pesos.
- ✓ High expenditures due to business operation.
- ✓ 78% live in the center of Nuyoó.

- ✓ 54% live outside of Nuyoó.
- ✓ High expenditures in transportation.
- ✓ Medium income
- ✓ Satellite TV

Financial Behavior & Motivations

- ✓ Potential increase in sales
- ✓ Potential reduction in transportation costs of costumers.
- ✓ Usually link the use of the cell phone to their business.
- ✓ Reducing the cost of having cash.
- ✓ Lowest average age (31 years)

- ✓ Seeks to reduce transportation costs and time saving
- ✓ Primarily use it for payment services or to send money to relatives.

Gaps & Opportunities

- ✓ They are willing to cover part or all of the \$ 3 pesos fee of the P2P.
- ✓ They are the best agents of change or for promoting use among the population
- ✓ 63% are women

- ✓ Increase the number of recipients.
- ✓ Extend coverage to more agencies (31% are merchants or taxi drivers)
- ✓ Receive their wages directly into an account (31%)

Main Findings: “Medium” mobile phone usage to send money

Income & Expenditures

Financial Behavior & Motivations

Gaps & Opportunities

High

Using savings account as a transactional account

Mobile Skeptical

Employees

- ✓ Land owners, taxi drivers and micro merchants (50%)
- ✓ Monthly income above \$5,000 pesos
- ✓ Average ticket amount below \$50 pesos

- ✓ Open to participate but mostly they value the mobile service
- ✓ Travel outside Nuyoo for shopping
- ✓ Sensitive to service level
- ✓ Little enthusiasm for technology

- ✓ Little use in their business because the average ticket sale is less than 50 pesos.
- ✓ They can pay "wages" of the people who work with them through “Pagos Móviles”

- ✓ 75% receive money recurrently
- ✓ 97% live in the center of Nuyoo
- ✓ Satellite TV

- ✓ Spontaneous purchases are made with mobile payments.
- ✓ They pay their services directly in the office.
- ✓ Cash withdrawals are primarily in branch.
- ✓ They have a sunk cost of transportation

- ✓ They are willing to pay the cost of the telephone service
- ✓ If there were more people receiving mobile payments for purchases under \$100 pesos with less or no cost, they would be willing to use it more.

Low

Main findings: “Low” mobile phone usage to send money

High

Using savings account as a transactional account

“Substitute for mattress”

Non Users

Low

Income & Expenditures

- ✓ Represent 30% of the accounts
- ✓ Farmers and housewives (68%)
- ✓ Monthly income below \$6,000 pesos.
- ✓ 77% live in Nuyoo

- ✓ Represent the largest percentage of accounts (49%)
- ✓ Generally have low income (in most cases below \$3,000 a month).
- ✓ Some of them receive support from social programs

Financial Behavior & Motivations

- ✓ They are the older group (average age of 44 years)
- ✓ Stop spending
- ✓ Saving for future consumption or for an emergency
- ✓ Value the mobile phone because of the distance to the crops.

- ✓ They have no interest in the mobile payments
- ✓ Receive so little income that they only have it because of the cellphone.
- ✓ 7% of them had a bad experience using the service.

Gaps & Opportunities

- ✓ They are willing to cover the costs of telephone service
- ✓ Increase the number of businesses receiving payments.
- ✓ They would use it more if the P2P transactions wouldn't cost.

- ✓ Probably when they start charging the phone calls they would stop using it (unless the calling party pays)
- ✓ A scheme where the receiving party pays, could encourage them to transact.

Additional services mentioned by costumers that can increase economies of scale

Telephony and Text	Financial Services
<ul style="list-style-type: none">✓ Fixed and mobile public grid connection, under the calling party scheme.✓ Higher quality equipment✓ Be able to receive and make phone calls abroad.✓ Increase phone service to other agencies.	<ul style="list-style-type: none">✓ Receive remittances with a text message stating that the money is available✓ Increase the mobile payment network to undeserved agencies.✓ Implement a scheme where the P2P receiver pays the fee.✓ Include Diconsa and Oportunidades to the “Pagos Móviles” payments.✓ Receive credits

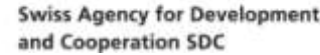
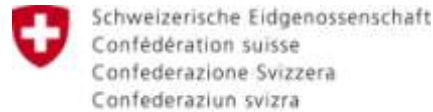
The great value of “Pagos Móviles” is the convergence of different services on a mobile device, which in the near future could provide a greater number of services, generate more income to providers and make a better use of the existing infrastructure of digital satellite services.

Takeaways: Main findings

- 100% of users value the telephone service.
- 33% of users use mobile financial services.
- 63% of super users are female.
- The adoption of technology is correlated with the age, economic activity, income and place of residence.
- Of the non-users, only 6% are merchants.
- Users not residing in Nuyoo save between \$ 32 to \$192 pesos one to two times per month in transportation costs.
- 13% of total account holders are merchants. Of these, 77% were willing to cover all or part of the cost of the transaction. Most traders who are intensive users of P2P promote the service.
- The minimum value that makes sense for a payment transaction is \$ 50 pesos and the optimum is above \$100 pesos.
- 100% of merchants using “Pagos Móviles” find great value in eliminating the handling of change.
- People express price sensitivity to P2P transactions.

Challenges and opportunities

- Increase the number of payment receiving points.
- Increase coverage to include other agencies in order to enhance the network effect.
- Promote confidence in technological means.
- More than 50% of users can receive their salary directly into the account enabling transactionality.
- One of the biggest factors that can influence usage is the stability and proper functioning of the service.
- A change in pricing and who pays for the service could increase the number of transactions and the number of users
 - For example: Increase the price of receiving payments to third parties (satellite TV payments) and reduce the price of P2P transactions.
 - Jump to a scheme where payment recipients cover at least partially the cost of the P2P, so that non-users and users who only use it for deposits and withdrawals are indifferent to pay off cash or by a P2P transaction.



Advancing financial access for the world's poor

www.cgap.org

www.microfinancegateway.org



The MasterCard Foundation



MINISTRY FOR FOREIGN AFFAIRS OF FINLAND

