



Simpa Networks

Clean energy through mobile payment



Date of creation : 2011

Location : Bangalore, India

Nb staff : 12 people

Households income : \$10-\$20/day

Price of SHS : ~ \$300

Down payment : 10-20 %

Loan duration : ~ 3 years

Innovation :

“Progressive Purchase” pricing model and system

Case Study

Established in 2011, Simpa Networks is a venture-backed technology company which sells distributed energy solutions (Solar Home System) on a “Progressive Purchase” basis to underserved consumers in emerging markets.

SIMPA NETWORKS

Incorporated in India in mid 2011, Simpa Networks is a venture-backed technology company with a bold mission:

“TO MAKE MODERN ENERGY SIMPLE, AFFORDABLE, AND ACCESSIBLE FOR EVERYONE”

It has developed and is now brokering a new kind of mobile phone-based micropayment system, which is a risk mitigation tool for investors and lowers the upfront costs of renewable energy systems for the end-users.

With it, Simpa Network aims at making sustainable energy choices “radically affordable” to the 1.6 billion Base of the Pyramid (BoP)¹ consumers who currently lack access to electricity.

Problem tackled and magnitude of the problem

Worldwide, approximately 1.6 billion people have no access to electricity and another 1 billion have extremely unreliable access. Without ready access to electricity, the poor depend on kerosene lanterns and battery-powered flashlights for light. As a matter of fact, for a person with little or no savings and low and uncertain income, it is usually impossible, due to high upfront costs and no access to formal credit, to purchase good solutions to access to electricity (SHS, Solar Micro-grid, Battery Rental...)

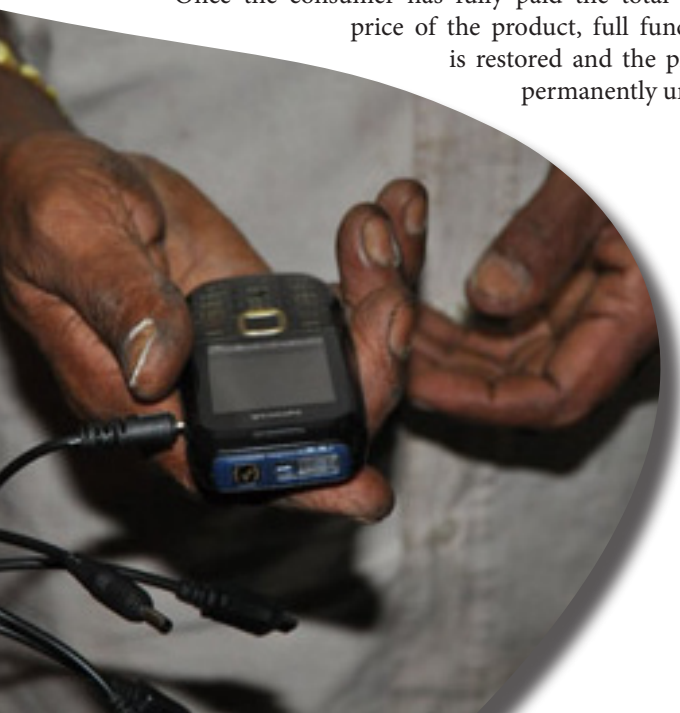
So the problem that Simpa Network aims at tackling is : How to make renewable energy solutions simple and affordable for a BOP customer and how to turn this project « investable » for a bank.

Innovations

“Progressive Purchase” Pricing Model :

“Progressive Purchase” is a new pricing model that shares some characteristics of the familiar “prepaid”, “pay as you go”, and “installment plan” pricing models. Under Progressive Purchase™, the consumer makes a series of payments, each of which unlocks the usage of an electronic device for a paid amount of consumption. Once the prepaid consumption is exhausted, the device is temporarily disabled until another payment is made.

Once the consumer has fully paid the total purchase price of the product, full functionality is restored and the product is permanently unlocked.



« Progressive Purchase » System :

The designed and built technology allows the regulation of the usage of an electronic device based upon the receipt of payments. For that it uses :

- a **Regulator** : a tamper-proof, system-integrated microcontroller and user interface that regulates the function of an electronic device based on proof of payments
- a **Revenue Management System** : a centralized software solution in the “cloud”, accessible via SMS gateway and over the internet, for payment processing and accounts settlement

Impacts expected

Simpa Network has conducted its first round of pilot testing with informal population in Karnataka and the results have been very promising. So far all loans have been successfully refund.

In 2012, they signed a sales agreement with SELCO India to sell 1000 solar home systems, growing to 5000 plus systems through SELCO and other distributors in 2013. By 2014 they aim to have sold 25,000 SHS demonstrating a clear model and scale approach. And their final target is to reach 1 million households within the next five years.



Problem tackled and magnitude of the problem

Business to Customers :

Simpa Network places itself, as the financing system, between a customer requiring a Solar Home System (SHS), a SHS provider. It buys SHS from a supplier (e.g.: SELCO India²) and sells them to their costumers on a “Progressive Purchase” model.

This is how it works:

1. A customer makes a small initial down payment (10% or 20%) for a SHS.
2. The SHS supplier’s technician installs a blocked SHS. To unlock it, the costumer buys an “energy” recharge (between \$1 and \$10), using their mobile phones. Each payment allows customers to get energy for a paid amount.
3. Once the prepaid consumption is exhausted, the solar home system is temporarily disabled until another payment is made.
4. Once the total amount of his payments reaches the purchase price of the product (average \$300), the SHS

is permanently unlocked and start delivering free electricity for the expected 10-year life of the product.

NB:

- *The customers usually don’t feel the progressive purchase model as a loan and refund the system on average in 3 years*
- *The model of payment put in place for the solar vendor ensures that they take good care of the maintenance of the sold SHS*
- *The criteria to select the costumers are less restrictive than the ones from traditional banking systems. Indeed, the risks taken are lesser: If a costumer wants to use a light, he has to pay, and if he never pays, them the SHS is taken away from his home.*

Business to Business :

Simpa Network sells their progressive purchase system to renewable energy companies that use it to guarantee their costumers’ payments.

WITH THIS BUSINESS MODEL, SIMPA BELIEVES IT CAN ADDRESS ALL THREE DIMENSIONS OF AFFORDABILITY THAT ARE CRITICAL TO BOP CONSUMERS: THE INITIAL PURCHASE PRICE, THE TOTAL COST OF OWNERSHIP, AND THE FLEXIBILITY OF EXPENDITURES OVER TIME.

1. *In his book, *The Fortune of the Bottom of the Pyramid*, CK Prahalad develops the idea that companies dedicate their products for the 800 million richest people, which constitute the top of the pyramid. His theory shows that targeting the poorest populations with suitable products can reduce poverty.*
2. *SELCO Solar Pvt. Ltd, a social enterprise established in 1995, provides sustainable energy solutions (e.g. Solar Home System) and services to under-served households and businesses.*

Sources :

- http://www.socialedge.org/blogs/case-on-business-models/topic_images/CASE%20Business%20Model%20Profile_%20Simpa%20Networks..pdf
- <http://simpanetworks.com>

TECHNOLOGY OVERVIEW : MOBILE PAYMENT

Definition

Mobile payment, also called “mobile money”, refers to payment services operated under financial regulation and performed from or via a mobile device. Instead of paying with cash or credit cards, a consumer can use a mobile phone to pay for a wide range of services.

Technologies

There are currently various forms of mobile payment:

- **SMS** : The consumer can, for example, send an SMS surcharged or buy a pre-paid card from what he wants.
- **Direct Mobile Billing** : Providers connect any number of merchants with the operators transparently and securely. They enable mobile subscriber to purchase goods directly from the merchant, without credit cards, directly debiting their pre or post paid mobile phone account.
- **Mobile web payments** : The consumer uses web pages displayed on the mobile phone to make a payment.
- **Near Field Communication (NFC)** : NFC technology typically takes the form of a small chip embedded in a phone. The phone is simply placed on or very near a reader device (such as a pad on a debit card terminal, kiosk machine...) - or another portable NFC device - to initiate a transaction.

Usages

In developing countries, mobile payment solutions have been deployed as a means of extending financial services to the community known as the «unbanked» or «underbanked». This community is estimated to be as much as 50% of the world's adult population¹.

In these countries, these payment networks are often used for micropayments and are mainly performed by SMS while in North America and Western Europe, the transactions are mainly performed via a mobile Internet connection.

Because of the small proportion of the population with access to banking services in emerging countries, mobile payment is largely in advance compare to France for example where it is still marginal.

Size of the potential market

In 2012, there were 212,2 million phone users making such payments and the number of users has not stopped from growing since 2009.

According to Gartner experts, we are to expect an average annual increase of about 42% until 2016, reaching a market of 617 billion dollars with 448 million users.

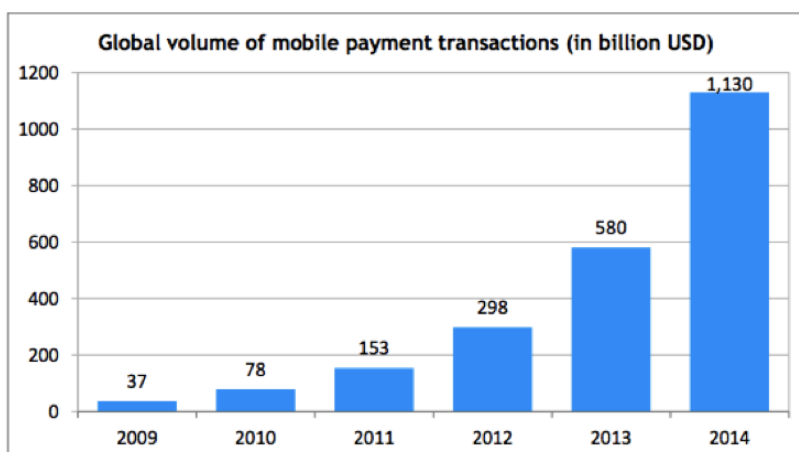
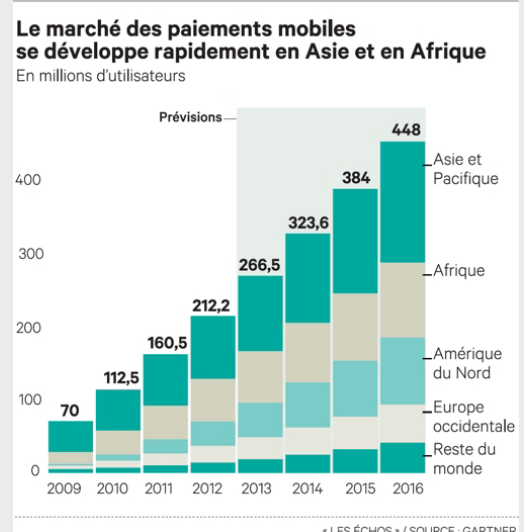


Figure 2: Global volume of mobile payment transactions. Source: IE Market Research, 'Q3.2010 United States Mobile Payment Market Forecast, 2010-2014', 2010.



1. According to Financial Access' 2009 Report "Half the World is Unbanked"

Sources :

- <http://www.clubic.com/reseau-mobile/actualite-493478-etude-paiement-mobile-172-dollars-2012.html>
- http://en.wikipedia.org/wiki/Mobile_payment
- <http://www.lesechos.fr/entreprises-secteurs/finance-marches/actu/0202391987952-le-paiement-par-mobile-se-generalise-dans-les-grandes-enseignes-americaines-511969.php>
- http://www.telecomreview.info/index.php?option=com_content&view=article&id=232:paiement-mobile-et-developpement-des-portes-monnaies-electroniques&catid=27:new-to-joomla&Itemid=58