BETTER INSIGHTS FOR BETTER PRODUCTS

Lessons Learned From 3 Applied Product Innovation Projects in Branchless Banking

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PREFACE

CGAP Technology and Business Model Innovation Program

The Technology and Business Model Innovation Program at CGAP works with banks, mobile network operators, microfinance institutions and retail stores to deliver financial services through a conjunction of retail agents and new technologies, such as mobile phones. The Program is co-funded by the Bill & Melinda Gates Foundation, CGAP, The MasterCard Foundation, and the UK Department for International Development (DFID).

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What is API?

CGAP's work in **Applied Product Innovation** (API) aims to understand how customer-centric design methodologies (inspired by the human-centered design approach), used in other industries, could be tailored to branchless banking in order to achieve better financial service offerings for the poor. CGAP has conducted three API projects in Brazil, Mexico and Uganda.

What is this design methodology?

In customer-centric design, customer insights are first gleaned through careful listening and observation of users in their own environment.
Rapid prototyping and real world tests with users are then used to quickly (in)validate early designs and iteratively improve the final solution.

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Why API?

1 **Approaching financial services from the supply side is not enough.**

Low uptake and high inactivity rates of most branchless banking services reveal that current offerings are not truly meeting the needs of customers. Building agent networks is not enough.
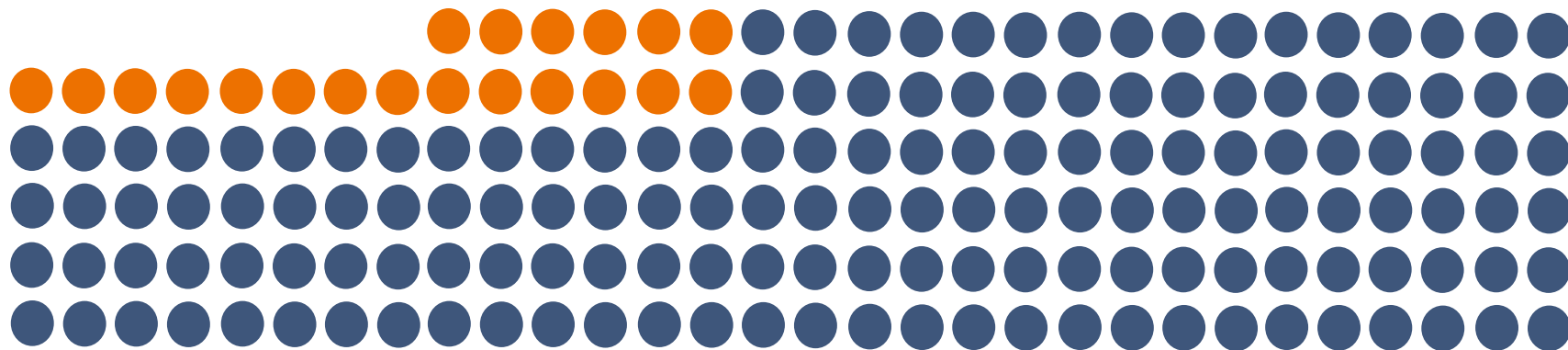
172 branchless banking implementations have been launched since 2007, but CGAP estimates that less than **20** of those have reached 200k active users.

Why API?

2 Low-income segments are difficult to serve for established providers.

Many providers struggle to understand what low-income and underbanked customers need and how they would use their product. Financial service providers have traditionally found it too costly to serve these customers. In addition, they don't have existing data to mine to try and understand these customers. While MNOs have greater exposure to this customer base, they generally have offered a simple 'pull' product, airtime, and have not needed to understand their customers' needs and wants on a deeper level.

x2

In developing countries, low-income adults are more than **twice** as likely to be unserved by banks as compared to their richer counterparts (source).

Why API?

3 **Understanding customers is proven to work.**

Understanding customers and translating customer insights into products has worked in a variety of other industries such as consumer goods and technology. In financial services, there are examples of companies that applied customer insights to create new products, with a focus on the user experience, a rapid feedback loop, and appropriate pricing.

Keep the Change™

Bank of America worked with IDEO to study customers' savings behavior. They listened to and observed customers at home, while shopping, on the streets, and at work. They used these insights to create Keep the Change, a product that went on to sign up more 2.5 million customers in its first year.

What's the value for a provider?

1 **It can increase customer usage.**

A product that has been conceived through user insights and then gone through several rounds of tests and cycles of product iterations has a much greater chance of being actively used.
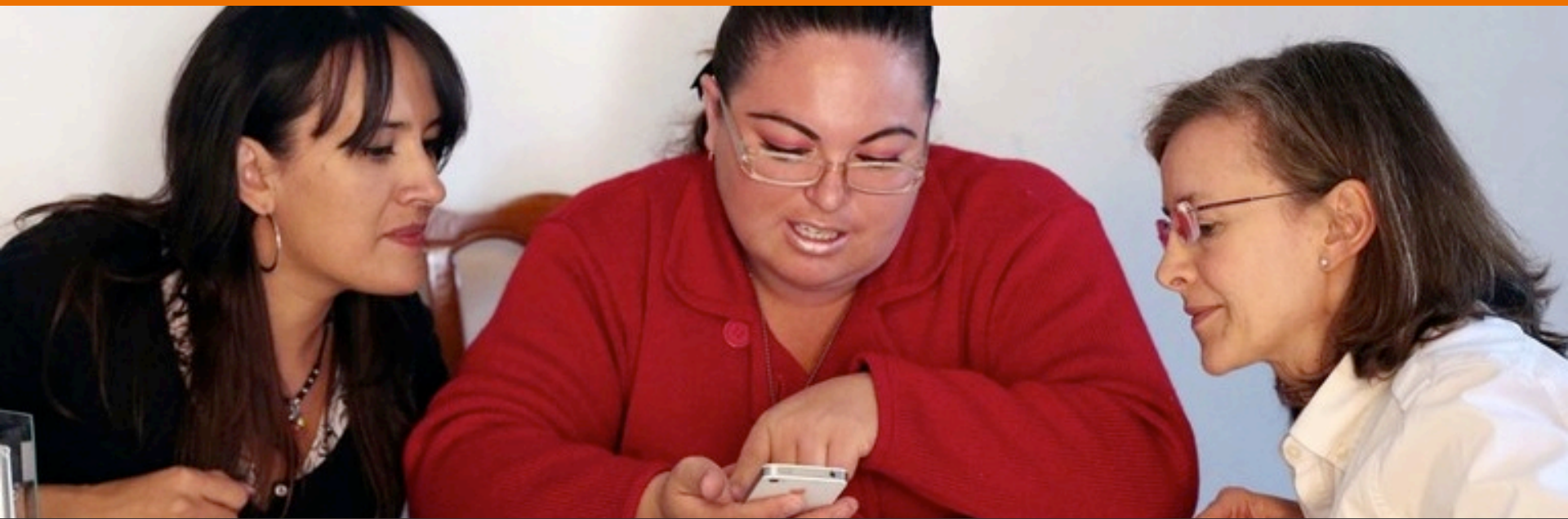
2 **It's about more than just a product.**

This process can help providers better understand their low-income customers in ways that can improve service delivery beyond the product itself (branding, marketing, IT, etc.). The final product can, in some cases, be used for other customer segments as well.

3 **It's innovation-friendly.**

This approach allows providers to discover insights from user behaviors and daily practices. This bottom-up approach can uncover new and wild ideas that can easily be tested and then embraced or discarded.

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Customer-centric approaches can also be a useful process for managers to understand their customers and the impact of the product:

"Being able to go into people's homes, and talk to them has been an incredible experience for me. These people are much better managers of their money than I am! I am now so much more motivated and understand the kind of social impact this product can have."

Project Manager, Bradesco Cards, Brazil

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3 Projects

CGAP conducted three Applied Product Innovation projects in Brazil, Mexico and Uganda, with a variety of partners (commercial banks, MNO, design firms), timelines (from 2.5 to 18 months) and objectives.

BRAZIL

MEXICO

UGANDA

3 Projects

Partner: **Bradesco** (Second largest commercial bank in Brazil)
Design partner: **IDEO** (For-profit external design firm)
2.5-month engagement
Goal: Additional features to existing mobile wallet

Bradesco was well into the design of a prepaid product, but sought the assistance of IDEO and CGAP to build upon and improve it, in order to introduce the first truly innovative mobile wallet in the country.

BRAZIL

CGAP

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3 Projects

Partner: **Bancomer** (Largest commercial bank in Mexico)
Design partner: **IDEO.org** (Non-profit external design firm)
3-month engagement
Goal: New branchless banking product for low-income segment

Bancomer was interested in developing financial products that targeted the low income population in Mexico. It had launched a product (Cuenta Express) for this segment and showed interest in learning about new approaches to product development in the hope that an innovative branchless banking product could help activate this large customer base.

MEXICO

3 Projects

Partner: **MTN Uganda** (Mobile network operator)
Design partner: **Grameen Foundation** (in-house incubator)
18-month engagement
Goal: Run a product incubation lab to experiment with many research techniques to develop scalable products

Grameen Foundation's AppLab used a wide range of in-depth research techniques as well as rapid product testing for 18 months to develop products that extended beyond MTN's basic mobile wallet.

UGANDA

DESIGN PROCESS

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The Process

Getting Ready

Forming the team and kicking-off the project.

Learning from Customers

Conducting research to collect stories and insights from customers.
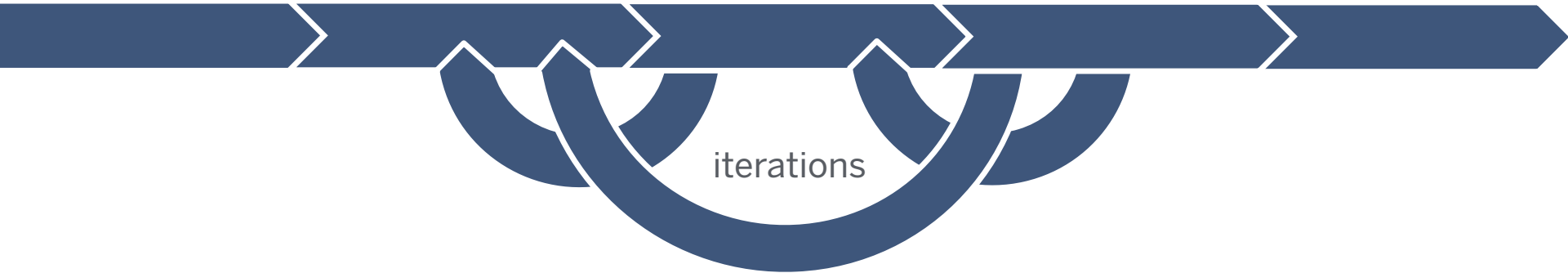
Synthesis and Ideation

Translating insights into opportunities and generating solution ideas.

Prototyping and Testing

Putting tangible ideas in customers' hands and refining their design.

Preparing to Launch

Assessing the business model and planning for implementation.

iterations

In the next slides, we will focus on each one of these steps to understand the methodologies and tools used throughout this process for all three projects.

GETTING READY

Getting Ready

THE TEAM NEEDED

The diversity of the team plays an important role in the design process. Different backgrounds and expertise add value and complementarity. All project teams were composed of a mix of:

QUALITATIVE RESEARCHERS

DESIGNERS

BUSINESS ANALYSTS

SUBJECT MATTER EXPERTS

(such as ethnographers)

(interaction, service, and product design)

*(financial services, mobile money, and technology).*

A core group of people from each team was consistently present through all the stages of the design process. In addition, certain expert members participated at key moments of the process, such as synthesis and ideation.

This process takes an important level of expertise, and having people with experience facilitating this process is key.

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Getting Ready

BACKGROUND RESEARCH

The amount of background research to be carried out before starting the design process is not set in stone. At a minimum, there should be enough background research and/or segmentation prior to the start of the design process so that providers know exactly who they want to target and in which geographical areas. In Brazil, for instance, the team carried out a number of qualitative interviews and a workshop to determine who to target.
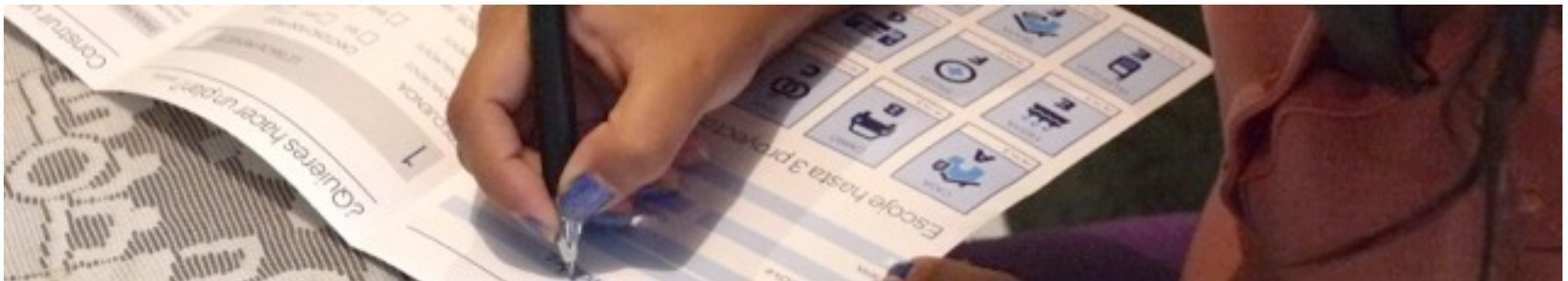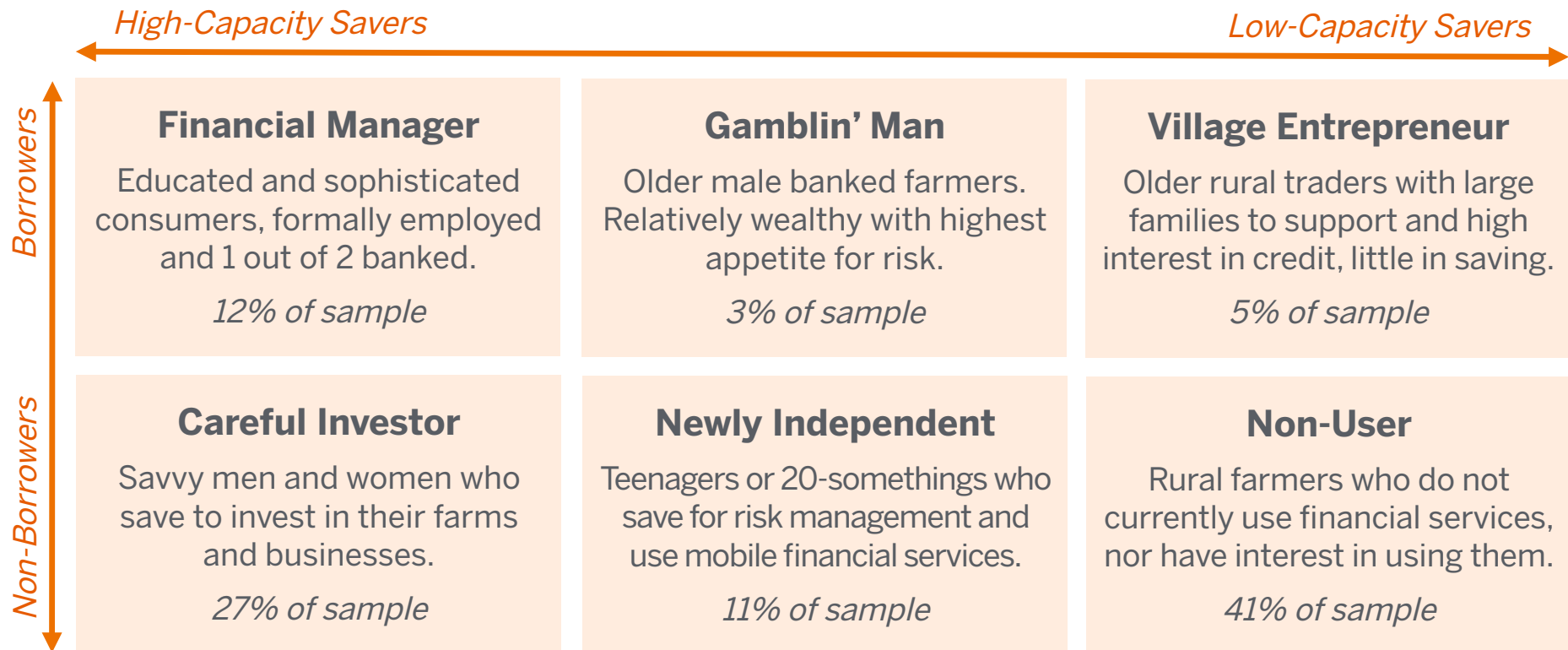
In Uganda, the Grameen Foundation AppLab Money team carried out extensive desk research, which included studying government records and regulatory reports. They also analyzed internal data on customer behavior.

SEGMENTATION

Segmentation can be most useful for market sizing and identifying priority segments rather than for discovering deep customer insights. The team in Uganda conducted a large survey of 2,600 Ugandans and created customer profiles based on behavioral patterns and demographics. The segments ranged from Financial Managers—the highest users and most wealthy—to Non-Users, the least savvy and least affluent:

High-Capacity Savers → *Low-Capacity Savers*

Borrowers

Non-Borrowers

Financial Manager

Educated and sophisticated consumers, formally employed and 1 out of 2 banked.

12% of sample

Gamblin' Man

Older male banked farmers. Relatively wealthy with highest appetite for risk.

3% of sample

Village Entrepreneur

Older rural traders with large families to support and high interest in credit, little in saving.

5% of sample

Careful Investor

Savvy men and women who save to invest in their farms and businesses.

27% of sample

Newly Independent

Teenagers or 20-somethings who save for risk management and use mobile financial services.

11% of sample

Non-User

Rural farmers who do not currently use financial services, nor have interest in using them.

41% of sample

Getting Ready

SEGMENTATION

The segmentation based on behavioral patterns and demographics helped answer these key questions about potential customers in Uganda. The answers to these questions helped identify which customer segments the potential product should target first:

	FINANCIAL MANAGER	CAREFUL INVESTOR	GAMBLIN' MAN	NEWLY INDEPENDENT	VILLAGE ENTREPRENEUR	NON-USER
How large is the market opportunity?	High	High	Medium	Low	High	Low
How accessible are these customers?	Low	Medium	Low	High	High	Medium
How willing are these customers to use new products?	Low	High	Medium	High	Low	Low
The segments that were prioritized had a "high" opportunity in at least one of the three criteria.	✓	✓		✓	✓	

CHOOSING THE RIGHT METHODS

Different research techniques serve differing purposes during each stage of the design process. Individual interviews are useful for discovery: generating key customer insights specific to product concepts. Focus groups prove helpful for evaluation: confirming findings from individual interviews and testing prototypes. Survey data is useful to demonstrate the market opportunity to the provider.
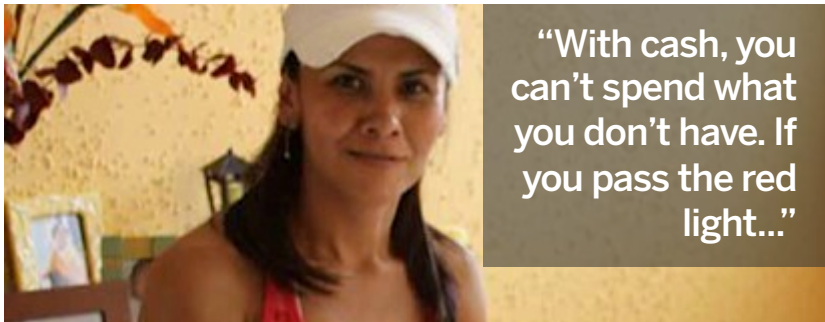
At CGAP we were initially skeptical about the small number of interviews to be carried out to garner insights (less than 20, not a representative sample). We promptly discovered that in spite of the small size, the insights resulting from these started repeating and patterns in messaging were evident. Additionally, in depth interviews are key in the discovery of behaviors, patterns and new information; particularly because they unearth not only what the person is saying, but how they are saying it and what they are implying.

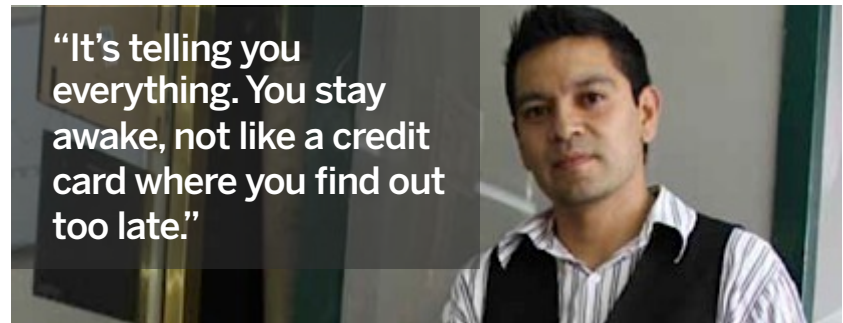|	Gleaning customer insights	Prototyping and testing concepts	Demonstrating the business opportunity
Interviews	✓✓	✓✓	✗
Focus groups	✓	✓✓	✗
Surveys	✗	✗	✓✓

Getting Ready

CHOOSING THE RIGHT METHODS

Individual interviews were important in all three projects. For example, the insights uncovered from research in Brazil were surprising to most stakeholders. Existing research demonstrated a wide availability and use of credit products in Brazil. Therefore launching innovative new credit products seemed like an obvious market opportunity. However, when talking to interviewees, we repeatedly heard their frustration at feeling overindebted and their desire for tools to help them control their finances and limit the amount of new loans they take on.

"With cash, you can't spend what you don't have. If you pass the red light..."

"It's telling you everything. You stay awake, not like a credit card where you find out too late."

With the red light Patricia was referring to spending beyond her means.

João alludes to the fact that it is easy to lose control with a credit card and become overindebted.

In Uganda, the project team conducted surveys, focus groups and individual interviews, but realized that surveys and focus groups are not conducive to understanding personal attitudes and actions, such as financial behaviors.

Getting Ready

PREPARING FOR INTERVIEWS

When conducting individual interviews, prioritizing depth and quality is preferable over quantity. In spite of the small number of interviews, figuring out the right people to interview takes some preparation work.

Interviews with **extreme users** help speed up the learning process. The project team in Mexico sought out avid users of financial services (formal and informal) who were actively managing their money as well as those on the other extreme who stayed away from all financial services. It is important to note that extreme users are always picked within the target customer segment, meaning that the team did not seek out middle- or high-income individuals.
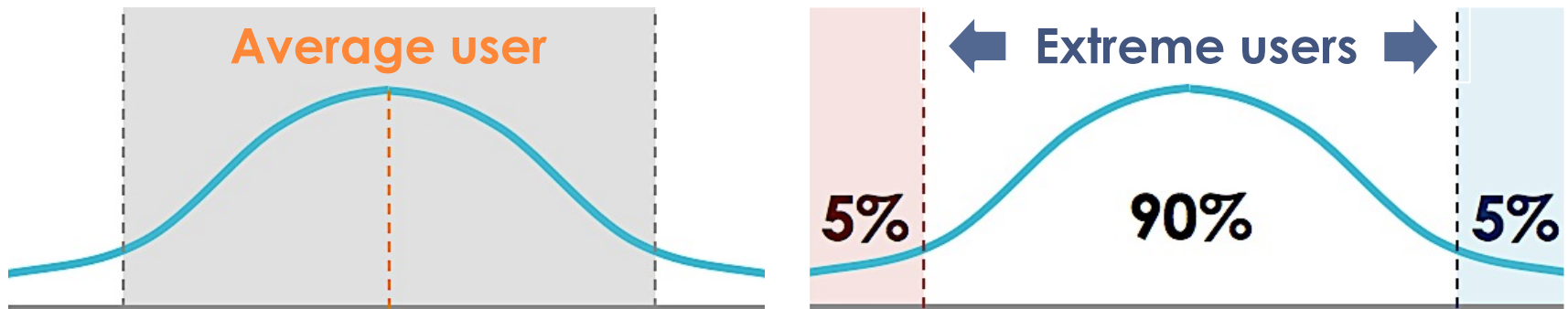
SETTING EXPECTATIONS

It is crucial to have a clear idea from the start of the **provider's vision of success** for a product in terms of profit, rate of return and expected outreach. In Mexico, the team began with somewhat vague expectations that the product should at least break-even in the short to medium term. Expectations then changed for the product to make $10 million in profit in 5 years.

" **"There are often projects that are attractive, but just not sustainable. [Sustainability for the bank is] to get to $10 million in profits in 5 years."**

Correspondent Banking Director, Bancomer

"[This] is the opposite of what we heard at the beginning of the project. We thought the goal was to create a sustainable business for this segment of the population."

IDEO.org team member

Getting Ready

TAKEAWAYS

>> Knowing who to target is essential before the design process begins. This might require additional research or segmentation work.

>> Individual interviews are the most useful method for generating key customer insights specific to product concepts. Focus groups are not as conducive to sharing personal information openly, but they are valuable in evaluating concepts and validating prototypes. Survey data is not necessarily useful in terms of designing products, but can be useful to demonstrate the larger market demand, business opportunity and priority segments to target.

>> It is essential that all stakeholders involved define, from the very beginning, expectations in terms of profit, rate of return and outreach for the end products, while keeping in mind that unforeseen circumstances might shift initial priorities and objectives.

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LEARNING FROM CUSTOMERS

Learning from Customers

UNDERSTANDING CUSTOMERS

Customer-centric methodologies focus on interviews conducted in customers' **homes or place of work**, **observation** of users' daily routines, **understanding the context** in which products will be used, and **deep dive one-on-one interviews** as a method to source customer insights.

In order to understand customer context, the teams allocated time to observe and shadow agents, retailers, and customers using payments to determine if any additional insights could be gained.

In Brazil, interviewees were asked to show their wallets. The team learned that people don't use their wallets often or do not carry one. In this picture, Pedro shows a wallet stuffed with old receipts in order to make it look thicker. As a result, the team renamed the basic product—from 'wallet' to 'pocket'.

CONDUCTING INTERVIEWS

1 Interviews should take place in the natural environment of the interviewee, rather than a formal research environment.

At the beginning of the interview, the lead interviewer presents the objective of interview, the timeframe and asks permission to take photos. **2**

"What do you do for fun?"
"Tell me a bit more about your family."

The interviewer then spends some time making an emotional connection with the interviewee by asking conversational questions. **3**

4 The answers to these questions often enabled the interviewer to transition seamlessly into talking about more private matters such as work, salary and other private financial issues.

Interviews are not a simple Q&A, interviewees observe interviewees' reactions and body language, as well as their environment, and use tools to simulate their decision-making process. **5**

Tool: "Simulated Income and Expense" Activity

The team in Uganda presents Kissa with images representing common expenses (school supplies, food, rent etc.), asks her to estimate her monthly income, and gives her the same amount in dummy money. Kissa was then asked to allocate money as she would do in real life. She was also given crisis situations in order to see how she would allocate her money given an unpredictable situation.

Tool: "Simulated Income and Expense" Activity

Though the activity did not have a "savings" image, Kissa proactively set money aside– hiding it underneath the mat, which gave the team great insight into her savings behavior. When this behavior was repeated by others multiple times, the team knew that savings are very important to Ugandans.

Another interviewee did not set aside money for food since as a subsistence farmer she rarely purchases food.

Tool: "Annual Expense Tracker" Activity

The team provided participants with a white board with the 12 months of the year drawn out, and asked them to rate whether their income was high or low each month. Participants were then asked to explain the reasons behind each deficit and surplus.

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Tool: "Annual Expense Tracker" Activity

This activity helped the team get a visual perspective of participants' financial situation year-round, and made them realize that almost everyone in Uganda (including teachers, butchers and office workers) is deeply tied into the agricultural cycle and experience challenging seasonal variations in income.
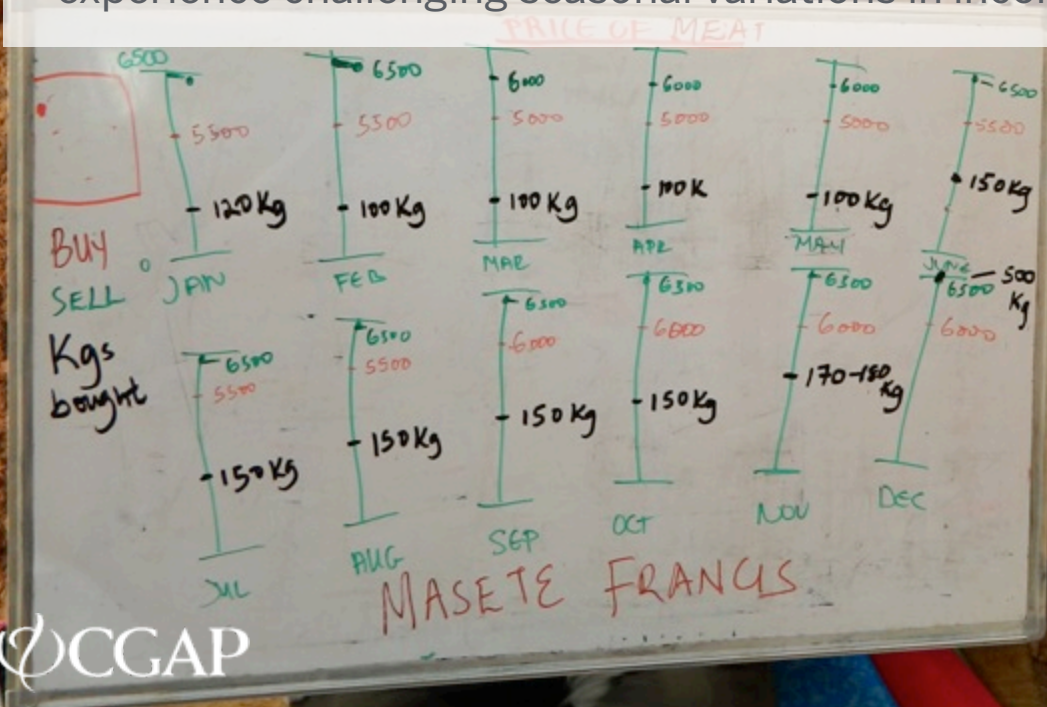
Tool: Sacrificial Concepts

The project team in Brazil came up with sacrificial concepts or potential product concepts that could be easily 'sacrificed' or discarded if interviewees did not like or understand them. These were presented to participants and they were asked their impressions and opinions. Not only did they have complete freedom to reject concepts altogether, but their feedback was also key in developing the prototypes that were later used.

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Tool: Sacrificial Concepts

When the lead interviewer showed the sacrificial concepts to the interviewee, participants followed up with clarification questions, such as "Do I pay here?," "How is the money on the phone kept safe?", "Is there a fee?," or "Do I get a receipt or confirmation or text?". Instead of answering the questions, the interviewer would respond "What do you think it should be?," "How do you think it should work?", in order to push the interviewee to envision the product herself. A number of interviewees suggested that getting a receipt was very important as proof of transaction. "I need at least a confirmation code via text or a paper receipt."

Tool: Sacrificial Concepts

Another example of sacrificial concepts, used by the project team in Mexico, was to represent less concrete product ideas and more abstract financial management concepts in interviews to elicit reactions from potential customers.
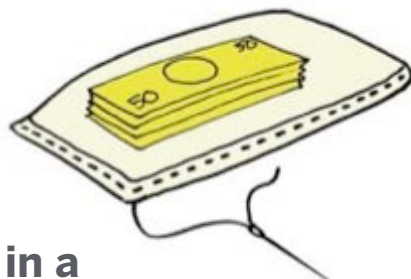
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Tool: Sacrificial Concepts

For instance, this sacrificial concept represents a drawing of four different ways for people to save their money, allowing the team to understand how much control and the degree of difficulty for accessing their money people preferred:
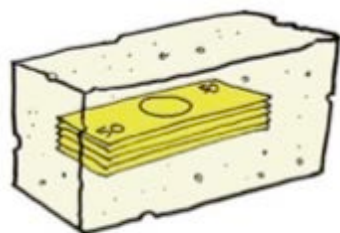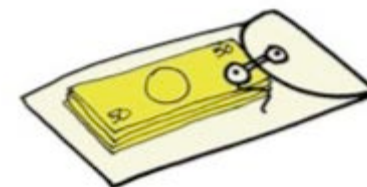
in a brick

**in a
sewn pillow**

**in a
locked chest**

**in an
envelope**

On the one hand, people told us that the brick option made cash secure but too difficult to access. On the other hand, putting cash inside an envelope did not seem secure enough and would be too easy to access. Interviewees instead selected the locked chest as it provided the right level of security and accessibility of cash.

Learning from Customers

TAKEAWAYS

>> Individual interviews are important, but observing users can generate additional insights. When observation over a long period is not possible, simulating the decision-making process through games and activities can generate more insights.

>> The same team conducting interviews should be present throughout the rest of this process to carry the learnings and customer insights and translate them into product concepts. This is different from traditional market research which is often outsourced to another company and separated from the product development process.

>> It is important for the provider to be part of at least a few interviews to generate a connection with the potential customers, develop empathy and understanding of their issues, and create ownership and buy-in.

Learning from Customers

FOR MORE INFORMATION

Interview preparation and recruiting

These are a few useful tips on how to prepare for interviews, start crafting an interview guide (cf. template) and identify the right potential respondents before recruiting them. It is helpful to target extreme users as their uncovered needs often represent the needs of a wider spectrum of potential users. There are many interview techniques that can help you connect empathetically with your respondents.

Ethnographic research

Conducting ethnographic research is essential to observing people in their natural environment rather than a formal research setting. In addition to contextual interviews, both individual and group interviews, it is also very important to observe and "shadow" users and their environment, as well as use journals or user diaries (cf. template) to get a deeper insight into people's lives.

SYNTHESIS AND IDEATION

Synthesis and Ideation

INTRODUCTION

Synthesis

One-on-one interviews and user observation is only useful if that **information is evaluated and processed** to pick out the most useful data points, interesting anecdotes and nuances between different users' reactions. **Themes** that emerge from the generated insights, challenges and opportunities can be clustered together and **hypothetical customer profiles** can be built based on the observed and recorded information.

Ideation

The objective of ideation is to take all of the disparate data that has been collected and **generate** as many **new concept ideas** as possible. Sometimes themes that were hidden during the research phase become more clear as product concepts emerge so team members must work to ensure all the material comes together.

Synthesis and Ideation

CUSTOMER-CENTRIC APPROACHES

VS.

TRADITIONAL PRODUCT DEVELOPMENT

Generating ideas based on customer insights.
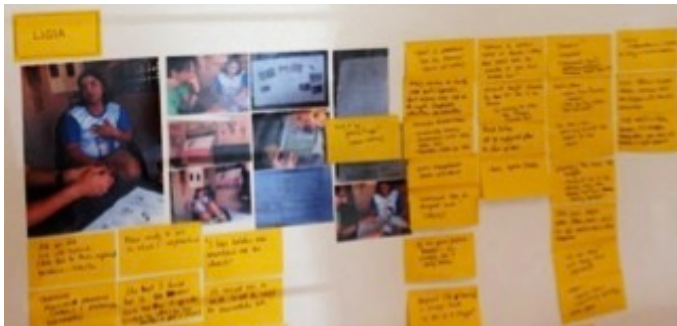
These approaches often use interdisciplinary teams and some of the same people who were part of the interviews.

The teams generate large quantities of ideas, even wild ones, display them visually and use storytelling to ground their ideas in customer insights.

Exploring ideas internally and developing them in isolation.

Often, providers will hire external firms to conduct the research, compile and tally survey responses. A report is then handed over to the business team which generates concepts based on the research.

Survey responses are direct result of questions determined by the provider, and therefore within the comfort level of provider.

Synthesis and Ideation

SEQUENCING SYNTHESIS AND IDEATION

In the case of Brazil and Mexico, synthesis was done on a daily basis, immediately after interviews. In Uganda, the project team gathered all the interview and observation notes and downloaded everything at once during the ideation session.

Conducting synthesis on a daily basis in the field is useful, since ideas will be fresh and readily available. This is the time to make sense of all the data.
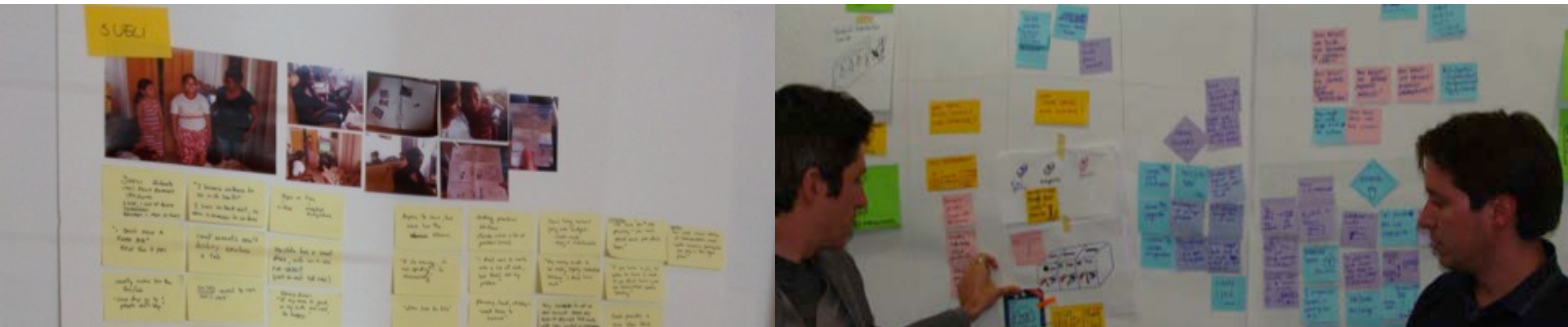
A larger ideation session, sometimes lasting for several weeks, should be conducted following the conclusion of field interviews. This session can track themes and responses that appeared repeatedly, and start generating wild ideas that are then refined into more realistic concepts. For instance, in Mexico, the bulk of the ideation took place over a period of two and a half weeks.

Synthesis and Ideation

CONDUCTING SYNTHESIS AND IDEATION SESSIONS

All three projects:

- Used **storytelling** to put the entire team working on synthesis and ideation on the same page. The core team uses this tool to share key information with experts that join just for this part of the process.

- Personalized information (e.g. pictures of interviewees, interesting quotes and other photos) were displayed alongside post-it notes. While a seemingly inconsequential step, this helps teams keep in mind the people they are designing for at all times.

- Generated large quantities of ideas. Expectations were not constrained, so people were willing to throw out half baked or truly **wild ideas**, without thinking about them too much first.

- Had highly **visual semi-organized** sessions, unstructured in many ways, but structured in others (e.g. clustering ideas in post-it notes around themes, opportunities, stories, etc.).
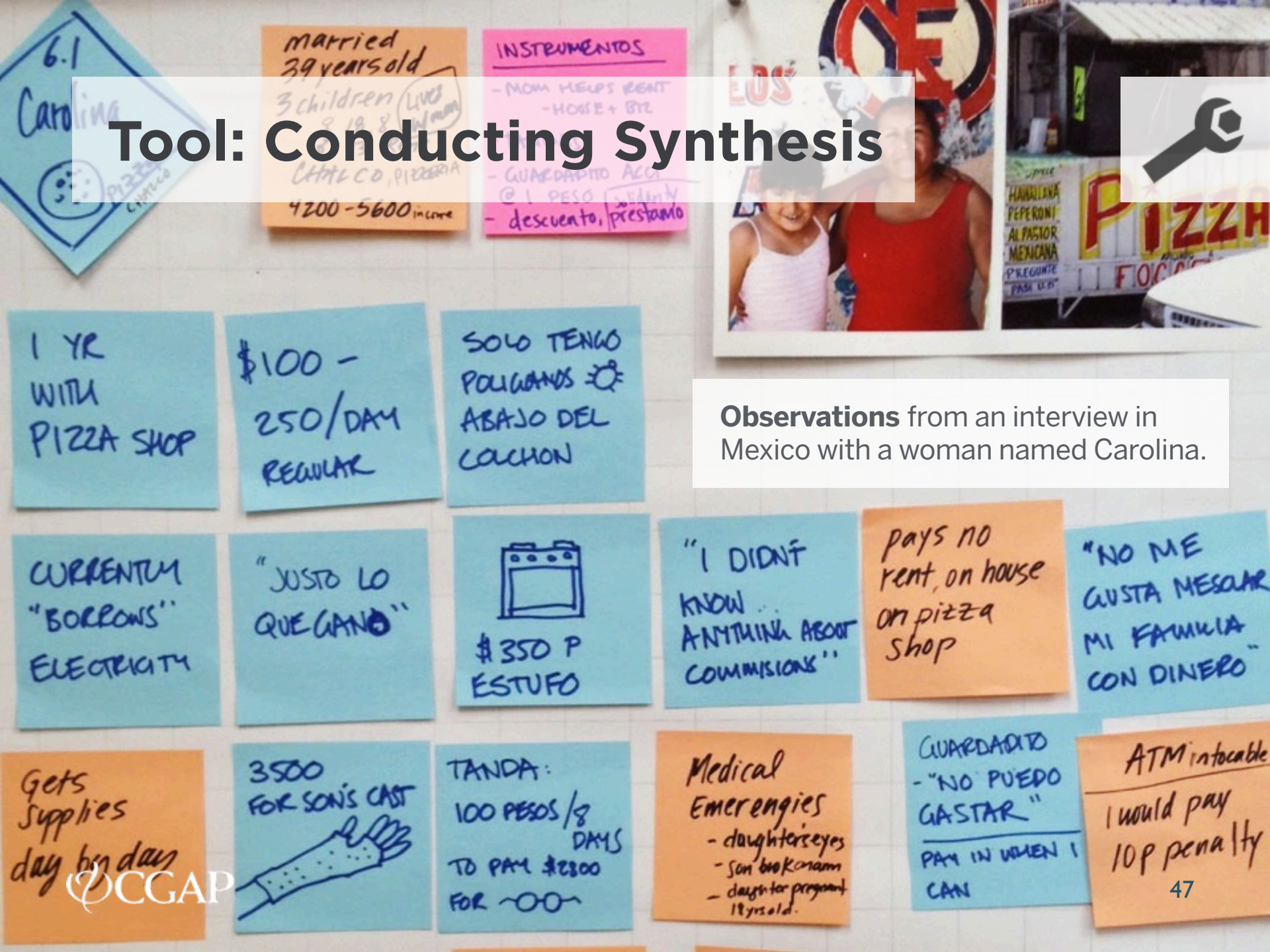
Tool: Conducting Synthesis

The team in Mexico conducted daily synthesis sessions, which consisted of "downloading" information from each interview onto post-it notes, which were placed on large sheets of paper. Separate sections were created for **Observations** (e.g. people's preferences and challenges); **Insights** (common observations across users); **Ideas** (e.g. linking products to health services, using *telenovelas* for marketing); and **Opportunities** (e.g. How might we shift social obligation to financial benefit?).
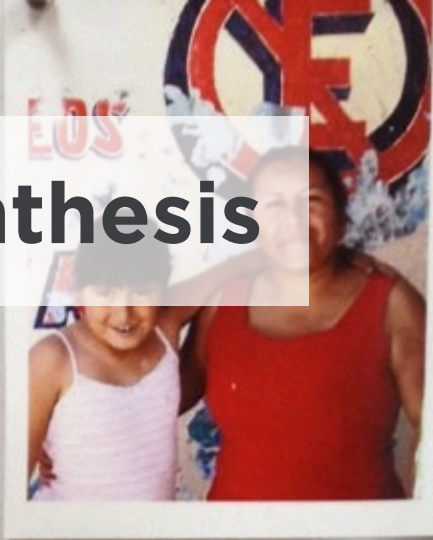
Observations from an interview in Mexico with a woman named Carolina.

Tool: Conducting Synthesis

ASPIRATIONS

SAVINGS TEND TO BE PURPOSE DRIVEN, BASED AROUND GOALS AND PROTECTION AGAINTS SHOCKS

MOST people in segment have related "projects."
— Claud
— Build, buy

PEOPLE THINK IN "PROJECTS"

CATEGORIES HELP PEOPLE PRIORITIZE SPENDING

By putting all of these **insights** together, the team realized what an important thing "projects" with a specific goal (e.g. to buy a car) were in the lives of people as they organized and prioritized their spending. The team in Mexico realized there was an aspirational side to their financial behavior.

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Tool: Personas

"I was recently sick and had to use my savings"

"Village Entrepreneur"

Limited education

Drives a boda boda

Operates near University

Has bank account

Farming is primary occupation

The team in Uganda created personas, which are composite characters created to represent a targeted set of user types. In this case, the "Village Entrepreneur" persona was created to match the customer segments already created, and includes demographic and occupational information, along with a representative quote, allowing the team to always keep the end user in mind.

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Tool: Brainstorming

Go for quantity, not quality

Defer judgment

Use active listening

Build on others ideas

"Yes, and… not "No, but…"

Think and express yourself visually (if helpful)

Tap into metaphors and analogies

One idea at a time

Keep it moving!

Brainstorming is a creative exercise to generate a large number of ideas in a short period of time. This image contains some useful tips and rules for an effective brainstorming session.

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Synthesis and Ideation

PRIORITIZING AND SELECTING CONCEPT IDEAS

As the teams generate insights through testing, they start to narrow down concepts and eliminate ideas that are not well received. At the same time, they build on ideas that generated a strong or favorable reaction.
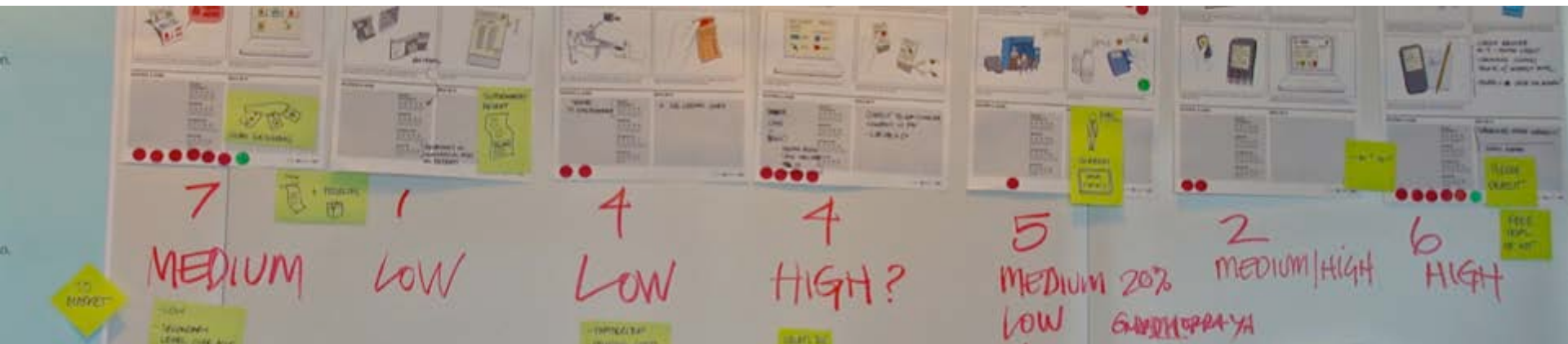
At the end of this phase, the team in Uganda generated 50 ideas. Those 50 were further narrowed to eight to take forward based on a number of criteria. The team found it helpful to use voting or forced ranking techniques, where each person was given a certain number of dots (stickers) and allowed to vote for their favorite concepts.

Tool: Selection criteria

When prioritizing and selecting ideas, it is important to have a consistent set of evaluation criteria. The team in Uganda used five main selection criteria:

1. **Customer appropriateness**: Does it meet the needs of and appeal to target customers?
2. **Technical feasibility**: How practical is it to implement and integrate?
3. **Commercial viability**: Would it excite and be embraced by commercial partners?
4. **Improvement of people's lives:** Can it have a positive impact on poor people's lives?
5. **Innovativeness and novelty:** Is it a new idea that has not yet been explored?

Tool: Design Principles

In Mexico, the project team came up with "design principles": easy to remember, two-word principles which helped evaluate the attractiveness of the proposed concepts for this target segment. The team created 7 design principles.

For example, people do not understand the cryptic and often times confusing language used by banks, even for basic banking terminology. For instance, the word "to save" (*ahorrar*) was understood as referring to "excess money", which many of these low-income users did not think they had. Instead, people use terms such as "put aside" (*apartar*) to describe how they keep their money. These insights then fed into the design principle "**People Speak**".

These principles are also applicable across functions beyond product development such as marketing and the design of branches.

1 CONFIDENT CONVENIENCE
Build both confidence and convenience for low-income customers.

2 PERSONAL CATEGORIES
Shift from the categorization of financial services into the categories of people's real lives.

3 FLEXIBLE DISTANCE
Provide assistance to create distance from temptation.

4 TANGIBLE COMFORT
Replicate the comfort of tangible money.

5 STEALTH SAVINGS
Create effortless, automatic savings.

6 PEOPLE SPEAK
Speak people speak, not bank speak.

7 ACTIVE MONEY
Make money active through simple and understandable investment opportunities.

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Synthesis and Ideation

TAKEAWAYS

>> Interdisciplinary teams are an important enabler of the synthesis and ideation process. Innovation consultants and others with experience leading the ideation process can be valuable when it is time to synthesize, since this type of project may be harder for a provider to conduct in-house.

>> Brainstorming sessions should start broad, go for quantity, then regroup back to themes and common ideas.

>> The synthesis process adds more value if it is done in the field at the same time as interviews, while impressions and observations are fresh, in order to make sense of all the data. Based on the trends and themes that appear from these insights, a larger synthesis and ideation session should follow to start generating and refining ideas.

>> While synthesis and ideation sessions can seem unstructured, the data should be structured in ways that are visual and easy to associate.

>> Using storytelling throughout the synthesis and ideation process helps keep the end customer in mind.

Synthesis and Ideation

FOR MORE INFORMATION

Facilitating brainstorming sessions

While structuring synthesis and ideation brainstorming sessions, it is important to consider how to facilitate them and how to ensure that a few brainstorm basic rules are followed. Depending on the objective of the brainstorming session, there are many "gamestorming" practices that could be used.

Personas

A very powerful tool used during synthesis and ideation is creating a set of personas, or character profiles, which both serve as a way to archetypically represent a target user or a segment, as well as create a shared understanding within project teams of the different kinds of users that are being designed for.

PROTOTYPING AND TESTING

Prototyping and Testing

INTRODUCTION

Prototypes are a tool for getting concept ideas in the hands of users. Prototypes can take many forms–be it a role-playing activity, an object, an interface, or even a storyboard.

Prototypes are intentionally simple–they do not seek to replicate an entire product or service but are meant to **quickly test customer reactions** to a product idea. Prototypes should be built cheaply so that they can be rapidly changed as feedback is gathered. As product concepts start to take shape, prototypes increase in complexity to test all features and validate the entire user experience.

This **user feedback** and **rapid iteration** is a critical part of the process. Prototypes are not about testing on a high volume of users but testing out many different versions of designs to identify the most commonly desired features or parts of the product which can be discarded.

Prototyping a service like financial services is not as easy as prototyping a tangible product. However, teams were creative in figuring out how to test intangible concepts through a number of tools and techniques described in the following slides.

Prototyping and Testing

CUSTOMER-CENTRIC APPROACHES VS. TRADITIONAL PRODUCT DEVELOPMENT

Prototypes are built cheaply and simply and brought in front of customers as quickly as possible.

In the early days, several cycles of prototyping are done quickly as customer feedback shapes the product formation.

" **"We killed products when we had to, felt remorse only temporarily and focused on developing the chosen ones."**

Uganda Project Manager

Most product development takes place internally with many hours of programming and product development committees fleshing out product details.

Although initial product ideas may develop out of customer surveys, customers are usually not consulted again until late in the process when the product is being beta tested.

By this stage, the product is almost fully formed. The organization has spent so many resources bringing the product to this point that customers can only influence tweaks to the product. It would be very expensive and time-consuming to drastically change the product at this late stage.

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Prototyping and Testing

EARLY PROTOTYPES

Early prototypes should be **rough**, **inexpensive** and **built quickly** to allow for a range of tests and iteration. These prototypes should be a quick and easy way to uncover whether a concept is desirable or not. As undesirable ideas are discarded, new prototypes should be built to continue to gauge the potential response. In some cases, the response may be clear enough to give early insights into, for example, pricing ("I would pay X for this product").

In Brazil the project team presented a number of **paper prototypes** for each one of the 14 ideas that resulted from ideation. The team explained the concepts to interviewees in order to collect their reaction. Based on their feedback, the concepts that were not well received were abandoned, and those that seemed to work were further refined. There were two rounds of iteration. **Drawings** made the work more efficient, particularly when asking people about concepts that were hard to grasp.

In Uganda, **role-playing** was used to act out some of the concept ideas and gauge customer reactions to product features.

Tool: "Think Out Loud"

When testing a prototype, the team in Uganda asked participants to continuously talk while using the prototype, meaning that they verbalize their thoughts as they move through the user interface. Hearing why a participant is taking a particular step gives the team insight on whether the design matches their understanding.

Tool: Paper Prototypes

In Brazil, the project team tested two variations of a savings product by presenting interviewees with two different options: one that reflected a service for individuals, and a second that reflected a service for the family.
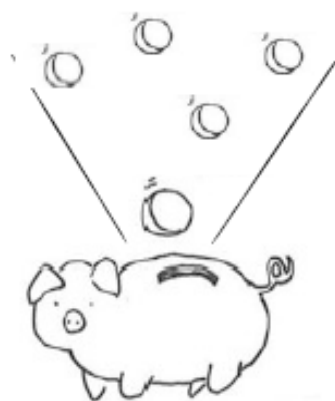
Individual savings   **Family savings pool**
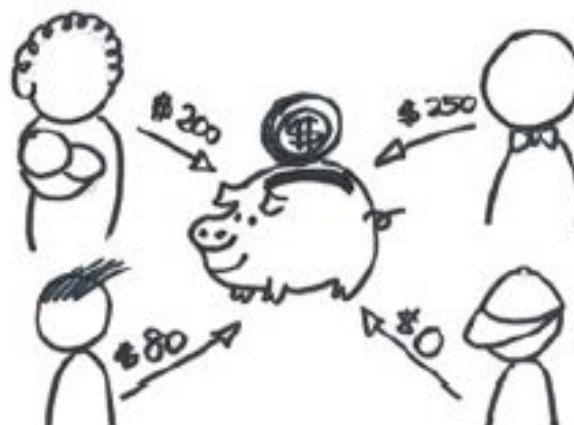
The team was able to quickly uncover users' preferences by easily communicating complex financial concepts through simple drawings and giving users forced rankings ('I prefer this over that') to get a clear sense of their preferences. In this case, most users quickly rejected the family savings option, as they were distrustful of group savings. Ligia, a housewife from Recife, mentioned not trusting her husband to save money, and did not want to be in the same pool as him.

Tool: Storyboarding

Escolha um cupom (Choose a coupon)
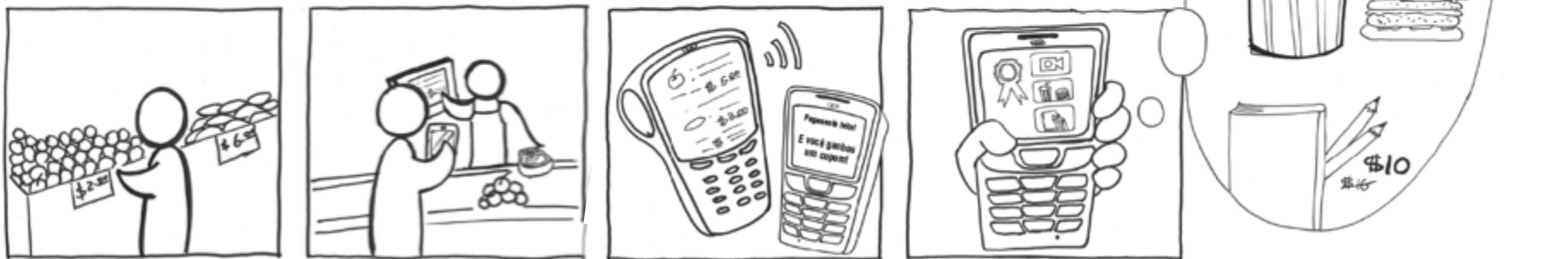
The team in Brazil used storyboarding to describe concept ideas that they then tested out with potential users. This concept presented coupons for purchases as rewards for using the mobile wallet. Even though the team believed that giving coupons and discounts for certain goods and services was a good idea, users quickly rejected this idea. Their main response was: "This would make me spend additional money that I wasn't intending to spend in the first place." Give me a discount on something that I am already spending on, or give me something for free!

Tool: Roleplaying

To test out a virtual savings group, the Ugandan team had customers create their own groups and assign one person to be a borrower. The borrower made a request to the entire group who then decided if they wanted to fill the request, and how much to contribute.

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Tool: Roleplaying

This process allowed the team to test out group lending and see how people negotiated interest rates amongst each other. Interaction between members provided valuable and surprising insights into product features and pricing:

- Users haggled over interest rates, showing why they preferred a system with set rates to one that was negotiated internally.
- Users set significantly higher rates than what the provider would have (agreeing that a "fair rate" was 5-10% per month).

Prototyping and Testing

ISOLATING AND TESTING UNIQUE FEATURES

Once product ideas start to form, early prototypes can be set aside in favor of more specific prototypes to **test only one or two features** (e.g. the interest rate for a savings product or the user interface).

For example, to test the interaction experience, the team in Uganda used **mock-ups of a phone app** which users could interact with to test the flow, strategy and content of the product concept.

In Mexico, in order to test the overall branding of the product, the team designed and tested graphics and branding deliverables (e.g. **ads and logos**).

Tool: Interface prototypes

When developing an app for testing, the prototype does not need to be fancy or contain the entire feature set. It simply needs to represent the initial flow and content that users would experience in the real world. In Uganda, the physical interface prototype started with paper printouts, but once the number of menu options grew, it became harder to sort through these quickly. The team then started to search for a prototype that could be more responsive.

Tool: Interface prototypes

The team moved to a higher fidelity prototype based on an Android tablet. This wasn't a true "app", but rather just pictures that were clickable and would advance to the correct menu screen. Users could click through more easily as compared to paper, more closely replicating the real life user experience.

Tool: Branding prototypes

To test a product's identity, the team in Mexico created and tested the branding guidelines and marketing materials for one of the concepts, MisProyectos, a savings account that tracks and categorizes people's money by goals. MisProyectos brand came across as less of a formal offering by a bank and more like a young startup, which was attractive to customers given how skeptical low-income Mexicans feel towards banks.
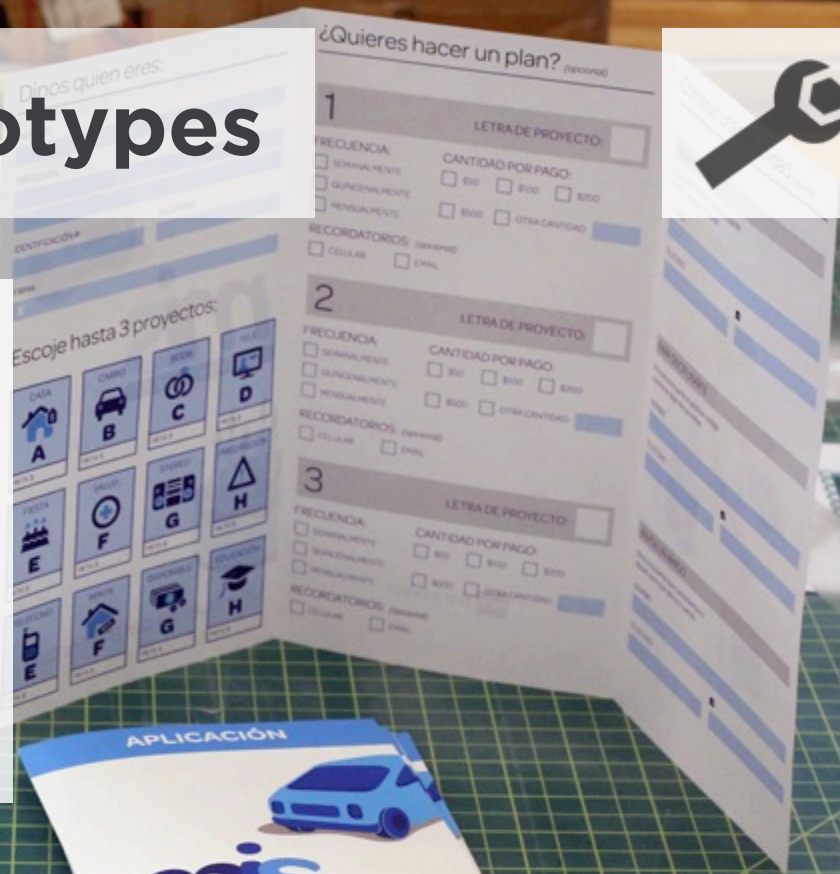
Prototyping and Testing

LATE PROTOTYPES

While early prototypes should be rough, later prototypes should be well thought out and more thoroughly designed. Late prototypes should incorporate feedback from individual feature testing into the initial product ideas. These prototypes should try to contain the **entire product concept** and offer the user a chance to experience a more polished version of the service.

For instance, after the Brazilian team finalized the language and flow of their mobile app, they realized that adding a layer of color coding (red for alerts, green for confirmation, blue for messages) helped customers understand on-screen content more quickly.

Tool: Mock-Up

The team in Mexico mocked up an ATM in order to test the entire interaction between users and the service. The prototype helped test the flow and information architecture of the concept, as well as its content and phrasing. This prototype consisted of an iPad containing images of ATM screens placed inside a plastic box. In order to mimic an actual ATM, users could put their card into a slot and receive cash and receipts, which were actually delivered by the person behind the machine.

Tool: Mock-Up

The prototype helped the team learn about the type of language that people prefer: Instead of reading "Enjoy your money!" when withdrawing from their goal-based account at the ATM, they wanted to be prompted to have second thoughts about withdrawing by reading instead: "Are you *sure* you want to withdraw your money?" One important weakness of this prototype is that in reality, Bancomer's ATMs are not touchscreens. While people found the touchscreen user friendly, the provider is not able to replicate this experience with their existing ATM infrastructure. Nevertheless, the prototype still helped the design team learn valuable lessons around language and overall user flow that could be translated into any interaction design.

Prototyping and Testing

MAPPING THE CUSTOMER JOURNEY

A customer journey shows the path describing how a user experiences a product, including how different features would be used in different situations, forcing them to think about the entire experience from the perspective of a user and not just the concept in isolation. Here, the Uganda team mapped that path for users of me2me, a goal-based mobile savings product that shifts the perception of savings to a "payment to yourself". The customer journey is useful in terms of unearthing service touch points such as customer support, thus enabling the project team to design the entire experience:

1. Awareness
I become aware of the existence of the Me2Me service

2. Induction
I learn about the product, and explore what I can do with it.

3. Initial use
I use core functionality – setting up my first goal, making my first payment, etc.

4. Extended use
I use the product's more sophisticated functions, establishing multiple goals, monitoring my progress and contributing to the goals of others

5. Enlistment
I enlist others to assist in meeting my goals.

6. Plan variance
I have a need to shift from my savings plan – either because I need funds, more saving time, or to reflect changes in my situation

7. Goal achievement
I meet my savings goal, and redeem the money to action it.

8. Good practice promotion
I tell others about my success, and advise them about how can save too.

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Prototyping and Testing

TAKEAWAYS

>> Making prototypes does not always require a big investment. They should be rough, simple, and cheap, especially at the beginning. Because they are simple and cheap you can go through several iterations quickly based on customer feedback.

>> Isolate variables to test. A prototype can be used to test a specific variable or product feature (e.g. pricing, branding, language used).

>> Unlike the earlier prototypes for testing initial concept ideas or specific features, later prototypes should bring together the majority of those features and product attributes to ensure that the user experience is cohesive from start to finish.

>> While focus groups were less useful during the research phase, the project teams found that focus groups were useful for testing prototypes.

Prototyping and Testing

FOR MORE INFORMATION

Service prototyping

When prototyping a service, it is important to consider timing: the earliest prototypes may serve mainly to inform the generation and synthesis of ideas, and should be rough (such as experience prototypes, mockups, or other prototypes), while prototypes later in the design process are usually higher fidelity in order to prompt minor design tweaks or validate the service (through usability testing).

Regardless of the timing, it is always important to identify the specific variable that a prototype is designed to test. It is important to always involve users in co-creating and testing the solution, and roleplaying can be a good tool to use towards that end.

Mapping the customer journey

When designing a service, it is helpful to go through the exercise of visually representing the user experience from start to finish, in order to identify gaps in service and opportunities for improvement. Customer journeys can be built by storyboarding the user experience or using the Customer Journey Canvas. In addition to the user experience, service blueprints (cf. template) include operational considerations and implementation roadmaps.

PREPARING TO LAUNCH

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Preparing to Launch

MAKING THE OFFERINGS PROFITABLE

All three teams worked on building realistic business assumptions and cases as product concepts were being developed alongside a member of the provider's finance team. These were built in the design process from synthesis onwards to ensure all products had realistic and feasible pricing options, and would be profitable for the provider.

In most institutions, profitability standards will not change in order to cater to the lower income market. Therefore, the financial return for a product targeting the poor must creatively and viably demonstrate value to the provider in some fashion and in line with its core profitability criterion standards irrespective of the demographic reached. For example, the provider may accept financial loss on the product as long as it gleans value in other ways. This might include value add products or services that can be priced and bundled within the existing product later on.

Business assumptions at every stage of the design process were essential in making 'wild ideas' more down-to earth. Developing the right business assumptions were essential in translating user insights into prototypes and eventually products and/or features.

BUILDING THE BUSINESS CASE

Uganda

The team used survey results to demonstrate the size of the business opportunity: 45% of MTN's customers wanted to use mobile money for savings and an estimated $300 million per year was saved informally in Uganda.

Transaction fee

Monthly fee

Airtime fee

The team designed three payment models: a per transaction fee; unlimited transactions for monthly fee; and buying airtime for free transactions. The team then tested the three options in the field with customers, and most users gravitated towards the monthly fee or airtime options, giving the team insight into how much people were willing to pay for the service. From there they iterated based on users' feedback and modeled how many users would be needed to build a sustainable payment structure.
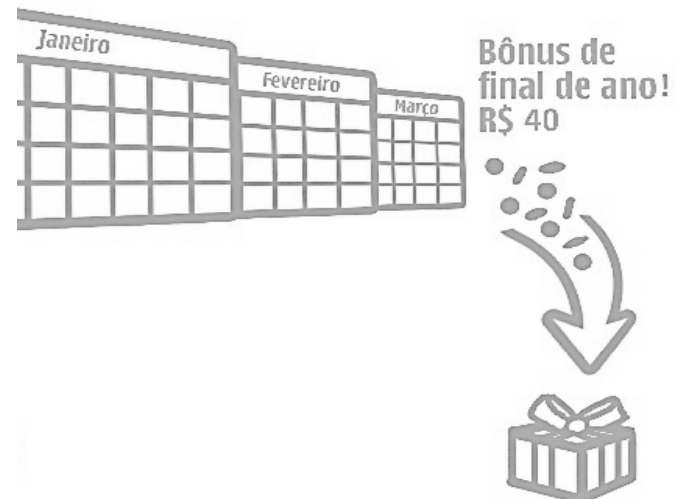
BUILDING THE BUSINESS CASE

Brazil

In Brazil, grounding the concepts in realistic assumptions of customer behavior changed one aspect of the product significantly. Initially the team developed a sacrificial concept that proposed users could get a 13th salary of R$800 (~ US$400) at the end of December, coming from users' savings throughout the year. However, the team realized that this was not realistic based on expected volume and value of customer transactions. They revised the end of year amount to R$40 (~ US$20). The team tested this second option with users, who still expressed interest.

VS.

FINAL CONCEPTS

Uganda

me2me

Finance your own goals

A goal-based mobile savings product that builds on familiarity and use of mobile payments to shift the perception of savings to a "payment to yourself"

ZIMBA

Borrow and lend to each other

A platform for enabling more flexible lending and borrowing within social networks that also expands access to broader capital pools

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FINAL CONCEPTS

Mexico

An objective-based account that comprises part of the structure, social pressure and reminders of a ROSCA, with interest, discount and credit options.

An opportunity for the bank to establish a working relationship with actual and future ROSCA organizers who can be the link to banking services for their customers.

Preparing to Launch

FINAL CONCEPTS

Brazil

IDEO's engagement ended not with a specific product, but with an entire customer engagement strategy around the wallet's ecosystem. The strategy sought to enhance the user experience in three stages that built upon each other. Each part of the strategy came with specific product features, experiences, marketing and/or concepts to increase customer adoption, and each part intentionally builds on the previous. IDEO emphasized that the entire package together will optimize the user experience and warned Bradesco against just implementing bits and pieces.

BUILD AWARENESS
"Give me a reason to use this."

BUILD BEHAVIOR
"Help me experience the value firsthand."

BUILD LOYALTY
"Keep me engaged."

Preparing to Launch

As the final product ideas move through the product implementation pipeline, we have learned that **product design does not and should not end with the designed product**. There are both opportunities and challenges that emerge following the product design process, especially when other departments start to take on more prominent roles: finance, IT, marketing, etc. Tradeoffs need to be made by the various departments and these have an impact both on the original product design and its business case.

Roadblocks Faced Bringing Products Into The Real World: MisProyectos Example

The provider drastically increased their profitability expectations mid-way through the project, which impacted the overall pricing of the product.

Technical requirements to implement the final product did not align with the bank's existing ATM infrastructure. Given the size of the bank, changing the IT to meet the needs of just one customer segment is not feasible.

Pricing

IT

In Mexico, banks are not allowed to charge customers to use their own ATMs. This has been a challenge for MisProyectos, as its original design relies heavily on ATMs. The bank may have to change the revenue model to charge monthly fees, which customers hate.

Regulation

Marketing

The bank's current marketing materials does not match the suggested branding developed for the product. Changing from using "bank speak" to "people speak" will be a longer process.

Preparing to Launch

TAKEAWAYS

>> We set out to find a 'killer product' that would be the magic bullet to drive customer adoption. Instead, we learned once again a basic lesson: for a branchless banking product to be successful, the entire user experience must be high-quality and carefully based on design principles arising from customer insights. If the advertisements informing customers about a product use "bank speak" instead of "people speak" or the user interface is too complicated, even the most innovative product concepts will fail. Getting the ecosystem right around a particular product is as important as the product itself.

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Preparing to Launch

FOR MORE INFORMATION

Business case for MNOs

This presentation describes in detail five ways mobile network operators (MNOs) can think about the mobile money business case, including drivers for profitability and whether mobile money can be free.

Business case for banks

CGAP completed an analysis on the business case for banks in branchless banking. In this presentation, we look closely at the financials of a few banks that have been involved in branchless banking for five or more years, running agent channels for payment products or as a way to reach unbanked customers.

Business case for agent networks

CGAP released an Agent Management Toolkit looking at the process of building a viable agent network for a branchless banking service.

Business case for small savers

CGAP released a brief rethinking the business case for small savers.
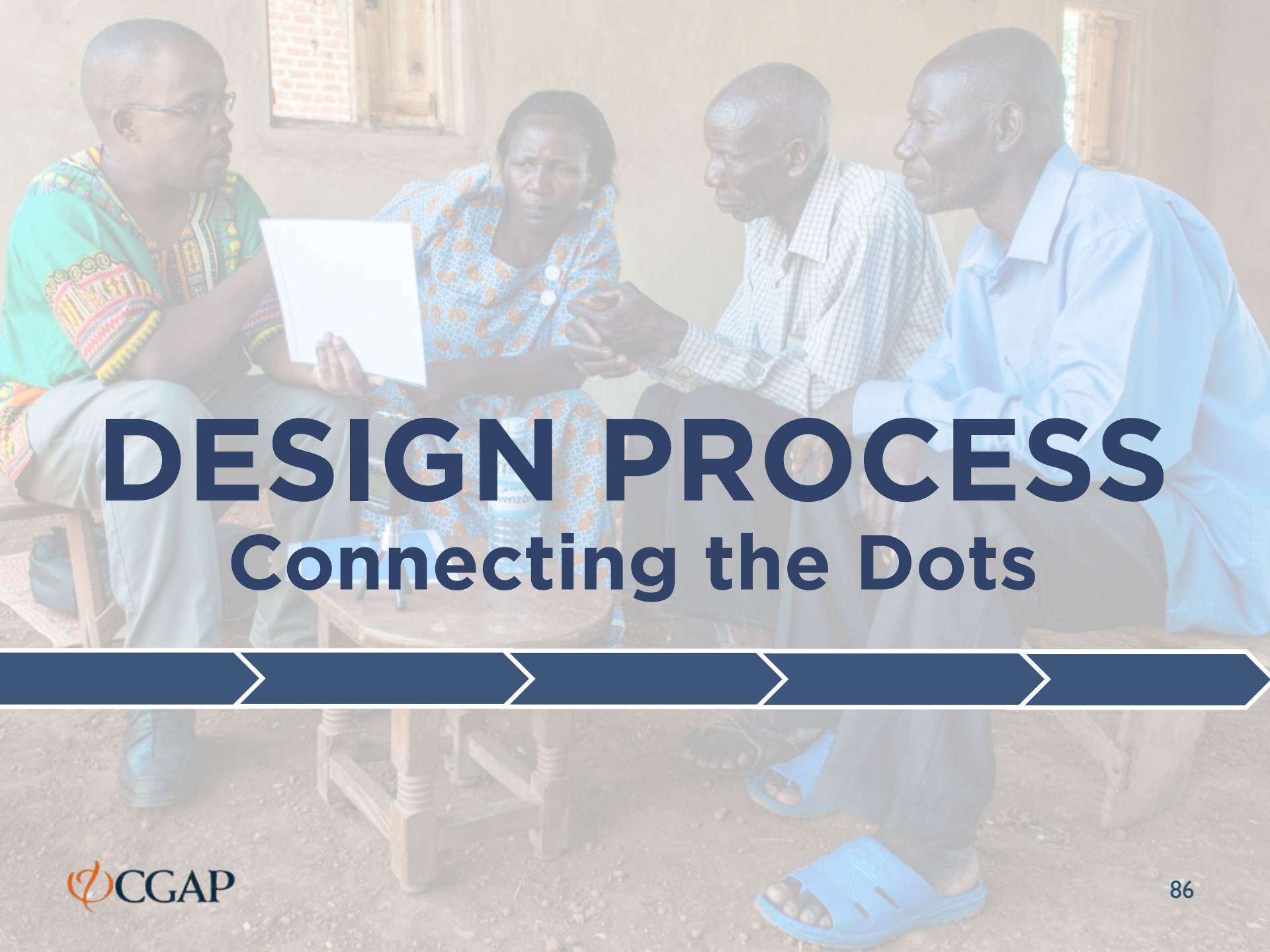
DESIGN PROCESS
Connecting the Dots

CONNECTING THE DOTS
An example from Uganda

Listening to customers led to finding a gap in user needs:

> When I need cash urgently I have to sell my stock at lower prices because I cannot always get a loan from my family.

RURAL UGANDANS LACK ACCESS TO FORMAL CREDIT

Rural households are forced to borrow from informal sources at unfavorable conditions due to immediate need for liquidity. They lack formal credit sources because banks view them as high-risk borrowers due to lack of information on them.

*Survey data of over 2,600 rural Ugandans also confirmed this insight. **66%** of respondents' credit came from local sources. Only **34%** of respondents had taken credit from financial service providers.

Which led the team to ask this question:

WHAT POOLS OF DATA THAT ALREADY EXIST CAN BE USED TO IDENTIFY CREDIT-WORTHY CUSTOMERS?

The team considered:

1. Leveraging customers' mobile usage data,
2. Leveraging customers' social networks, and
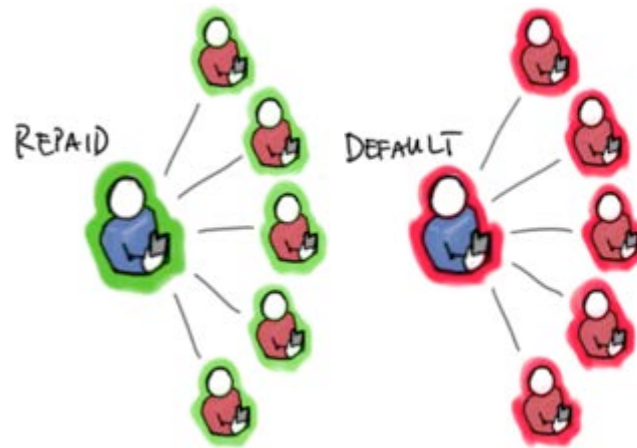3. Leveraging farmers' agricultural data.

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After testing out initial concepts in the field, three product ideas were developed:
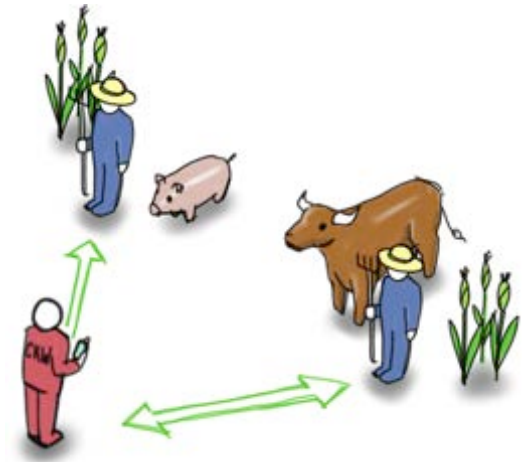
MOBILE DATA FOR CREDIT

Using voice, SMS and mobile money data data (volume and regularity of transactions) to identify customers who could be creditworthy.

SOCIAL VETTING

A lending product which identifies new loan customers virally through their association with existing, trusted borrowers.

CKW DATA FOR AGRI-LENDING

Facilitating agricultural lending by using data (inputs and yields) collected on farmers by AppLab's Community Knowledge Workers.

CONNECTING THE DOTS
An example from Mexico

User interviews provided the following insight:

> In this picture, Juanita saves her money in two cans. One can "holds money for supplies." The other can is to use "if [her] kids want something."

Other users said:

"I separate my money in different pockets in my jacket."

"I always keep MXN 1,000 (~ US $78) in my wallet for medical emergencies."

"My mother keeps our money in bags—different bags for different things, like rent and food."

PEOPLE THINK ABOUT SAVING IN TERMS OF GOALS AND EMERGENCIES

Which led to the following opportunity:

HELP PEOPLE ORGANIZE THEIR MONEY AROUND GOALS AND PRIORITIES
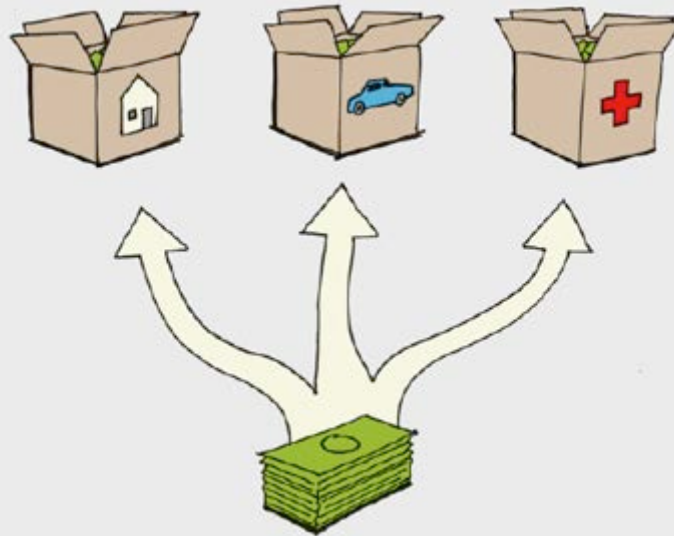

By applying the following design principles:

1. Shifting from the categorization of financial services
to the categories of people's real lives ("Personal Categories"),
2. Replicating the comfort of tangible money ("Tangible Comfort"), and
3. Creating distance from temptation ("Flexible Distance").

Which led to these initial concepts:

CATEGORIZED ACCOUNT

Organization creates mental and emotional structures around money
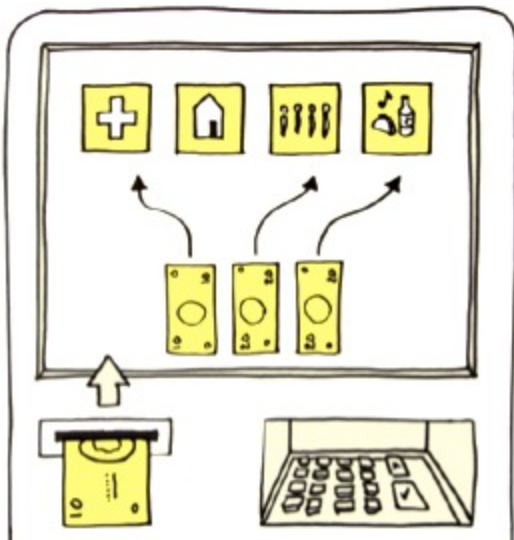
This concept was tested with paper prototypes at first, then through a mock-up of an ATM. The team also tested marketing materials for this concept.

EASY TRACKING AND PLANNING

People record financial activity but don't study it or learn from it (e.g. year-at-a-glance statement, money meters, goal meters, raise the mattress, etc.)
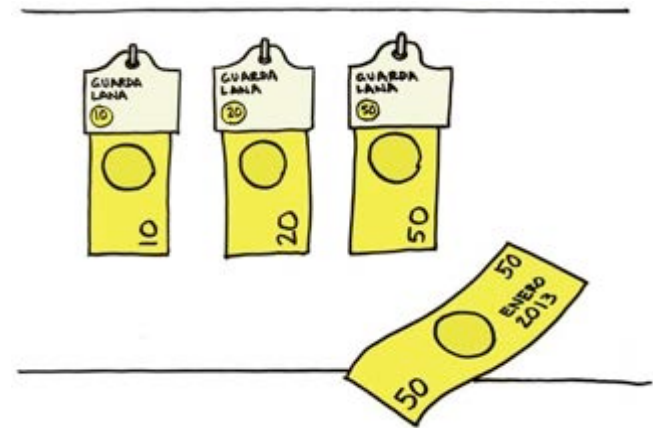
One of the sacrificial concepts used to test this idea is a "monopoly money" wall. At each transaction, the user tears down a monopoly bill equivalent to the amount he/she spent.

After several rounds of iteration, the following product ideas were developed:
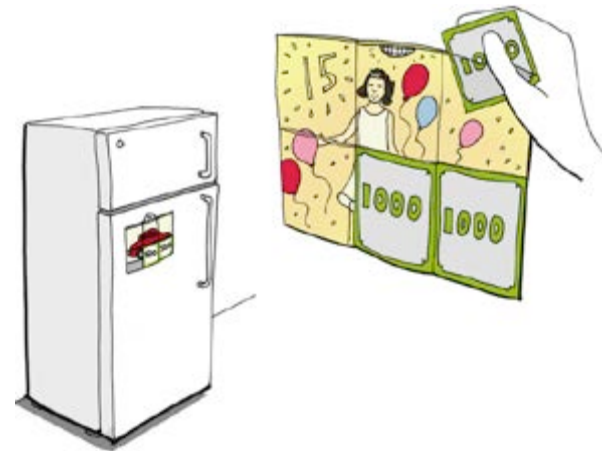
MISPROYECTOS

A savings account that categorizes people's money by goals. Account holders can track progress in every goal and receive relevant offers.

SEGUIMIENTO TANGIBLE

Physical tools that connect people to their money: ATM statements, wall-hang balance trackers, project-tracking pictures/puzzles, cardboard calculator.

The two product ideas were eventually merged into one product idea –simply called MisProyectos.

CONNECTING THE DOTS
An example from Brazil

A user interview provided the following insight:

" You have to be very careful if you want to do something in Brazil because of hackers. They have a way for everything here. "

THERE IS NO 'IF' ABOUT SECURITY

Security is a must and mobile phones pose a number of concerns. Design elements such as language, icons and transparency of funds can help you overcome these concerns. Build trust in mobile phones. Design a sense of security into the experience.

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The team prototyped an initial idea:

The team used phone screen mock-ups to test the display of a lock icon consistently across all the mobile wallet application.

BOLSO DIGITAL
Bolso digital

R$80 pagos para BomPreço Mercados.

Novo total disponível:
R$320.00

3/09/1012

OK

" The lock makes me feel more secure, like the money is stored and put away. "

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Which led to two product features:

SECURITY LOCK

The lock icon, consistent across all screens in the upper right corner, is also reinforced when customers are making transactions to reassure them that their money is safe.

VISIBLE BALANCE

Customers can view their balance any time. It provides a sense of security, as they can always check for consistency of balance to ensure no hidden fees have been tapping away at their funds.

ADDITIONAL RESOURCES

Other Interesting Concepts and Features

The processes in three countries yielded a number of interesting product concepts and features. Several of these were not chosen by the provider or design partner for commercial launch. Although there was a lot of enthusiasm around these concepts, they were not chosen for a number of reasons specific to the particular provider, industry and/or market (e.g. in some cases there were regulatory constraints, in other cases it was based on the risk appetite of the provider). We believe they might be useful to providers in other geographies that find themselves in different circumstances and that might be inspired by creative new concepts.

Here are some examples:

BOLSO SEPARADO

A mobile wallet feature allowing individuals to separate a certain amount of money and keep it separate from 'spending' money.

INSURANCE LOTTERY

An insurance product structured like a lottery leveraging the excitement of gambling to encourage customers to protect themselves against risks.

Check out this deck for a catalog of all the additional product concepts and features.

For More Information

HCD GUIDES AND TOOLKITS

Stanford d.school's Bootcamp Bootleg and Methods
Open collection of Service Design Tools
The Service Design Toolkit and Templates
IDEO's Human-Centered Design Toolkit and Methods
frog design's Collective Action Toolkit
Engine Group's Shape Process and Methods
The Austin Center for Design's Service and System Design Toolkit
The Copenhagen Institute of Interaction Design's Tools

DIRECTORY OF DESIGN FIRMS

While there is no exhaustive landscape of service design firms, this list compiles a number of companies similar to IDEO, including a specific list of design consultancies in the developing world.

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For More Information

TO LEARN MORE ABOUT THE PROJECTS

UGANDA

CGAP Blog post:
Turning Insights into Products: Applab Money
Applab Case study part 1:
Set-up, Research and Ideation
Customer Segmentation and Archetypes
Applab Case study part 2: Concept Development

MEXICO

CGAP Video:
Bancarización: bringing a savings product to market
CGAP Blog posts:
Why Don't Low-Income Mexicans Use Formal Savings Products?
Product Development Doesn't End with Design
IDEO.org Project page: Designing for Savings

BRAZIL

CGAP Blog post:
It's Not Quantity but Quality: Consumer Research from Brazil

Check out our ongoing API blog series for regular updates.