



Advancing financial access for the world's poor



# AppLab Money Incubator Case Study Part 1

Phase I & II: Set-up,  
research and ideation

October 2012

# Introduction

*The incubator brings together partners with diverse strengths, all interested in improving the financial well being of the poor through innovation*

## CGAP's work in Applied Product Innovation

CGAP is supporting branchless banking providers across the globe to apply design thinking methodology to develop better products for the poor.

The first project was launched in Uganda, through a partnership with Grameen Foundation's Application Laboratories (AppLab) in October 2011. Additional product innovation work has taken place in Mexico with Bancomer and in Brazil with Bradesco.

## Grameen Foundation's AppLab Money Incubator

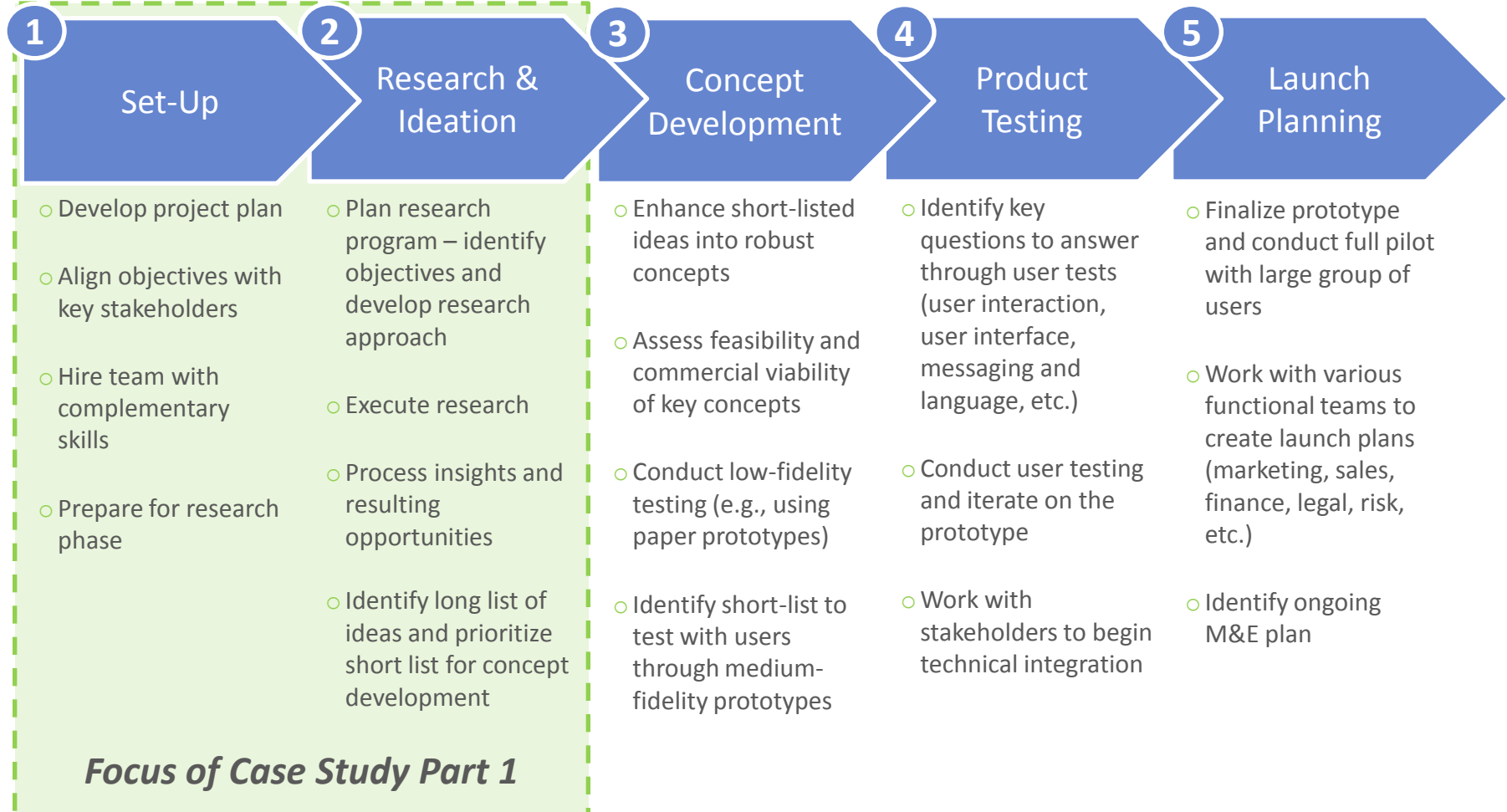
Grameen Foundation's AppLab Money was launched in October 2012 in conjunction with CGAP and MTN Uganda (MTNU). The incubator was set up to spur innovation in the mobile financial services space. The program has two main aims: to scale 1-2 innovative products that are attractive to poor customers but also commercially viable for MTN.

This case study codifies the work and the learnings from the first major phase of this work – setting up the incubator, executing the customer-insights phase and transforming insights into product ideas.

# Introduction: Our Approach

*We pursue a five-phase process to setting up an incubator, developing the product ideas and preparing them for launch*

## AppLab Money Incubator: Product Development Approach



# Introduction: Key Insights

*Following the research and ideation phase, we identified key lessons we learned:*

Hire the right team

Innovation requires a strong team with complementary skills who work closely together to come up with breakthrough product ideas.

Be nimble, be Flexible

The team was not fixed to one innovation approach – we were able to change direction and willing to test the process as much as the ideas coming out of it.

Synthesize your findings and test ideas early

We focused on stepping away from the field often to synthesize data and package it in a clear and actionable manner, running sessions with key team members to convert these insights into product ideas and putting these ideas in front of customers early.

Triangulate data, use a variety of methods

Quantitative data facilitates a generalized understanding of customer needs, while innovative qualitative techniques yield the insights that lead to breakthrough products. When triangulated, the data sets lead to appropriate products for the masses.

Find the right skill set for segmentation

Segmentation is part art and part science. The right skillset is required to create actionable, meaningful market segments. Work with organizations who know how to do this properly.



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## I. Set-Up

### Preparation

## II. Insights and Opportunities

Planning

Executing

Processing

Identifying

## III. Conclusion

Reflection on phases 1-2

Next steps

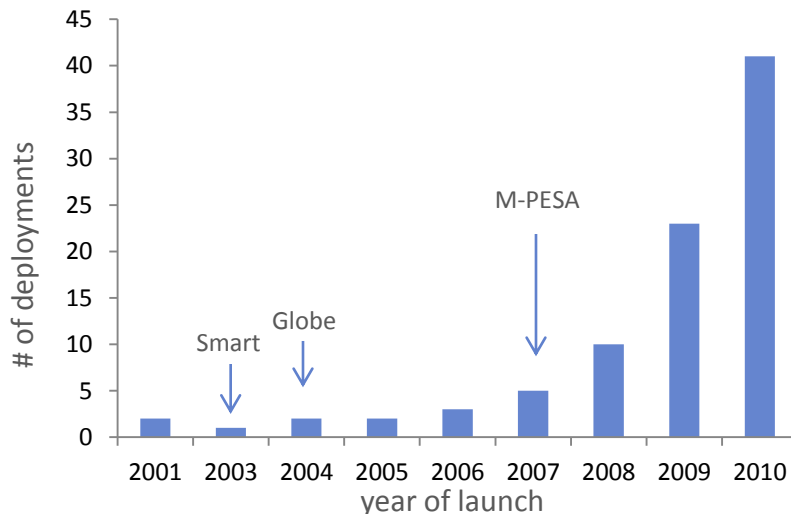
# Preparation: The Idea Emerges

*There was significant energy in the industry – many players were deploying the same offer that M-PESA had, though few players were seeing the same success*

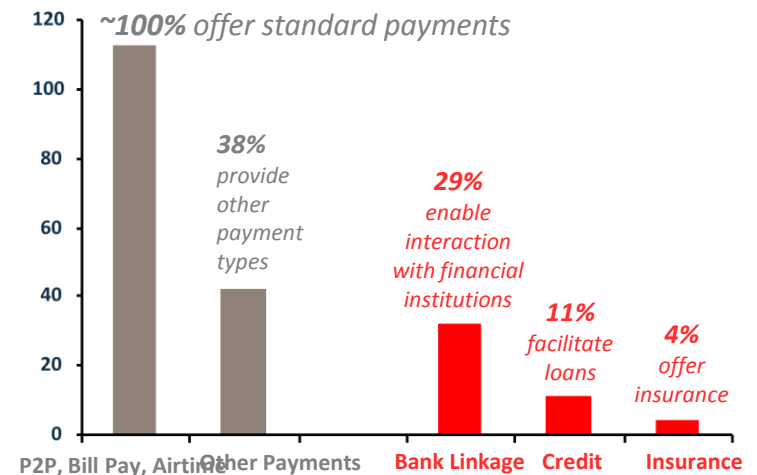
*2009-2010 saw a rush of operators deploying mobile money services, though none had achieved scale like M-PESA*

*Few service providers had moved “beyond payments” – the industry was facing an innovation crisis*

## MM Deployments Over Time



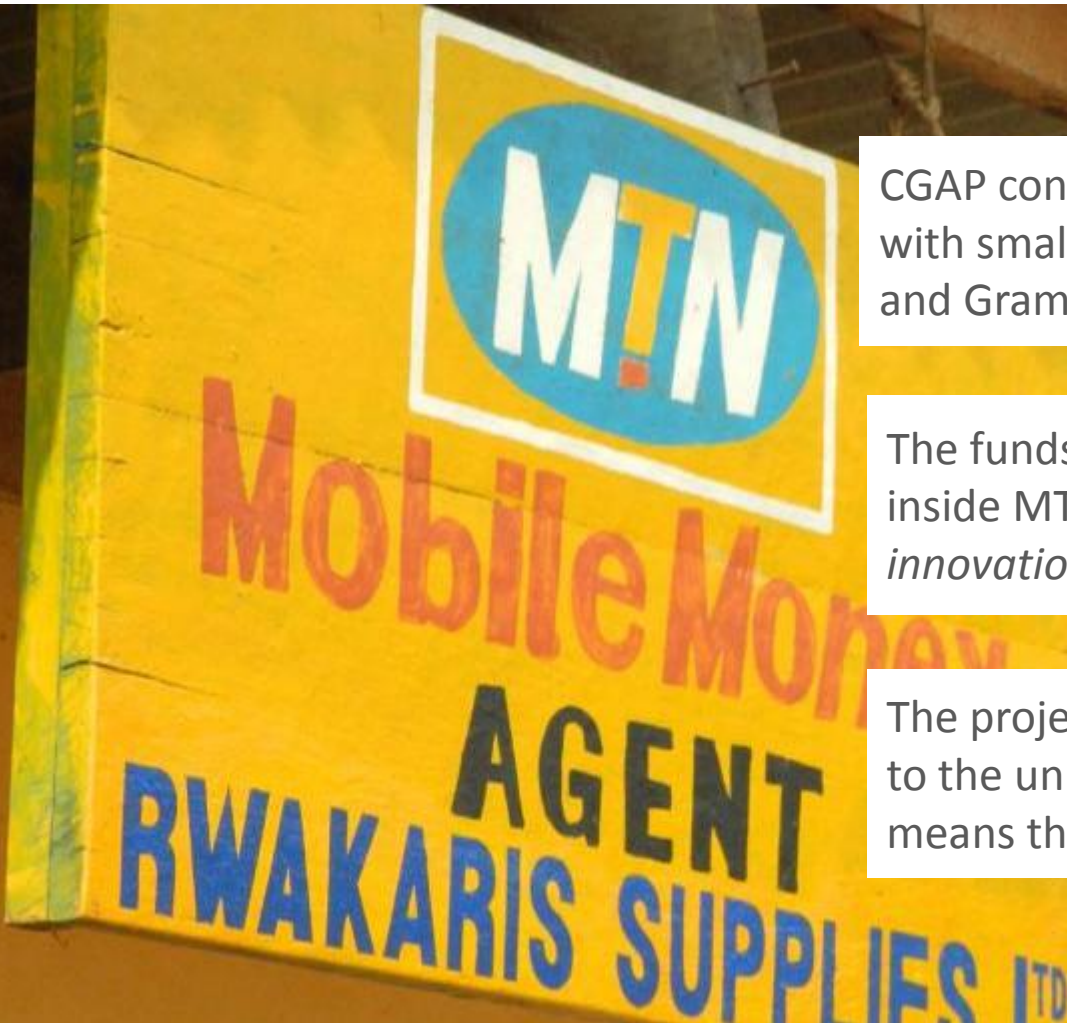
## MM Products Deployed



*While attending a conference in 2010, participants from CGAP and Grameen Foundation hypothesized that an R&D hub, or incubator, address this challenge*

# Preparation: Funding is Approved

*Funding from CGAP, with contributions from MTNU and Grameen Foundation AppLab, enabled the creation of the first mobile financial services incubator*



CGAP contributed the majority of the funding with smaller amounts contributed by MTNU and Grameen Foundation

The funds were used to set up an incubator inside MTN Uganda to develop “*disruptive innovations*” in the mobile money industry

The project aimed to take MTN MobileMoney to the unbanked market, which in Uganda means the mass market

# Preparation: The Team is Hired

*A talented innovation team was hired, with diverse backgrounds and complementary skills, which led to magic in the boardroom*



**Ali Ndiwalana** has helped public and private entities identify ICT user needs and create enabling policy environments



**Julius Matovu** has spent his career working on various mobile-for-development initiatives in Uganda



**Olga Morawczynski** has spent years working with down-market customers and understanding their financial habits



**Lisa Kienzle** has worked with public and private entities to develop mobile financial services solutions in Africa and Asia



**Moses Muhahala** has led MM implementations in Kenya, Uganda, Tanzania, Zambia, Nigeria, Madagascar and DRC



**Harriet Nanfuka** has focused on supporting research activities for ICT4D initiatives in Uganda



**Darren Menachemson** has designed services and products since the late '90s



**Toru Mino** has designed and tested products with poor consumers



**Tanya Rabourn** is an interaction designer interested in going down-market



**Sara Nantagya** has worked in telephony value-added solutions development



# Preparation: The Project Scope is Defined

*To align the project scope, we defined the design challenge – the clearly articulated problem that would drive the innovation process*

A **Design Challenge** drives the innovation process and communicates the problem we are trying to solve

A good challenge is **broad** enough to allow creativity, but **tight** enough to focus efforts

## **How we got there:**

Working session with CGAP, MTN and Grameen Foundation to define the challenge

Clarified our constraints, such as:

- The type of product in scope (e.g., non-payments, B2C only)
- The target audience (e.g., the unbanked)

Our Design Challenge: How can we develop “beyond payments” mobile money (MM) products that are suitable for unbanked customers and viable for our commercial partners?

# Preparation: The Criteria is Developed

*With the problem defined, criteria were identified to help judge the products throughout the process*

## Product Filtering Criteria

	Phase 1 Research & Ideation	Phase 2 Concept Development	Phase 3 Product Testing	Phase 4 Launch Planning
Customer appropriateness				
Commercial viability				
Innovativeness and novelty				
Ease of Implementation				

The team defined the criteria to assess product ideas throughout four stages product development

Criteria would be applied consistently, though weighted differently across phases

- E.g., “customer appropriateness” is most important initially, while “commercial viability” is not a major constraint until later stages

Green-shaded = criteria heavily weighted at that stage

Unshaded = criteria not heavily weighted at that stage



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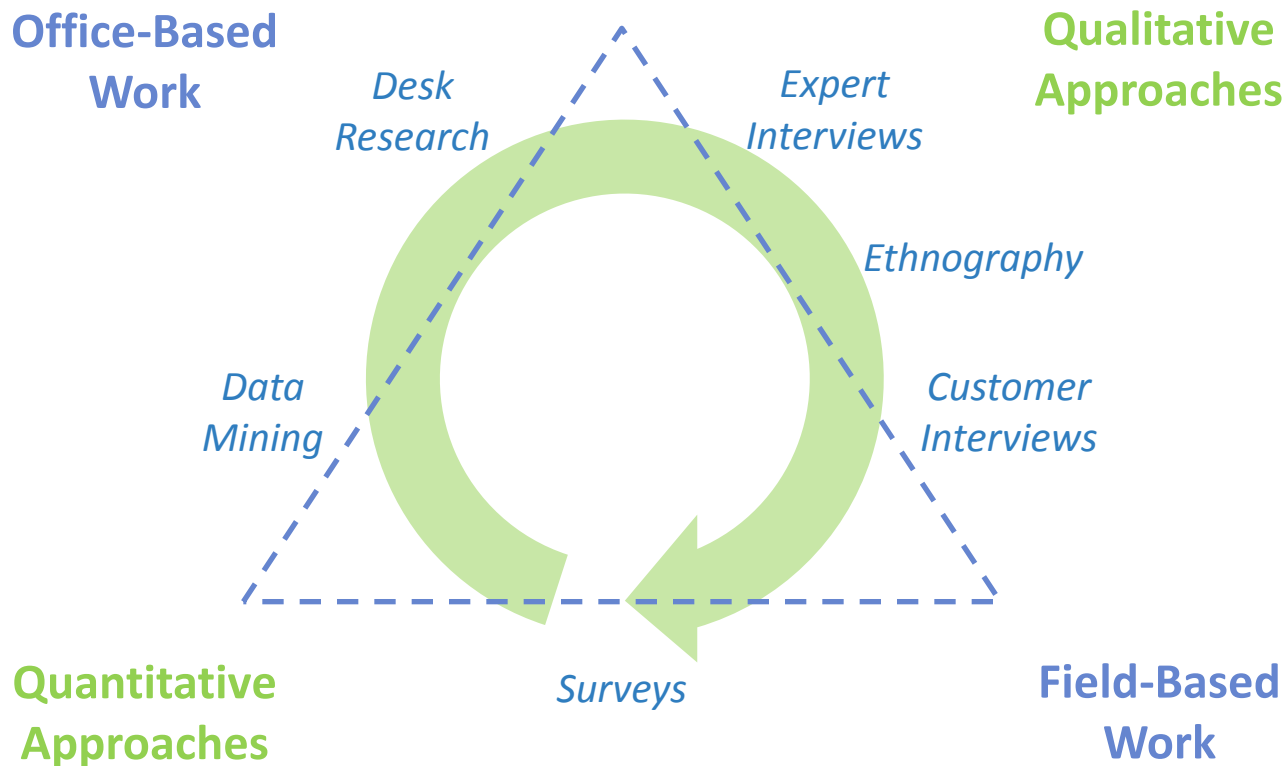
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# Planning: Developing the Research Program

*The research program required triangulating disparate research approaches for richer outcomes*



# Planning: Choosing the Research Tools

*Each data source provides its own unique advantage:*

Data Source	Description	Strengths
Desk Work	Systematic collection and analysis of data from secondary sources (e.g., government, bank or MNO records, statistics and sector performance reports from regulators, etc.)	<ul style="list-style-type: none"><li>• Easy access to data collected from other projects</li><li>• Cheaper than other methods</li></ul>
Data Mining	Using analytic tools to extract patterns or relationships from large datasets; here, datasets will include calling records (CDRs) and MM transaction data from MTN subscribers	<ul style="list-style-type: none"><li>• Details actual usage and behaviors; here, telephony and MM service behavior across users</li></ul>
Customer Survey	Applies a standard set of closed-ended questions across a large sample of individuals	<ul style="list-style-type: none"><li>• Provides generalizable results</li><li>• Enables sizing of market opportunity</li></ul>
Focus Groups	Queries a small, targeted group of people for their opinions, perceptions, feelings, attitudes or reactions to a designated topic	<ul style="list-style-type: none"><li>• Group interaction results in findings that may not be captured in one-on-one conversations</li></ul>
Semi-Structured Interviews	Relies on face-to-face discussion with a respondent around pre-defined themes or open-ended questions	<ul style="list-style-type: none"><li>• Researcher can further explore responses based on the direction of the discussions</li></ul>

# Planning: Triangulating the Research

*Used together, the methods reveal more powerful results than discrete learnings*

## Data Mining

*Preliminary data showing customer usage patterns might indicate that people leave small balances on their e-wallets, but this data does not explain why they do so or what other financial behaviors they exhibit.*

## Focus Groups

*Focus groups could validate the finding, and may provide explanations on why such a habit exists. But due to restrictions such as time or privacy issues, it might be difficult to explore the sources, the amounts, or the intended or actual use of this savings.*

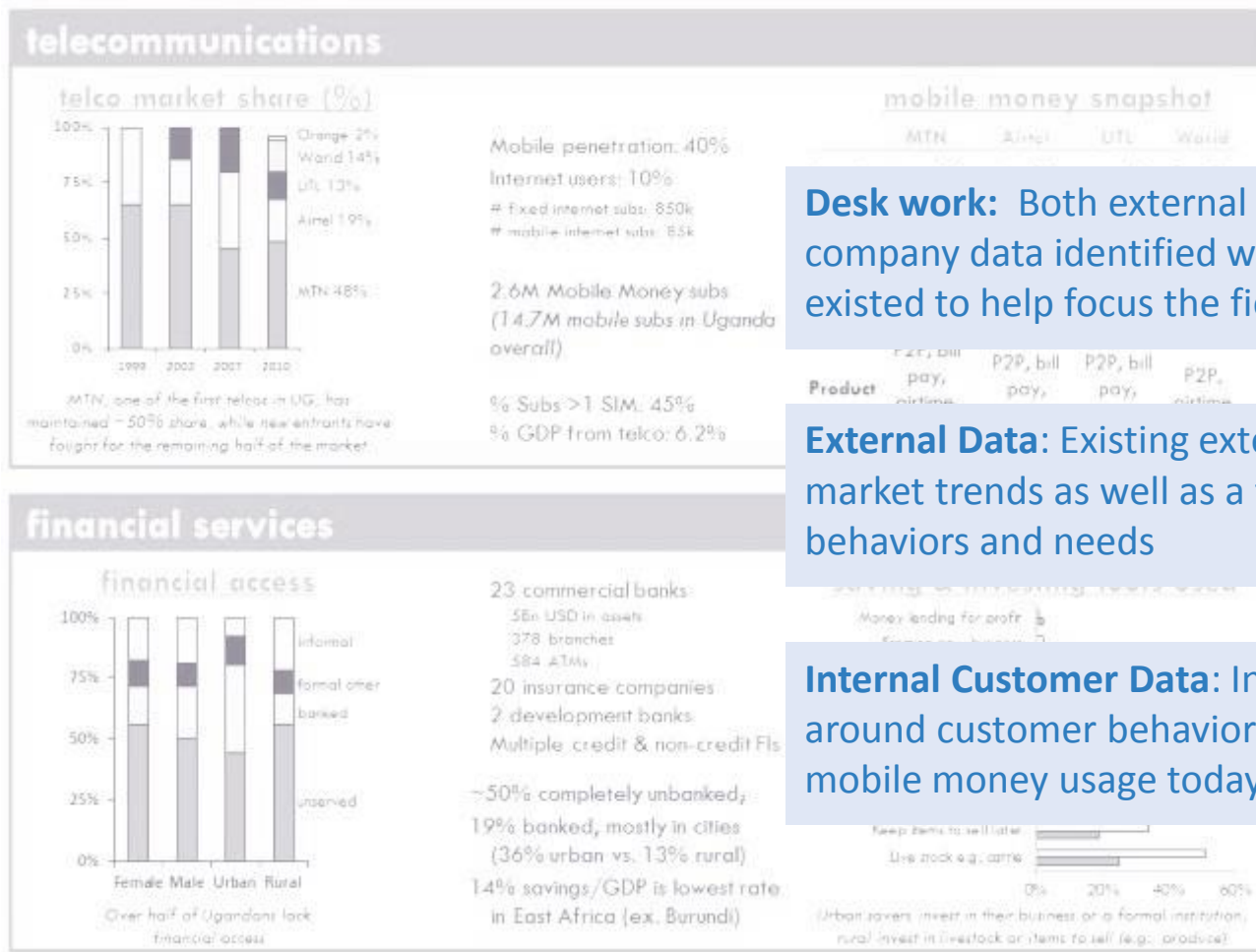
## Interviews

*During interviews, respondents can discuss their financial flows and different instruments used. The interview might also reveal how the wallet is used in conjunction with other savings mechanisms.*

*Illustrative  
Triangulation*

# Executing: Desk Research

The first step of the research process was office-based – desk work to identify data and trends



**Desk work:** Both external data as well as internal company data identified what information already existed to help focus the field research efforts

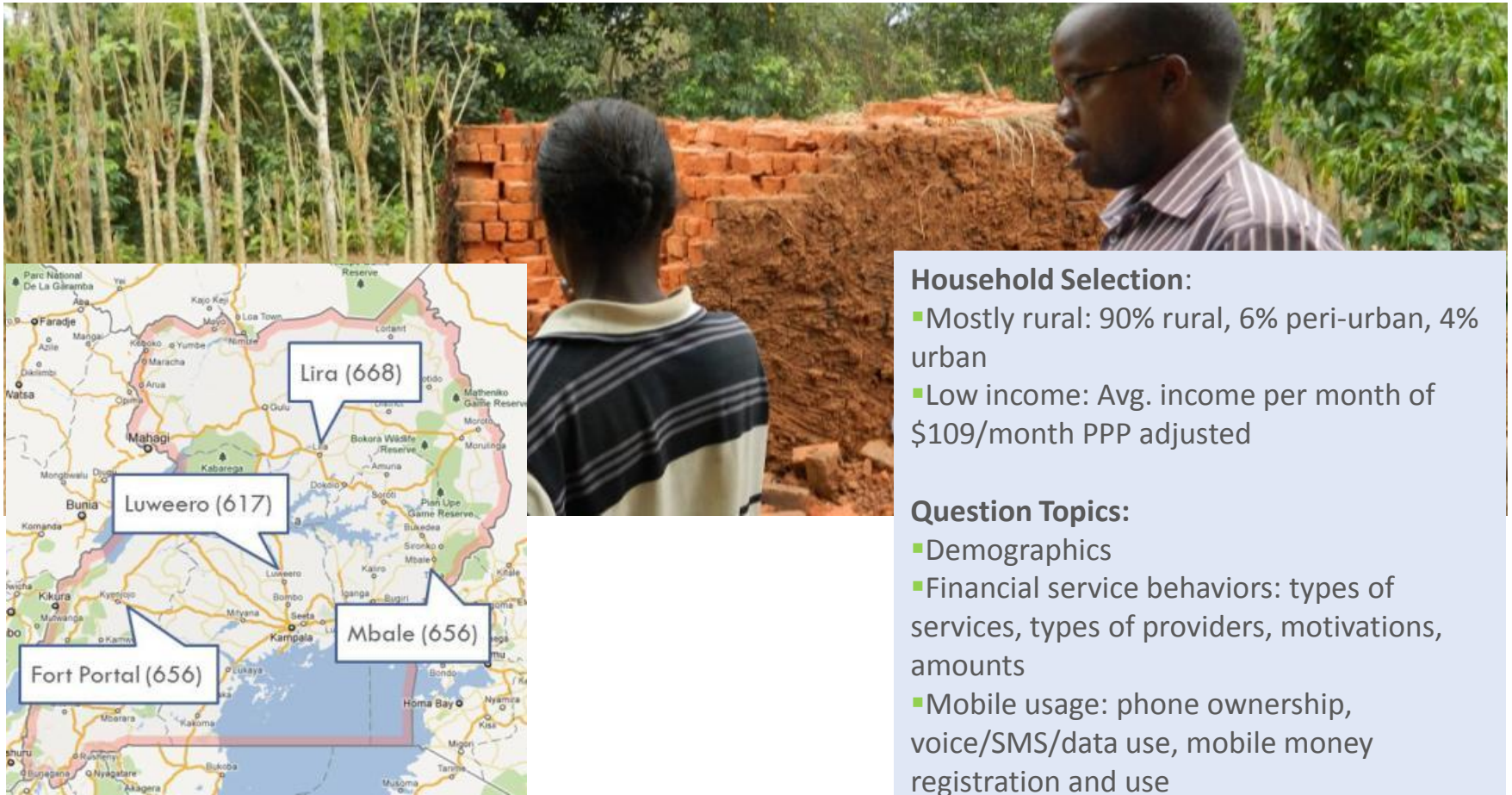
**External Data:** Existing external data revealed market trends as well as a first glimpse at financial behaviors and needs

**Internal Customer Data:** Internal MTNU data around customer behavior demonstrated trends in mobile money usage today\*

\*To preserve confidential information, MTNU customer data cannot be shared.

# Executing: Customer Survey

*A large customer survey across four districts in Uganda covering >2600 respondents provided generalizable results about customers' financial behaviors*



## Household Selection:

- Mostly rural: 90% rural, 6% peri-urban, 4% urban
- Low income: Avg. income per month of \$109/month PPP adjusted

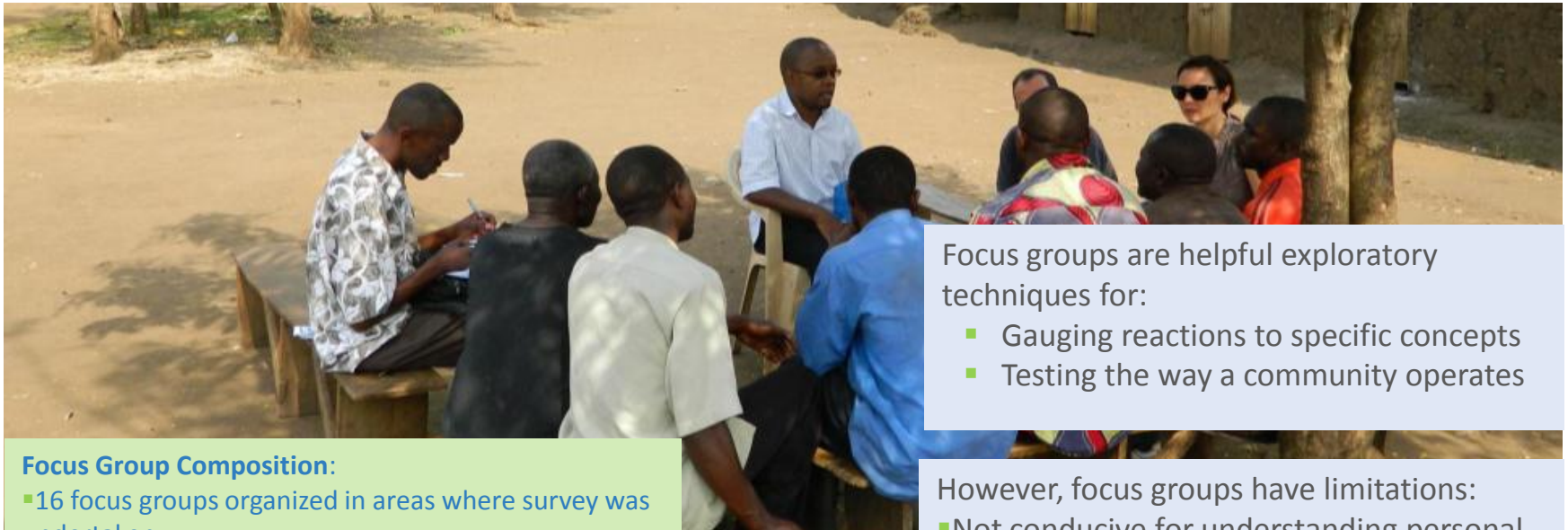
## Question Topics:

- Demographics
- Financial service behaviors: types of services, types of providers, motivations, amounts
- Mobile usage: phone ownership, voice/SMS/data use, mobile money registration and use



# Executing: Qualitative Research

*Focus groups helped test a group's reaction to hypotheses, but they were not good forums for understanding an individual's beliefs or financial behaviors*



Focus groups are helpful exploratory techniques for:

- Gauging reactions to specific concepts
- Testing the way a community operates

## Focus Group Composition:

- 16 focus groups organized in areas where survey was undertaken
- Each group averaged six people
- Covered a range of livelihoods, including farmers, fishermen, traders, transport operators, etc.

## Themes explored:

- Sources of income and expenditure
- Livelihood challenges

However, focus groups have limitations:

- Not conducive for understanding personal, intimate attitudes and actions, such as financial behaviors
- What people say they do, and what they really do, is rarely the same – can be difficult to unearth actual behaviors

# Realizing we were missing the mark...



## *...required a change in the research strategy*

As the data were coming in, the team started to build an initial list of product ideas.

However, we found that neither the insights we were finding, nor the ideas we were generating as a result, were unexpected – we knew we could push the boundaries further.

To help us think outside the box, we needed to ask the same questions in different ways to get new, richer answers.

# Executing: Research Redirection

*The team identified new types of research approaches to use to extract deeper insights*

Data Source	Description
Social network analysis through <i>drawing</i>	Asking individuals to draw out their social networks, and cash flows within those networks.
Social network analysis through <i>phonebooks</i>	Examining the contact list and call logs on an informant's phone to develop a better idea of social networks.
Simulated income and expenses activity	Presenting participants with a sheet of common expenditures (food, entertainment, airtime) and giving the equivalent of their monthly salary in "cash." Then asking them to allocate money across categories and inquiring on the rationale behind decisions, before finally presenting an unexpected event (sickness, drought, etc.) and asking to reallocate the cash.
The home visit	Visiting participants' homes to prompt discussion on assets owned and their acquisition strategies.
The school visit	Visiting schools to develop a better idea of strategies taken by parents to meet school fees, one of the greatest sources of outflows.
Annual expense tracker	Asking participants to rate their income inflows and outflows as high or low over each month of the year; then asking them to explain the reason for periods of deficit and surplus.

# Executing: Simulated Income and Expense Activity

*Some new methods worked well, such as the “Simulated Income and Expense” activity*

## Example: Simulated Income and Expenses Activity



*Asking participants to role-play their financial regimen yielded incredible amounts of actionable insights, and was repeated in most interviews*

### What it was:

- Presented participants with images representing common expenses (food, school fees, etc.)
- Asked them to estimate their monthly income; provided dummy money in that amount
- Asked them to allocate money as in real life
- Finally, presented an “emergency” – asked how this would change if someone fell ill

### Why it worked:

- “Props” helped drive engagement
- Enabled a window into the decision-making process as people talked through choices

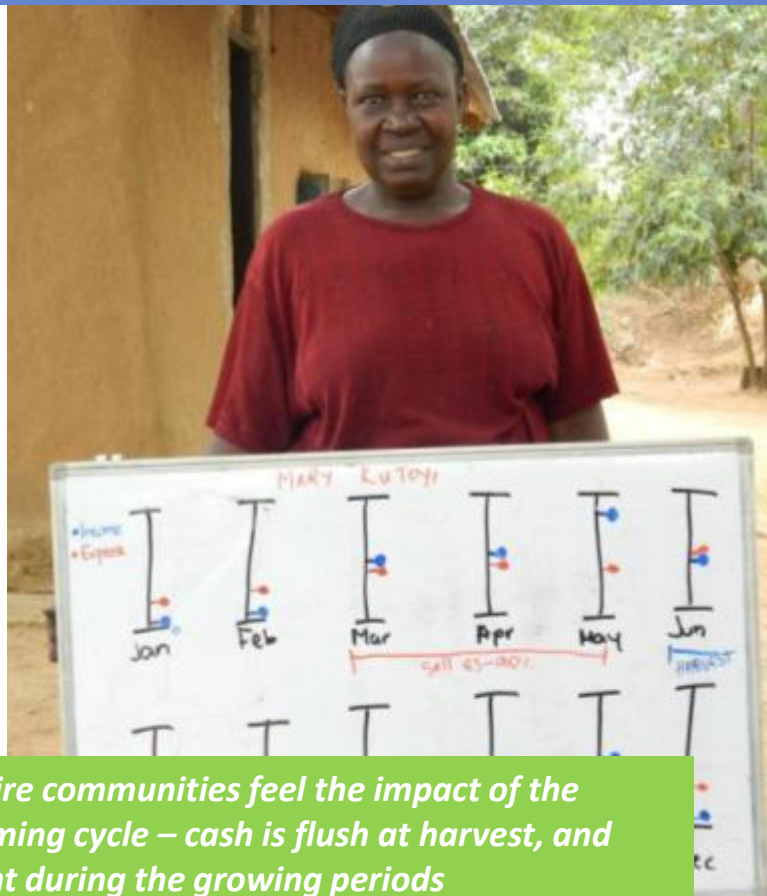
### What we found:

- *School fees are the greatest expense:* They were first expense identified, the last to be touched
- *People proactively save:* Though we didn’t have a savings image, participants set money aside – in their pocket or under the mat

# Executing: Annual Expense Tracker

*The Annual Expense Tracker also yielded actionable insights*

## Example: Annual Expense Tracker



*Entire communities feel the impact of the farming cycle – cash is flush at harvest, and tight during the growing periods*

### **What it was:**

- Provided a white board with the 12 months of the year drawn out
- Asked participants to rate their income inflows and outflows as high or low over each month
- Then asked participants to explain the reason for periods of deficit and surplus

### **Why it worked:**

- Forced individuals to take a high-level perspective of their financial situation across the year
- Provided them an image that they created that they could react to

### **What we found:**

- Everyone – farmers, traders, butchers – is tied to the farming cycle
- *For example: When farmers have cash, they spend, and the local economy heats up; when farmers are tight, little cash is spent, and the economy slows*

# Executing: Why They Worked

*What did work, worked very well – these methods showed not just the what, but the why*

Basic interviews and surveys reveal **WHAT** someone may or may not do, but not **WHY** they chose to do it

These new techniques we employed provided a window into the customer's decision-making process

Employing these techniques takes time – after hours with a participant, they are more comfortable and share more about their lives

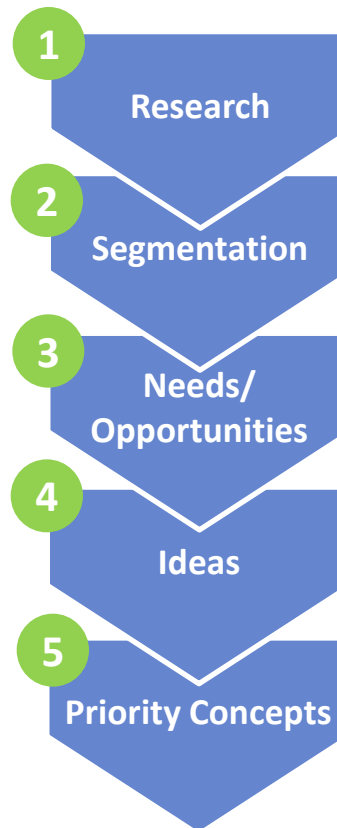


# Executing: The Design Process

*A linear research and design process was described in the project plan  
...but in reality, it took a slightly different turn*

## We had a plan for the insights and opportunities phase:

1. Conducting research
2. Using the segmentation to identify priority consumers to target
3. Determining the needs and priorities of those consumers
4. Creating ideas appropriate based on those needs
5. Using our filter to identify how-priority concepts



## But the actual process was much more iterative

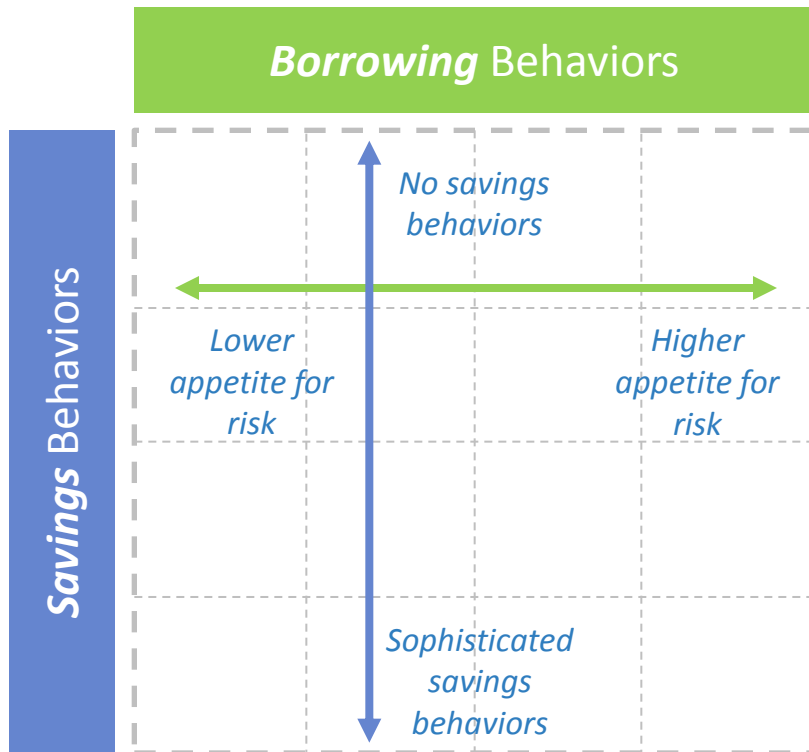
Gathering survey data and conducting the segmentation took longer than expected

General needs and opportunities were identified in tandem with the analysis of the segments

Ideas were collected throughout the process, from Day 1, and refined throughout

# Executing: Segmenting the Market

*The quantitative data supported a segmentation based on financial behaviors and motivations*



Segmenting based on demographics, while easy to understand, does not always predict consumer behavior

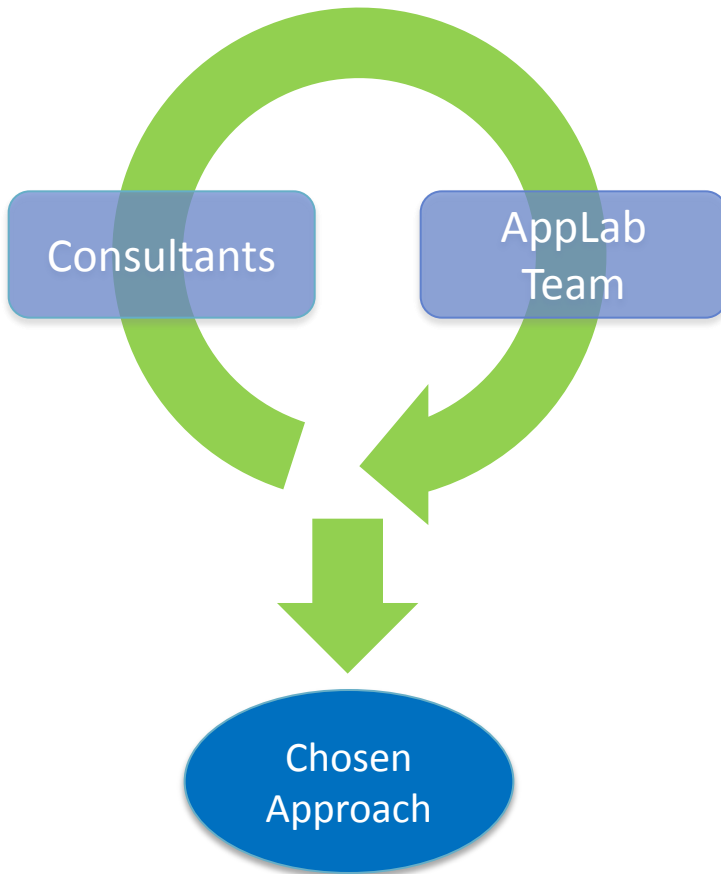
Segmenting based on needs and, in some cases, stated intent to behave in certain ways, does help predict consumer behavior

For identifying the opportunity for financial products, segmenting based on financial behaviors and motivations yields actionable segments



# Executing: Segmenting the Market

*Rapid iteration was the key to devising a relevant and insightful approach to segmentation*



Segmentation is not easy – it took three analysts and a lot of work before we found a solid approach

Consultants supplemented our internal analytical resources, and were very responsive in iterating on new segmentation approaches

Approaches tried included occupation, regularity of income, demographics, financial providers relied upon, financial product usage

*Note: A separate document reviewing the segmentation approach, “Customer Segmentation and Archetypes: Overview of processes and findings in Uganda,” will be released in the coming weeks.*

# Processing: Developing Stories

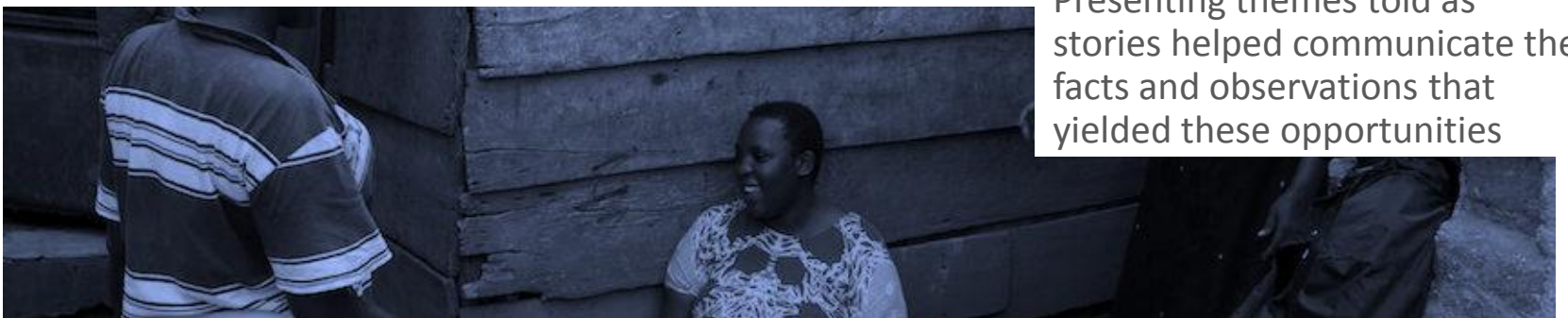
*To process the qualitative field research, we stepped back and identified three “stories” and resulting opportunities for which we could develop financial products*



Weeks and weeks of field work yielded an enormous amount of data



Synthesizing the findings was a key component that helped the team identify themes, insights and opportunities emerging



Presenting themes told as stories helped communicate the facts and observations that yielded these opportunities

# Processing: Coming Up with the Long List of Ideas

*To turn research into ideas, we held multiple sessions with many people to develop product concepts*



***Through countless sessions we used our internal research as well as external stimuli to drive ideation***

***Ideation sessions comprised Incubator colleagues as well as open sessions with MTN or local Ugandan entrepreneurs***

The team developed >50 ideas ranging from traditional takes on savings and lending to ideas that completely pushed the envelope.

Some ideas were fully-baked while others were “fragments” – features that could be considered in different products (e.g., incentive mechanisms).

The long list of ideas was documented to ensure that no ideas, even those not chosen, were “lost” along the way.

# Processing: Prioritizing the Ideas

*To reduce our initial ~50 ideas – generated for quantity vs. quality – the Incubator team organized and filtered them*



**1. Organized ideas by the six opportunities we identified through our stories**



**2. Grouped ideas with similar themes**

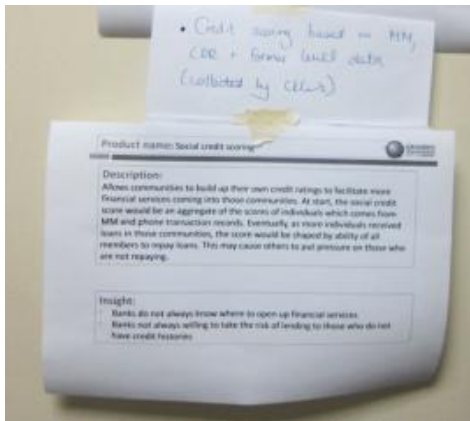


**3. Voted for their top 2-3 ideas across each opportunity**

# Processing: Translating Ideas into Concepts

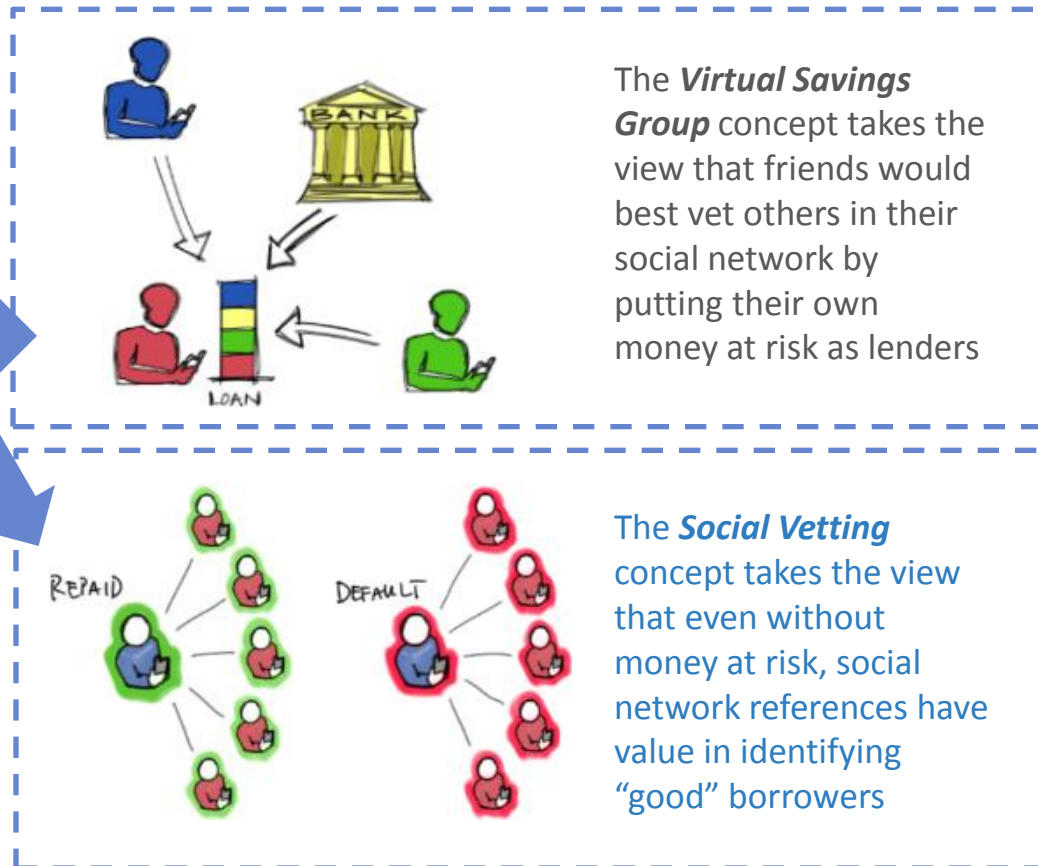
Once we had filtered ~15 ideas, we brainstormed to flesh the ideas and fragments into concepts

Sometimes one idea...



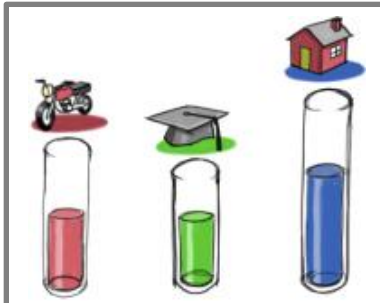
There were several ideas around leveraging social networks to identify potential borrowers, but through group brainstorming we took a vague idea and created two product concepts

... actually represented two distinct product concepts

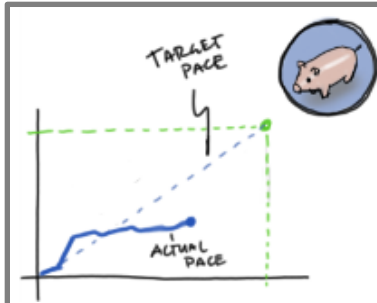


# Processing: The Final Concepts

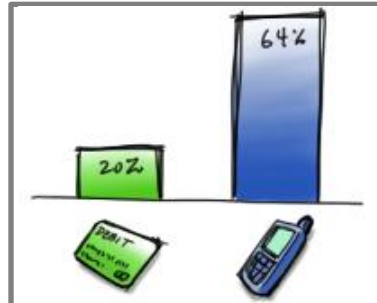
The result of all the hard work: 8 killer concepts



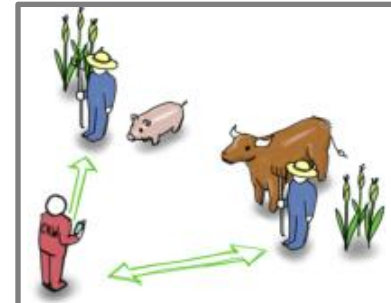
*beat the bank*



*me2me*



*mobile data  
for credit*



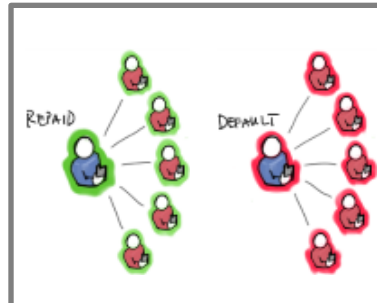
*CKW data for  
agri-lending*



*warehouse  
e-receipts*



*virtual savings  
group*



*social vetting*



*insurance lottery*

# Identifying: Gathering Feedback

*The Product Advisory Committee, MTN, CGAP and Grameen Foundation were asked to vote, given the following guidelines:*



*Imagine you each have been given \$100,000 to invest in developing one or more of the eight concepts presented...*

***Where would you put your money?***



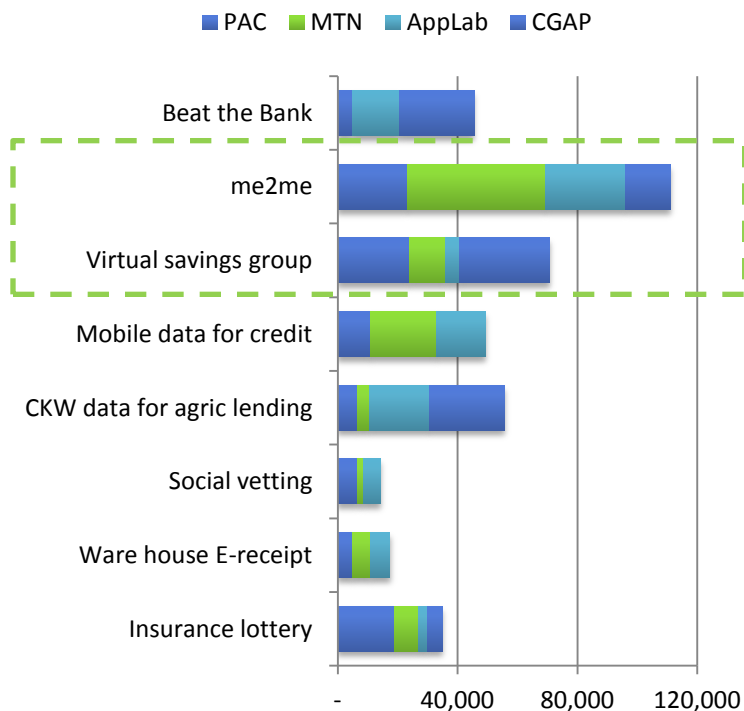
*You will also be asked to “kill” or vote one of the products as your least favorite...*

***Which product would you kill?***

# Identifying: The Results

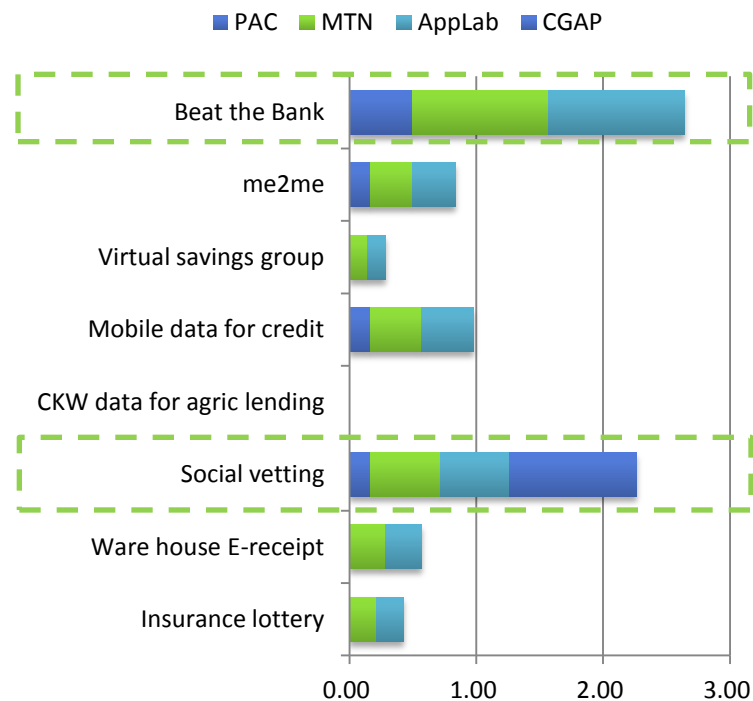
*This is how they voted:*

## Average money "invested" across concepts



*me2me and Virtual Savings Group were favorites across most external parties*

## Average votes to "kill" concepts














































*The groups were equally aligned on what they would "kill" – Beat the Bank and Social Vetting*



# Identifying: The Results

We incorporated that external feedback into our selection process, which used the criteria identified earlier in the project

	External Feedback	<i>Internal feedback based on criteria identified</i>				Sum	
		Appropriate	Sustainable	Practical	Novel		
<i>Virtual Savings Group</i>						<b>14</b>	The four top-scoring products were progressed for concept development
<i>CKW Data for Agri-lending</i>						<b>11</b>	
<i>Mobile Data for Credit</i>						<b>10</b>	
<i>me2me</i>						<b>10</b>	
<i>Insurance Lottery</i>						<b>10</b>	<div data-bbox="1669 993 1889 1248" data-label="Complex-Block"> <p><b>Legend:</b></p> <ul style="list-style-type: none"> <li> 3 points</li> <li> 2 points</li> <li> 1 point</li> </ul> </div>
<i>Social Vetting</i>						<b>10</b>	
<i>Beat the Bank</i>						<b>9</b>	
<i>Warehouse E-receipts</i>						<b>8</b>	



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# Reflections: What Went Well

*The team did several things well over the course of the first phases*

## **Nimble and flexible approach**

*The team was not fixed in the innovative approach – was able to change direction and willing to test the process as much as the ideas coming out of it*

## **MNO partnership**

*Our unique relationship with MTN was extremely important in accessing customer data and gaining early partner buy-in*

## **Utilized in-house skills**

*Our in-house CKW data collection team provided an efficient channel for collecting and having near-real-time access to survey data*

## **Full-time locally-based staff**

*Our entire team is 100% based in Uganda – incredibly important to get a truly “immersive” experience*

## **Brought in external expertise**

*We leveraged either our advisory committee and our consultants to provide complementary expertise throughout the project to fill any gaps in our skills*

## **Built a team with complementary skill sets to collaborate**

*Team members all had very different backgrounds, which led to interesting debates and more powerful outcomes in the boardroom*

# Reflections: What Could Have Gone Better

*On the other hand, we gained key insights that allowed us to develop strategies for improvement*

## **✘ Shorter timeframe**

*We wallowed in research – could have forced the process to conclude faster, more efficiently*

## **✘ More time in the “problem space”**

*Could have devoted more time throughout process to absorbing and understanding the work*

## **✘ Eliminated focus groups**

*Focus groups were not yielding groundbreaking insights; could have eliminated these earlier on*

## **✘ Stronger survey collection process**

*Could have increased the size of the enumeration team to have multiple sites simultaneously and better checks for data quality*

## **✘ Better Segmentation Plan**

*Could have started earlier and hired someone from the beginning who has not just quant skills but deep commercially-oriented marketing and segmentation experience*

## **✘ More focused desk work**

*Our desk work was broad; next time could focus it to only include information relevant to the design question*

## **✘ Re-defined product filtering criteria**

*At first, we chose criteria that were difficult to measure at early product development phases, such as improvement of people’s lives*

## **✘ Starting with lighter weight qual work first to better focus quant**

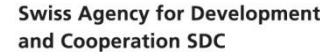
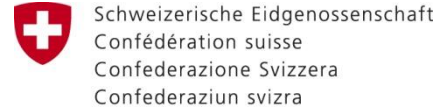
*Survey was very broad in its scope so was harder to extract targeted insights; early qual could be used to hone in on defined research questions*

# Next Steps: What's Next in the Incubator

*In our next phase, Concept Development, we will progress the four short-listed ideas and determine which we will test through medium-fidelity prototypes*

## AppLab Money Incubator: Product Development Approach





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[www.cgap.org](http://www.cgap.org)

[www.microfinancegateway.org](http://www.microfinancegateway.org)



MINISTRY FOR FOREIGN AFFAIRS OF FINLAND



Federal Ministry for Economic Cooperation and Development

