



Advancing financial access for the world's poor

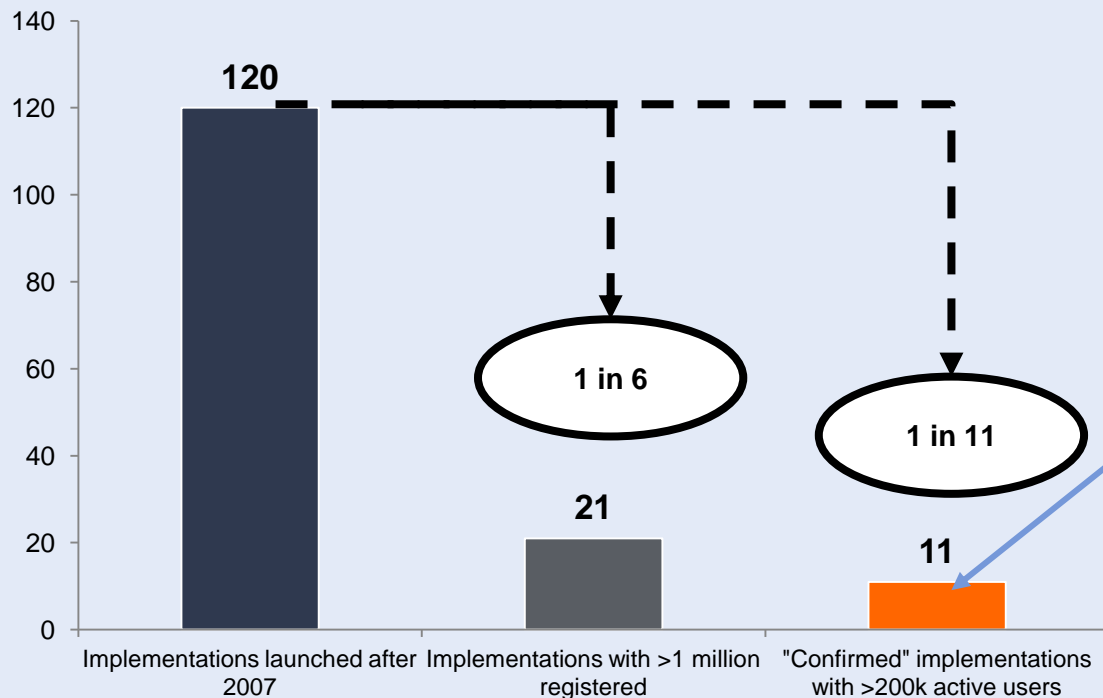
# **The Challenge of Inactive Customers: Using Data Analytics to Understand and Tackle Low Customer Activity**

Claudia McKay  
Toru Mino  
Paola de Baldomero Zazo

**February 2012**

# While the number of branchless banking services has grown rapidly, the vast majority of registered customers are not actively transacting

Most branchless banking providers struggle with high rates of inactive customers



While 120 branchless banking implementations have been launched since 2007 only 11 of those have reached 200k active users

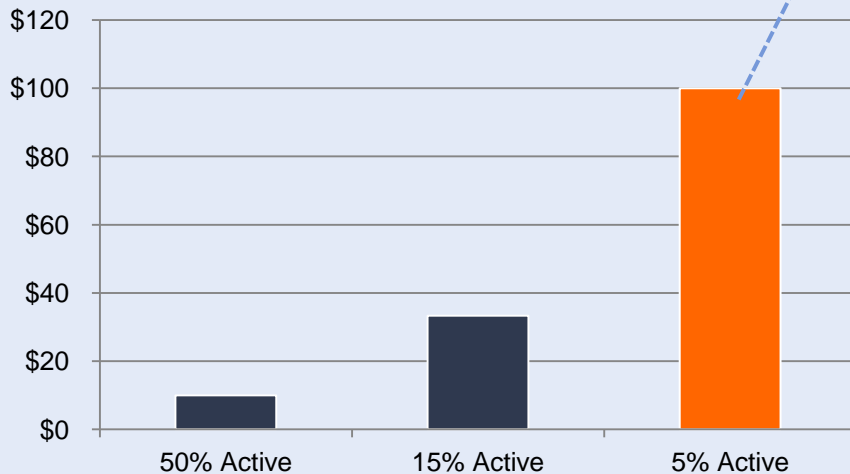
In a CGAP survey, 64% of managers said less than 30% of their registered customers were active, and active rates of less than 10% are not uncommon

# It is challenging to develop a viable business model with low activity rates

**Low activity rates sharply increase the cost a provider must invest to acquire each ACTIVE customer**

CGAP estimates most services spend between USD 2-5 to register each customer. With 5% activity rate and a \$5 per customer acquisition cost, a service must invest \$100 to acquire each active customer

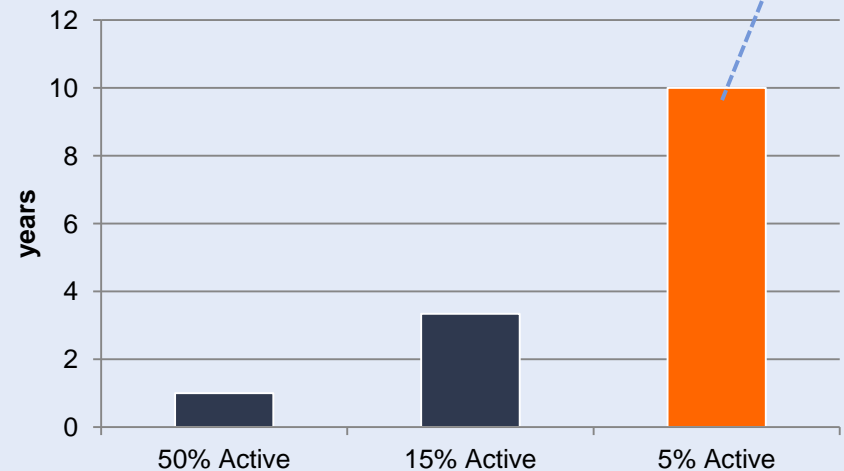
**Acquisition Cost per Active Customer**



**If acquisition costs per active customer are this high, even in a best case revenue per customer scenario it could take 10 years to breakeven**

Assuming M-PESA Kenya revenue per customer as a “best case”, with an activity rate of just 5%, a service would take 10 years to break even on the customer acquisition cost

**Time to Break-even per Active Customer**



**With current activity rates, most branchless banking businesses cannot generate enough revenue per customer to remain viable**

## CGAP's work on Inactive Customers

- Moving a potential customer from awareness of a branchless banking service to regular use of the service requires different levers all to be working effectively and in an integrated manner: the agent network, product features, marketing, customer service, user experience and system/network. CGAP has developed a framework to map this process.
- CGAP and others have produced publicly available materials on several of these critical issues such as agent networks and marketing.
- One of the missing gaps in tackling this challenge is helping providers *understand* their customers and to *identify* the critical issues to resolve in their own services.
- Ultimately, understanding customers is a complex undertaking and will rely heavily on a variety of tools such as focus groups and surveys. However, the first step for every provider should be to conduct data analysis on the veritable gold mine already at hand - its own database. CGAP has worked with four providers to understand how basic transaction level data can be used to shed light on customer activity.

# Who should use this deck

## Branchless Banking Providers

This deck is primarily targeted towards branchless banking providers and aims to help them use their data to better understand their customers and the reasons for low activity levels in their services.

## Funders & Other Supporting Organizations

Funders and other supporting organizations in the financial inclusion/branchless banking space may also benefit from this deck's attempt to identify the types of indicators and analysis that shed light on customer usage and value. This may help funders standardize performance metrics across multiple organizations.

# How to use this deck

This deck does not provide answers on how to improve activity at any specific provider. Instead we identify: (1) which data providers should *collect* about their customers and services, (2) what types of *analysis* providers can conduct based on the data collected, and (3) what kind of follow-up *actions* providers can take to further understand causes of customer inactivity in their own service.

## 1. Collect

This deck helps providers understand what data they should be collecting and which indicators they should be tracking. CGAP studied hundreds of different variables and only included those variables that had statistically significant impacts on activity levels in this deck.

## 2. Analyze

This deck also identifies ways of analyzing data about branchless banking services that we found gave the clearest picture of how services are being used and which factors are affecting activity rates.

## 3. Act

This deck does not provide specific answers to improve activity as we found that the influence of indicators on activity are not automatically transferrable across markets. Instead we spotlight interesting customer segments and behavior patterns that can be followed up by providers through qualitative research and interaction with customers.

# Research introduction: quantitative analysis of data from 4 providers across 3 regions

## Geography:

1 African

2 South Asian

1 Southeast Asian

Total customers: ~3 million

## Provider types:

1 Bank-led

2 MNO-led

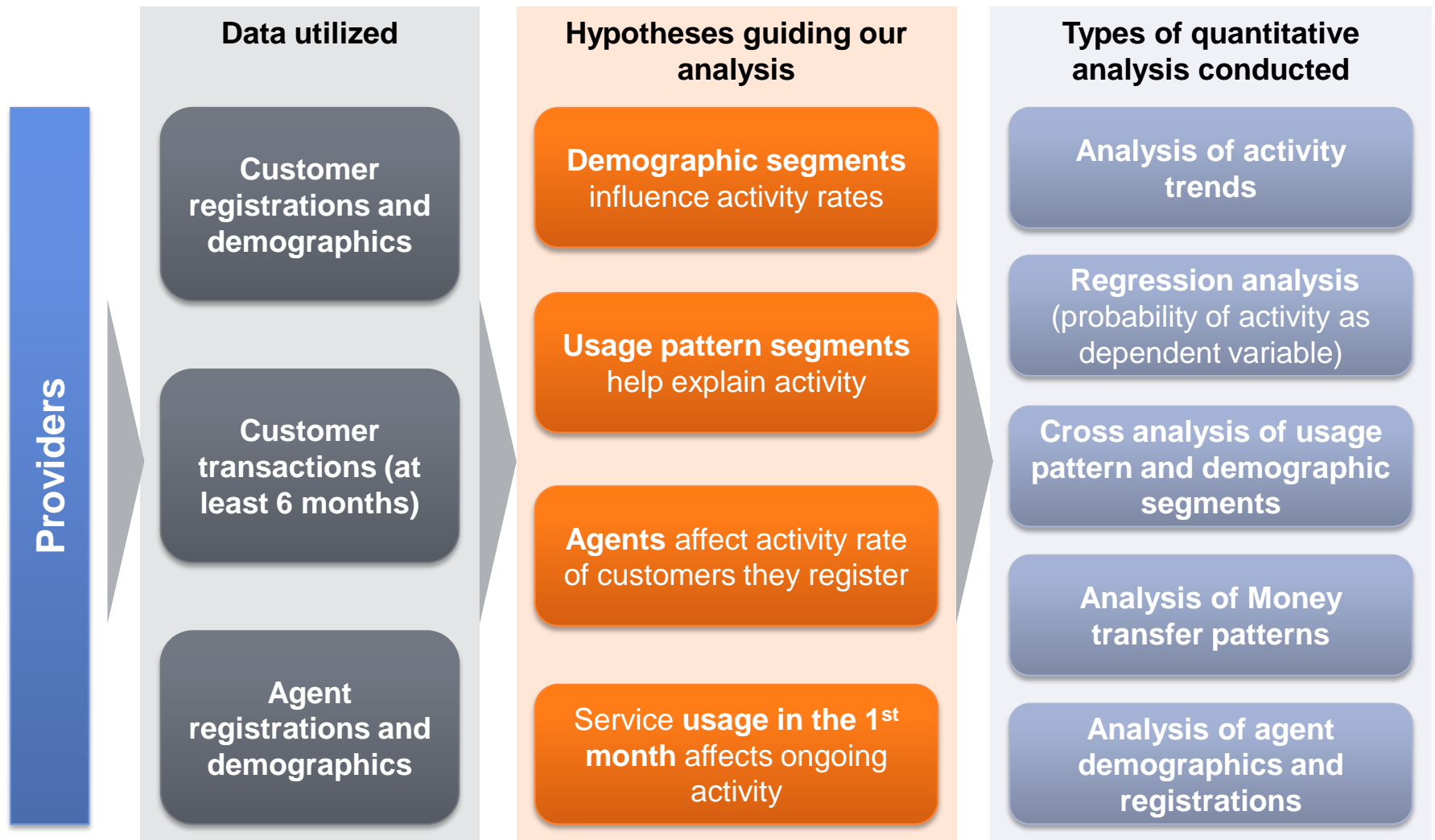
1 3<sup>rd</sup> Party-led

- All services offer a mobile wallet focused on P2P transfers and bill payments

## Selection Criteria:

- In the market at least 18 months so we could track trends over time
- Perceive low customer activity as a challenge (though we did not deliberately seek out providers with abnormally low activity rates)

# Research introduction: methodology of analysis





# Outline of Deck

## 1. General Activity Trends

**Slides 11 – 15: Analysis of overall activity rate trends**

## 2. Customer segments by usage patterns

**Slides 16 – 22: Interesting findings about customer segments and usage of services**

## 3. Factors Affecting Activity

**Slides 23 - 29: Factors which were found to have a statistically significant influence on activity rates**

## 4. Takeaways & Action Items

**Slides 30 – 34: Based on our analysis across these 4 example providers we can recommend certain indicators and analysis that providers should be tracking to help them understand and tackle the problem of low customer activity**

# Main Findings on Customer Activity

## 1. General Activity Trends

Activity rates are low across all providers: average activity rate was only 8% and 54% of all registered customers had never tried the service. We defined activity as at least 1 transaction in the last 90 days.

## 2. Customer segments by usage patterns

Each service has super-users responsible for a out-size proportion of total transactions. On average, 5% of users were responsible for 30% of total value transacted. Providers should study these users to better understand the value proposition of their service.

48% of transfers happened locally within a municipality or province, indicating that P2P transfer patterns do not always follow the “send money home” pattern that was seen in M-PESA Kenya.

## 3. Factors Affecting Activity

The activity rate of customers registered by the best agents was over 40 times higher than those registered by the worst agents, so providers must learn from the best agents and intervene with the worst.

Customer usage of a service in their first month after registration largely dictates their future activity, so providers should focus efforts on getting customers to not just transact in the first month, but to do specific types of transactions.

# Main Findings: General Activity Trends

## 1. General Activity Trends

Average activity rate across providers was just 8%, and activity rates have not increased much even as registrations accelerate

## 2. Customer segments by usage patterns

80% of customers who are active in their first month after registration have stopped transacting by their 4<sup>th</sup> month, so new subscriber growth masks a real drop in activity rates over time

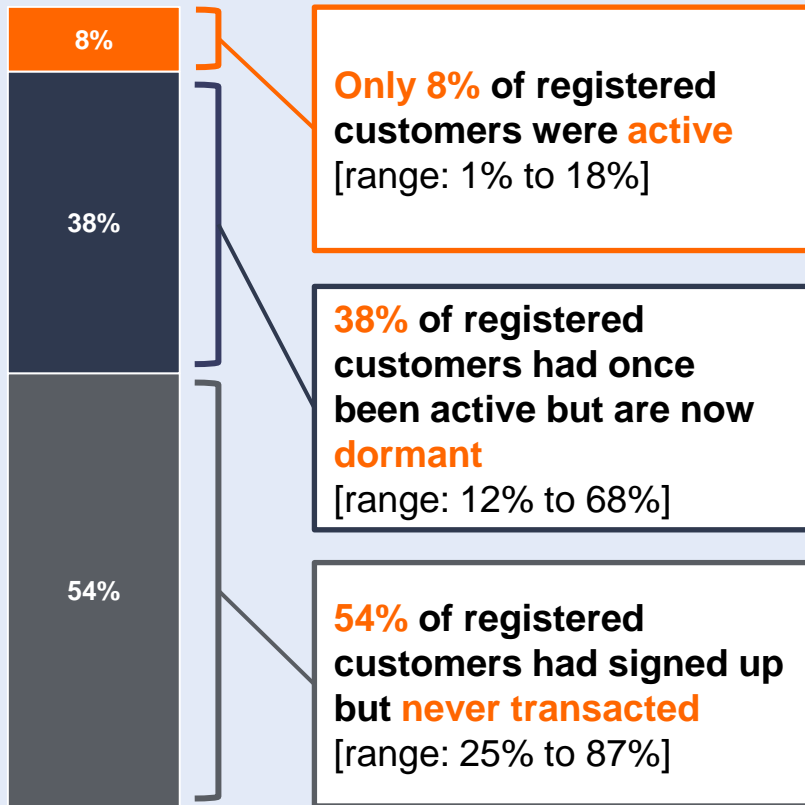
## 3. Factors Affecting Activity

To more accurately track activity rate trends over time we recommend using vintage analysis

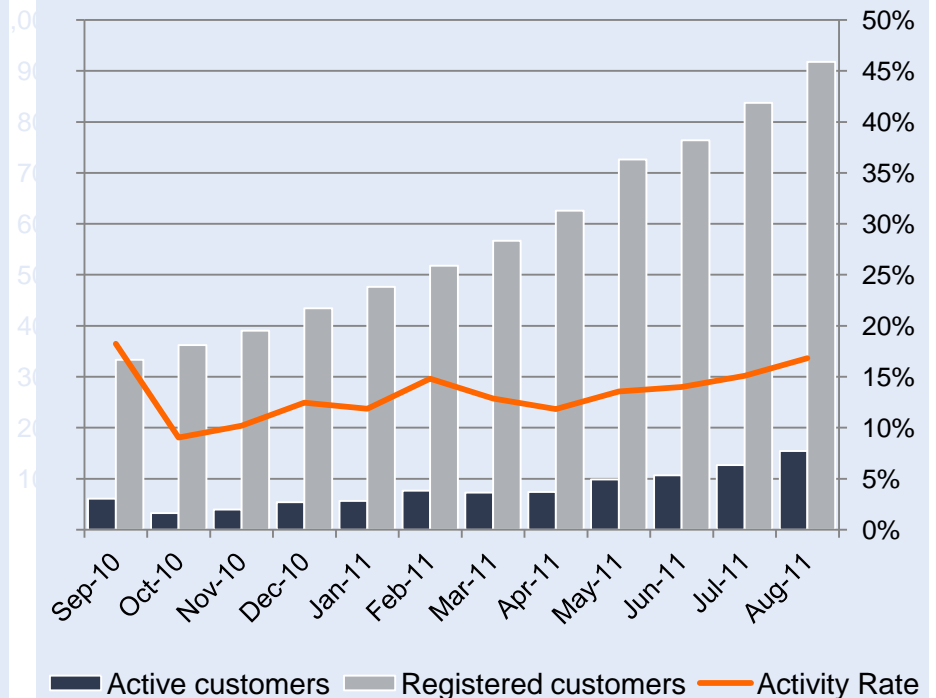
## 4. Takeaways & Action Items

# Activity rates are low across all 4 providers and have not grown along with customer registrations

Only 8% of registered customers were active across the 4 providers we studied



Cumulatively, activity rates have remained relatively flat while registrations have grown rapidly\*



\*trend numbers are cumulative across 3 providers

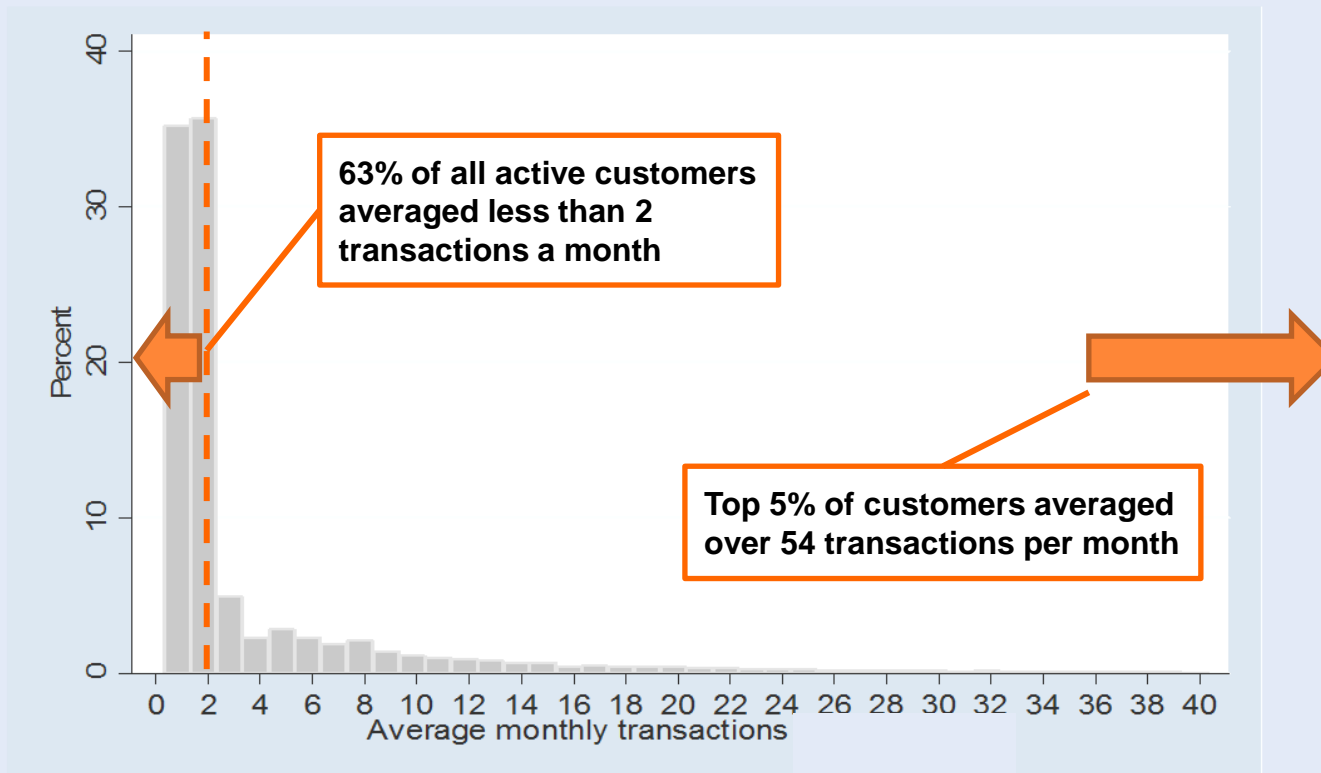


Notes:

- These are straight averages across all 4 due to large differences in numbers of registered customers across providers

# The frequency of activity even among active customers is low

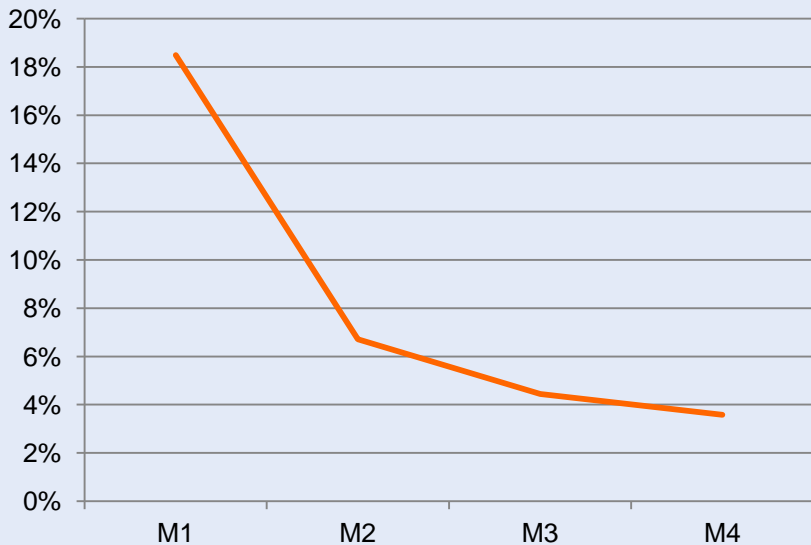
At one provider 63% of all active customers averaged less than 2 transactions a month, though there is a small cadre of highly active customers



# Customer activity drops the longer they are with a service, so aggregate activity rates mask a real drop in activity over time

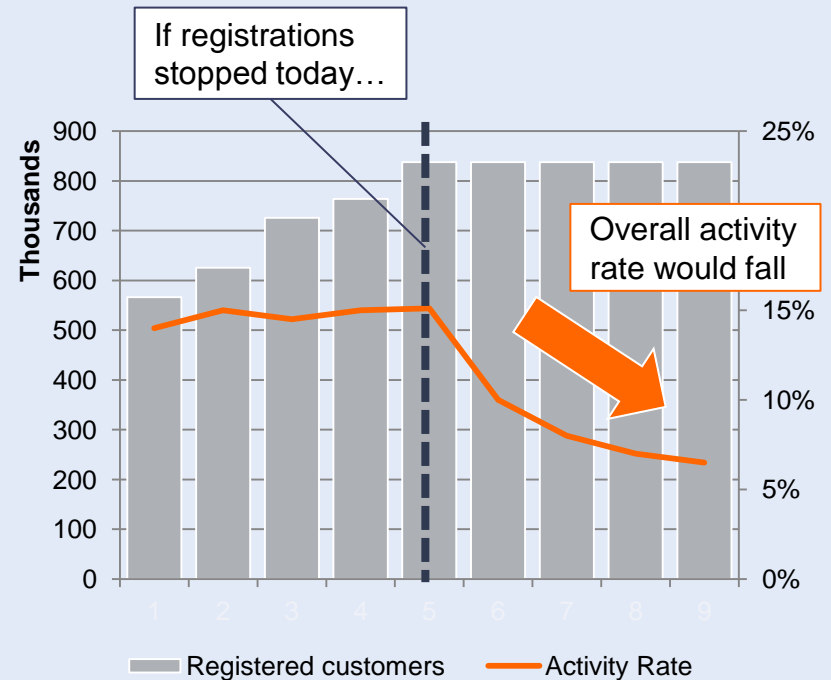
80% of customers who are active in their first month after registration become dormant by their 4<sup>th</sup> month

% of customers transacting,  
1<sup>st</sup> month – 4<sup>th</sup> month\*



\*data aggregated from 3 providers

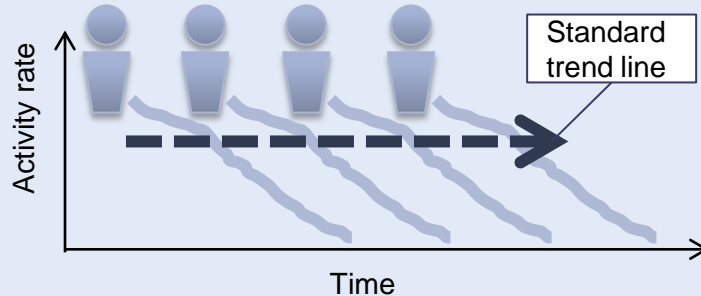
Even if aggregate activity rates are staying flat, new registrations could be masking a real drop in activity rates



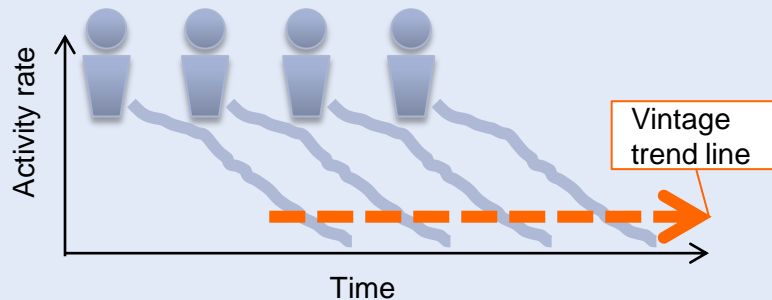
# Vintage analysis is a more accurate way to measure activity rate trends as it reduces masking effects of new registrations

Vintage analysis looks at whether customers are transacting 3 months AFTER registration, eliminating masking effect of new customers

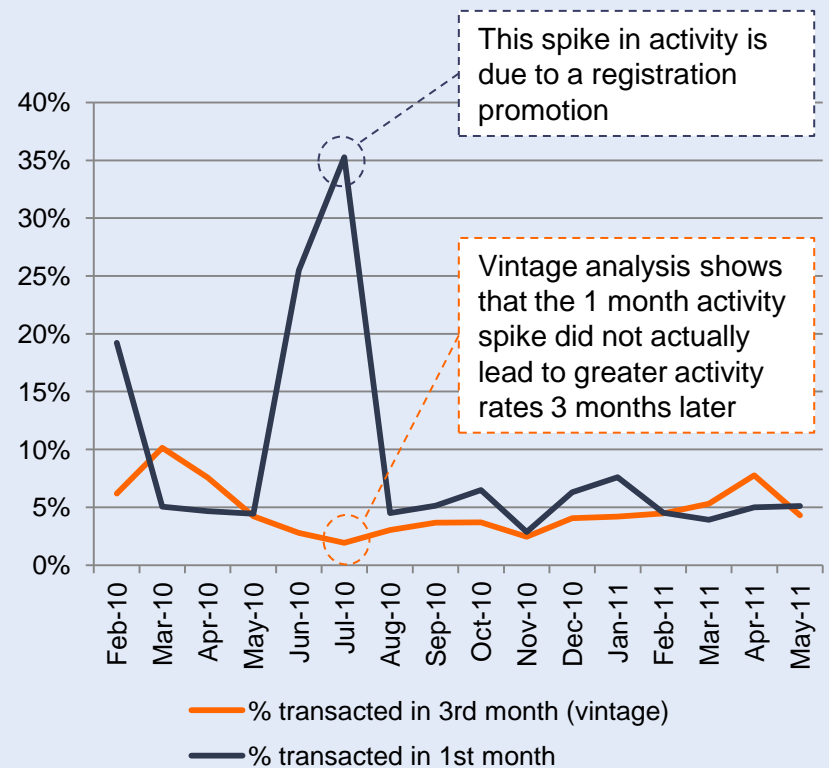
Overall activity rates allow new registrations to mask drops in individual activity over time



Vintage analysis looks at activity 3 months after sign-up to give a more accurate trend view



Vintage analysis provides a more accurate picture of activity rate over time, as it reduces noise from new registrations



Note: data from one provider

# Main Findings: Customer segments by usage patterns

## 1. General Activity Trends

Each service has super-users responsible for a out-size proportion of total transactions. On average, 5% of users were responsible for 30% of total value transacted. Providers should study these users to better understand the value proposition of their service.

## 2. Customer segments by usage patterns

44% of all active users only performed one type of transaction on the service, despite a range of available transactions. This implies that providers should customize their marketing messages to different user segments.

## 3. Factors Affecting Activity

48% of transfers happened locally within a municipality or province, indicating that P2P transfer patterns do not always follow the “send money home” pattern that was seen in M-PESA Kenya.

## 4. Takeaways & Action Items



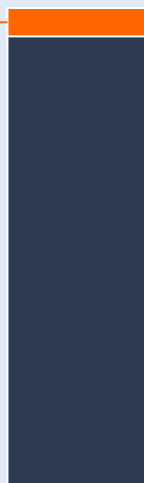
# Studying “super-users” can help providers understand the real value proposition of their service

Super-users included only the top 5% of customers by total value of transactions, but this 5% was responsible for over 30% of the total value transacted on the service\*

We defined “super-users” as the top 5% of customers by **total value of their transactions over the last 3 months**

**5%:  
Super-users**

**95%:  
Everyone else**



The average monthly value of transactions for super users was **6.5 times** the average value of transactions across all users

Super-users make up only 5% of total customers but represent **more than 30%** of total value of transactions on a service

Avg value of transactions for super users

\$242.63

Avg value of transactions for all users

\$37.64

**Total value transacted on service**

**30%**

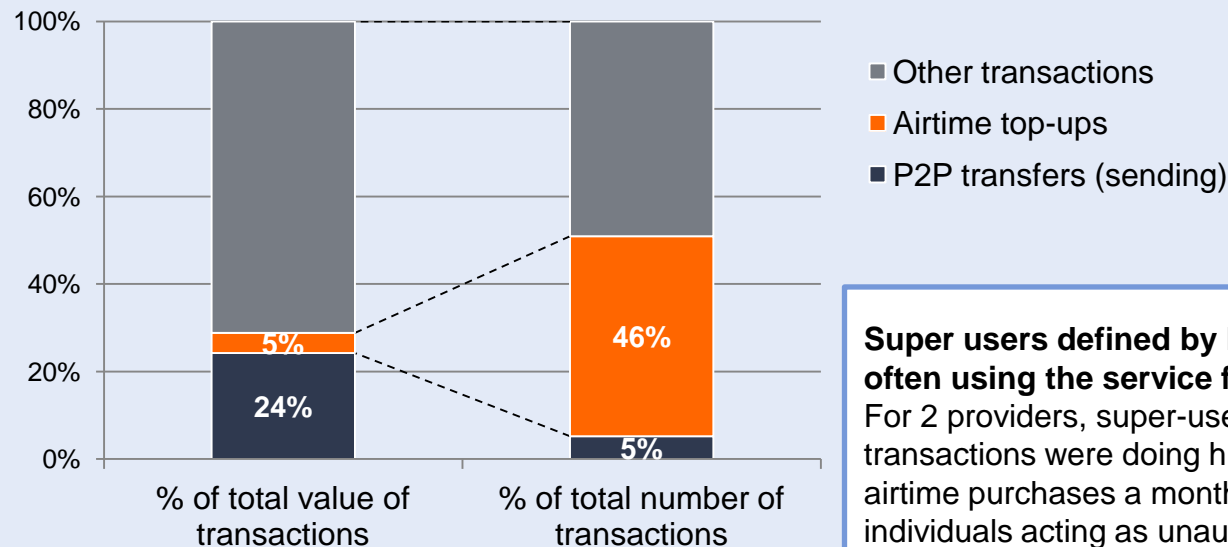
**Super-users**

\*average across 3 providers

**Takeaway: Super-users are valuable in and of themselves as they represent a major part of the value of a service. Studying them can also help providers understand what value proposition their service really offers to customers.**

# We do not recommend studying super-users based on the NUMBER of transactions as that can give misleading results about usage of a service

Analyzing transaction patterns by NUMBER of transactions over-inflates the importance of airtime top-up transactions for branchless banking systems and understates the true value of P2P transfers\*



**Super users defined by NUMBER of transactions are often using the service for unintended activities:** For 2 providers, super-users defined by NUMBER of transactions were doing hundreds or thousands of airtime purchases a month, and turned out to be individuals acting as unauthorized resellers of airtime

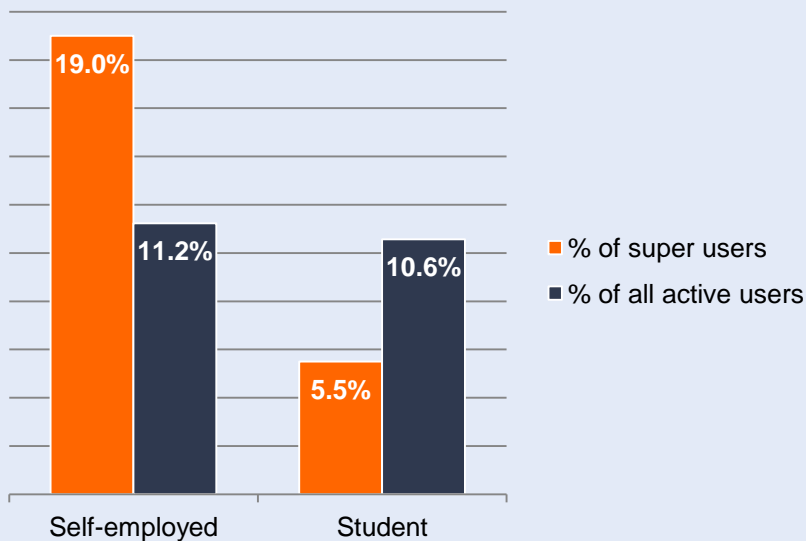
\*aggregated data from 2 providers

**Takeaway: When analyzing super-users, a definition based on VALUE of transactions is likely to give more accurate results than a definition based on NUMBER of transactions**

# Providers should understand why particular customer demographics are more likely to be super-users and consider specifically targeting these segments

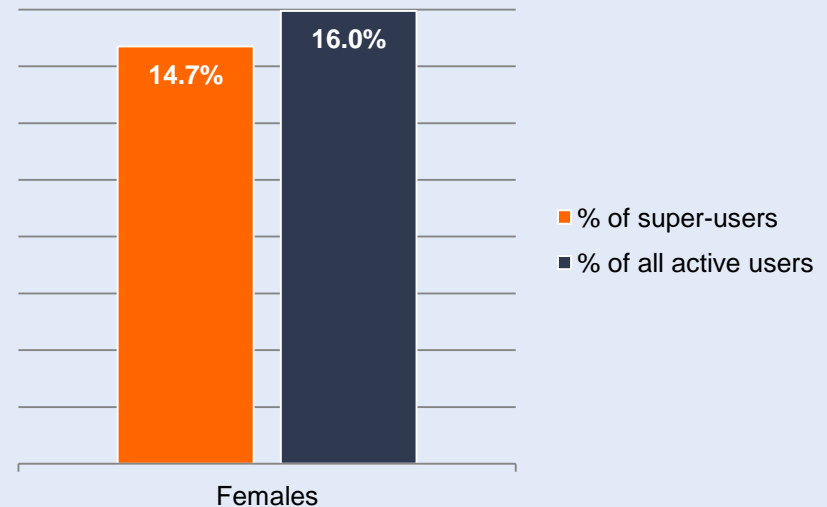
Customer occupations seemed to affect the likelihood of being a super-user at one provider

Customers identifying as self-employed were far more likely to be super users than average, while students were far less likely than average



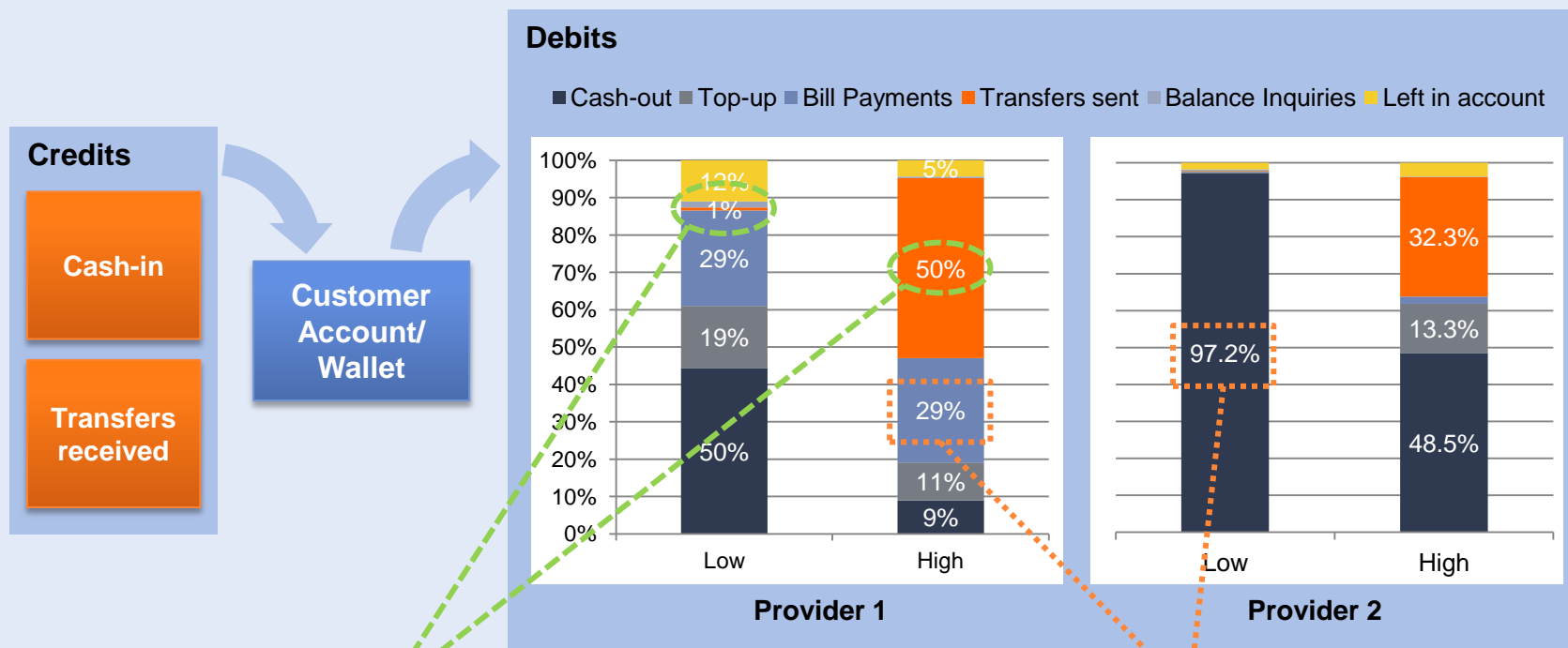
Gender also seemed to have an effect on whether a customer became a super-user at two providers

Female customers were slightly LESS likely to be super-users than males



# Low and high value users utilize branchless banking services for very different purposes

Looking at two different providers, low and high value usage patterns are very different, but differences across markets means each provider must analyze their own customer transactions



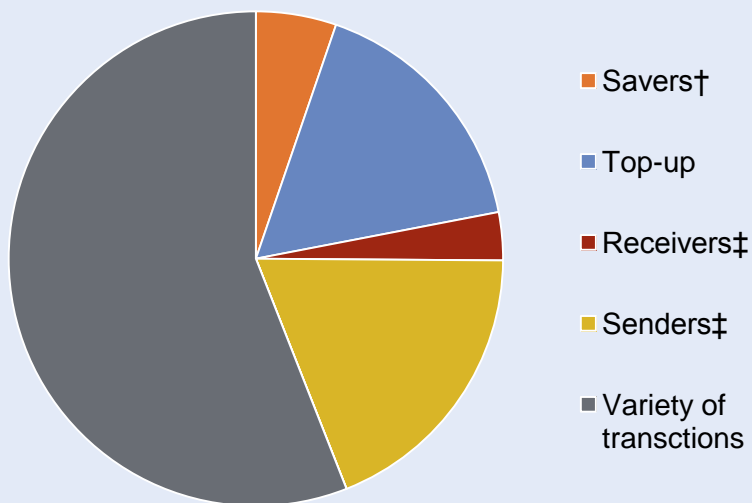
Between low and high users, the biggest difference comes from the value of transfers sent

Usage patterns for these 2 services differ widely, with Provider 1 seeing significant bill payments usage while Provider 2 seemed to be used as a store of value

# Many users only perform one type of transaction out of a broader offering, indicating a variety of segments and use cases for services

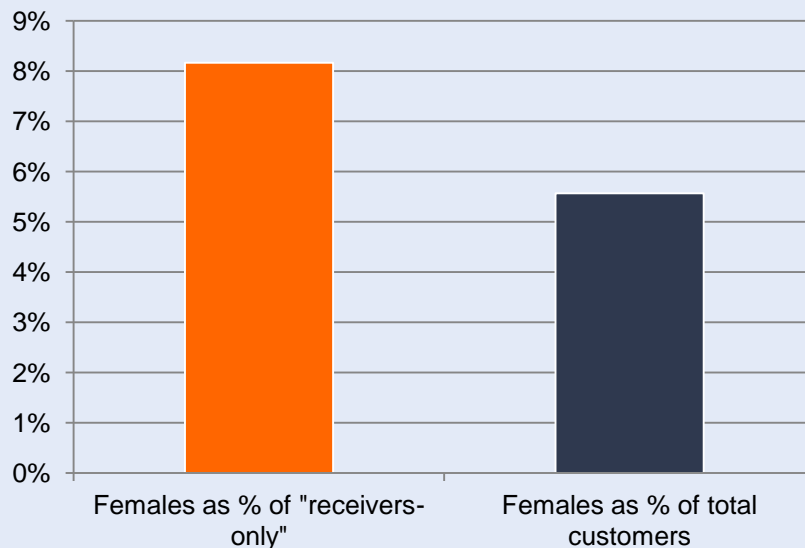
While all providers offered a mix of services, a large proportion of customers only performed one type of transaction

Across 2 providers, almost 50% of users only performed one type of mobile money transaction



Certain demographic factors were tied to these single transaction-type segments, which has implications for marketing efforts

At one provider, those customers who only received money were 47% more likely to be female than average

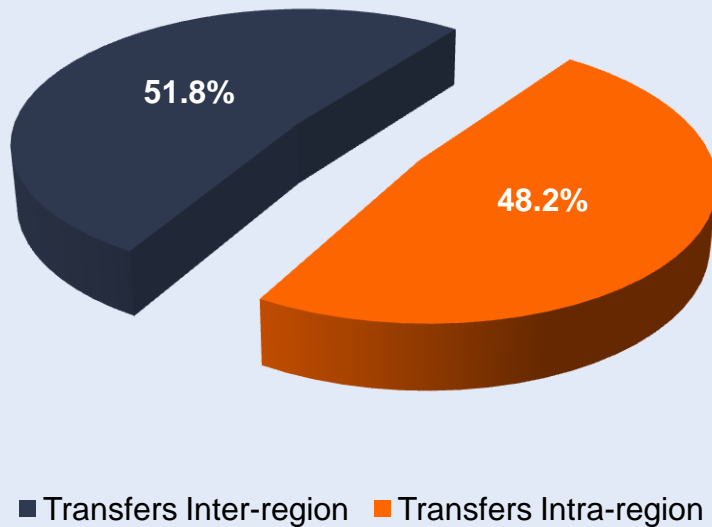


†Defined as those who have not done any transactions other than deposits and withdrawals

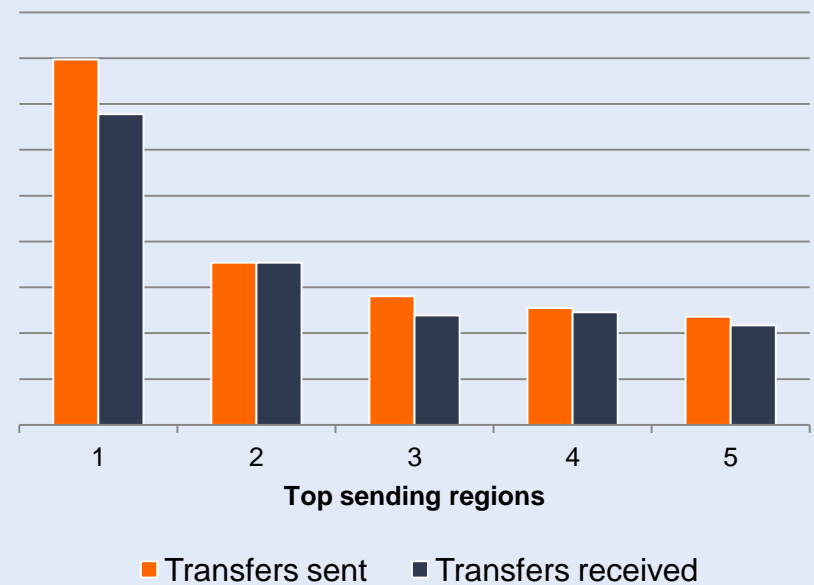
‡We did not exclude senders or receivers who had also used top-up

# P2P Transfer Patterns: Transfers do not always follow a standard “send money home” pattern, with almost half of all transfers happening locally

Almost half of the total value transferred was sent within the same region when averaging across 2 of the providers



Looking at the number of transfers, the top sending cities are also receiving a major portion of the transfers



**Takeaway: Providers should not simply default to the “send money home” messaging and strategy that worked for M-PESA Kenya as it may not fit in many markets**

# Main Findings: Factors Affecting Activity Rates

## 1. General Activity Trends

Customer demographic differences are highly correlated with differences in activity rates, so providers should analyze demographic data to learn from these segments.

## 2. Customer segments by usage patterns

The activity rate of customers registered by the best agents was over 40 times higher than those registered by the worst agents, so providers must learn from the best agents and intervene with the worst.

## 3. Factors Affecting Activity

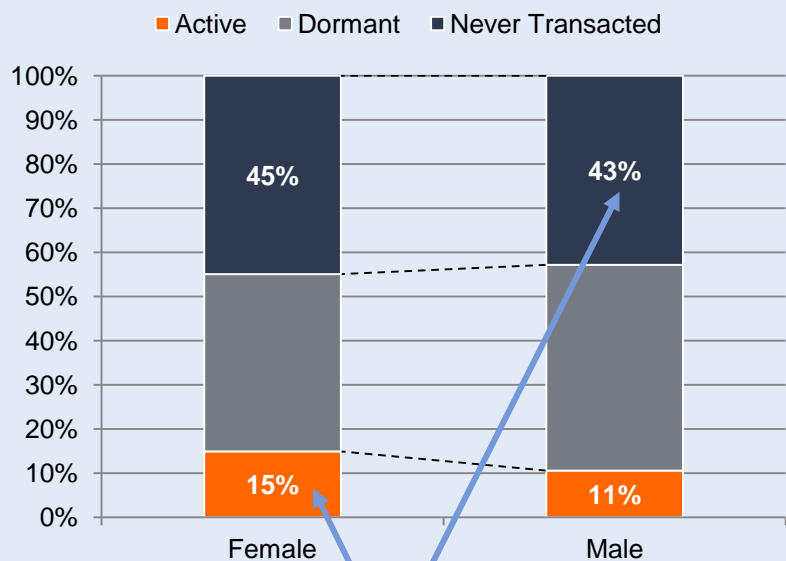
Customer usage of a service in their first month after registration largely dictates their future activity, so providers should focus efforts on getting customers to not just transact in the first month, but to do specific types of transactions.

## 4. Takeaways & Action Items

For MNOs with mobile money services, high value voice/SMS/data customers also tend to be higher value mobile money customers.

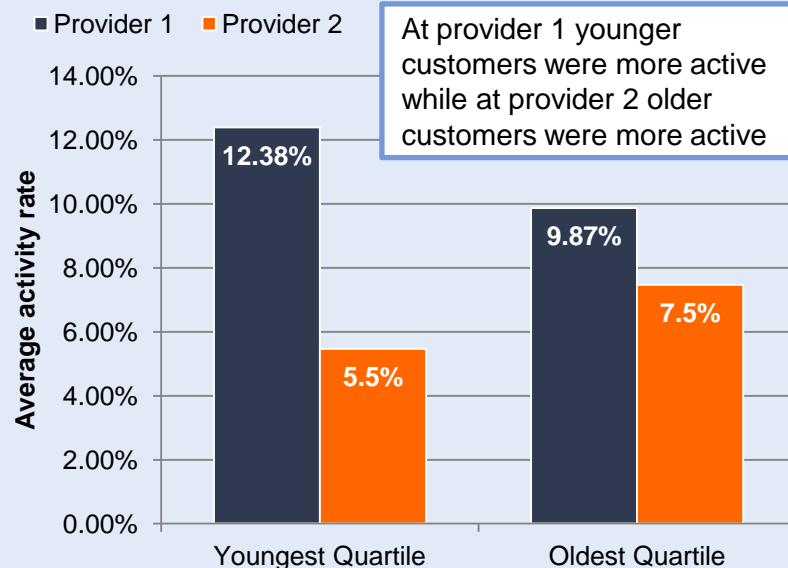
# Demographic Effects: Customer demographics can have significant effects on activity, so providers should collect and act on this data (1)

**Gender:** averaged across 3 providers, female customers were 41% more likely to be active than males



Females were more likely to be active, but also slightly more likely to have never transacted

**Age:** age of customers had statistically significant effects on activity rates, but the results were not consistent across providers



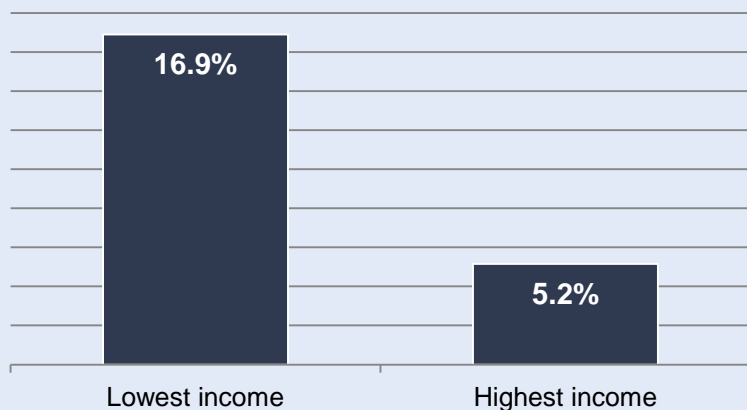
Because demographics affect activity differently across different market contexts, providers must collect and analyze their own data rather than rely on generalizations



# Demographic Effects: Customer demographics can have significant effects on activity, so providers should collect and act on this data (2)

**Income level: At one provider, customers in the lowest income bracket were 3 times as active as the wealthiest**

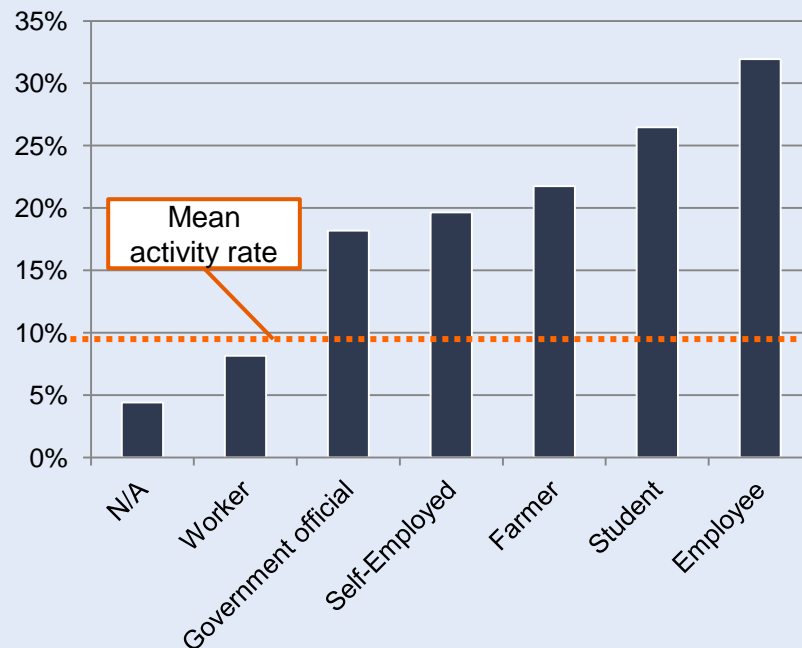
**90 day activity rate by monthly income**



Only one provider collected data on income levels so while we encourage other providers to collect this data, we cannot make generalized claims on the impact of income on activity

**Occupation: Activity rates for some occupation segments was 3 times the overall mean activity rate for the service\***

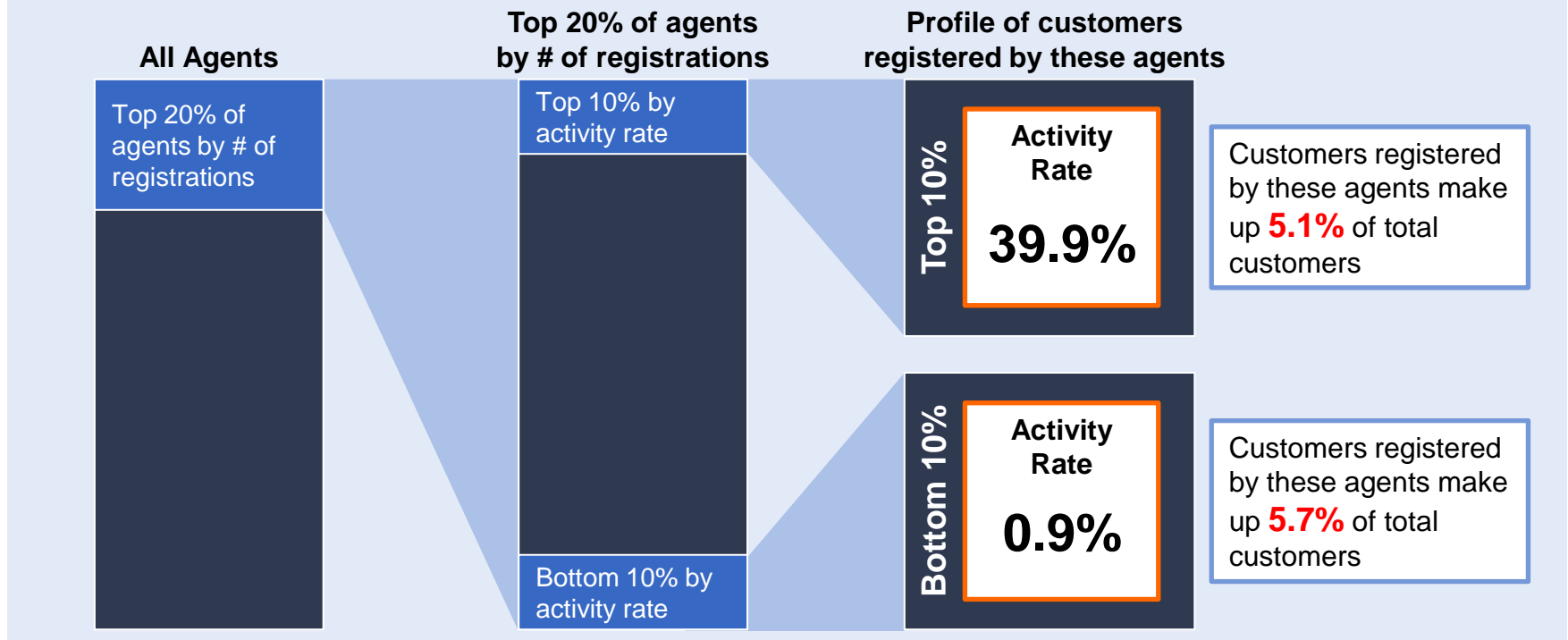
**Activity rate by stated occupation**



\*data from 1 provider

# Registration Agent Effects: Agents differ widely on the activity level of customers they register

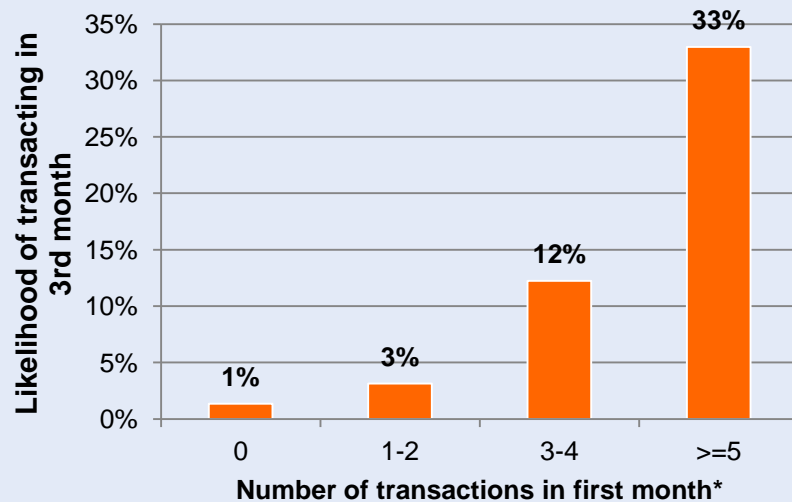
Across 2 providers, the activity rate of customers registered by the best agents was over 40 times higher than those registered by the worst agents



**Takeaway: Agent registration incentives should take into account not only the NUMBER of customers registered but also the ongoing ACTIVITY of those customers. To do so providers must monitor activity rates for each agents' customers**

# First Month Effects: Transaction behavior in the customer's first month significantly affects ongoing customer activity and value

The number of transactions in a customer's first month is highly correlated with their activity in subsequent months...



Across 4 providers, customers who did 6+ transactions in their 1<sup>st</sup> month were **5.5 times** more likely to transact in their 2<sup>nd</sup> month than those who did only 1-2 transactions

\*data aggregated from 3 providers

...but to get more VALUE from customers over time, the TYPE of transaction they are doing in their first month has a greater effect

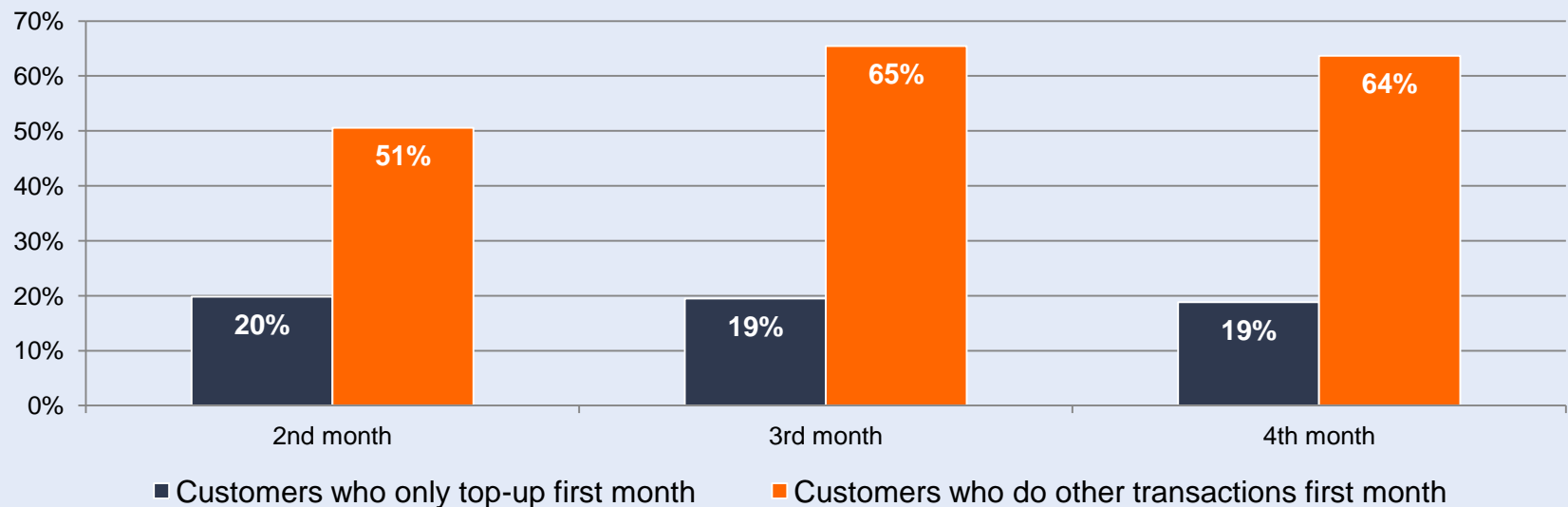


²weighted avg across 2 providers

# First Month Effects: Customers rarely “graduate” over time to higher value transactions making the first month even more important

Across 2 providers, of the customers who did only cash-in + top-up first month, only 19% did at least one other type of value transaction in their 3rd month, compared with 65% for those who tried a variety of transactions in their first month

% of customers who do more than top-up in months 2-4

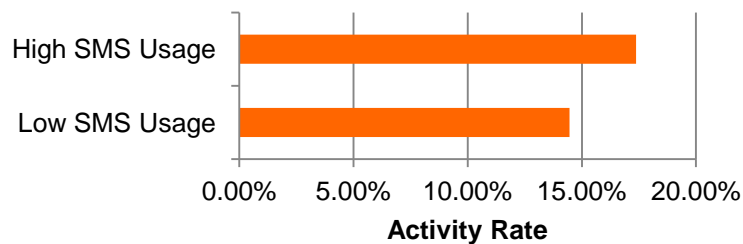


**Takeaway: Usage patterns in the first month largely determine future usage, which may mean providers should focus more on getting new customers to try a variety of transactions**

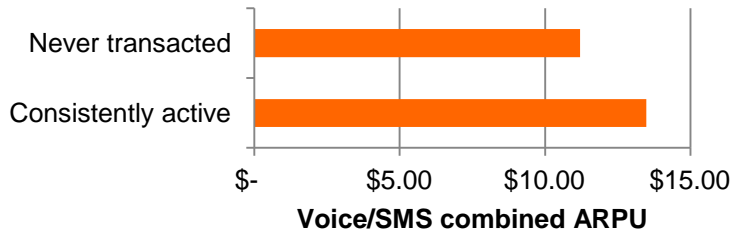
# Voice/SMS Usage Effects: How phone customers use voice and SMS could be a predictor of their activity and value in a mobile money service

The likelihood of a customer being an active mobile money customer was correlated with their voice and especially SMS usage

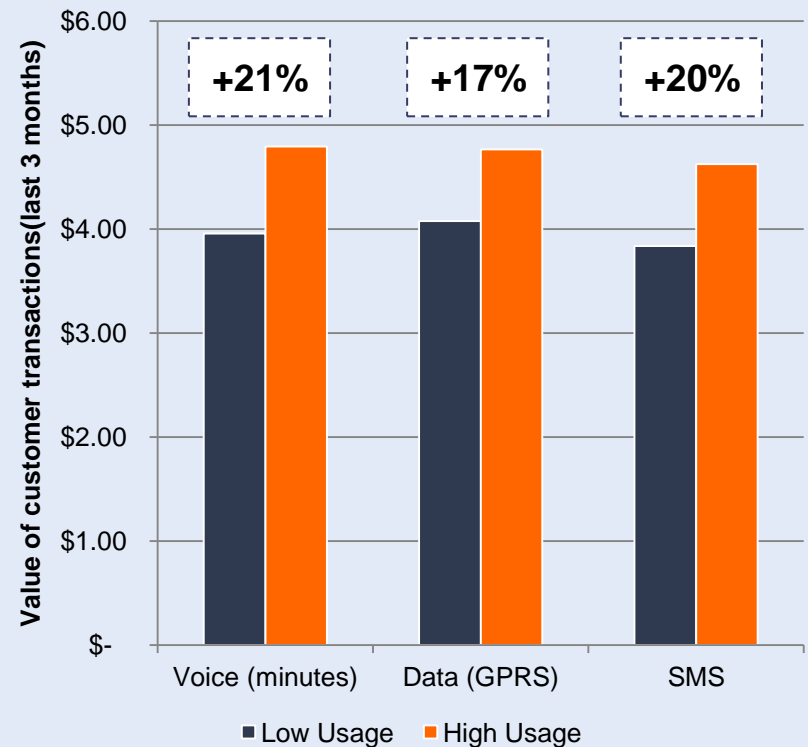
At one provider, SMS usage in particular affected activity rates, with high SMS users 20% more likely to be active than low SMS users



At another provider, consistently active mobile money subscribers had a combined voice/sms ARPU (avg revenue per user) 20% higher than subscribers who had never transacted



Total value of customer mobile money transactions seemed to be even more closely linked with voice/sms usage\*



\*data from 1 provider only

# Takeaways and Action Items:

1. General Activity Trends

2. Customer segments by usage patterns

3. Factors Affecting Activity

4. Takeaways & Action Items

**Based on our analysis across these 4 example providers we can recommend certain indicators and analysis that providers should be tracking to help them understand and tackle the problem of low customer activity**

In many cases providers are already collecting the requisite data and we are only suggesting ways of analyzing and acting on this data that may be new to some providers

In other cases we are recommending providers collect new types of data that can help them better understand, communicate with, and serve their customers

**The following takeaways have 3 components: Collect, Analyze, and Act**

## Collect:

Types of data and specific metrics providers should track

## Analyze:

Examples of the types of analysis providers can conduct based on data collected

## Act:

Actions which can be taken as a result of the data analysis

# Takeaways and Action Items: General activity trends

## Responding to Activity Trends

### Collect

Customer registration and transaction data already collected by most providers' systems is sufficient for this analysis

For our analysis we defined 3 fairly standard categories:

- **active** [at least one transaction in the last 90 days]
- **dormant** [transacted at least once but no transactions in the last 90 days]
- **never transacted**

### Analyze

**Vintage analysis:** tracking not only standard activity definitions but also how active customers are by their 3<sup>rd</sup> month with the service (did customers do at least one transaction in their 3<sup>rd</sup> month) gives a clearer picture of activity trends over time

*Never transacted*  
*Dormant*

### Act

- Use vintage analysis to more accurately judge the effectiveness of customer recruitment efforts (including new promotions or pricing)
- Drops in vintage activity rates are an early warning of problems with recruitment strategy
- If most inactive customers are dormant, this signals that marketing & initial registrations are working, but the ongoing value proposition is broken.
- If vice versa, then attention should be focused on better customer recruitment

# Takeaways and Action Items: Customer Segments by Usage Patterns

## Learning from Super-users

### Collect

Identify the top 5% of users by **VALUE** of transactions using customer registration and transaction data

### Analyze

Compare demographics (age, gender, location, etc) against inactive registered clients to identify differences

Compare their usage pattern and demographics against average users to identify characteristics which set super-users apart

### Act

- Set up interviews/focus groups with a sample of super-users to understand why they find the service so valuable
- Adjust marketing to capture more people like them
- Recruit them as community champions for your service

## Understanding the real value proposition for transfers

### Collect

Identify top transfer corridors using existing customer and transaction databases

Additional demographics such as **customer occupation** and **income** could be very valuable here

### Analyze

Try to find connections between demographics and transfer behavior (ie, are students all receiving long-distance transfers while small-business holders are sending and receiving many transfers within their municipality?)

### Act

- Conduct interviews/focus groups to better understand what the **top purposes** are for money transfers on your service
- Adjust marketing messages and/or operations such as agent recruitment based on reality of transfer usage



# Takeaways and Action Items: Factors affecting activity (1 of 2)

## Monitoring effects of Agents on activity

### Collect

Collect both the **number of customers** each agent registers AND the **percentage of the agent's customers who are active** in later months

Collect any **agent demographics** possible such as type and size of business, location, age and experience of proprietor, etc

### Analyze

Identify outlier agents who are signing up **many customers who are INACTIVE or VERY ACTIVE** in subsequent months and see what sets them apart from each other and from average agents (using demographic data collected)

Study those agents who are both signing up **many customers who are ACTIVE** to see what sets them apart from average agents (using demographic data collected)

### Act

- Study these agents to understand why they have such low/high activity rates
- Take action with low performing agents if they do not improve and generously reward agents with high active rates
- Talk to these agents and understand what factors are increasing their activity (is it demographics or their interactions with customers)
- Take steps to spread any best practices identified at these good agents to all other agents

# Takeaways and Action Items: Factors affecting activity (2 of 2)

## Understanding customer demographic effects

### Collect

Collect **customer demographic data** such as gender, occupation, income level, age, etc

### Analyze

Analyze activity rates across demographic factors and identify groups with higher/lower activity

Identify interesting groups based on your service's own data, not based on patterns in other markets

### Act

- Talk with members of these interesting groups to understand why the service works or does not work for their needs
- Determine which groups to target and revisit marketing and product strategy where appropriate

## Adapting to the effects of customers' first month transaction behavior

### Collect

**Customers' first month transaction behavior**

**Customers' transaction behavior in following months**

### Analyze

Using regression analysis identify what number and type of transactions in the first month are correlated with higher value future customers

### Act

Incentivize users to transact in first month, focusing on transactions that are most correlated with higher usage later

Incentivize agents to promote beneficial transaction behaviors in the first month for their customers



Ministry of Foreign Affairs of the Netherlands



OMIDYAR NETWORK™

Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

BILL & MELINDA GATES foundation

IMIN  
Multilateral Investment Fund  
Member of the IDB Group



Australian Government  
AusAID

FMO  
Entrepreneurial  
Development  
Bank

Swiss Agency for Development  
and Cooperation SDC

European  
Investment  
Bank

Michael & Susan Dell  
FOUNDATION



Liberté • Égalité • Fraternité  
RÉPUBLIQUE FRANÇAISE  
MINISTÈRE  
DES AFFAIRES  
ÉTRANGÈRES

Advancing financial access for the world's poor

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

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

afc  
AGENCE FRANÇAISE  
DE DÉVELOPPEMENT



The MasterCard  
Foundation

USAID  
FROM THE AMERICAN PEOPLE

citi

giz

Federal Ministry  
for Economic Cooperation  
and Development

kfw  
ENTWICKLUNGSBANK

FORMIN FINLANDI  
MINISTRY FOR FOREIGN  
AFFAIRS OF FINLAND

ADB

Sida

DFID  
Department for  
International  
Development



IFAD  
INTERNATIONAL  
FUND FOR  
AGRICULTURAL  
DEVELOPMENT



FORD FOUNDATION

Norad