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Advancing financial access for the world's poor

Five business case insights on mobile money

April, 2011

Five business case insights on mobile money

How to think about the overall revenue potential?

1. Mobile money contribution may be small compared to current MNO total revenue but could be important for future revenue growth

2. Mobile money success is highly dependent on the size of the MNO's voice customer base

What are the most critical business case drivers?

3. Direct profit from mobile money depends on growth in "electronic-only" transactions, i.e., more transactions per deposit

4. There are indirect benefits of mobile money to MNOs, but these only become significant when mobile money reaches scale

How should MNOs think about scale and profitability?

5. To capture long-term profits beyond domestic transfers, mobile money implementations will need to "leave money on the table" in the short term

Note: This report was informed by CGAP's Mobile Money Expectations Survey, CGAP M-PESA profitability analysis, CGAP/Dalberg analysis of mobile money business case, CGAP/BFA/AfricaNext research on external market effects on mobile money, and other published data/research

1. Mobile money contribution may be small compared to current MNO overall revenue but could be important for future revenue growth

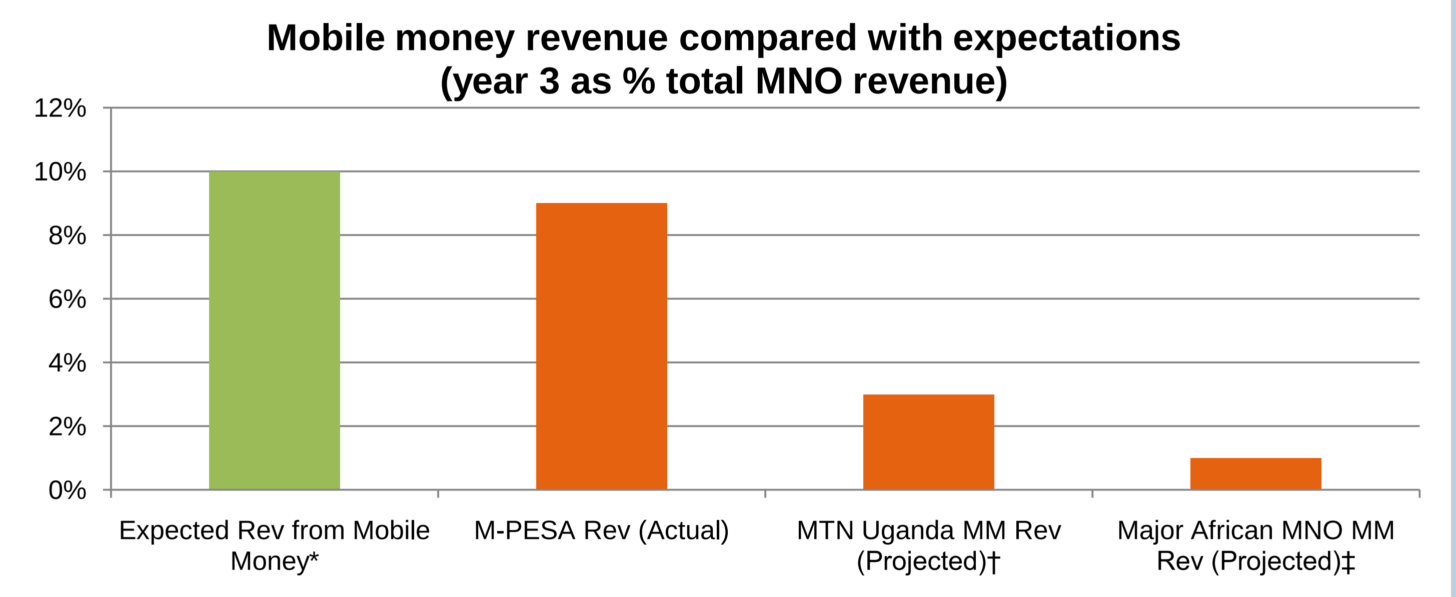
Mobile money is expected to be cash flow positive within 3 years of launch and represent 10% of total MNO revenue within 10

- Mobile money is expected to be cash flow positive within 3 years
  - 43% of respondents to the Mobile Money Expectations Survey believe their implementations will be cash flow positive in under 3 years
  - These expectations match some actual experience: (1) CGAP analysis estimates that M-PESA Kenya reached positive cash flows in year 3; (2) GSMA MMU estimates that MTN Uganda will reach positive cash flows in year 2 or 3
- Mobile money is expected to be 10% of overall revenue in 3-5 years
  - 80% of respondents to the Mobile Money Expectations Survey expected mobile money to comprise 10% total MNO revenue within 5 years of launch
  - Even at 10% of total revenue, mobile money can comprise up to 100% of current non-voice revenue

(2009 revenue)	MM as 10% of Overall Revenue	Voice Revenue	Non-voice Revenue
Airtel (India)	$713,948,148	$6,523,750,959	$713,264,421
Globe (Philippines)	$119,401,482	$609,983,230	$614,942,421
MTN (Ghana)	$81,755,100	$760,609,292	$56,941708

M-PESA has exceeded these expectations, but most others are not on track to reach 10% of total MNO revenue in 3 years

- M-PESA Kenya revenue surpassed USD 94 million by year 3, equal to 9% of Safaricom’s total annual revenue
- CGAP estimates that other mobile money services are not on track to meet these direct revenue expectations
  - Even MTN Uganda, considered a success in many ways, is not likely to meet those revenue expectations

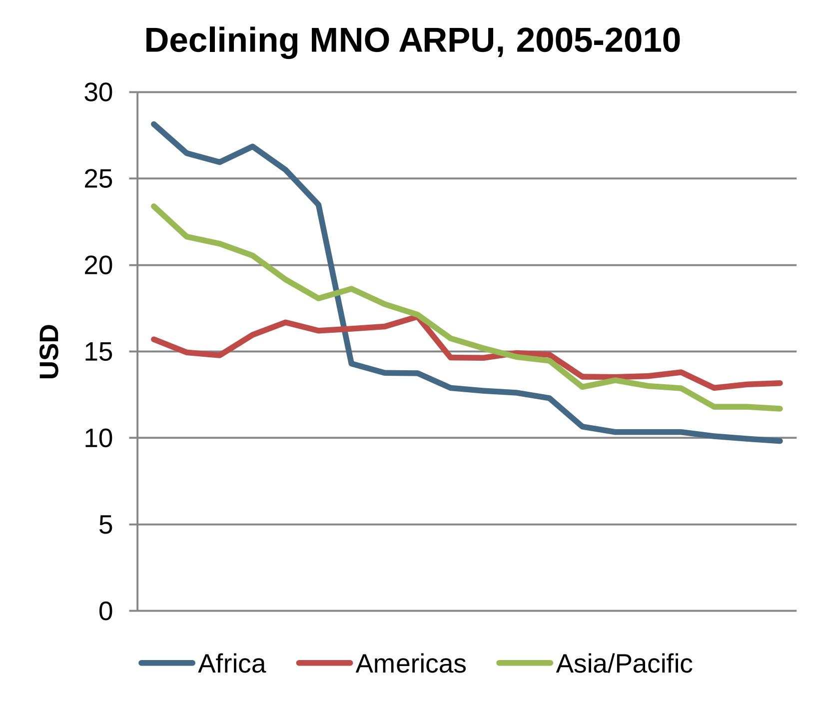


*CGAP Mobile Money Expectations Survey, † MMU research estimates including indirect benefits, ‡CGAP research estimates

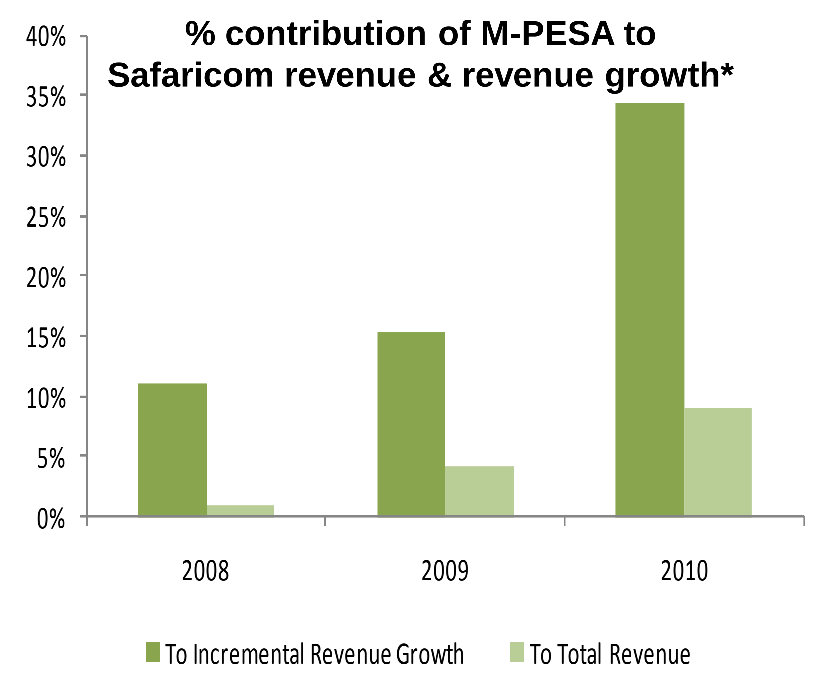
Even with diminished revenue expectations mobile money is a key source of new revenue growth for MNOs as voice margins fall

- While direct contribution of M-PESA to Safaricom revenue was 9% in year 3, M-PESA's contribution to revenue growth exceeded 30%

Core business revenues for MNOs have been declining precipitously across markets…



This makes mobile money revenue increasingly important for MNO growth



*Based on analysis by CGAP/AfricaNext

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2. Mobile money success is highly dependent on the existing size of the MNO’s voice customer base

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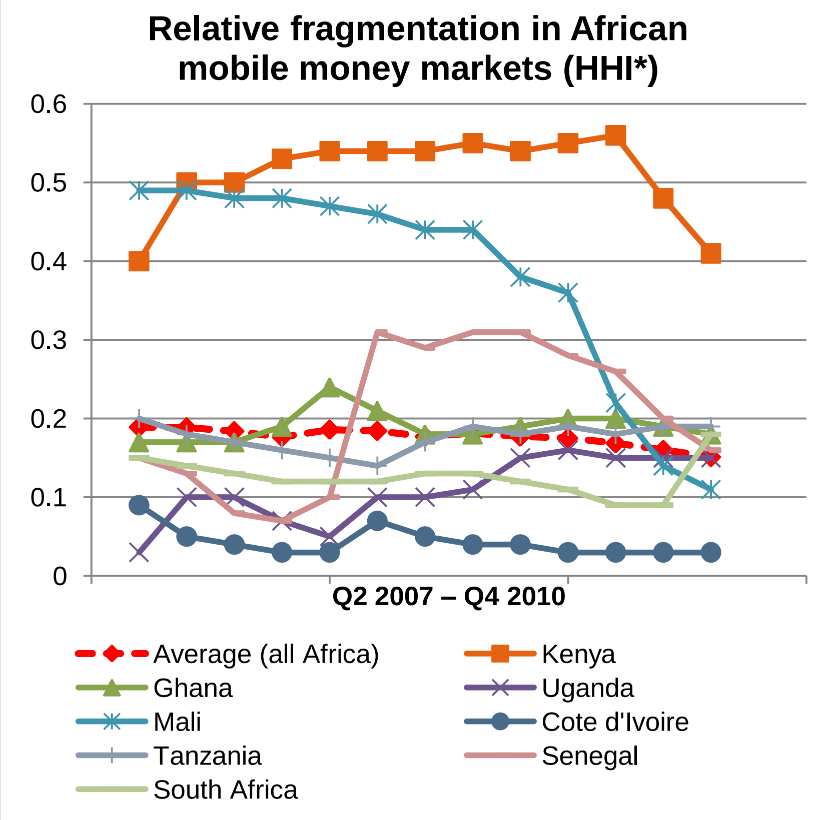
Pre-existing MNO market share key to mobile money success

Safaricom Kenya had dominant position in the most concentrated mobile market among all MNOs implementing mobile money in Africa



Pre-existing voice market share important for 4 main reasons:

1. The vast majority of mobile money customers are likely to come from voice base.

2. Mobile money by itself has not been shown to be a powerful tool for voice customer growth and acquisition, so it is even more important to start mobile money with a large pre-existing customer base

3. Successful payment systems require a critical mass of adoption in order to succeed. Large pre-existing customer base important to reaching adequate level of adoption

4. Dominant position in a market usually means greater power and control over airtime distributors, which can be important to getting an agent network scaled up effectively

* Herfindahl-Hirschman Index: measure of market concentration

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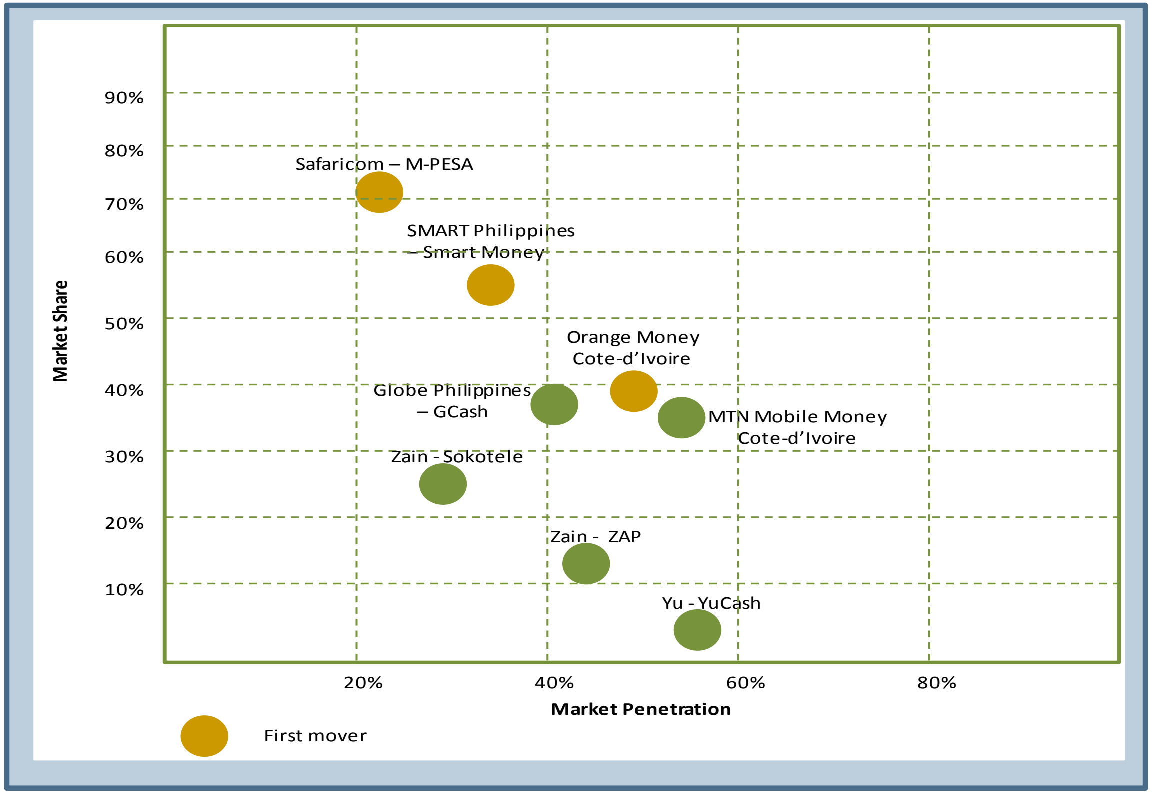
Mobile money launched in environments with critical mass of voice subscribers

- Overall mobile penetration was at least 20 percent but no more than 60 percent at the time of the first service launch in select pioneering mobile money markets
- First movers had at least 30 percent voice market share at the time of launching mobile money



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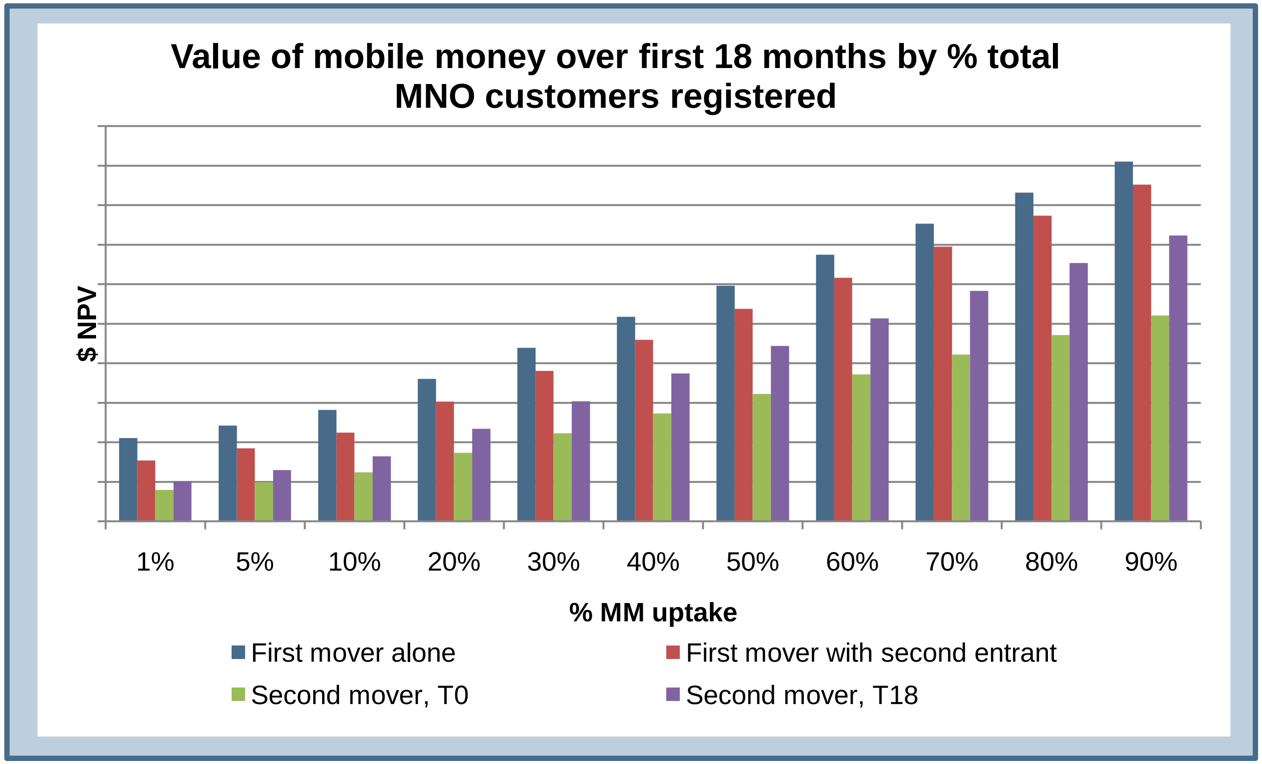
Modeling exercise showed that revenue potential is greatest for the largest MNO in a market, even when it is not the first mover

- Because existing voice market determines adoption of mobile money, even if the second largest MNO moves first, it will likely make less than the largest MNO launching second
- Largest MNO *could* secure 60% more in revenue when second entrants come on its heels (2-7 months)*



*Based on CGAP/BFA modeling exercise voice market factor influence on MM success

MNO market structure determines mobile money success factors and strategy

CONCENTRATED MARKET: dominant MNO captures most value as either 1st or 2nd mover

Desc.	Single dominant player with a number of much smaller MNOs
Strategy	Dominant player could capture significant value in direct transfer revenue and indirect revenue as first or second mover
	Smaller players unlikely to capture significant value from MM, even if they partner with other small players

FRAGMENTED MARKET 1: partnerships are key to success but limited revenue must be split

Desc.	No dominant player, multiple players with similar market shares
Strategy	Unlikely that any single player could capture significant value from money transfer business
	Success determined by which MNOs are able to form successful partnerships to expand reach of MM implementation

FRAGMENTED MARKET 2: second mover among largest MNOs has chance to catch up

Desc.	2 market leaders with similar market shares
Strategy	Ability of mobile money to take hold in this market and capture significant value is uncertain
	Among the 2 market leaders, second mover still has a good chance to catch up

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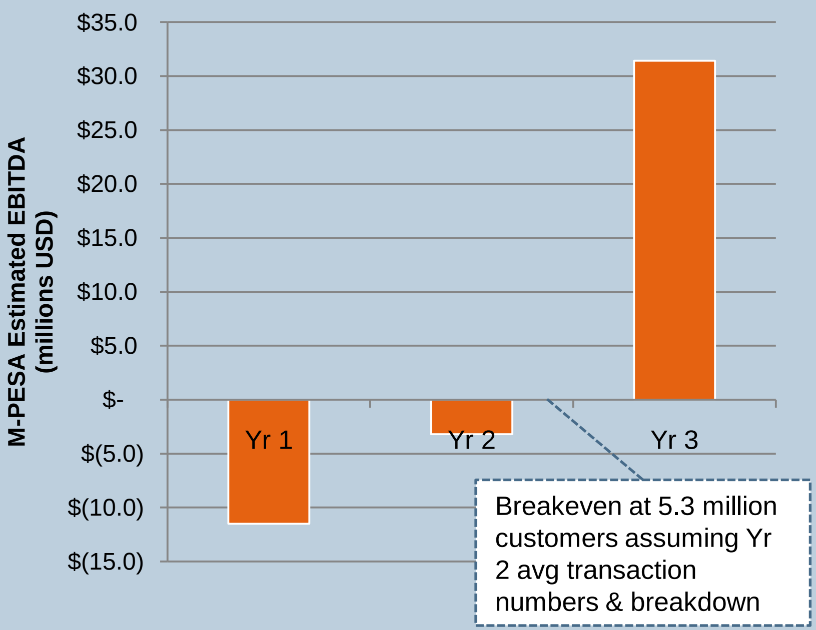
3. Direct profit from mobile money depends on growth in "electronic-only" transactions, i.e., more transactions per deposit

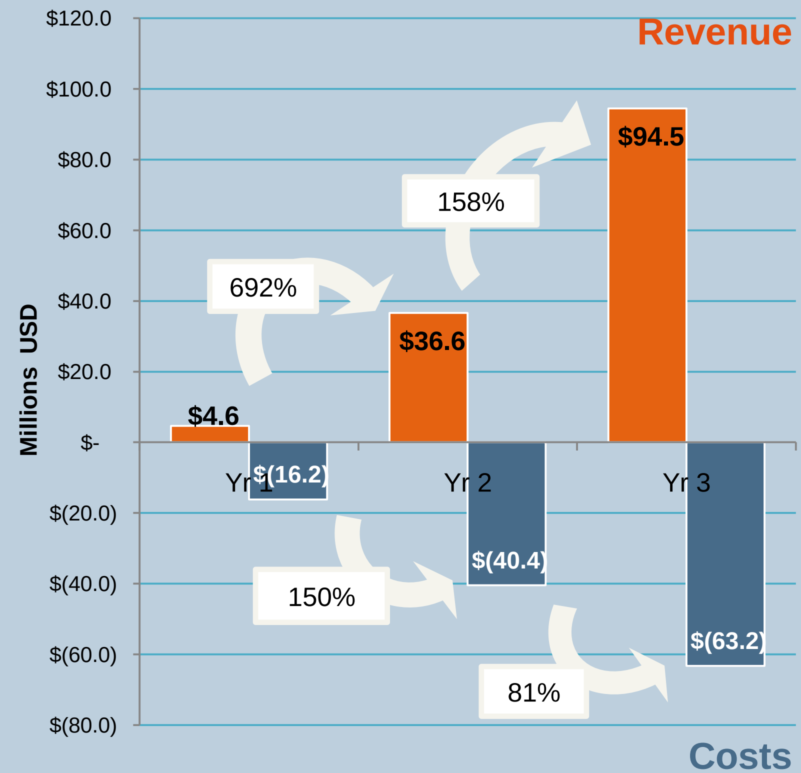
Looking at M-PESA Kenya case, revenue grew 6.6 times faster than costs between years 1 and 3 causing huge leap in profits*

M-PESA Kenya EBITDA grew from USD - 10 to 30 million between years 1 and 3



Notes:
- EBITDA estimates do not include M-PESA Management personnel or G&A costs
-EBITDA for FY08-10 are based on our low-end cost estimates

6.6 times faster revenue growth compared to costs in the same time period



*From M-PESA Profitability Analysis by CGAP based on publically available data

There are 3 main drivers behind this level of direct profitability growth for mobile money

Direct profit drivers

- **1. Growth in overall transactions/customer**
- **2. Change in cost structure away from fixed marketing costs towards variable costs**
- **3. Growth in ratio of “electronic-only” transactions to agent-based transactions**

Indirect profit drivers

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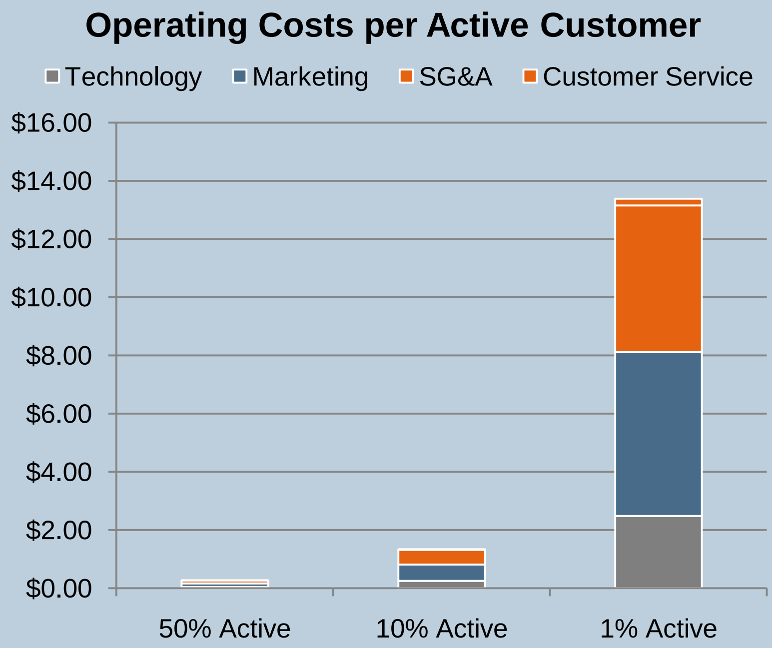
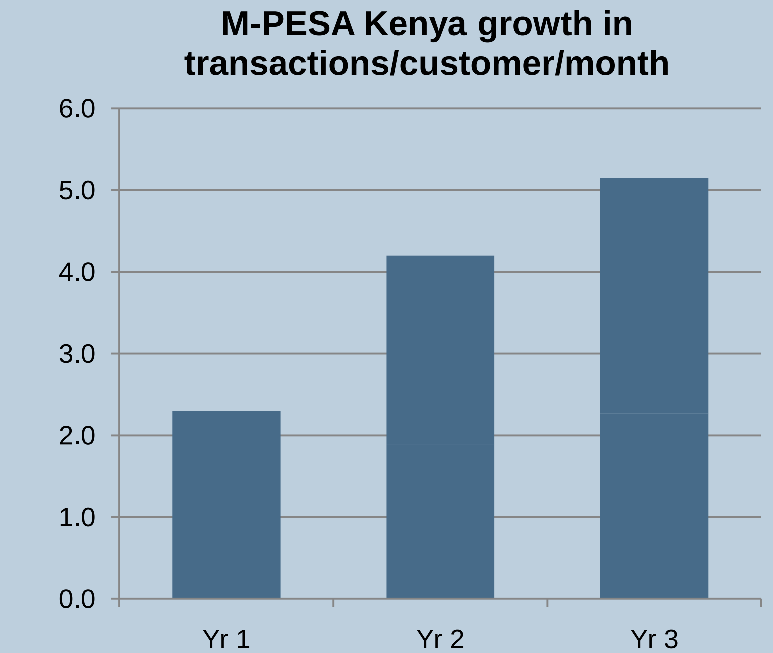
Growth in overall transactions per customer is important to mobile money profitability growth

- Growth in transactions per registered customer comes from <u>growth in ratio of active customers to inactive customers</u> and <u>growth in transactions per active customers</u>

High inactive customer rates mean each active customer must generate large amounts of revenue for mobile money to see profits

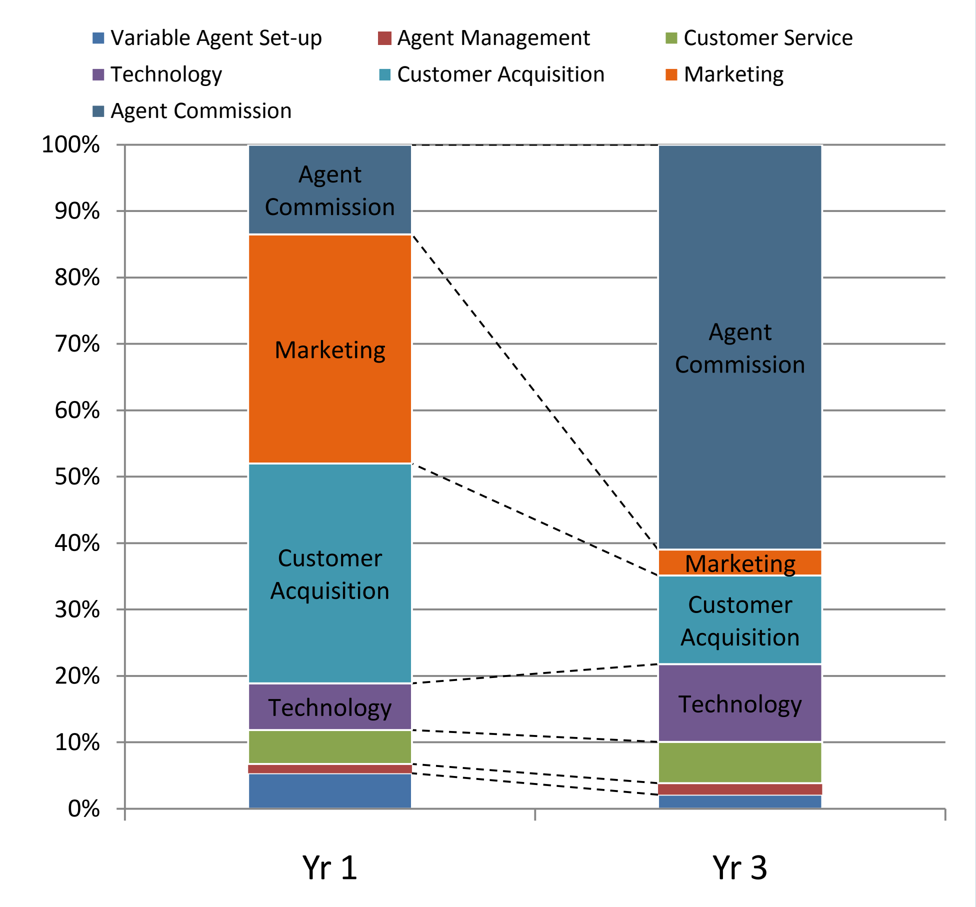


Rapid profit growth comes when not only the ratio of active customers increases, but each active customer also transacts more



Mobile money profit increases as cost structure shifts away from fixed marketing costs towards "revenue-generating" costs

M-PESA Kenya cost structure changes



CGAP estimates that marketing & customer acquisition* costs more than halved between FY 2008 and FY 2010 as a percentage of total cost

As customers and transactions have grown, agent commissions have surpassed all other cost types

- agent commissions are variable costs directly tied to revenue generation

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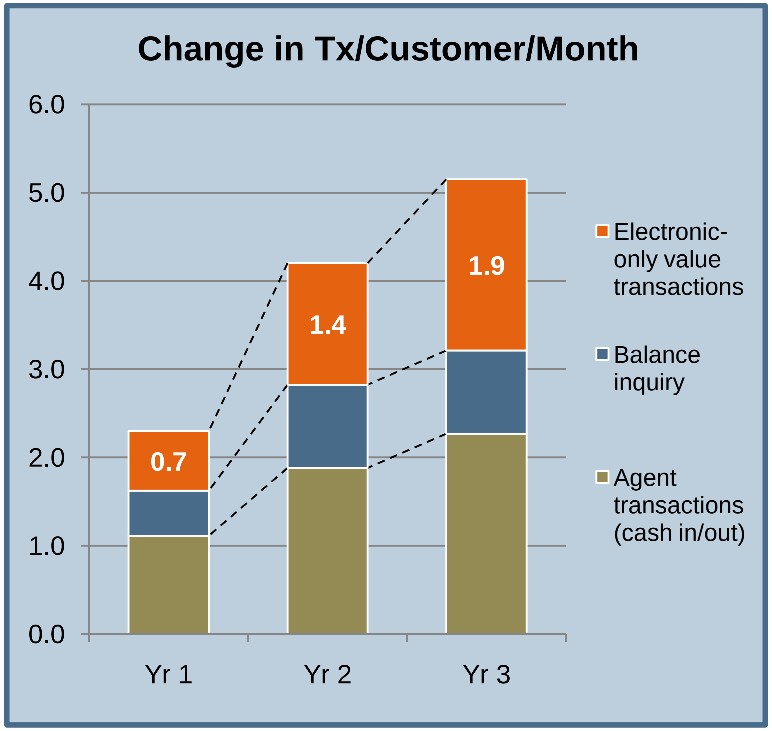
Direct profit growth largely attributable to growth in ratio of "electronic-only" transactions to agent-based transactions

- Growth in "electronic-only" transactions means customers are performing more transactions for each deposit at the agent



- In our estimate, M-PESA Kenya "electronic-only" transactions grew 35% faster than agent transactions

- "Electronic-only" transactions are cheaper. In our estimate, M-PESA earns an estimated 18% weighted average gross margin on agent-based transactions compared with almost 100% gross margin on electronic-only transactions

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4. There are indirect benefits of mobile money to MNOs, but these only become significant when mobile money reaches scale

There are 2 main drivers of indirect profit stemming from mobile money

Direct profit drivers

Indirect profit drivers

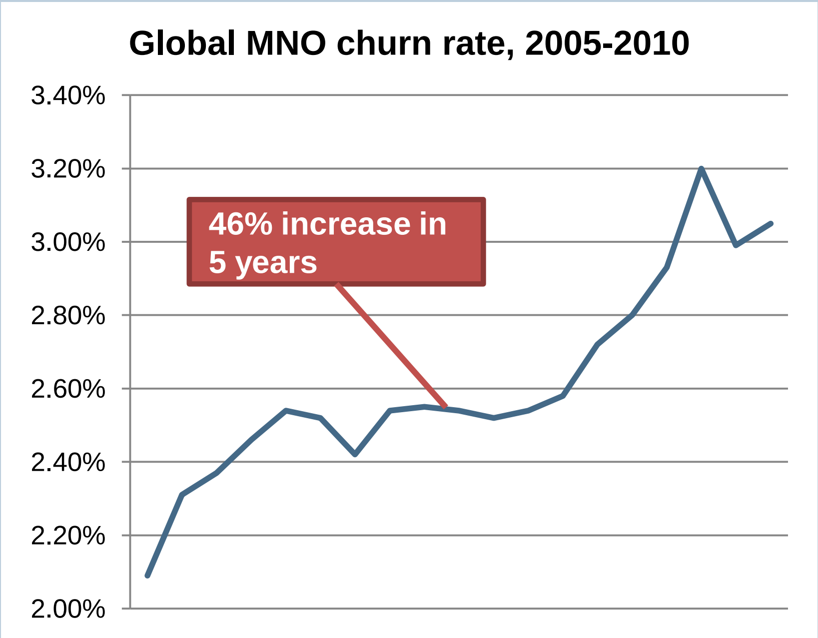
1. Airtime purchased through mobile money reducing cost of sales
2. Use of mobile money reducing customer churn rates

Airtime cost of sales and churn are primary cost drivers for MNOs, making them the main targets for indirect benefits from MM

Selling airtime direct to consumers through mobile money can save MNOs over 20% in cost of sales in scratchcards

Probably more important as indirect impacts of mobile money from reductions in airtime cost of sales are easily measured

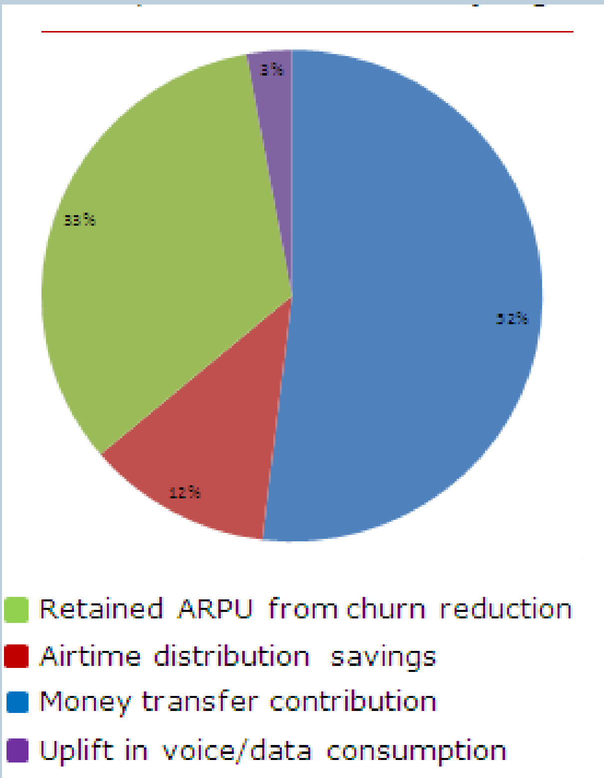
Churn (or the percent of customers an MNO loses every month) is rising, costing MNOs millions in lost revenue



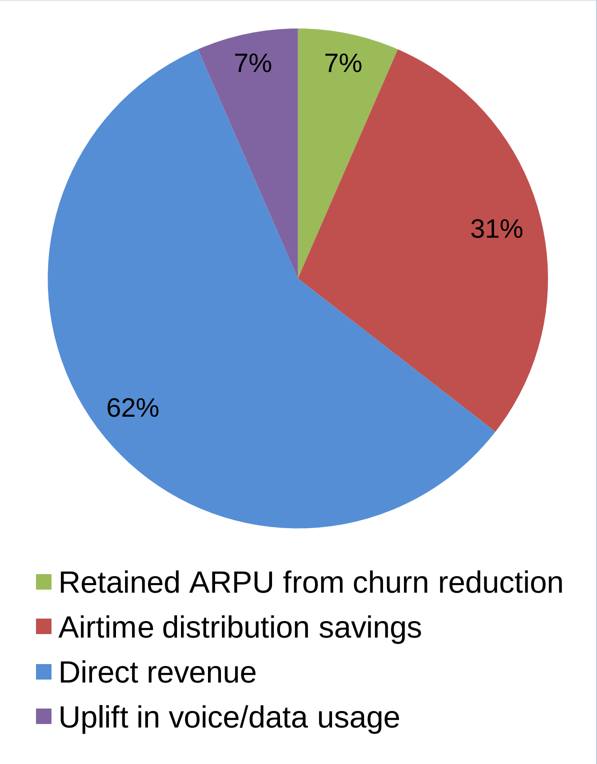
Churn reduction could have very significant benefits for MNOs, but very difficult to attribute causal effects of mobile money on churn

Indirect benefits can represent up to 50% of overall benefits to the MNO from mobile money

Estimated Direct and Indirect Profits from <u>MTN Uganda</u> (from GSMA)

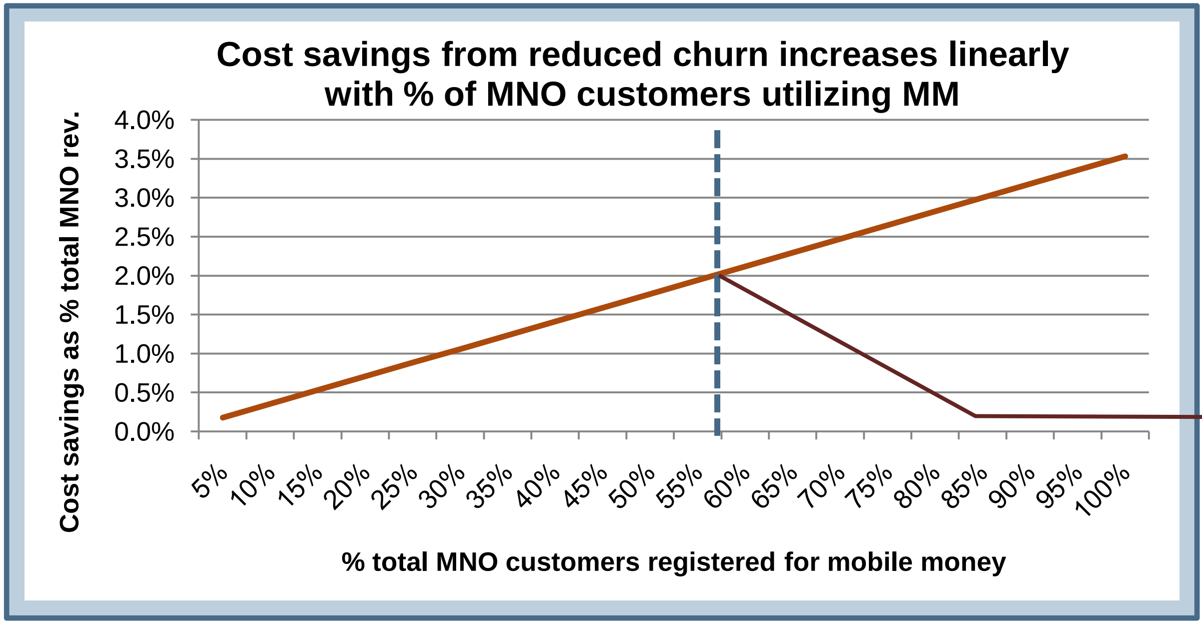


Estimated Direct and Indirect Profits from another <u>major African mobile money implementation</u>



…but indirect benefits are only significant when mobile money reaches a large proportion of total MNO voice customers

- **Comparing averages suggests that mobile money reduces churn…**
  - Analysis of a major Africa mobile money service shows subscribers churn 60% less than general subscribers (2.18% versus 5.71% monthly churn)
  - Safaricom churn has remained flat since M-PESA launch, but as competition has increased in the same period M-PESA may have prevented increase in churn
- **…but more than 20% of the voice customers may need to be using mobile money to see a meaningful impact on revenue**
  - Registered users in most markets are under 10% of subscriber base unlike 77% for Safaricom in Kenya and 17% for MTN Uganda



Almost 60% of total MNO customers must be registered for MM before indirect benefits from churn reduction surpass 2% of MNO revenue

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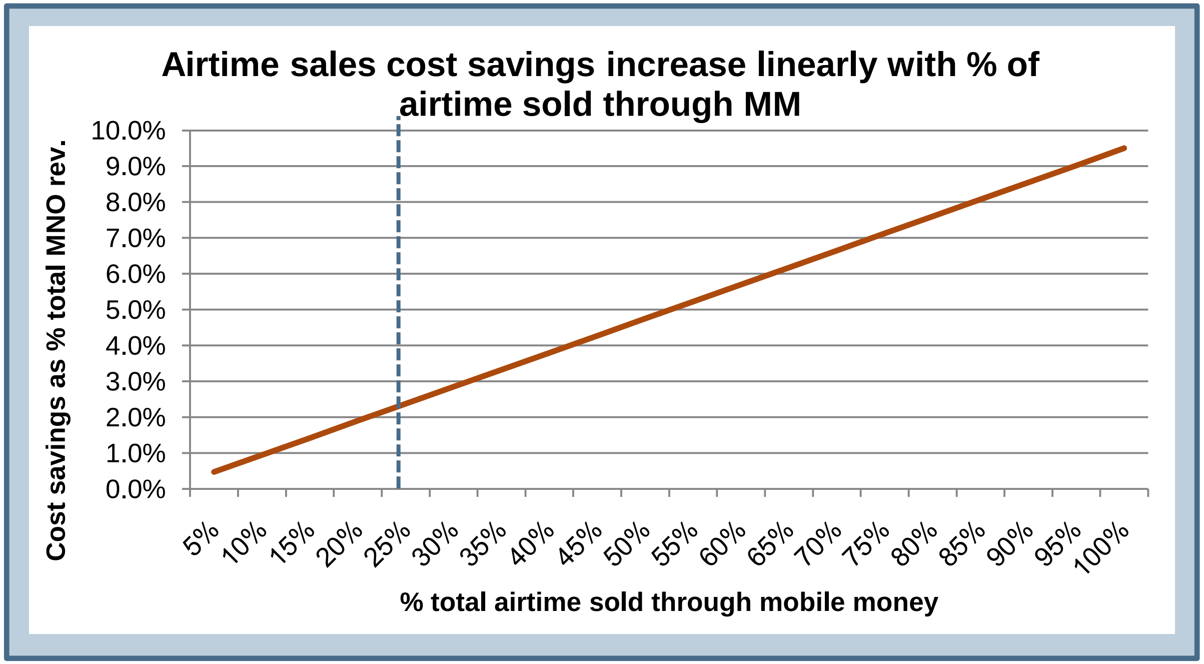
…but indirect benefits are only significant when mobile money reaches a large proportion of total MNO customers

- **Cost savings from airtime sales through mobile money are highly dependent on the scale of the mobile money business**
  - 25% of total MNO airtime must be converted from scratchcard sales to mobile money sales before cost savings surpass 2% of MNO revenue



  - 20% of total Safaricom airtime was sold through M-PESA Kenya in its 3rd year of operation, but other MNOs have not matched this growth rate

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5. To capture long-term profits beyond domestic transfers, mobile money implementations will need to “leave money on the table” in the short term

To capture long-term profits beyond domestic transfers, mobile money implementations will need to "leave money on the table" in the short term

If MNOs want to…	Basic pricing strategy	Drawbacks	Benefits
…scale within domestic transfer or bill payments	Beat formal and informal competition in domestic transfers or bill payments	• Domestic transfer share smaller than small business payments • Prices for domestic transfers and bill payments tend to zero (e.g., some informal options may not cost much in prices)	• Capture large share of domestic payment market
…scale to reach small business transactions or merchant payments	Price to capture small merchant payments even though this is likely lower than the willingness to pay for domestic transfers	• "Leave money on the table" from domestic transfers	• Faster adoption from lower pricing can lead to exponential growth in small merchant payments • Greater scale for indirect benefits or other revenue like advertising
…scale to reach "premium" products including institutional payments (corporate and government)	Adopt a "freemium" model where services like domestic transfers are free to drive faster adoption and revenues are made from charging institutions for payments or other financial services	• "Leave money on the table" from domestic transfers and small/informal merchant payments	• Wide adoption by consumers leads to exponential growth in institutional payments • Greater scale for indirect benefits or other revenue like advertising

None of these pricing strategies above preclude what MNOs need to do operationally to create a successful mobile money business, i.e., agent network management, marketing etc.

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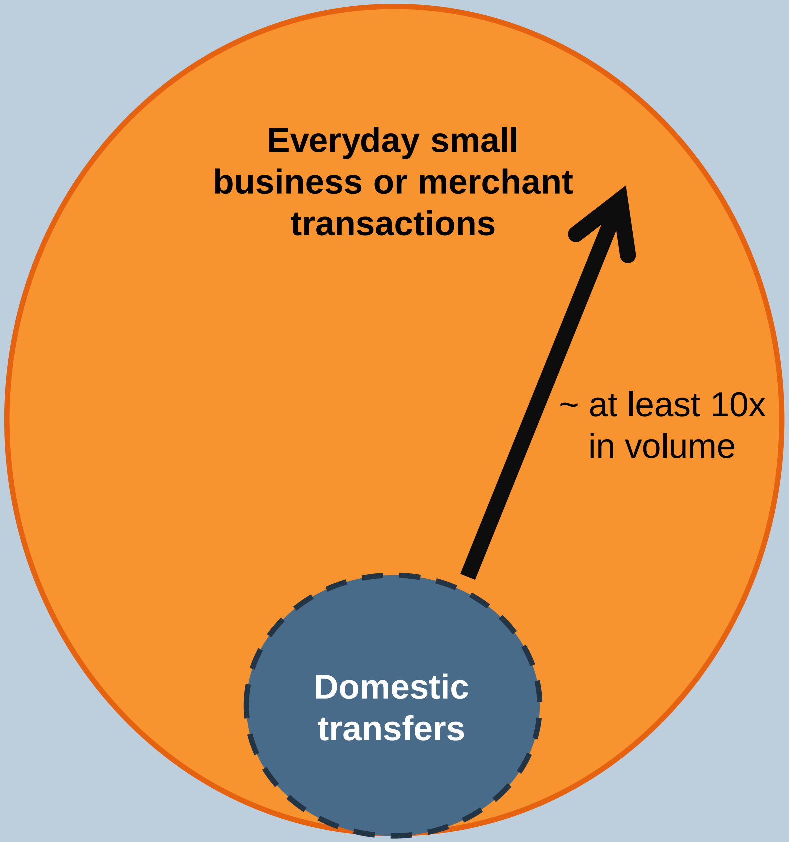
Volume of everyday small business or merchant transactions are likely to be at least 10x the size of domestic transfers



1. As is typical of most developing countries, in Kenya, medium and small scale enterprises make up 90% of enterprises and account for over 20% of GDP.

2. In India consumer to business payments are far more than 10x the volume of domestic transfers

Payments landscape by segments

$U.S. billions

2008 flows / 2015 flows

Payments from: \ Payments to:	Consumer	Business	Government	Total
Consumer	9 / 24	1,001 / 1,805	185 / 293	1,168 / 2,122
Business	268 / 523	6,810 / 15,146	254 / 601	7.332 / 16.270
Government	182 / 288	252 / 596	5 / 7	439 / 891
Total	459 / 834	8,063 / 17,547	417 / 901	8939 / 19,282

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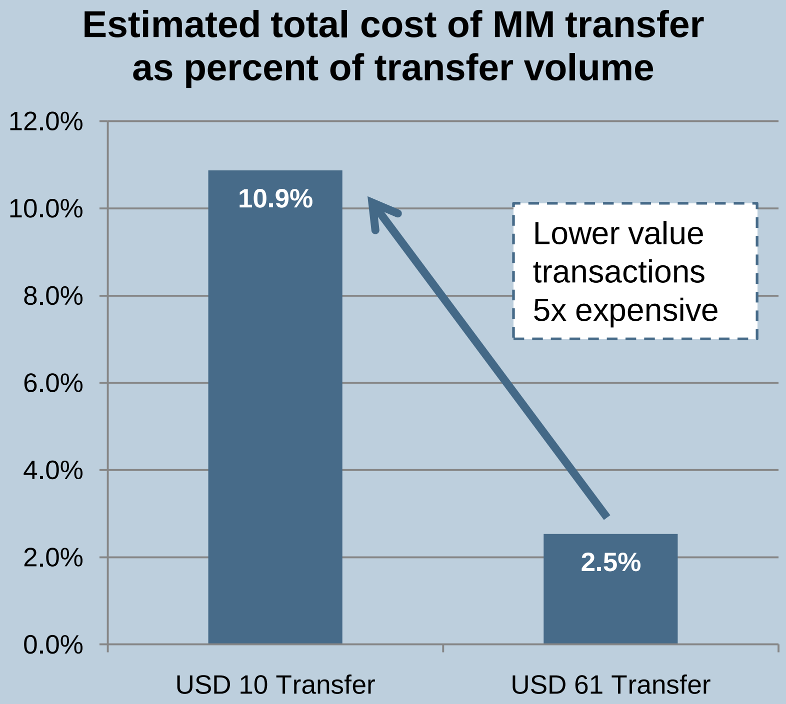
Current mobile money pricing aims to maximize profits from domestic transfers, but hinders growth into the merchant payments market

For a large domestic transfer MM pricing is low, but for smaller payment sizes the cost is prohibitive



From CGAP Branchless Banking Pricing Survey

At a basic level, pricing that makes transacting at lower transaction sizes more expensive will make it harder for low-income customers who in many markets are likely to be the larger share of customers

This pricing will make it harder to scale in domestic transfer but will also make it harder to drive growth in small business or merchant payments

- Avg. transactions between merchants and consumers are smaller than domestic transfers, making many prohibitively expensive with current pricing schemes
- Domestic transfers typically happen across large distances where the cost of moving cash is high. Merchant payments happen face to face where the cost of cash is less tangible, reducing willingness to pay

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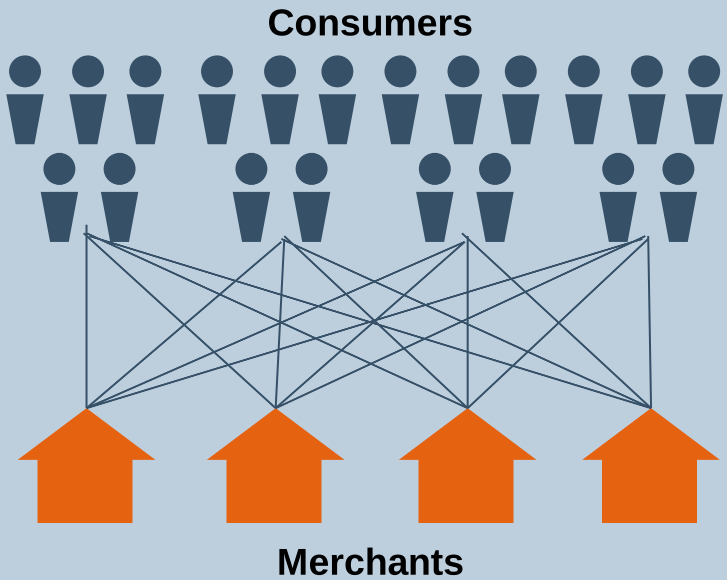
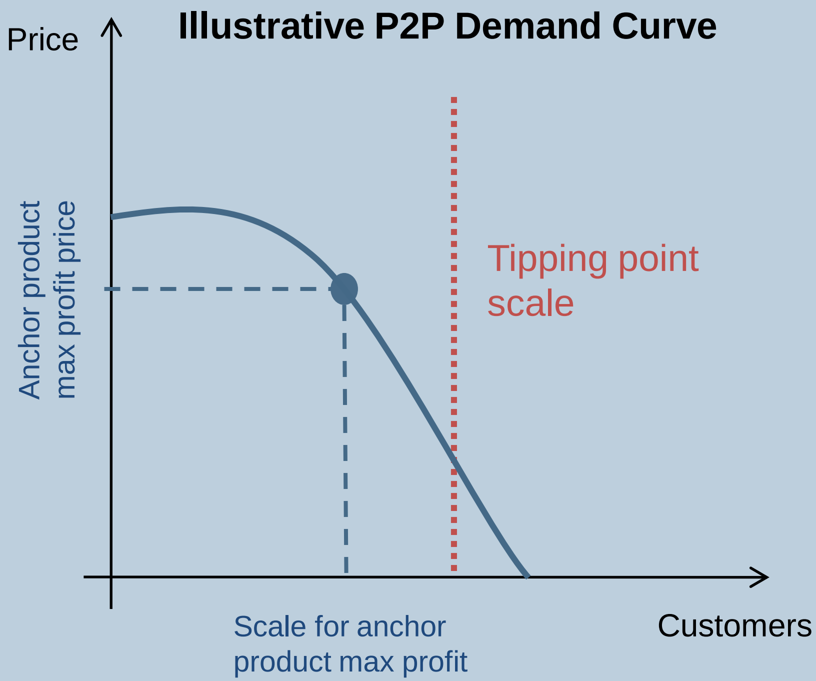
This short-term focus may hinder customer adoption from ever reach "tipping point" scale to capture small merchant payments

Merchant payments require a "tipping point" scale of adoption to be valuable:

- Merchants need to see lots of consumers using a payment system and consumers need to see lots of merchants



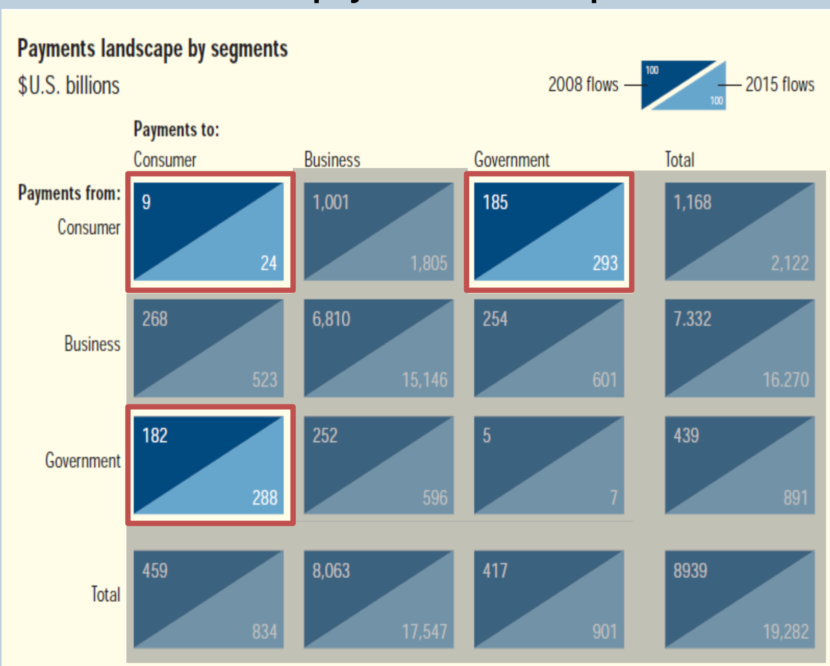
Pricing to maximize P2P profit may prevent a mobile money service from ever reaching this level of scale



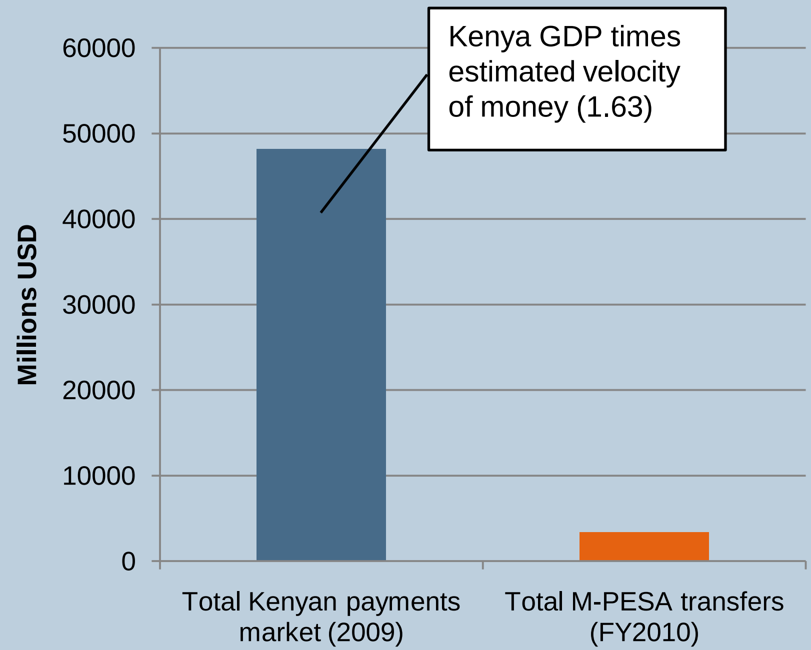
Similarly, the volume of payments between consumers & institutions (gov't & corporations) dwarf those from consumer to consumer

In India, payment flows between consumers and government are 40 times the size of total payment flows from consumer to consumer

India payments landscape



In Kenya M-PESA, while exhibiting massive growth in the P2P space, has likely captured less than 7% of the total Kenya payments market



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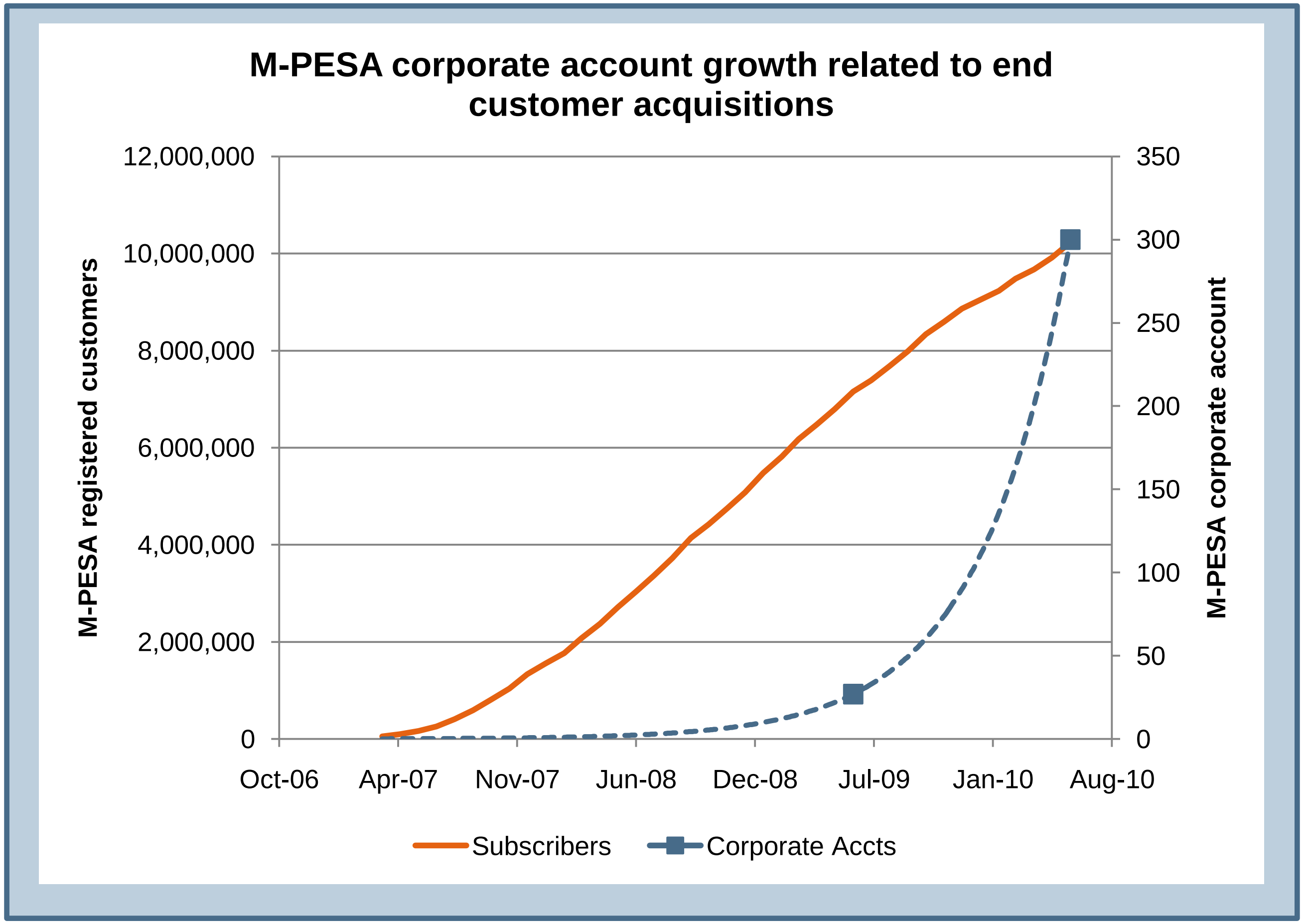
MM implementations will only be able to capture institutional payments once they reach a “tipping point” scale of consumers

- **M-PESA Kenya corporate accounts for disbursing and receiving payments to consumers grew exponentially once M-PESA reached 7 million customers**



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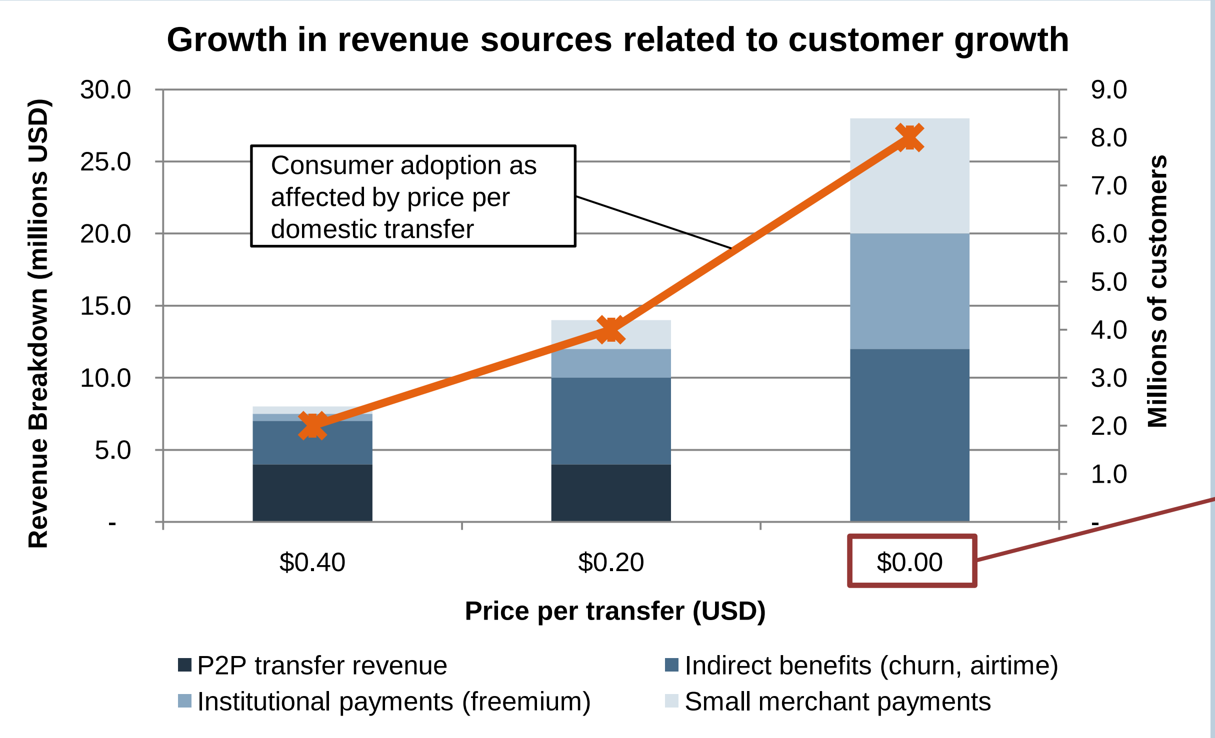
Merchant & institutional payments increase exponentially with customer growth while P2P transfer revenue & indirect benefits increase only linearly with customers



Price/transfer	$0.40	$0.20	$0.00
Active Customers	2,000,000	4,000,000	8,000,000

If revenue at scale from indirect benefits and capturing merchant/institutional payments dwarfs the domestic transfer opportunity, maximizing customer adoption by offering “anchor products” for free may result in greater overall returns to MNOs

Significant indirect benefits of mobile money are also only realized with large scale customer adoption

- Indirect benefits can represent up to 30% to 50% of overall benefits to the MNO…

Indirect profit drivers

1. Airtime purchased through mobile money reducing cost of sales

2. Use of mobile money reducing customer churn rates

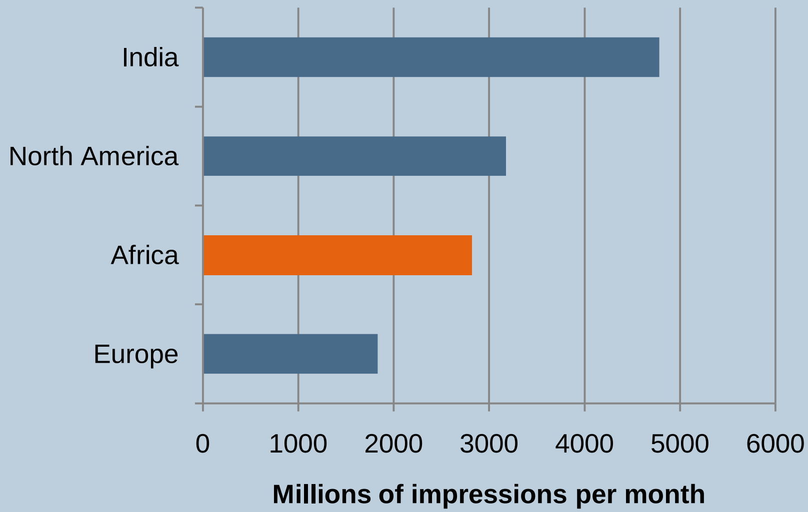
- …but indirect benefits are only significant when mobile money reaches a large proportion of total MNO customers
  - More than 20% of the voice customers need to be using mobile money to see a meaningful impact on churn
  - 25% of total MNO airtime must be converted from scratchcard sales to mobile money sales before cost savings surpass 2% of MNO revenue

There are additional revenue opportunities beyond transaction fees and indirect benefits that may open up at scale

- **Mobile money and its usage data could be utilized as a targeted advertisement delivery channel to bring in additional revenue**

The mobile advertising market in Africa is already among the largest in the world

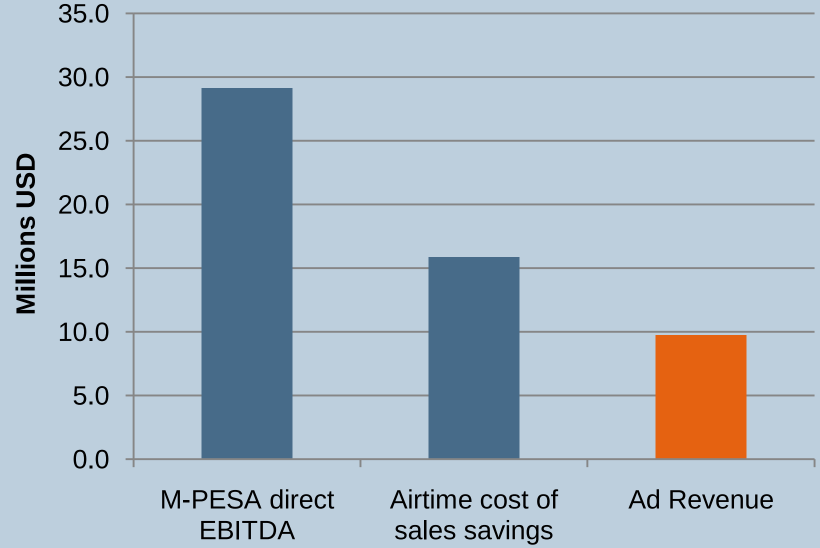
Total available mobile ad impressions by region (InMobi)



African consumer's acceptance of mobile advertising is the highest in the world

Mobile advertising opportunity may represent over 33% of total direct EBITDA from mobile money

Ad revenue opportunity compared with other M-PESA benefits



Note: Assuming 65 million M-PESA transactions per month each represent an opportunity for a mobile ad impression

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