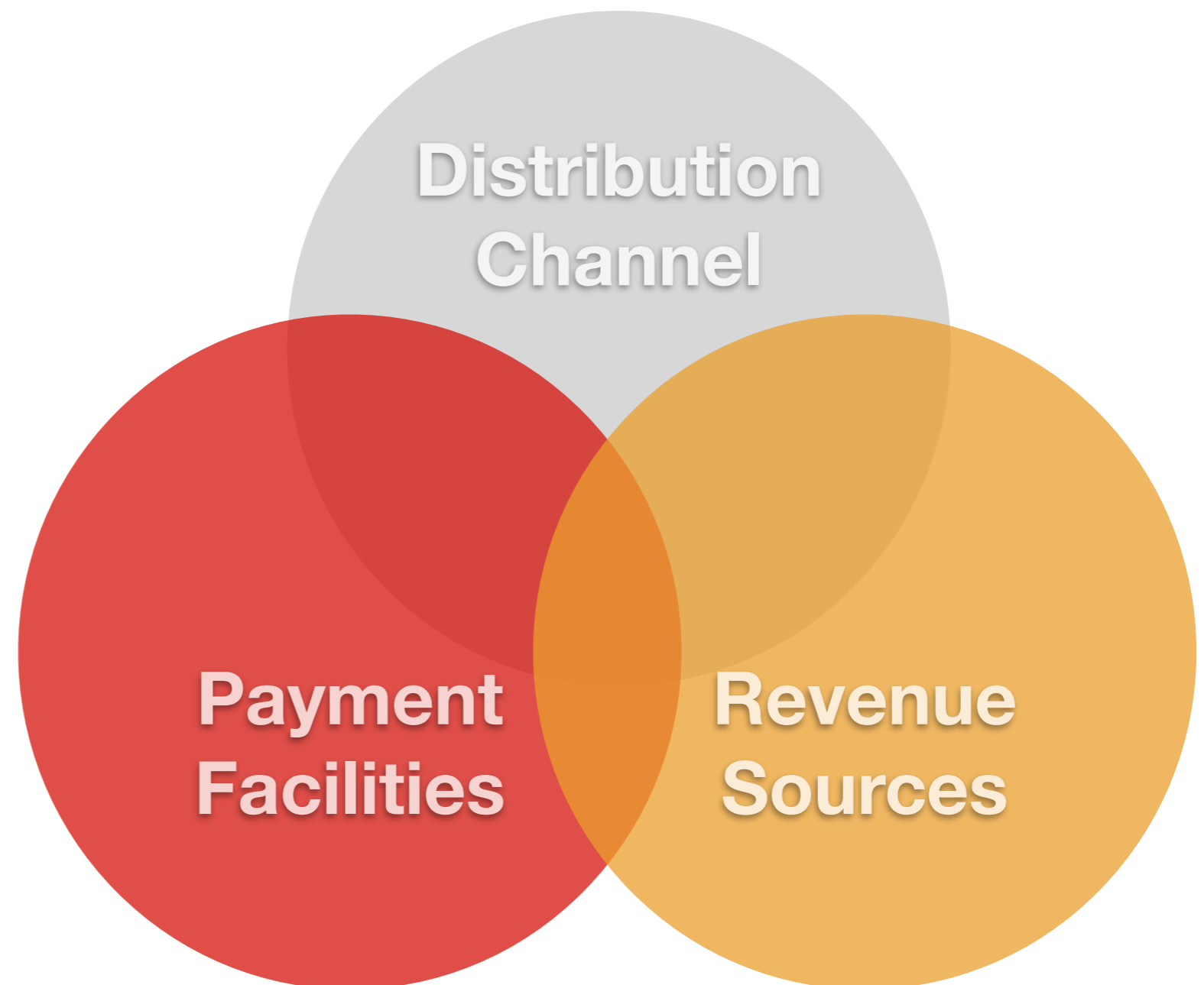


# Mobile App Development Ecosystem - Lessons from four African countries

- Steve Esselaar & Christoph Stork

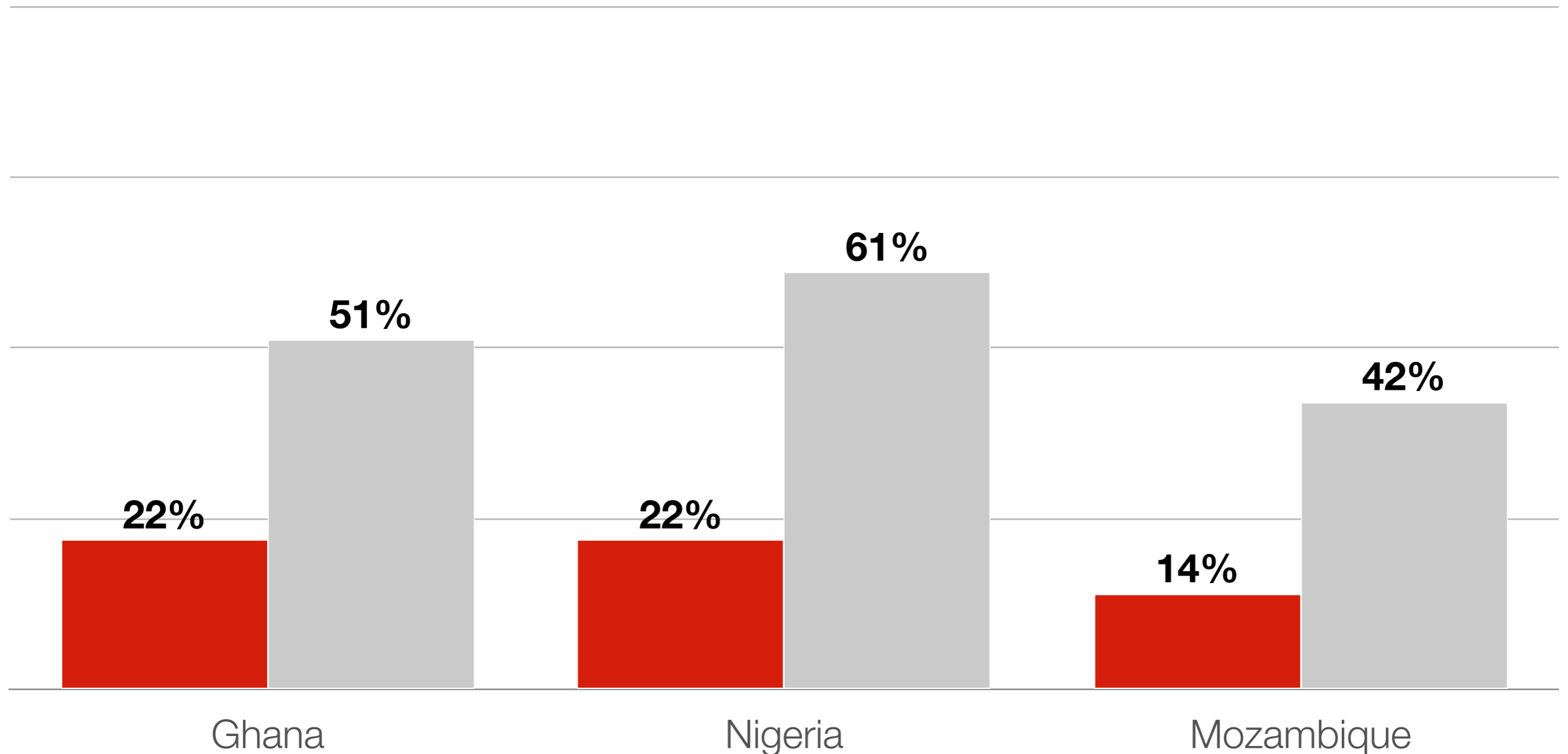
# Scalable Business models for targeting the BOP is about solving a problem profitably & sustainably

Decisions on distribution channel, revenue sources and payment facilities are intertwined and combinations have to be chosen either sequentially or simultaneously



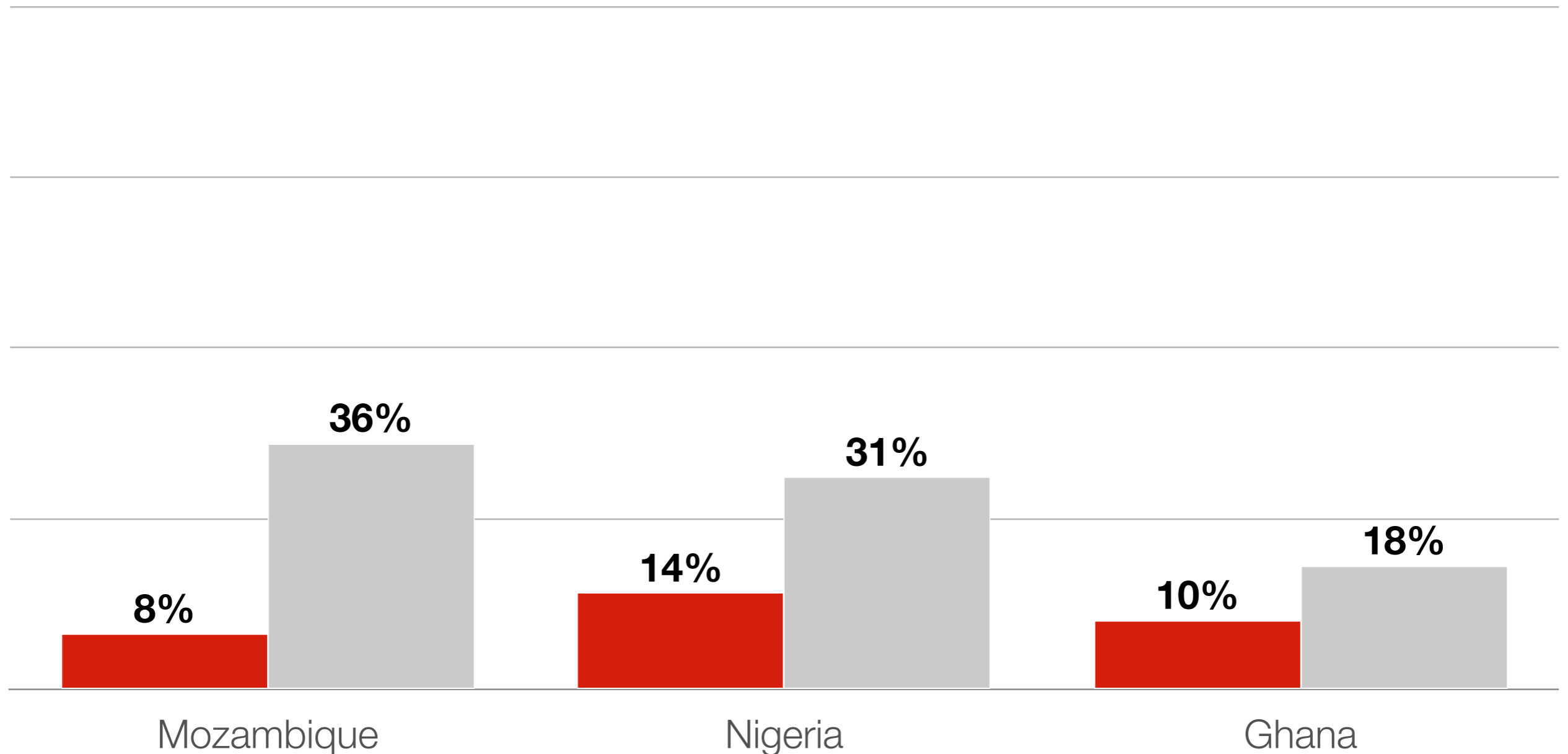
# Understanding the BoP: At least twice as many people with mobile than bank account

- BoP 15+ with bank or post office account
- BoP 15+ owning a mobile phone



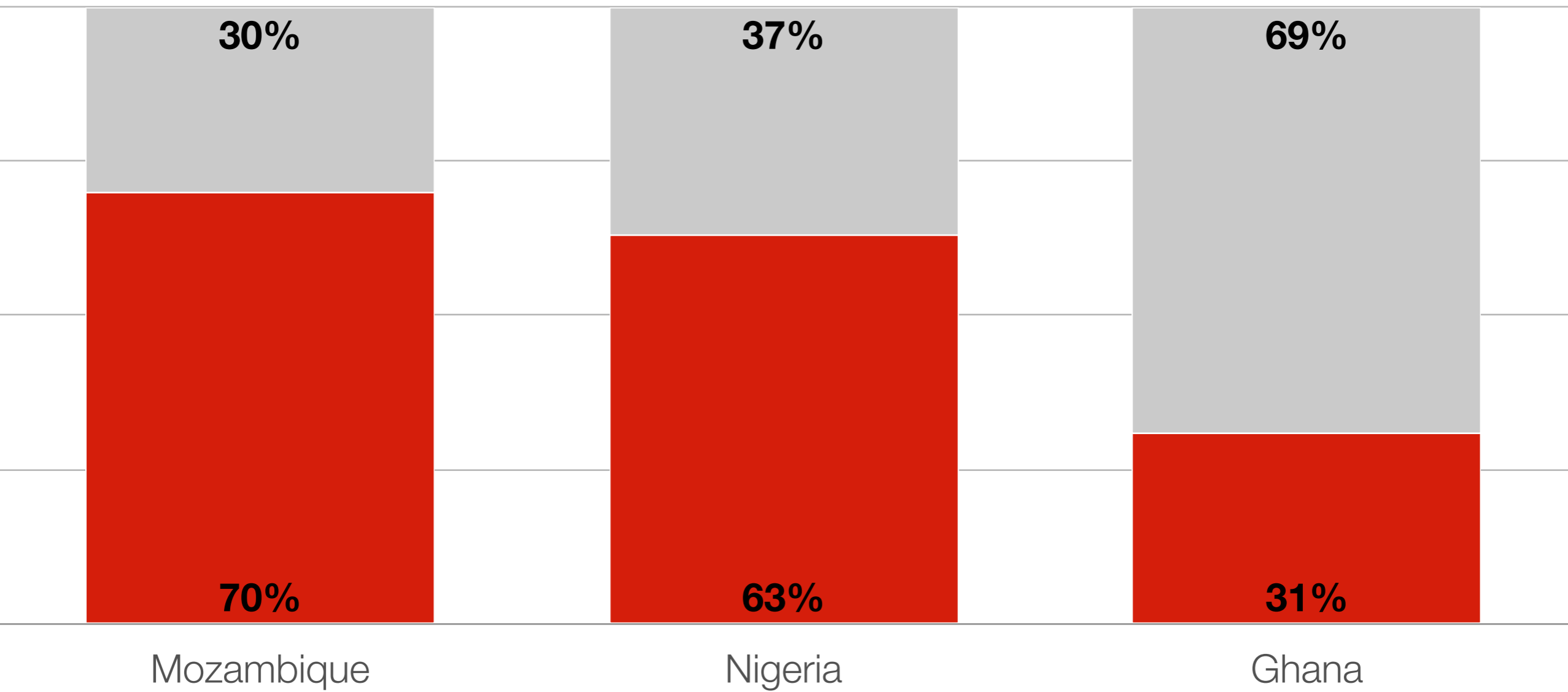
# Understanding the BoP: Internet use still low in 2012, more so among the BOP

■ BoP      ■ RoP



# Understanding the BoP: Entry point to Internet use is the mobile phone

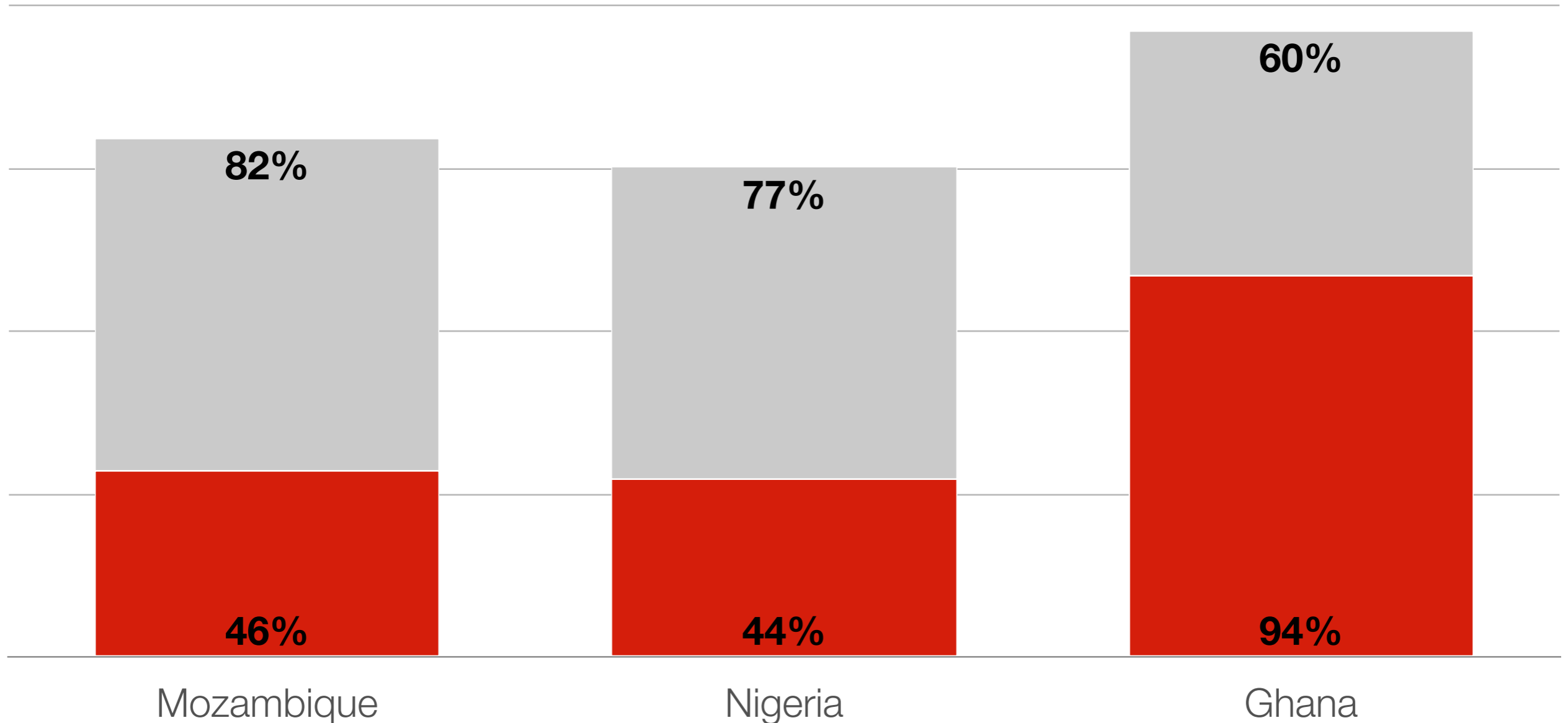
■ Mobile Phone      ■ Computer/Laptop



Internet first on a mobile phone or a computer

# Understanding the BoP: Ghana still stuck in the old Internet age

■ Internet Café      ■ Mobile Phone



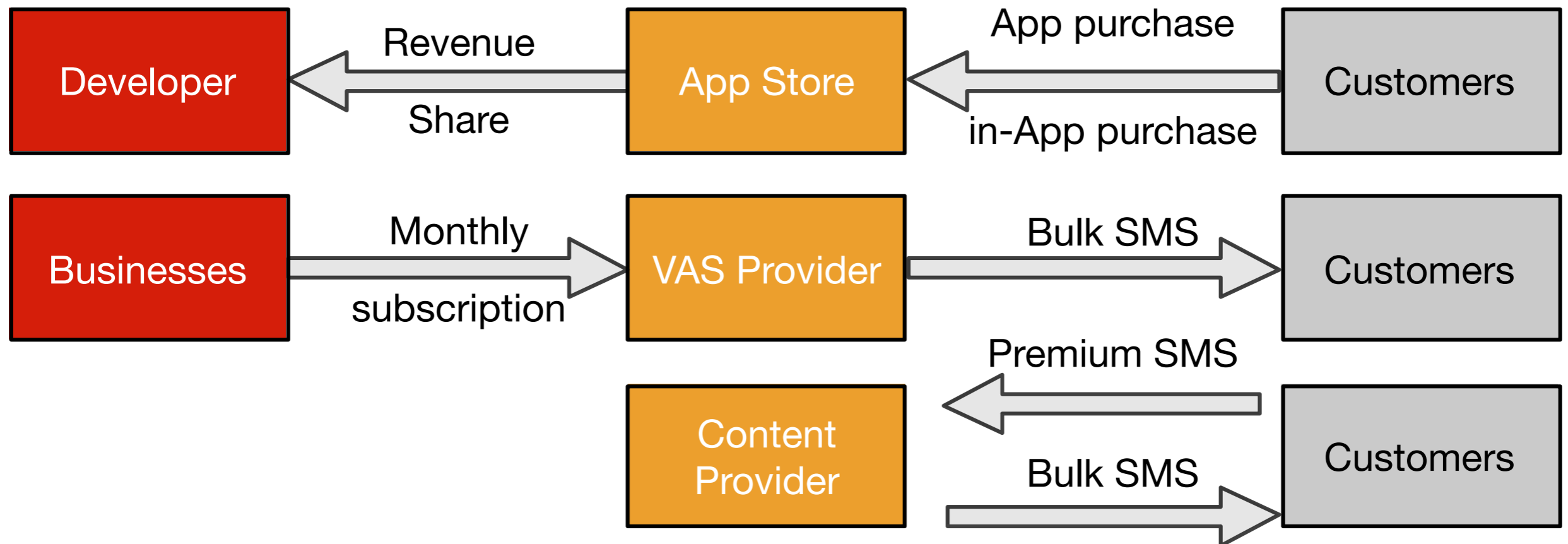
Share of adults (15+) from the BoP that use the Internet an Internet Cafe or a mobile phone

# Evolution of app adoption

Stages	Stage 1: Mobile Voice & SMS	Stage 2: Mobile voice & data	Stage 3: Mobile computing
Revenue sources: Developer	Share of premium SMS	Web Share of premium SMS Mobile Money	Share of app sales Mobile money revenue Web Share of premium SMS
Distribution Channels	Mobile operators	Mobile Operators Web	Mobile Operators Web App Stores
Technologies	Basic mobile	Feature phone	Smart phone
Nigeria: Mozambique: Ghana:	approx. 85% of the BoP approx. 78% of the BoP approx. 77% of the BoP	approx. 14% of the BoP approx. 20% of the BoP approx. 20% of the BoP	approx. 0-5% of the BoP approx. 0-5% of the BoP approx. 0-5% of the BoP

# (I) Revenue sources - basic models

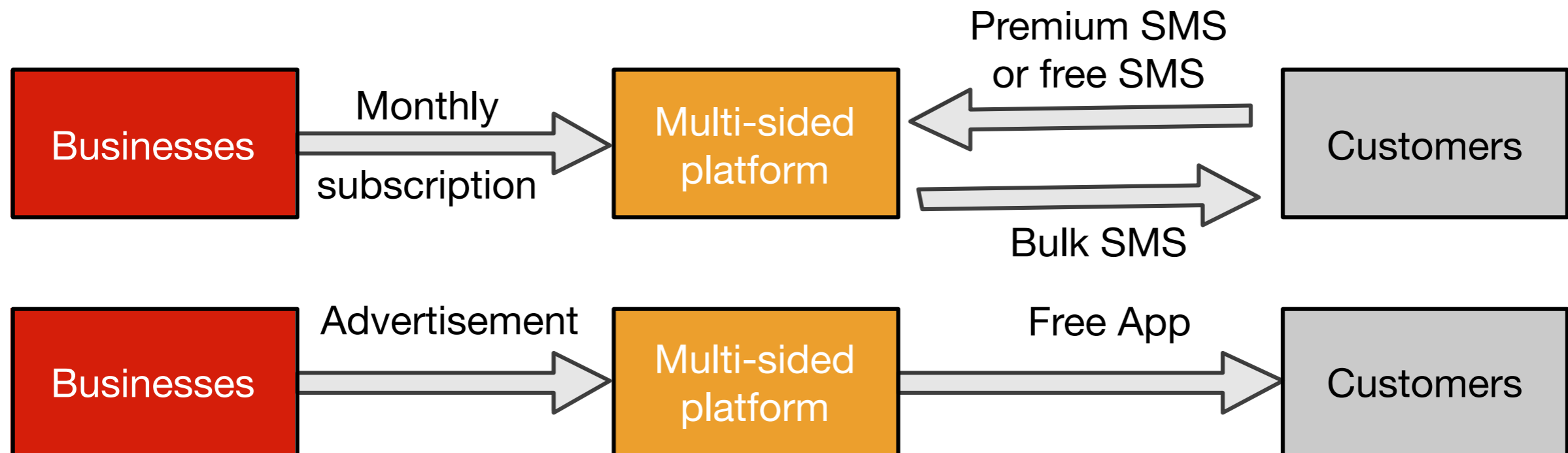
- ▶ Content may be delivered in the form of downloadable apps and SMS- or USSD-delivered information.
- ▶ Payment for the content is usually made by premium SMS. The advantage of this approach is its simplicity.
- ▶ Content is pushed out to subscribers via MNOs. However, while the content provider model is successful, its simplicity is also a disadvantage because MNOs dominate the value chain and earn the majority of revenue.





# (I) Revenue sources - multi-sided business models

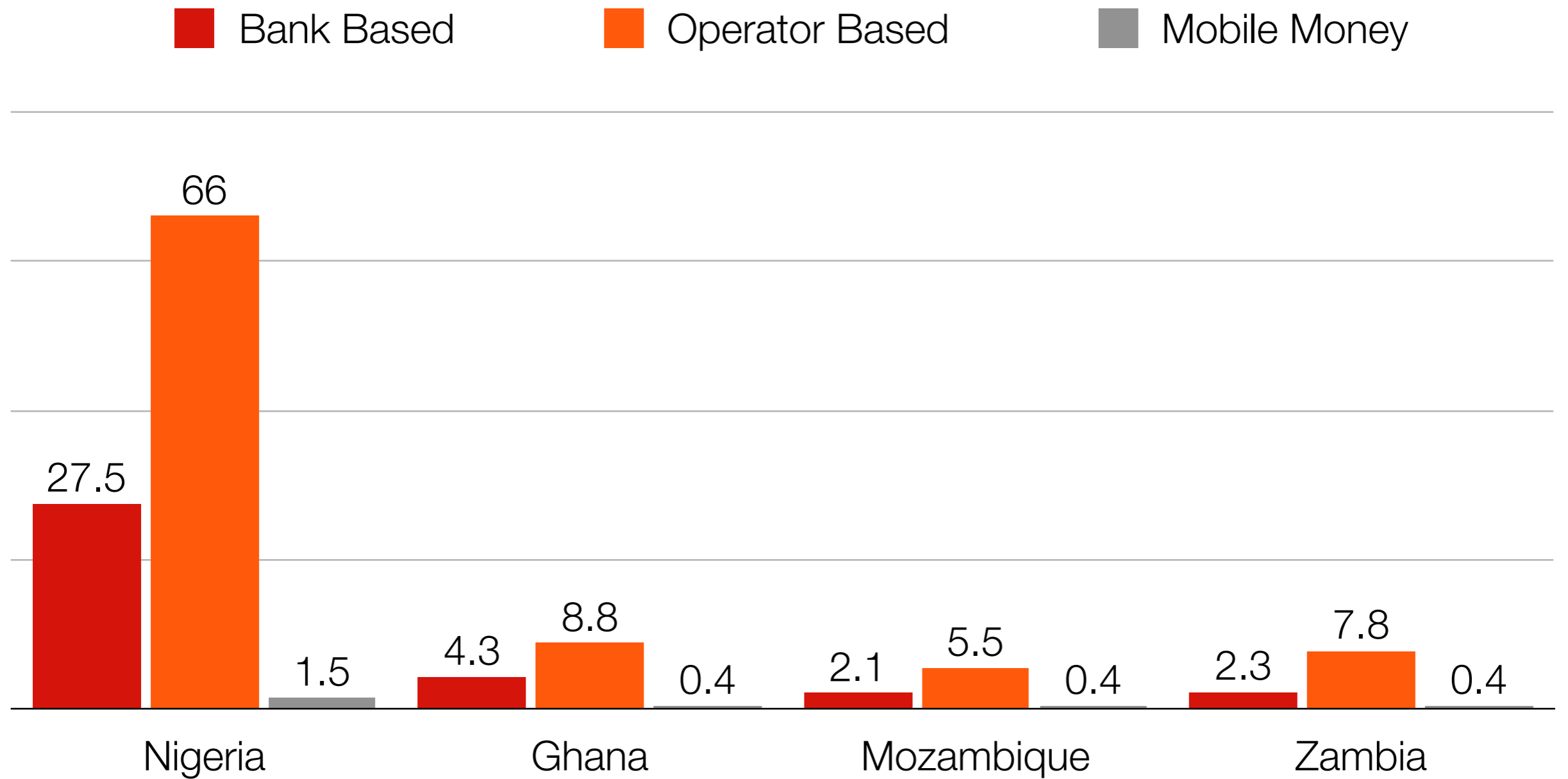
- ▶ Successful multi-sided platforms can tap revenue streams and are partially independent of MNOs.
- Content can be provided for free or for a lower amount to end users by charging the side that is either interested in the content delivery or that benefits from the interaction
- In-app advertisement is one of the most potent revenue streams for app developers for Smartphones. Free apps may grow a user base more quickly than paid apps and hence become more attractive to advertisers



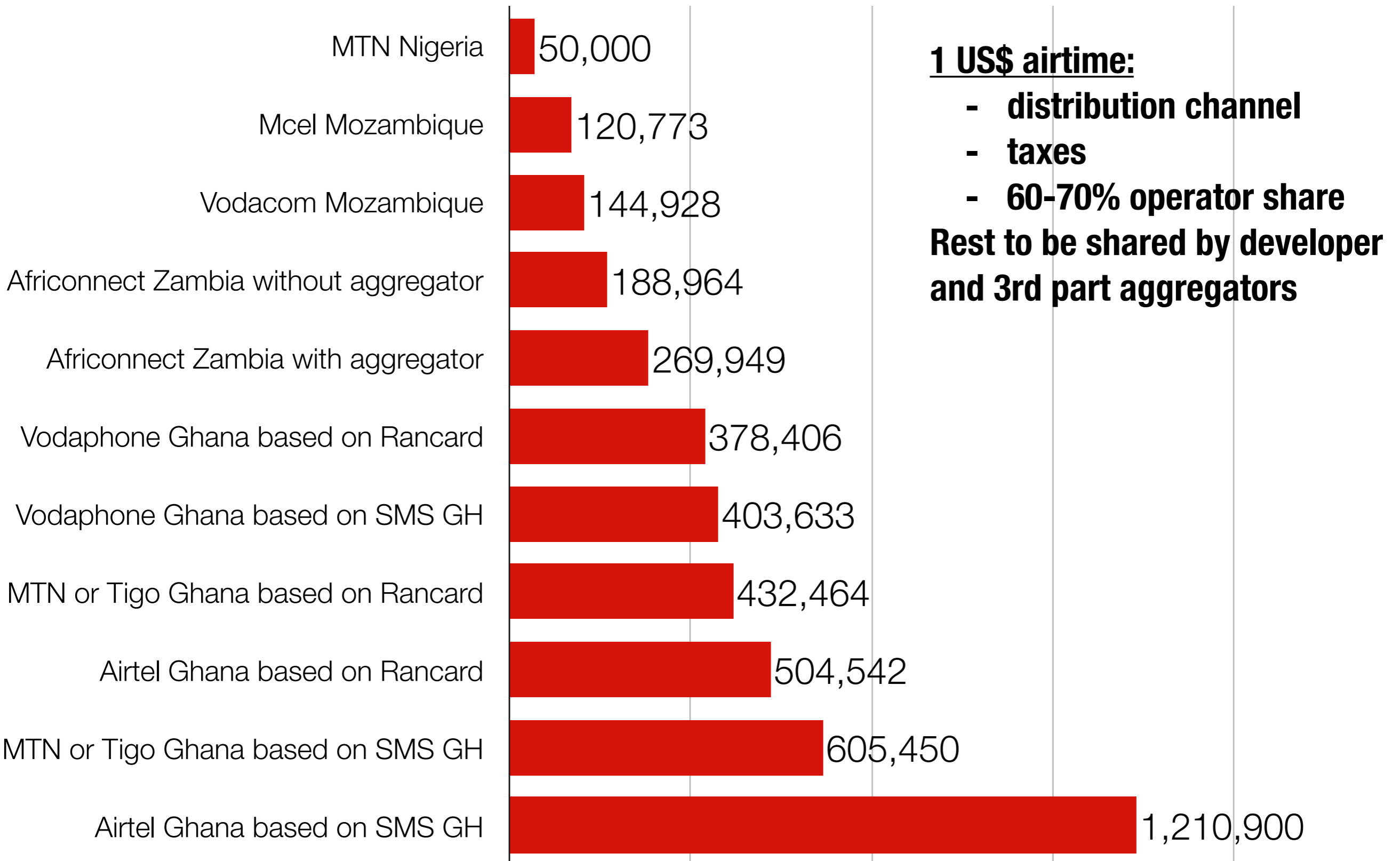
# (I) Revenue sources - example for a multi-sided business models



# (II) Payment Facilities - subscriber reach in millions

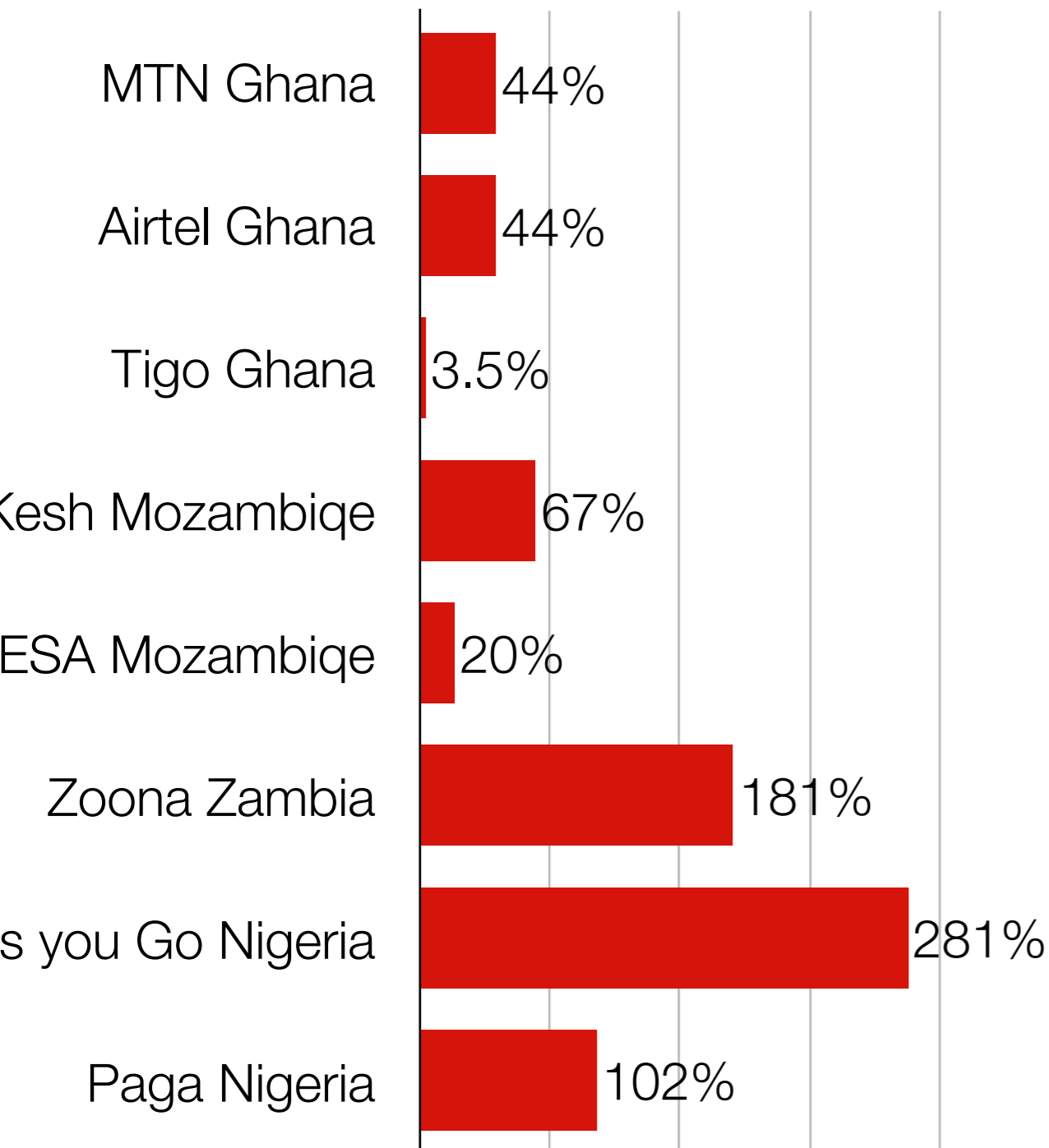


# (II) Payment Facilities - Number of premium SMSes required to raise USD 5,000 (10 US cents SMS)

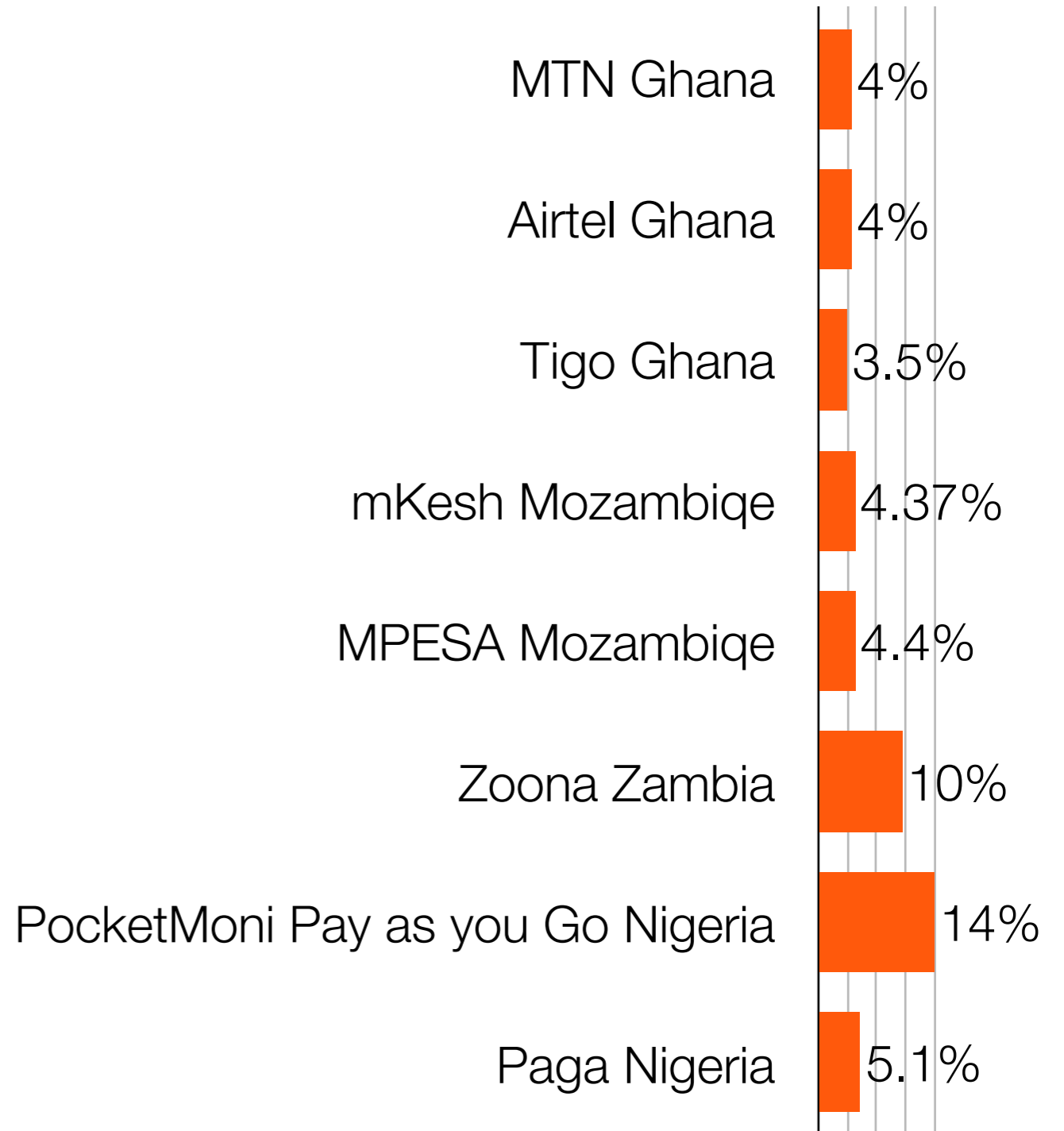


# (II) Payment Facilities - Mobile money cash to cash cost from registered user to registered user

**USD 0.5**



**USD 10**



# (II) Payment Facilities

Payment Options	Nigeria	Ghana	Zambia	Mozambique
Operator Based:	Operator Based:	Operator Based:	Operator Based:	Operator Based:
Premium SMS	Developer revenue share: 37% Customer base 15+: 66 million	Developer revenue share: 5-15% Customer base 15+: 8.8 million	Developer revenue share: 15% Customer base 15+: 7.8 million	Developer revenue share: 20-40% Customer base 15+: 5.5 million
Airtime transfer	Developer revenue share: 85-90% Customer base 15+: 66 million	Developer revenue share: 85-90% Customer base 15+: 8.8 million	Developer revenue share: 85-90% Customer base 15+: 7.8 million	Developer revenue share: 85-90% Customer base 15+: 5.5 million
Mobile Money:	Mobile Money:	Mobile Money:	Mobile Money:	Mobile Money:
Mobile Money	Developer revenue share: >95% Customer base: 1.5 million (active)	Developer revenue share: >95% Customer base: 400,000	Developer revenue share: >95% Customer base: 417,000	Developer revenue share: > 99% Customer base: 400,000+
Bank Based:	Bank Based:	Bank Based:	Bank Based:	Bank Based:
EFT/Cheque	Developer revenue share: >95% Customer base 15+: 27.6 million	Developer revenue share: >95% Customer base 15+: 4.3 million	Developer revenue share: >95% Customer base 15+: 2.3 million	Developer revenue share: > 95% Customer base 15+: 2.1 million
Credit / Debit Card	Developer revenue share: >95% Customer base: unknown	Developer revenue share: >95% Customer base: unknown	Developer revenue share: >95% Customer base: unknown	Developer revenue share: > 95% Customer base: unknown
Other:	Other:	Other:	Other:	Other:
Vouchers / Scratch cards	Developer revenue share: >95% Customer base 15+: 66 million	Developer revenue share: >95% Customer base 15+: 8.8 million	Developer revenue share: >95% Customer base 15+: 7.8 million	Developer revenue share: > 95% Customer base 15+: 5.5 million

## ► Premium SMS:

- Most viable payment facility for apps targeting the BoP
- Greatest reach
- Unfavourable revenue-sharing
- However, rates are generally negotiable despite operators insisting that premium SMS rates are fixed

# (III) Distribution Channel- Smart & feature phones

## Primary platform usage amongst mobile developers (source: Visionmobile, 2013)

Platform	% of developers
<b>Android</b>	<b>34.4%</b>
<b>iOS</b>	<b>32.7%</b>
HTML5 mobile	17.3%
Windows Phone	4.5%
BlackBerry	4.2%
Other	7%

## Which platform?

### OS App store features (source: App store websites & Wikipedia)

Name	Established	Revenue share	Total # of apps (approximate)
<b>Apple App Store</b>	<b>2008</b>	<b>70/30</b>	<b>&gt;1 million</b>
BlackBerry World	2009	70/30	235,000
GetJar	2004	Free	750,000
Nokia Ovi Store	2009	70/30	120,000
Samsung App Store	2009	70/30	Unknown
Windows Phone Store	2010	70/30	125,000

## How to gain visibility?

# **(III) Distribution Channel:**

## **Operator app store vs global app store**

- ▶ **Global app stores, such as Google Play,**
  - don't cater for local conditions or populations
  - ▶ Google does not allow African companies to register as merchant.
- ▶ **Operator store**
  - able to market apps with local content more easily
  - Operator app stores also provide the only way for app developers to sell their apps directly
  - If app developers have a viable business model, then MNOs will offer good terms. From a developer perspective if MNOs offer good terms, then app developers will develop apps. The net result is a dearth of local, commercial apps.
  - Operator app stores may charge a larger revenue share than global stores
  - Operator app stores may require exclusivity



# Policy Recommendations

## ▶ **Payment facilities are crucial for local app development**

- Mobile money implementation in Ghana and Nigeria is far from ideal
- Revenue share for developers may be regulated based on market power that mobile operators - subscriber monopoly

## ▶ **Distribution channels**

- Pressure on Google to allow African companies to register as merchants