



DFS Interoperability and Financial Inclusion: A 20-Country Scan

Presenter

Date

SMS Transactions Before and After Interconnection

SMS volumes, UK



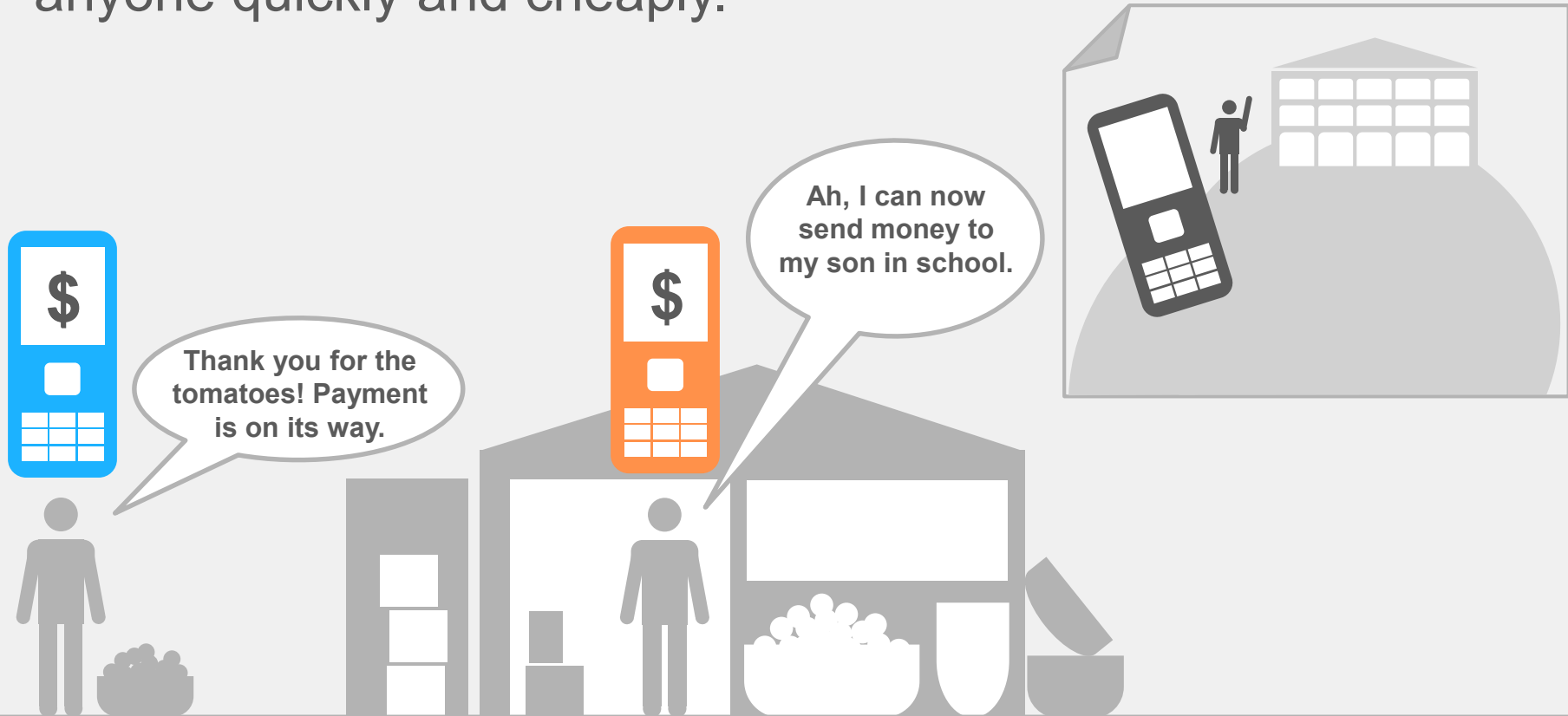
What is Interoperability in Digital Financial Services?

Interoperability is the ability for different systems to connect with one another. As it relates to DFS, interoperability is:

The ability for mass market users of DFS accounts to perform specific use case transactions between accounts of different providers.

Why does interoperability matter for financial inclusion?

Interoperable payment systems make it easier for people to send payments to anyone and receive payments from anyone quickly and cheaply.





For providers, interoperability might bring higher volumes and new business opportunities



While policy makers and development partners see interoperability as a means of fostering financial inclusion

CGAP Research: Global Scan on DFS interoperability

Glenbrook Partners gathered high-level data on interoperability in 20 countries



CGAP paper based on scan can be found at: <http://www.cgap.org/publications/digital-finance-interoperability-financial-inclusion> 6

Analysis of each country can be found in accompanying PowerPoint slide deck: <http://www.cgap.org/interop>

Three Functional Elements Needed for Effective Interoperability



Governance arrangements - Decision making to manage shared processes, rules, operations, and risk.



Business agreements and incentives - Models must work to balance economic interests of interoperability participants.



Technical Integration - Technical infrastructure must exist to connect participants and transfer payments and related data.

In the 20 markets, much of the focus has been on technical connections, not on the other elements that are critical to creating volume and economic value.

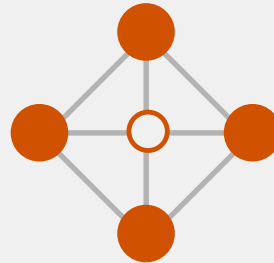
Three Interoperability Arrangements help achieve interoperability

BILATERAL



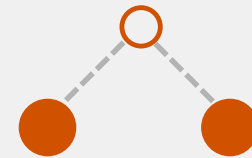
Two providers negotiate directly to set rules and pricing.

MULTILATERAL



Three or more providers agree shared common rules (a scheme)

THIRD-PARTY SOLUTION



Facilitates transactions between two or more providers. Rules and pricing set by third party. Ability to negotiate depends on volumes.

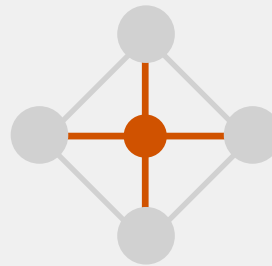
Three Interoperability Arrangements: Technical Level

BILATERAL



Two providers **connect** with each other directly. (e.g. through API)

MULTILATERAL



Any number of providers **connect** to a central piece of infrastructure (switch).

THIRD-PARTY SOLUTION



A non-provider facilitates **connection** (e.g. by holding accounts at two or more providers).

All 20 countries have some form of interoperability

	BILATERAL	MULTILATERAL	THIRD PARTY
Bangladesh	✓		✓
Brazil	✓	✓	✓
Côte d'Ivoire	✓		✓
Ecuador		✓	
Egypt	✓	✓	✓
Ghana	✓		✓
India		✓	✓
Indonesia	✓	✓	
Jordan		✓	
Kenya	✓		✓
Madagascar	✓	✓	
Mexico		✓	✓
Nigeria		✓	✓
Pakistan		✓	✓
Peru	✓	✓	
Philippines	✓		✓
Rwanda	✓	✓	✓
Sri Lanka	✓		✓
Tanzania	✓	✓	✓
Thailand	✓	✓	

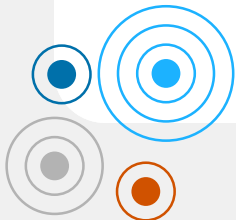
However, meaningful progress towards interoperability is nascent



To determine penetration of an interoperability in a market, ideally we would know:

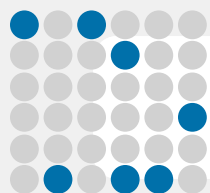


How many interoperable use cases have been developed?



How widely are these being used?

Progress difficult to determine



Very **limited data** on transaction volumes available – Assume low in most markets



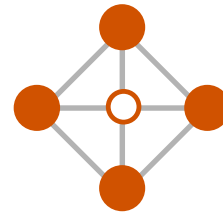
Interoperability is **complex and often messy** – In all markets, multiple arrangements for interoperability co-exist.

Example: Tanzania

Governance

Technical

For mobile money P2P transactions,
a multilateral scheme with bilateral
technical connections



..but some MNO-bank connections
and other use cases
rely on bilateral arrangements.

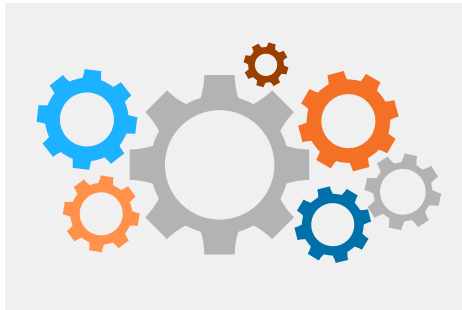


..and for still other use cases
(e.g. bill pay) aggregators also
serve the market.



Two distinct patterns in journey towards multilateral interoperability

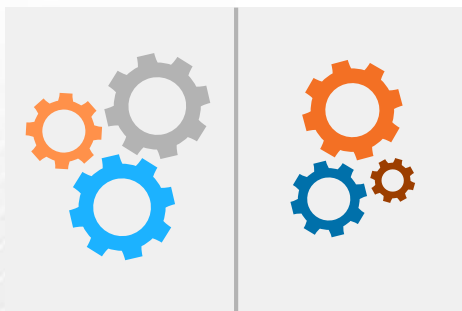
MARKET WIDE



Central blueprint; covers majority of providers and transaction types. Usually pushed by regulator or organization close to government.

Technical Integration: Technology is usually large-scale early on – central switch.

FOCUSED



Subset of providers (usually non-banks) solve interoperability only for specific use cases

Technical Integration: Often direct technical connections (e.g. API)

Neither approach has emerged as dominant driver

Active DFS Accounts
(per 1,000 adults)

Market-Wide Pattern

No dominant pattern,
multiple drivers at play

Focused Pattern

High
(more than 250)

Ghana

Côte d'Ivoire

Tanzania

Kenya

Rwanda

Intermediate
(30 to 250)

Brazil

Nigeria

Bangladesh

Philippines

Madagascar

India

Pakistan

Sri Lanka

Mexico

Low
(less than 30)

Ecuador

Egypt

Indonesia

Jordan

Thailand

Peru

Neither approach has emerged as dominant driver

Active DFS Accounts
(per 1,000 adults)

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High
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Ghana Côte d'Ivoire

Tanzania

Over 140 in connected whether incentives for new

Technical connections enabled via banking switch. Low transaction volumes may be due to inappropriate pricing for small-value transactions.

Intermediate
(30 to 250)

India Pakistan Sri Lanka
Mexico

Philippines Madagascar



Low
(less than 30)

Ecuador Egypt
Jordan
Peru



Indonesia
Thailand

Which approach is better? Too early to tell...

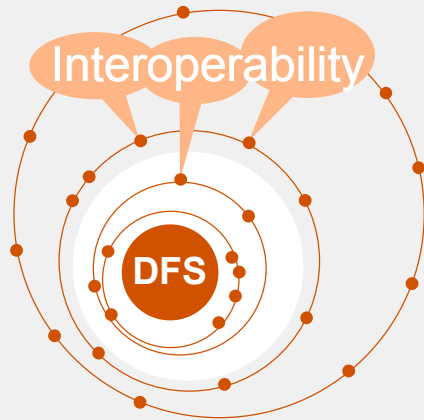
MARKET WIDE

- | | |
|--|---|
| <p> Pros:</p> <ul style="list-style-type: none">• Build broad set of connections across range of bank and non-bank providers• Designed for multiple use cases from the start | <p> Cons:</p> <p>Emphasis on technical architecture and less on reasons providers participate</p> |
|--|---|

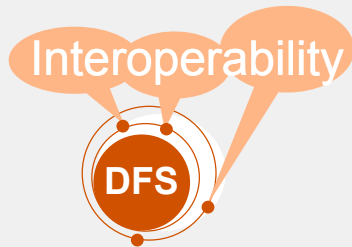
FOCUSED

- | | |
|---|---|
| <p> Pros: Stronger on business models and rules</p> | <p> Cons: Smaller groups of providers and narrower range of use cases to start</p> |
|---|---|

Timing



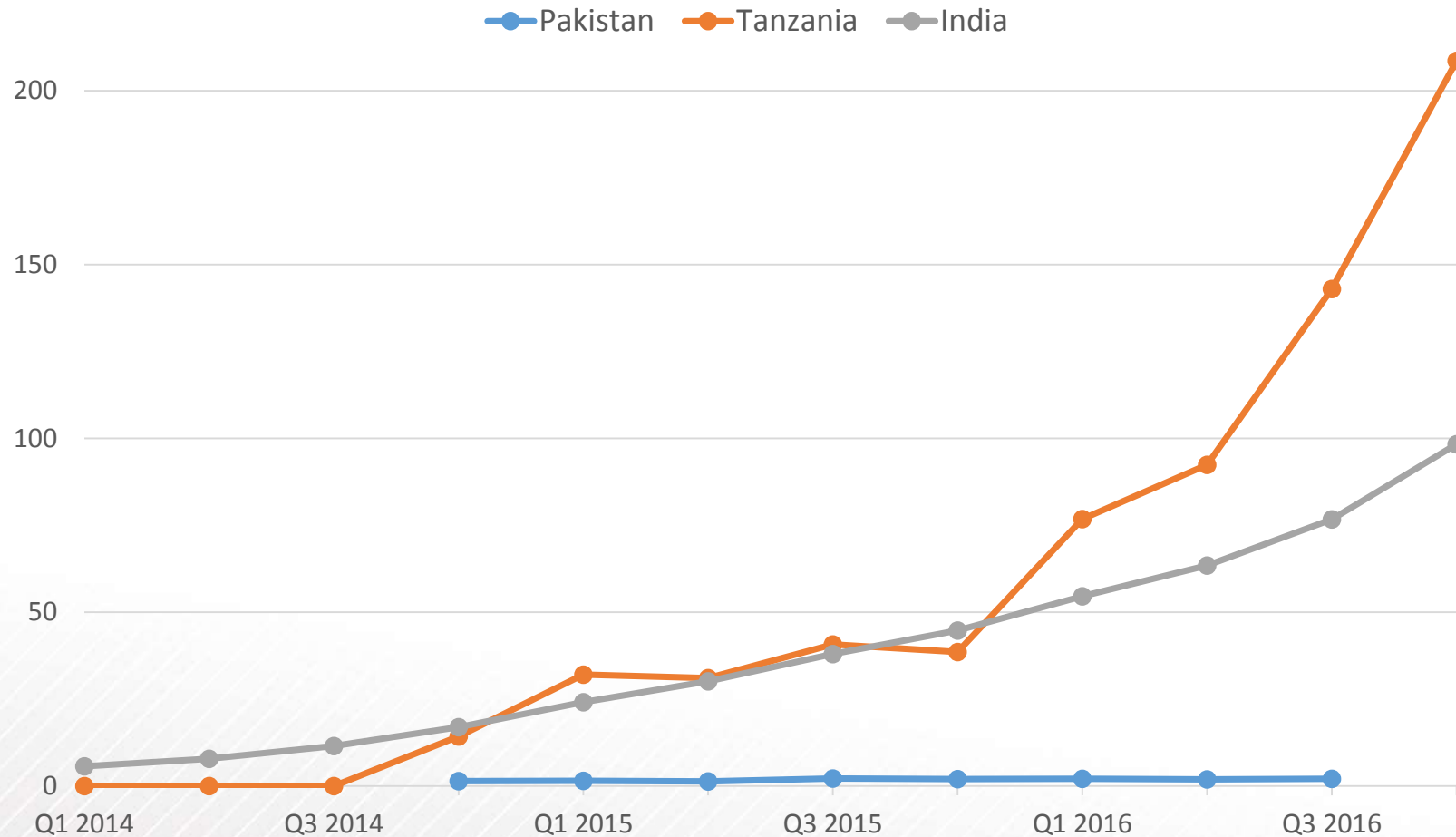
In some countries, interoperability is discussed as the DFS ecosystem grows and matures – *Example Tanzania*



In other markets, discussions start before DFS has made a sizeable impact – *Example Jordan, Ecuador, Peru*

Two countries show rise in interoperable transaction volumes

Interoperable Transactions per 1,000 adults

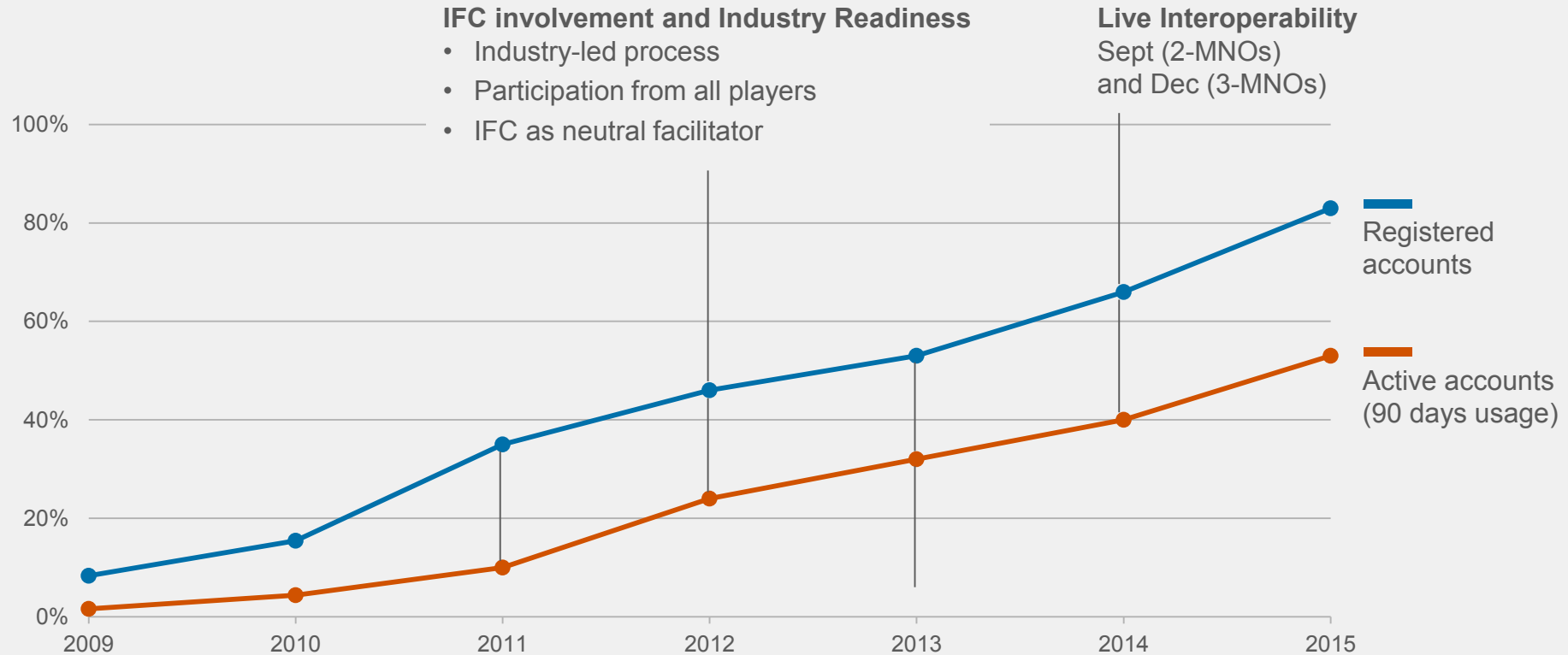




Case Study: Tanzania

A process, not a prescription

Tanzania MFS Access and Usage (2008–2015)



Industry demand for interoperability
• Some providers begin pushing for interoperability

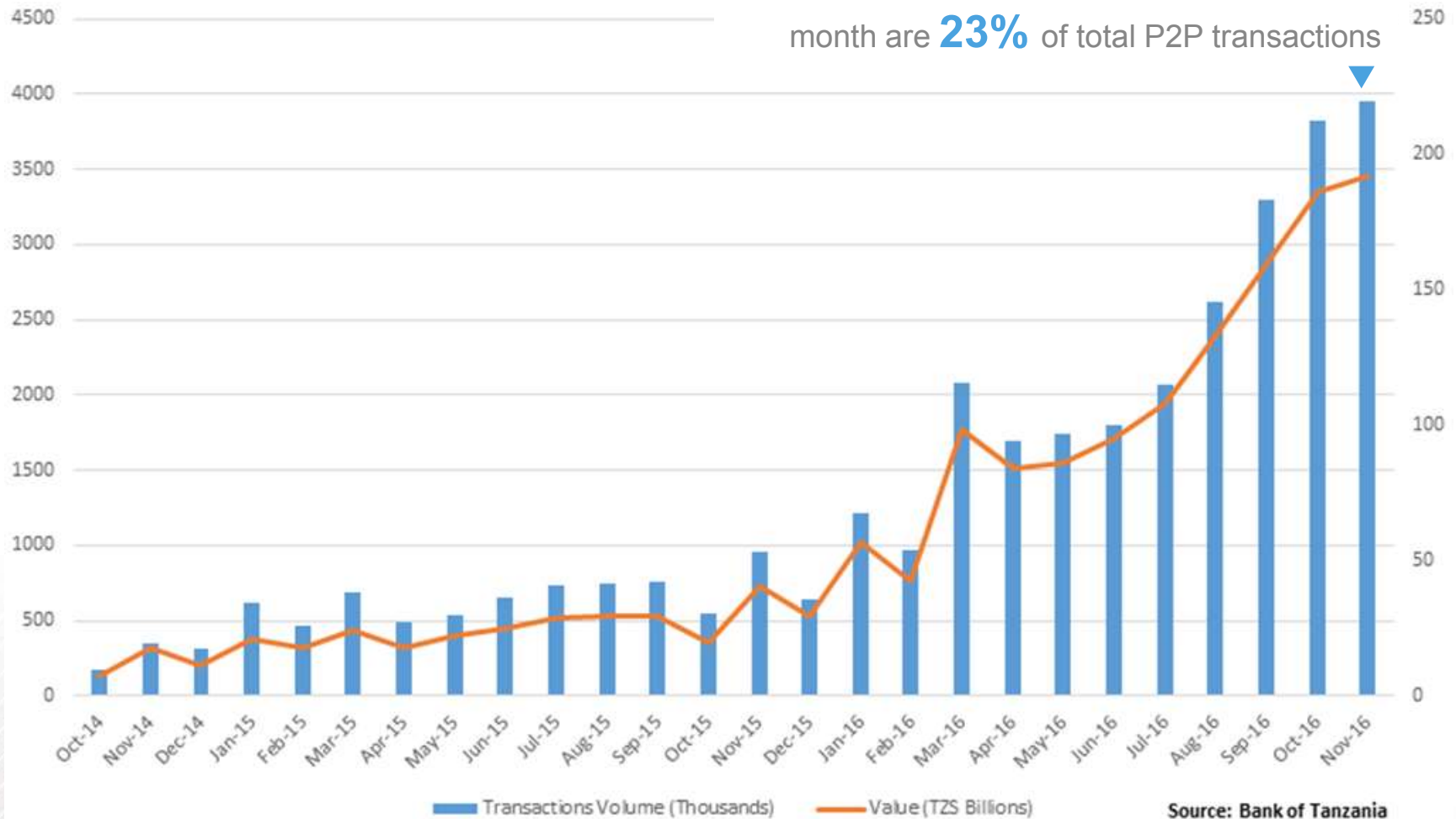
Project kick-off
• Central Bank endorses market approach to interoperability

2016 February
Live Interoperability of the 4th MNO making all MNOs interoperable

Tanzania interoperable transactions

Direct, off-us P2P transactions, in Tanzania (October 2014–November 2016)

3.9m P2P interoperable transactions per month are **23%** of total P2P transactions



Source: Bank of Tanzania

Lessons Learned

- 1. Allow industry to define the rules.** Mandating interoperability through regulations may create market distortion.
- 2. Identify an independent facilitator.** This assures participants that the process will not be hijacked by commercial or political interests
- 3. Close collaboration between financial services providers, regulators and donors is critical.** This is especially important when it comes to creating ground rules and an enabling environment for multilateral interoperable scheme
- 4. Don't expect to accomplish all at once.** Providers may be at different levels of readiness, therefore focusing on ground rules or on specific use cases affords everyone an opportunity to contribute to the vision.
- 5. Have a plan.** Outline the key issues to be addressed and agree on specific timelines, deliverables and resources needed.

Conclusions



Three functional elements must come together for mass-market interoperability to work: governance arrangements, business agreement and technical integration.



Market-wide blueprints plan for the long-term with multiple use cases and types of providers. Focused approaches are more limited but build from provider needs.



Interoperability is not binary; it progresses over time with many different permutations visible in a single country.

Many Questions Remain



What should the role of government be?

Does timing matter?

How can we give more attention to governance and business arrangements?

Which technical approach is best?

What is the best way to solve for CICO interoperability?

