Digital Finance and Interoperability: 20 Country Scan

As of September 2016
CGAP commissioned **Glenbrook Partners** to conduct a global landscaping of various interoperability arrangements across 20 countries in Africa, Asia and Latin America. The study was carried out between May to September 2016.

The objective of the project was to collect global evidence about the current range of initiatives to achieve interoperability, and categorize these initiatives based on key interoperability enablers and outcomes. The scan also sought to identify key emerging trends to enable interoperability to achieve financial inclusion.

To enable comparison across 20 countries, Glenbrook Partners was asked to summarize the interoperability solutions observed in some countries, which has resulted in summary descriptions of some markets or the interoperability capabilities of some countries. Therefore, the observations from the scan are best used as a source of high level comparison and for global patterns. The country examples are not intended to be a complete source of information about any one particular country’s payment infrastructure.

The information on each country in this report is current as of September 2016.

Please read the Working Paper **Digital Finance Interoperability and Financial Inclusion: A 20 Country Scan** for the overall analysis and conclusions of this scan. This powerpoint deck includes a one slide summary per country.
20 Countries Included

- Peru
- Brazil
- Ecuador
- Mexico
- Cote d'Ivoire
- Ghana
- Nigeria
- Kenya
- Rwanda
- Tanzania
- Jordan
- Sri Lanka
- Pakistan
- Bangladesh
- India
- Thailand
- The Philippines
- Indonesia
- Madagascar
- Egypt
- Tanzania
To enable comparison among global interoperability initiatives Glenbrook Partners adopted the following approach...

**Develop Initial Framework**
- Developed an analytical framework to enable comparison of different interoperability processes, arrangements and outcomes

**Global Scan**
- Conducted a global scan of major domestic interoperability arrangements on 20 target countries across Africa, Asia and Latin America
- Gathered qualitative and quantitative information

**Framework Analysis**
- Conducted a framework analysis by sifting the country level information through the framework
- Made comparisons, observations and identified emerging trends

**Tasks Undertaken**
- Desk review of all remotely available materials related to interoperability in target countries
- Telephonic interviews with development partners and country experts

**Methodology**
- In depth telephonic interviews with in-country stakeholders that included –
  - Providers
  - Regulators
  - Interoperability switch and scheme providers

- In depth telephonic interviews with in-country stakeholders that included –
  - Providers
  - Regulators
  - Interoperability switch and scheme providers
  - Third Party Solutions
**DFS Accounts**: Small value transactional accounts aimed at large portions of the mass market, often oriented towards financial inclusion. These accounts often include tiered-KYC and can be issued by banks or non-banks. The accounts must also be accessible over a digital channel (e.g. phone, agent, cards or merchant network) and be able to transact instantly. A subjective assessment was made of which accounts to include in each market.

**Use Cases**: DFS accounts can serve several specific transaction types or ‘use cases’. The use cases included in this survey are: person to person (P2P), person to business (P2B) including merchant and bill payments, bulk payments including government to person and business to person (G2P and B2P), and cash in and cash out (CICO). In a given market, only some use cases might be interoperable.

**OTC**: financial services are delivered without the provision of DFS Accounts. Many aggregators which process millions of P2P or bill payment transactions do this over-the-counter without the provision of DFS accounts and hence were not included in this scan.
Arrangements for Interoperability

Arrangements that enable use cases to be interoperable can be broadly categorized into three types

1. **Multilateral Agreements** - Multilateral agreements include three or more providers and a formalized set of shared common rules.

2. **Bilateral Agreements** - Bilateral agreements exist between two providers who transact directly with each other on agreed terms. Similar to the global voice roaming business, the two parties negotiate directly to set rules, pricing, and other related considerations for interoperability.

3. **Third Party Solutions** - Independent third parties can also play an important service to the market by facilitating transactions between providers. These third parties do not issue accounts (stores of value) themselves but connect other providers. In some countries, aggregators offer these third party solutions.
Market Analysis Framework, part 1: DFS Accounts

For each country, the set of providers identified as issuing DFS accounts is listed in the central box.

DFS Accounts

Digitally enabled transactions accounts targeting the unbanked segment. Provided by licensed non-banks or by banks (Does not include legacy bank accounts)
## Transactional Use Cases

**Common use cases that transact into or out of DFS Accounts.**

<table>
<thead>
<tr>
<th>In</th>
<th>Out</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Person to Person Payments (P2P)</strong></td>
<td><strong>DFS to DFS</strong></td>
</tr>
<tr>
<td><strong>Legacy to DFS</strong></td>
<td><strong>DFS to Legacy</strong></td>
</tr>
<tr>
<td><strong>Cash In</strong></td>
<td><strong>Cash Out at Agents</strong></td>
</tr>
<tr>
<td><strong>Cash In at Agents</strong></td>
<td><strong>Cash In at ATMs</strong></td>
</tr>
<tr>
<td><strong>Cash In at ATMs</strong></td>
<td><strong>G2P Payments</strong></td>
</tr>
<tr>
<td><strong>Consumer to/from Enterprise Payments</strong></td>
<td><strong>Employer Payments</strong></td>
</tr>
</tbody>
</table>

**DFS Accounts:**

Digitally enabled transactions accounts targeting the unbanked segment. Provided by licensed non-banks or by banks (Does not include legacy bank accounts).
Market Analysis Framework, part 3: arrangements for interoperability

Types of Arrangements that enable interoperable use cases

- **Multilateral Agreement**
- **Bilateral Agreement**
- **Third Party Solution**

Usually, more than one arrangement that enables interoperability co-exists.

Common use cases that transact into or out of DFS Accounts:

**in**

- **Person to Person Payments P2P**
  - DFS to DFS
  - Legacy to DFS
- **Cash In at Agents**
- **Cash In at ATMs**
- **Consumer to/from Enterprise Payments**
  - G2P Payments
  - Bill Payments
  - Employer Payments

**out**

- **DFS to DFS**
- **DFS to Legacy**
- **Cash Out at Agents**
- **Cash Out at ATMs**
- **Merchant Payments**

Transactional Use Cases

- **Cash In**
- **Cash Out**
- **CICO** (Cash In, Cash Out)

Digital payment accounts targeting the unbanked segment provided by licensed non-banks or by banks (Does not include legacy bank accounts).
No interoperability; extensive OTC practices

Bkash only allows on-us merchant payments only

Interoperable via aggregators

Cash-Out from ATMs through bilateral agreement with partner bank

Not interoperable

Agents are non-exclusive

Only few providers offer cash-in facility at ATMs

Not interoperable

DFS Accounts

Providers: bKash; SureCash; DBBL’s Rocket

DFS to DFS

Legacy to DFS

CI at agents

CI at ATMs

Bulk Payments

DFS to DFS

DFS to Legacy

CO at agents

CO at ATMs

Bill Payments

Merchant Payments

Survey is current as of September 2016
Mobile money accounts are not interoperable; Simplified bank accounts are interoperable via TED

Interoperable via bilateral agreements and TED

Mobile money providers enable cash-in at partner bank agents via bilateral agreement

Only few providers offer cash-in facility at ATMs

No interoperability; all G2P payments made through National Bank (Caixa)

DFS Accounts

Providers: Zuum; Claro; Oi; Tim; simplified bank accounts; prepaid eWallets (e.g. ContaSuper)

DFS to DFS

Legacy to DFS

CI at agents

CI at ATMs

Bulk Payments

DFS to Legacy

CO at agents

CO at ATMs

Bill Payments

Merchant Payments

Mobile money accounts are not interoperable; Simplified bank accounts are interoperable via TED

Interoperable via bilateral agreements and TED

Most DFS Accounts can be used to cash out at ATMs enabled by Banco 24 Horas ATM Network

Enabled through third parties such as Zanterra; Boleto system allows interoperable bill payments

Mobile money accounts interoperable via companion cards; Card based DFS Accounts are cobranded by VISA or MasterCard

Survey is current as of September 2016
Some providers offer through their partnerships with banks, also enabled by third parties.

Agents not interoperable via scheme; Agents are non-exclusive

Interoperable cash-In facility at ATMs not widely offered

At a nascent stage; not interoperable

DFS Accounts

Provider: Orange Money; MTN Mobile Money; Flooz, Qash

in

DFS to DFS

Legacy to DFS

CI at agents

CI at ATMs

Bulk Payments

out

DFS to DFS

DFS to Legacy

CO at agents

CO at ATMs

Bill Payments

Merchant Payments

No interoperability among mobile wallets

Some providers allow cash out at partner bank ATMs, also enabled by third parties.

Agents not interoperable via scheme; Agents are non-exclusive

Some providers offer through their partnerships with banks, also enabled by third parties.

Not interoperable; At a nascent stage; paying school fees is becoming a popular use case

Some providers offer companion cards which are accepted at VISA & MasterCard merchants

Survey is current as of September 2016
Currently used for tax payments; other services being planned

Interoperable among some ATMs that are affiliated with @fectivo

Service not available

Interoperable among retailers and bank agents affiliated with @fectivo

Interoperable with cooperativas, mutualistas and banks

Interoperability achieved through central bank as single issuer
Enabled by aggregators such as Fawry; P2M payments using new switch by MasterCard is WIP.

Agents interoperable via scheme; Non-exclusive agents are also found in the market.

Limited interoperability, only between accounts owned by the same person.

Interoperable but nascent; all DFS Accounts providers expected to join new EBC switch by MasterCard.

Only few providers offer cash-in facility at ATMs.

Enabled by banks via ACH and the transfer orders are fed by the Bank or by EBC Mobile Hub to the Mobile platform.

Survey is current as of September 2016.
No interoperability among mobile wallets

MTN and Airtel Money offer this service with their partner banks

Not interoperable but agent are non-exclusive by regulation

Only few providers offer cash-in facility at ATMs

Bulk payment interoperability through aggregators such as Interpay Africa

Major provider: Tigo Cash; MTN Mobile Money; Airtel Money

DFS Accounts

DFS to DFS

Legacy to DFS

CI at agents

CI at ATMs

Bulk Payments

DFS to Legacy

CO at agents

CO at ATMs

Bill Payments

Merchant Payments

MTN and Airtel Money offer this service with their partner banks

Airtel Money and MTN Mobile money can be withdrawn in partner banks ATMs

Ecobank and Kopo Kopo's Paywith can accept Tigo Cash and MTN

Survey is current as of September 2016
Currently enabled via RuPay, IMPS; further interoperability expected via UPI.

Several third parties e.g. bill desk; soon Bharat Bill Pay System will enable direct interoperability.

Fully interoperable with all ATMs via National Financial Switch.

Currently enabled via RuPay, IMPS; further interoperability expected via UPI.
Indonesia

G2P payments are at a nascent stage. G2P pilot covering 5000 beneficiaries started in 2014.

Agents not interoperable via scheme; Non exclusive telco agents found in the market.

Enabled through bilateral agreements with partner banks and ATM networks.

Multilateral rule set and commercial agreement among three MMOs.

Survey is current as of September 2016.
Interoperable pilots underway by JoMoPay; major pilots with public transit, also NFC POS payments

JoMoPay will be linked to central bank owned bill and utilities payment system, eFawateer.com

JoMoPay is linking to ATM network to conduct card less transactions for cashing out

Agents are interoperable via JoMoPay; Agent exclusivity is prohibited

Limited interoperability, only between accounts owned by the same person

JoMoPay is linking to ATM network; some will be able to support cash in.

Interoperable through new JoMoPay switch; providers just coming on board

JoMoPay is linking to ATM network; will be able to support cash in.

Agents are interoperable via JoMoPay; Agent exclusivity is prohibited

Limited interoperability, only between accounts owned by the same person

Interoperable pilots underway by JoMoPay

DFS Accounts

Providers: Zain Cash; Alholoul; Aya; Dinarak

Survey is current as of September 2016
Bill payment interoperability through third parties such as Cellulant.

Limited interoperability. Equitel makes it possible through bill payment option. Prohibitive pricing.

M-Pesa connected with 30 banks via Cellulant; bilateral connection also exits.

Agents not interoperable via scheme; Agents are non-exclusive.

Only few providers offer cash-in facility at ATMs.

Bulk payment interoperability facilitated through banks and their relationship with MMOs.

Only few providers offer cash-in facility at ATMs.

Survey is current as of September 2016.
No aggregators; not interoperable providers form direct relationship with billers.

Multilateral rule set and bilateral commercial agreement with three MMOs.

Through bilateral agreement with partner banks; bank account and wallet need to be linked.

Agents not interoperable via scheme; Agents are non-exclusive.

Only few providers offer cash-in facility at ATMs.

No aggregators; not interoperable.

Survey is current as of September 2016.
Interoperability enabled through card networks such as PROSA and EGLOBAL.

Enabled through aggregators such as Oxxo.

All types of bank accounts* fully interoperable through SPEI.

Technically interoperable via SPEI but chargeable and not widely used. Aggregators such as Oxxo operate in the market.

Only few providers offer cash-in facility at ATMs.

Bulk payments happening via SPEI but most of the bulk payments happening via ACH.

Survey is current as of September 2016.
Nigeria

Interoperable through NIBBS; problems of pricing and governance

Interoperable through NIBBS; operation problems; not working well

Nascent “super agent” networks will enable CI at other agents via NIBBS

Only few providers offer cash-in facility at ATMs

Enabled by aggregators and NIBBS

DFS Accounts

Providers: Banks & non banks but not Telcos: FETS; Etranzact; Pagatech and First Monie

DFS to DFS

Legacy to DFS

CI at agents

CI at ATMs

Bulk Payments

DFS to Legacy

CO at agents

CO at ATMs

Bill Payments

Merchant Payments

Interoperable through NIBBS; problems of pricing and governance

Nascent “super agent” networks will enable CO at other agents via NIBBS

Cash out at ATMs via NIBBS

Enabled by aggregators and NIBBS

Survey is current as of September 2016
Pakistan

Interoperable through 1Link switch but not extensively used; extensive OTC practices

Agents not interoperable via scheme; Agent are partially non-exclusive

Interoperable cash-in available at 1Link ATMs for 1Link participants

Benazir Income Support Program is using 1Link on a limited basis

DFS Accounts

Providers: Easypaisa; Jazzcash; Upaisa; UBL Omni; Timepey Mobile Paisa HBL Express

DFS to DFS

Legacy to DFS

CI at agents

CI at ATMs

Bulk Payments

DFS to DFS

DFS to Legacy

CO at agents

CO at ATMs

Bill Payments

Merchant Payments

Interoperable through 1Link switch but not extensively used; extensive OTC practices

Agents not interoperable via scheme; Agent are non-exclusive

Cash out through companion card at 1Link and Mnet ATMs

Interoperable via aggregators. 1Link allows bill payments to 22 billers via 1Link ATM

Closed loop merchant pilots starting; Not interoperable

Survey is current as of September 2016
Peru

Interoperability achieved through Bim Switch; recently launched
Limited interoperability, only between accounts owned by the same person
Any Bim consumer can cash-in at any agent through Bim issuer agent sharing agreement
Only few providers offer cash-in facility at ATMs
Work in progress via Bim

DFS Accounts
Providers:
Large commercial banks; non-bank (EEDE): Gmoney; Tu Dinero Movil

DFS to DFS
CO at agents
CI at ATMs
Bulk Payments

DFS to Legacy
CO at ATMs
Bill Payments
Merchant Payments

DFS to DFS
Interoperability achieved through Bim Switch; recently launched
Limited interoperability, only between accounts owned by the same person
Any Bim consumer can cash-out at any agent through Bim issuer agent sharing agreement
Limited interoperability, only between accounts owned by the same person
Interoperable via ATM networks
Government Tax payment via Bim; others being planned
Work in progress via Bim

Survey is current as of September 2016

KEY
- Multilateral
- Bilateral
- Third Party
Providers offer companion cards which are accepted at MasterCard merchants. Enabled by aggregators. Bilateral connection with banks and ATM networks. Agents not interoperable via scheme; Agents are non-exclusive. Money can’t be sent from mobile money wallets to bank accounts. Limited interoperability; GCASH–PayMaya interoperability in nascent stage.

Survey is current as of September 2016.
Rwanda

Rswitch offers interoperability at POS; MMOs acquire their own merchants; Rswitch may play a role. Interoperability facilitated by aggregators such as Pivot: e-sale, MVend.

Cash out at ATM enabled by connecting to Rswitch. mVISA platform enables agent I/O which is used mainly by MFBs; agents are non-exclusive. Bilateral arrangement with banks; Linking of accounts needed.

Tigo Cash and Airtel Money interoperable via Rswitch. Only few providers offer cash-in facility at ATMs. Not widely used but Rswitch’s E-Huriro platform may play a role in the future.

Survey is current as of September 2016.
Sri Lanka

Survey is current as of September 2016
Bilateral agreements among four MMOs – M-Pesa, Tigo Pesa, Ezy Pesa & Airtel Money

Direct bilateral relationship with 4 banks and through Selcom with 35 banks

Enabled by third parties such as Maxcom, Selcom; agent are non-exclusive

Only few providers offer cash-in facility at ATMs

Enabled by aggregators such as Selcom, Maxcom and E-Fulusi

DFS to DFS

Legacy to DFS

CI at agents

CI at ATMs

Bulk Payments

BULK

P2P

CICO

DFS Accounts

Providers: Vodacom M-Pesa; Tigo Pesa; Zantel Ezy Pesa; Airtel Money;

DFS to DFS

Direct bilateral relationship with 4 banks and through Selcom

DFS to Legacy

CO at agents

CO at ATMs

Bill Payments

Merchant Payments

Bilateral agreements among four MMOs – M-Pesa, Tigo Pesa, Ezy Pesa & Airtel Money

Enabled by third parties such as Maxcom, Selcom; agent are non-exclusive

Through bilateral relationship, Umoja ATM switch and Selcom Cashpoint ATMs

Bill payment interoperability through aggregators such as Maxcom

Enabled by aggregators such as Selcom

Survey is current as of September 2016
Providers offer companion cards which are accepted at MasterCard merchants. Not interoperable; no aggregators; providers form direct relationship with billers.

Bilateral agreement with wallet providers and bank partners; and banks connected to ATM network.

Mobile wallets interoperable via MasterCard switch; Bank accounts will be interoperable via PromptPay.

Agents not interoperable via scheme; Agents are non-exclusive.

Mobile wallets are not allowed to connect to PromptPay; Banks interoperable via bilateral agreement.

Banks handle most of the bulk payments through ITMX; wallets don’t offer bulk payments.

Legacy to DFS

CI at agents

CI at ATMs

Bulk Payments

DFS to DFS

DFS to Legacy

CO at agents

CO at ATMs

Bill Payments

Merchant Payments

Providers offer companion cards which are accepted at MasterCard merchants.
Advancing financial inclusion to improve the lives of the poor

www.cgap.org