Three Insights for Digital Payments Interoperability
Executive’s Guide

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Broadly defined, interoperability is a two-way interaction between any two or more systems, as illustrated below by some popular consumer services.

- **Interoperable**
  - e-mail: full interoperability among all types of e-mail providers around the world, using the Simple Mail Transfer Protocol (SMTP) established in 1982.
  - passenger airlines: interoperability among code-share partners (e.g., ticketing, baggage forwarding, reward redemption, etc.), but not across networks / other airlines.

- **Non-interoperable**
  - social media: no interoperability between any social networks (e.g., cannot view, or post messages to, a member of another social network). Most social networks have built “walled gardens” around their platforms.
  - digital music: no interoperability between music players – though some companies allow music formats (such as mp3 files) to be “imported” to its system.
Due to their importance in people’s daily lives, the financial services and telecommunications industries have traditionally been pioneers in enabling interoperability.

**Financial Services**
- **fiat currency**: Cash is interoperable: most currency issued and backed by a state can be exchanged for a number of other currencies, usually at least the US Dollar.
- **self-service machines (ATMs)**: Developed markets have full ATM interoperability, allowing the customer of one bank to use the ATM machine of another bank. Domestic ATM interoperability is not always the norm in emerging markets (e.g., Brazil); the same goes for cross-border ATM transactions.

**Telecommunications**
- **fixed-line telephony**: Full interconnection exists among providers of landlines around the world, enabling international phone calls since the 1960s.
- **mobile telephony (roaming)**: Mobile operators must strike roaming agreements directly with operators in a local market, allowing their customers to use mobile telephony outside their home market. While roaming agreements exist between operators of larger markets (such as China and Mexico), there are usually gaps in coverage between smaller players (e.g., Laos and Ecuador).
The vision for fully interoperable digital payments is that electronic transactions can be performed regardless of service provider or form factor, for any product*, and in any market.

As with e-mail, the utopia for digital payment transactions is that they simply work for the user – safely, rapidly, and cheaply – irrespective of technology, service provider, or geography.

* Service provider means the entity (e.g., bank, mobile operator) providing the core service to the consumer. Form factor refers to plastic, mobile phone, etc.; examples of products are personal money transfers, online and offline payments, and deposits/withdrawals, among others.
Most of the existing efforts at promoting digital financial services interoperability, particularly in emerging markets, have focused on business models led by mobile network operators.

In emerging markets, models led by Financial Institutions (FIs) largely exist for the main types of interoperability: Account to Account Funds Transfer (‘P2P’), Payments of Goods and Services (‘P2M’), and Cash-In and Cash-Out (‘CI/CO’) Infrastructure.

**Underlying Processing Platform**

- ✔ Interoperability Exists
- ✓ Owned by Financial Institutions
- ✓ Owned by Mobile Network Operators
- ★ Domestic Switch (gvt or 3rd party)
- ★ International Switch (Intl Payment Network, Money Transfer Org, or Swift)

**Act to Act (‘P2P’)**

- ✓ Need to define

**Payments (‘P2M’)**

- ✓ Need to define

**ATM/Agent (‘CI/CO’)**

- ✓ Need to define

**Key Interoperability Features**

- • Processing Standards
- • Technological Standards
- • Franchise/Membership Rules
- • Dispute/Exceptions Handling
- • Brand
- • Economics (MDR, Interchange)

(Note: A lot of features and best practices from the FI-led models could be adopted or adapted for the MNO-led ones)

While this is the ‘holy grail’ of digital financial services - full interoperability among FI and MNO-led models, for all products, across all markets, and irrespective of form factor used (card, mobile, etc.)...

…it makes sense to first start define MNO-led models, in particular P2P and Agent Interoperability. Tanzania, for example, has recently defined features of domestic P2P interoperability among MNOs.

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While interoperability may be ideal for consumers, non-interoperable systems still can provide enormous value.

So-called ‘closed’ systems, particularly if they have a significant user-base and/or are market leaders, can continue to grow without interoperating with rivals.

**Insight #1**

Not only does Apple rarely interoperate its products with competitors, it integrates all of its suite of products and services together (iOS, iTunes, iPod, Mac, etc.), effectively locking in the customer to its ecosystem. While some users react unfavorably to this, its consumer growth continues.

Facebook has grown its user base because of, not despite, the ‘walled garden’ it has built around its social network. It is the dominant social network in nearly every market, indicating it has enough user-base momentum to maintain this strategy.

M-Pesa, Safaricom Kenya’s mobile money product, was until recently entirely non-interoperable; the firm owned nearly half the telecom market when M-Pesa launched in 2007, and currently has close to 75% of the mobile money market. In 2012, however, responding to customer demands, it jointly launched a savings and loan product with a local bank.

Like Apple, Microsoft bundles several of its products (Windows, Office), and in the 1990s, made it nearly impossible for interoperate with competing services. That meant that users of rival products, such as Corel WordPerfect and Apple MacWrite, eventually switched to Microsoft Word.
Even in the absence of a dominant player, providers often offer products exclusively for its users, before interconnecting and increase the overall revenue pool. This allows providers to be assured of basic revenue and maximize ‘economic rent’, and thus recoup their initial investment.

The example at the left indicates that interoperability was implemented once different parties had launched their own text message products, not at inception. Moreover, each provider’s growth had peaked, creating compelling incentives to collaborate and grow the overall transaction base.

Interoperability requires significant coordination and collaboration among competitors – usually quite challenging to do at the onset – and takes longer to implement technologically. Most providers are eager to first ‘prove the concept’ of a new product, before committing time and resources to interconnect.

Graph Source: Mobile Data Association, via *The Case for Interoperability*, GSMA. Table from Verisign.
As successful examples of interoperability among bank ATMs and among P2P mobile money in Tanzania demonstrate, smaller players can join forces and provide an incentive for market leaders to join, which eventually creates a fully interoperable system.

Pathway to ATM Interoperability among Banks in the United States

- 1977: Citibank launches ATM for its (mainly New York) customers
- 1980s: Other banks invest in ATMs; Citibank retains lead in # of ATMs
- 1985: 6 local banks create New York Cash Exchange (NYCE) ATM network; together own 800 ATMs (Citi owns 500)
- 1994: NYCE network continues to add bank members; Citi eventually joins

Pathway to Mobile Money P2P Interoperability among MNOs in Tanzania

- 2008: Vodacom launches M-Pesa
- 2010: Tigo launches Tigo Pesa; Zantel launches Ezy-Pesa
- 2011: Airtel launches Airtel Money
- 2014: P2P launched between Tigo, Zantel, and Airtel (53% market share)
- 2015: Vodacom enables P2P with Tigo, and then with Airtel

...as are market dynamics.
For more information on digital payments interoperability, read our blog here:

http://nextbillion.net/mobile-money-interoperability

More resources on digital payments and product innovation are available on our website, under Tools and Resources:

www.digital-disruptions.com
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About the author

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