

Three Insights for Digital Payments Interoperability Executive's Guide

Amitabh Saxena
Managing Director, Digital Disruptions

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Digital Disruptions

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.

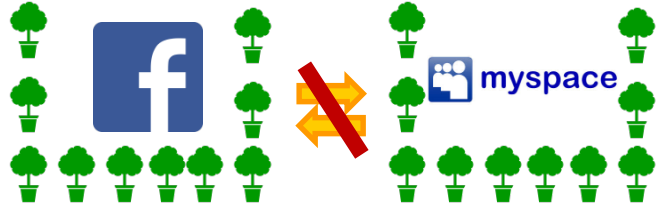
passenger airlines



interoperability among code-share partners (e.g., ticketing, baggage forwarding, reward redemption, etc.), but not across networks / other airlines.

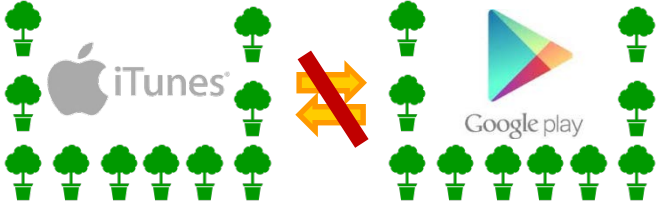
✗ Interoperable

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.

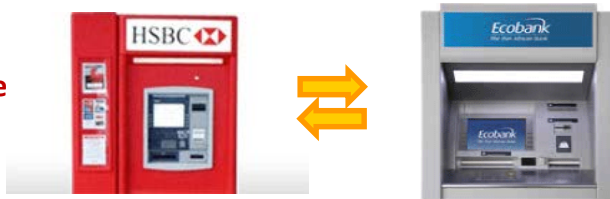
Financial Services

**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.

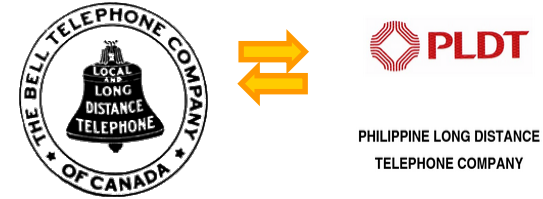
**self-service
machines
(ATMs)**



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 land-lines around the world, enabling international phone calls since the 1960s.

**mobile
telephony
(roaming)**

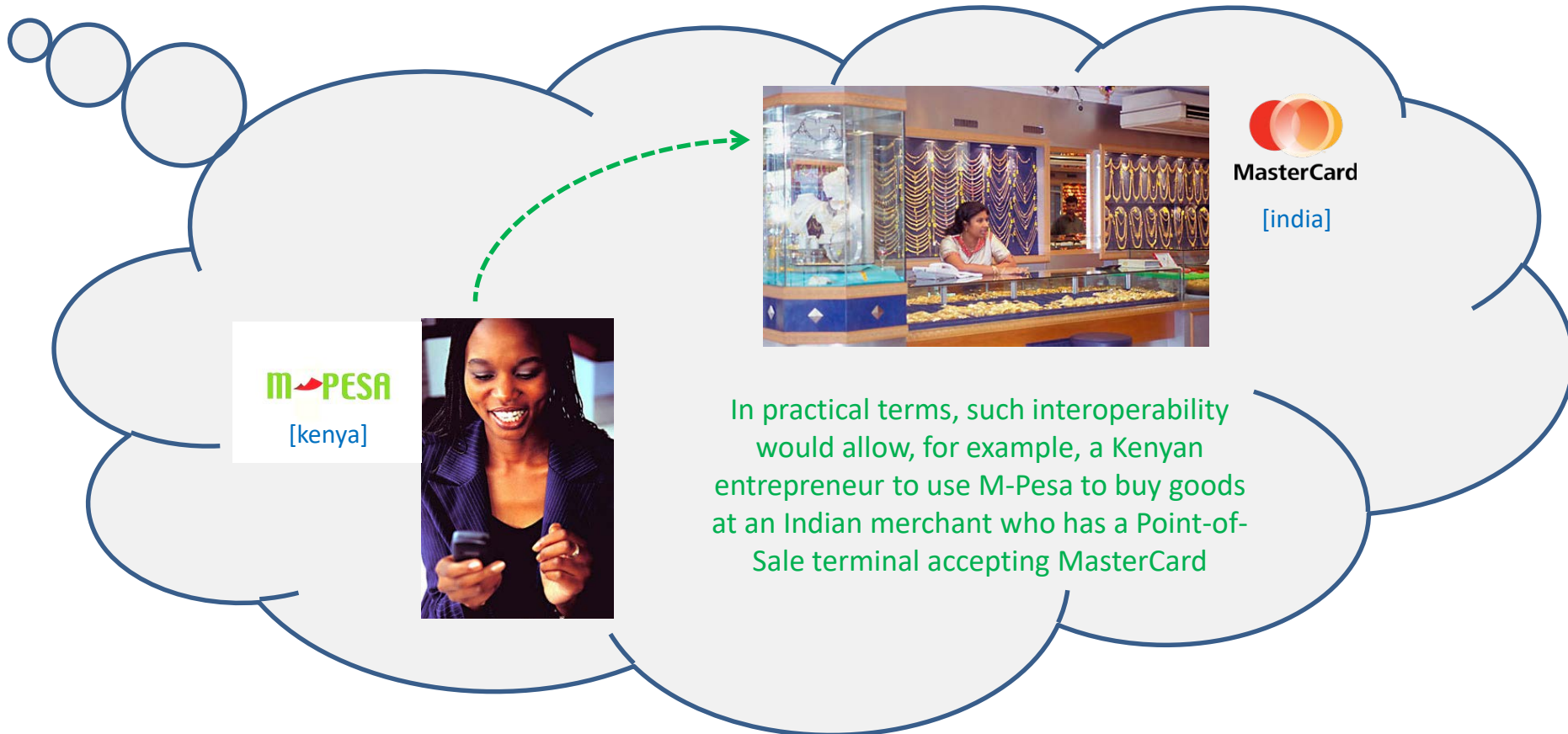


mobile operators must strike roaming agreements directly with operators in a local market, allowing their customers to use mobile telephony outside their home market. While roaming agreements exist between operators of larger markets (such as China and Mexico), there are usually gaps in coverage between 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.

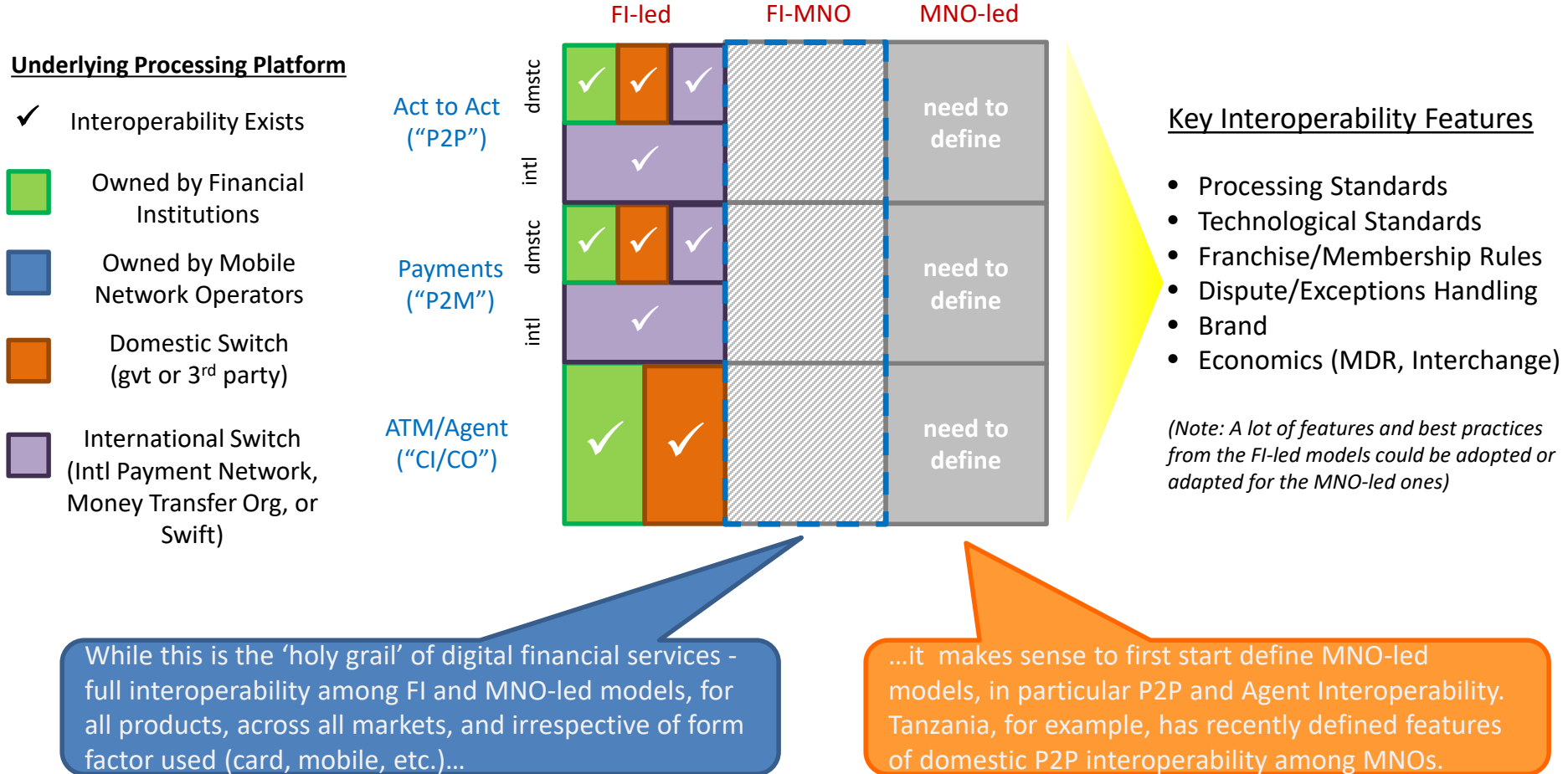


* Service provider means the entity (e.g., bank, mobile operator) providing the core service to the consumer. Form factor refers to plastic, mobile phone, etc.; examples of products are personal money transfers, online and offline payments, and deposits/withdrawals, among others.



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.



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

Insight #1

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.



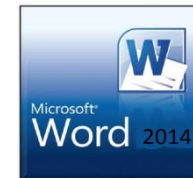
Not only does Apple rarely interoperate its products with competitors, it integrates all of its suite of products and services together (iOS, iTunes, iPod, Mac, etc.), effectively locking in the customer to its ecosystem. While some users react unfavorably to this, its consumer growth continues.



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.



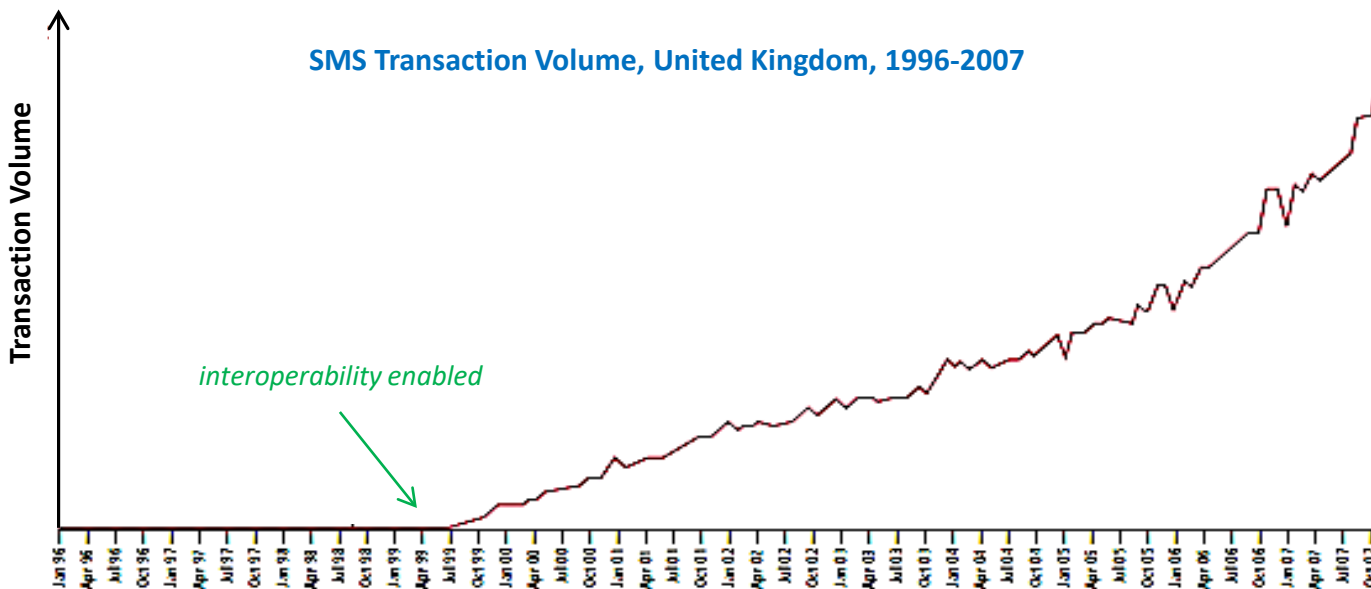
M-Pesa, Safaricom Kenya's mobile money product, was until recently entirely non-interoperable; the firm owned nearly half the telecom market when M-Pesa launched in 2007, and currently has close to 75% of the mobile money market. In 2012, however, responding to customer demands, it jointly launched a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



Key Takeaways

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.

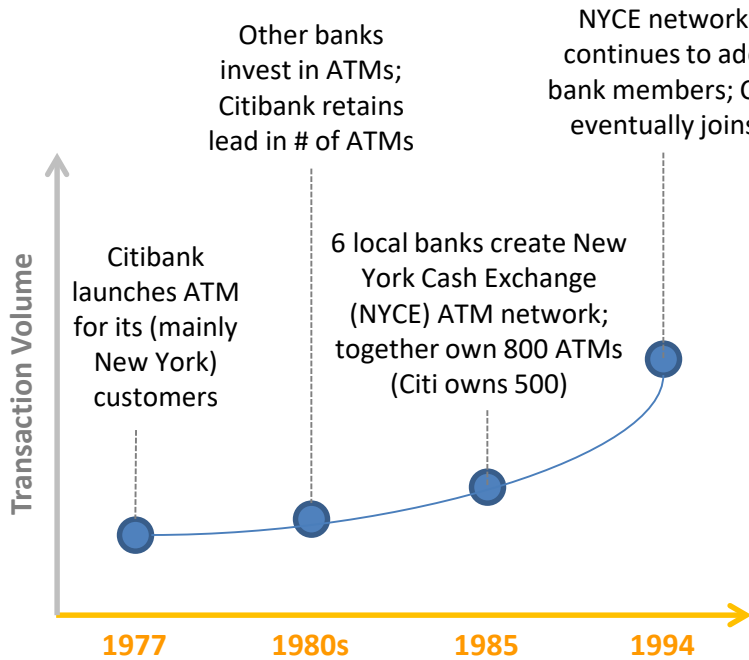
Interoperability requires significant coordination and collaboration among competitors – usually quite challenging to do at the onset – and takes longer to implement technologically. Most providers are eager to first ‘prove the concept’ of a new product, before committing time and resources to interconnect.

Market	Interoperability Established	Monthly Message Traffic Before Interoperability	Monthly Message Traffic With Interoperability	Percent Increase	Months from Interoperability
Australia	Apr 2000	50	500	900%	8
United Kingdom	Apr 1999	52	180	350%	6
Portugal	Feb 2000	47	162	245%	8

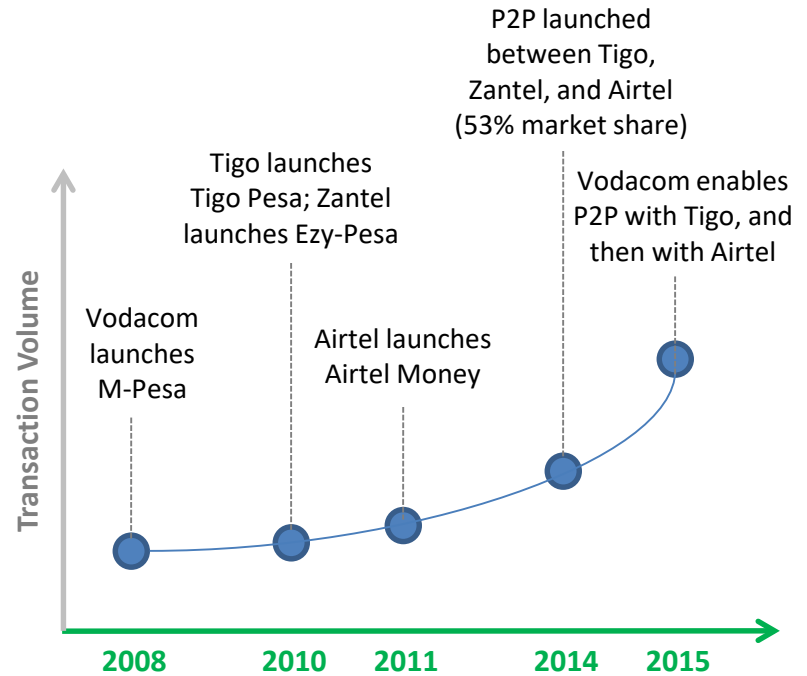
Graph Source: Mobile Data Association, via *The Case for Interoperability*, GSMA. Table from Verisign.



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



Pathway to Mobile Money P2P Interoperability among MNOs in Tanzania



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





About the firm

Digital Disruptions is a global consulting firm in digital financial services, with a focus on strategy, marketing, and product innovation. It provides research, training, and advisory services to financial institutions, mobile operators, payment networks, international organizations, technology vendors, governments, and fintech start-ups involved in the intersection of technology and financial services.

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About the author



Amitabh Saxena, Managing Director of Digital Disruptions, has 12 years industry experience in mobile payments and product innovation, acquired at MasterCard, ACCION International, Capital One, and the GSMA. He holds an MBA from INSEAD and a B.Eng from McGill University, and teaches Design Thinking and New Product Development at the University of Maryland as Adjunct Faculty.

He can be contacted at amitabh@digital-disruptions.com or via LinkedIn (www.linkedin.com/in/amitabhsaxena1).