The Evolution to a Global Digital Money Ecosystem

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The Industrial Revolution
A technology and science based revolution
Industrial Economy - 19th and 20th Centuries

Over the past two centuries, we have achieved major advances in science and engineering.
Advances in Digital Technologies

Digital technologies are to the 21st century as steam power was to the Industrial Revolution.

Source: Kurzweil 1999 – Moravec 1998
The Internet: Industrial Information-based Digital Economy
Information-base Digital Economy

Leverage science and technology to achieve major advances in people-centric, services-based socio-technical systems
A Perfect Storm of Disruptions

Cloud Computing

Social Networks

Universal, Mobile Internet

Internet of Things

Information-based Intelligence
Internet Evolution

Networking

TCP-IP

Communications

e-mail

Information

World Wide Web

Business, Government, . . .
e-business

Collaboration, Blogs, Wikis, . . .
Social Media

Services, Apps, . . .
Cloud Computing

Internet
The Internet of Money

Money, Identity . . .
Digital Payments Ecosystem

Services, Apps, . . .
Cloud Computing

Collaboration, Blogs, Wikis, . . .
Social Media

Business, Government, . . .
e-business

Information
World Wide Web

Communications
e-mail

Networking
TCP-IP

Internet
History of Money - British Museum

Gold Coin, ~550 BC, Turkey

Bank Note, 1375, China

“Pieces of Eight”, ~1590, Spanish Empire

Credit Card, 1950s -
Mobile Digital Money = Mobile + Payments
Rapidly Changing Digital Landscape

Leaders

Non-Financial Services

Financial Services

Fast Followers

Newer Entrants
Square. Accept payments everywhere.
Apple Pay - Embracing Key Industry Standards

- NFC - near-field communications
- Secure Element - dedicated chip in device
- Cloud-based Tokenization - protect sensitive data
- . . .
Some Observations

- Our existing payment system is quite complicated, somewhat expensive and difficult to change, but it actually works quite well, handling just about all transactions within a few seconds.

- Critics have noted that mobile-enabling the function of paying by credit card is a solution looking for a problem - for both consumers and merchants.

- Disruptive innovations generally succeed through *new-market disruptions*, - i.e., new products for brand new customers whose needs were previously *unserved* by existing offerings.

- The billions around the world without access to traditional financial services might be precisely such unserved potential customers.
Decreasing cost and increasing power is reducing the “digital divide” and driving growth in digital services of all sorts.

<table>
<thead>
<tr>
<th>Media / device</th>
<th>Cost</th>
<th>Penetration</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC</td>
<td>~$6,000</td>
<td>1%</td>
</tr>
<tr>
<td>Laptop / Internet</td>
<td>~$2,000</td>
<td>10%</td>
</tr>
<tr>
<td>Phone</td>
<td>$25–50</td>
<td>75%</td>
</tr>
</tbody>
</table>

Years:
- 1981
- 1994
- 2012+
In the coming decade, 2.5 billion to 3 billion more users could be connected to the Internet (Exhibit 9). Most of this growth will occur in developing economies, where McKinsey research suggests that by 2025, more than 1.8 billion people will move up into the global consumer class—those who earn enough to buy goods and services after meeting basic needs.

The next three billion digital citizens

**Definition**  
Emerging opportunities as three billion people join the digital economy using the mobile Internet—driving financial inclusion, entrepreneurship, and the development of new business models

**Applications of the trend**
- Extending financial inclusion to the “unbanked,” often through deployment of mobile payment and banking services
- Encouraging economic development through the growth of local entrepreneurship, driven by expanding access to digital services
- Customizing products and services to markets by local and multinational companies alike

**Key sectors impacted**
- Retail
- Finance
- Health care
- Government and social sectors
- Agriculture
- Education

 SOURCE: McKinsey Global Institute analysis
m-PESA

Send pesa by phone

M-PESA is the new, easy and affordable way to send money home.

Register FREE at any Authorised M-PESA Agent*
The Opportunities of Digitizing Payments

How digitization of payments, transfers, and remittances contributes to the G20 goals of broad-based economic growth, financial inclusion, and women’s economic empowerment


August 28, 2014
The Opportunities of Digitizing Payments

Financial Divide

- 50% of adults around the world have accounts at financial institutions, including
  - 89% of adults in advanced economies
  - 41% in developing economies; 46% of men, 37% of women

- 2.5 billion adults do not have such accounts and are thus excluded from formal financial sector, including 80% of those living on less than $2/day
The Opportunities of Digitizing Payments

Key Findings:

- Digitizing helps overcome the costs and physical barriers that have beset otherwise valuable financial inclusion efforts.

- Digital platforms offer the opportunity to rapidly scale up access to financial services using mobile phones, retail point of sales, and other broadly available access points, when supported by an appropriate financial consumer protection framework.

- Digital payments can promote women’s economic empowerment by facilitating greater account ownership and asset accumulation and increasing women’s economic participation.
The Opportunities of Digitizing Payments

Key Recommendations for Governments:

- Digitize their payments and receipts, including social transfers
- Promote a regulatory agenda that fosters competition, ensures consumer protection, and encourages innovation in technology and business models
- Convene public and price sectors to create a safe, reliable, secure, and affordable payments platform, open and shared among market participants
- Create an enabling environment that fosters private-sector innovation
- Guide financial service providers to educate consumers and small businesses about their digital payments options
- Recognize the role of remittance providers in offering a digital entry point to formal financial services for senders and receivers
- Look to multilateral development banks and comparable agencies as sources of comparative expertise in this emerging field
Complex Financial Ecosystem

Originated in 14th century Italian cities

- Payments
- Identity Management
- Security
- Privacy
- Financial Information
- Regulatory System
Crypto Currencies
Over 275 available in online markets
The digital payments revolution needs to combine innovative technology advances with highly secure bank-grade payments.

For billions of people worldwide and the institutions that serve them, this convergence provides a ticket to inclusion in our increasingly global, digital economy.
The Evolution to a Global Digital Money Ecosystem: The Internet of Money

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