Where Are the Mobile Opportunities?
A Global Look at Emerging and Developed Markets

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Introducing the Speakers

- Robert Schlaff
  Director, Mobile Solutions
  Citi Transaction Services

  Robert is a Director of Mobile Solutions in the Citi Transaction Services business. His goal is to partner with the largest corporations and governments in the world – helping them leverage mobile payments and financial information. He advises clients on mobile strategy and develops mobilize applications that best use the capabilities of the mobile ecosystem. He has also served as Vice President of Strategy and New Product Development at Citi. Previously, he was an associate at Booz & Co.

- Alberto Jimenez
  Director, Mobile Solutions
  Citi Transaction Services

  Alberto leads the Mobile Wallets initiatives of Citi Transaction Services. He is presently involved in multiple deployments across geographies in conjunction with telcos, governments and other Citi partners. Prior to Citi, Alberto held various leadership positions in Mobile Financial Services in IBM; most recently, he was Global Leader for Mobile Payments with an end-to-end responsibility for IBM’s initiatives in the space.
Agenda

- Global Mobile Opportunities
- Introduction to Mobile Wallets
- The Changing Mobile Landscape
- Regional Application of Mobile Trends
- Questions
Global Mobile Opportunities
Fast Facts

Over 2 Billion people living on less than $2 per day do not have access to any financial services

74% of mobile phones shipped in Japan are mobile payment ready

Mobile Payment transactions are expected to grow 49% from 2009 through 2013 to 15.3B

In just 5 years, Kenya’s M-PESA has 14.9MM clients, or 60% of Kenya’s adult population
Defining Mobile Payments and Global Opportunity

By 2013, the number of smartphones and browser-equipped phones will exceed the number of installed PCs.

- **Definition:** There are three primary components of a Mobile Payments solution: a wallet container, payment services and payment instruments.

  1. **Mobile Wallet Container**
     - Enables storage of payment instruments such as credit and debit card.

  2. **Mobile Payment Services**
     - Various ways that consumers can pay (m-commerce, retail proximity, person to person).

  3. **Payment Instruments**
     - Instruments that allow a consumer to access funds (credit/debit cards, stored value, etc).

- **Opportunity:** The ubiquity of the mobile phone presents a potential solution to the persistent issue of lack of access to internet connectivity as well as to banking and non-bank financial systems.

  - Drives financial inclusion (remote access, no need for bank account, etc).
  - Drives demand for location-independent, functionality-rich payment tools.
  - Capture flows and convert from cash to electronic.

**Strong Mobile Payment Value Growth**

(US $ in Billions)

- **5-Year CAGR = 122%**
  - $10B in 2010
  - $30B in 2011
  - $60B in 2012
  - $110B in 2013
  - $245B in 2014
  - $545B in 2015

Source: Yankee Group
In Emerging Markets, Mobile Presents a Leapfrog Opportunity

According to Gartner, global mobile phone penetration reached an estimated 85% in 2011 from just 46% in 2006 and is expected to rise to 90% by 2014.

Bank penetration is comparable to mobile phone penetration in certain developed countries, but is much lower in most emerging markets.

Many countries in the Middle East, Africa and Southeast Asia have up to 50x more mobile phone subscribers than fixed-line subscribers as a result of leap-frogging investments.

Source: GSMA Mobile Money for the Unbanked, CIRA, Citi GTS

Source: Slate, New America Foundation, World Telecommunications /ICT Indicators Database
In Developed Markets, Mobile Presents a Smartphone Opportunity

Smartphone penetration is over 50% in North America and Western Europe, and it is increasing fast in the Asia-Pacific geographies; the penetration rate is fairly low in Latin America, the Middle East and Africa.

Source: CIRA
An Introduction to Mobile Wallets
The Case for Mobile Wallets

Financial inclusion, the cost of foreign remittances, and the cost of prepaid are all reasons that mobile payments may be the answer in both emerging and developed markets

- **Financial Inclusion Benefits the Underbanked** – Financial inclusion expands the opportunities for individuals and communities
- **Corporate Case** – For large corporations and governments mobile wallets to provide a more effective payments/receivables solution than cash
- **Lower Cost Accounts** – Research shows that the cost of prepaid mobile wallets is typically significantly less than living in a cash economy and comparable or less than bank account fees

### Average Annual Cost of Ownership Based on Projected Usage Patterns

<table>
<thead>
<tr>
<th></th>
<th>Cash</th>
<th>Prepaid Card (no Direct Deposit)</th>
<th>Basic Bank Checking Account</th>
<th>Prepaid Card (w/ Direct Deposit)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>$0</strong></td>
<td>$10</td>
<td>$100</td>
<td>$200</td>
<td>$300</td>
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<tr>
<td><strong>$500</strong></td>
<td>$400</td>
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</tbody>
</table>

### Percent of Consumer Transactions Initiated in Cash (2010)

- **China**: 98%
- **South Africa**: 94%
- **Japan**: 85%
- **Germany**: 78%
- **South Korea**: 76%
- **UK**: 66%
- **USA**: 63%
- **Canada**: 63%
- **France**: 60%
- **Netherlands**: 59%

Source: Bretton Woods

Source: McKinsey & Company
The Emerging Market Case

In the emerging market, creation of a mobile wallet allows the reception and storage of newly electronic flows — it opens up not just outflows of payments, but inflows as well.

Reasons for Opportunity

- **The ubiquity of mobile** phones vs the generally lower bank penetration
- **Financial inclusion** benefits and expands opportunities for the underbanked
- **Banks seem to be more expensive** and less efficient in offering foreign remittance that more focused money transfer organizations
- **The cost of a mobile is likely to be lower** for most unbanked people than cash or traditional bank-led products

Highlight on Kenya

- M-PESA launched in 2007 and as of November 2011, the provider had 14.9 million clients, which represents about 60% of Kenya’s adult population
- In the six month period between April and November 2011, M-PESA transactions reached $3.2 billion dollars in value (2011 Kenya GDP was $36.1 billion)
The Developed Market Case

In the developed markets, an increasing number of consumers are smartphone users and they generally have a bank account – therefore the main opportunity with these users is to provide a feature-rich product

**Reasons for Opportunity**

- **The robust growth rates** in the selling of smartphones

- **Technological advances**, especially in the area of social media and mobile commerce that could help consumer adoption

**Highlight on Japan**

- 55% penetration of mobile-payment enabled phones (~65 million potential mobile wallets)

- 9.5 million mobile payment acceptance terminals

- 74% of new phone shipments are equipped with mobile wallet functionality

**Developed Market Wallet**

Connects to multiple payment instruments

**Payment Services**

- Bill Payments
- Retail
- M-Commerce
- Person to Person

**Payment Instruments**

- Credit cards
- Rewards
- Debit cards
- Coupons

✓ A smartphone offers applications that allow the consumer to make their payments via their phone, whether it’s credit, debit or public transit
The Changing Mobile Landscape
Mobile Payments Ecosystem

Mobile Payments may be the next opportunity to drive growth for many players in the ecosystem

- **Financial Services**
  - Expand to unbanked and under-banked demographic
  - Better Anti-Money Laundering enforcement and fraud management

- **Telecoms**
  - Opportunity to differentiate against competition
  - Attractive economics to enter payments

- **Consumers**
  - Speed of transferring money and cheaper than traditional cash services
  - Opportunity for many to have first electronic storage of funds

- **Institutions**
  - Ability to reduce cost of distributing and receiving funds
  - Improves control, transparency and reduces reliance on cash

- **Retailers**
  - Can provide an end-to-end shopping experience and targeting marketing to promote loyalty
  - Ability to capture and use the associated information flow to promote use case

- **Technology Companies**
  - Opportunity to create significant financial opportunities
  - Chance to move from back-end to the front-line
Ecosystem Success Factors

A few common factors will encourage success

A dominant player can set the standard and establish brand and infrastructure

Consumer must believe that the transaction is safe

Apps can piggyback off success of other apps

Vital for adoption and technology needs to support the standard that will be used

Given that financial ecosystems are built on trust, security of the mobile wallet is vital

Mobile payments represent different roles in emerging and developed markets

Governments may need new frameworks to ensure regulatory control

Importance of a Dominant Player

Ability to Build Trust

Bulletproof Security

Presence of a “Killer App”

Penetration of Payment Means

Widely Available Infrastructure

Clarity on Regulatory Front

Success
The Present

Mobile payment projects are already launching around the world

Source: CIRA
The Future

There is significant value for the end consumer which leads to real opportunities for telecoms, financial institutions, governments and other new entrants

1 **Overall**, Dominant telecom, financial services or mobile operating system player will emerge to offer significant value to all members of the ecosystem

2 **In emerging markets**, long runway beginning with simpler wallets of converting cash to electronic and eventually becoming a multi-function wallet

3 **In developed markets**, wallets will continue to evolve into a device that can remove the financial frictions of everyday life

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Source: CIRA
Regional Application of Mobile Trends
Regional View: North America

Mobile commerce in North America is expected to be robust, with growth to $31 billion in 2015 from $6.7 billion in 2011; however, there may be some challenges ahead.

**Challenges for North America:**

- Lack of a Consistent Set of Cross-Industry Standards
- Infrastructure Needs to be Built
- Stalemate Across Existing Partnerships
- Major Retailers May Not be on Board
- Consumer Adoption Remains Uncertain

**Players in North America:**

<table>
<thead>
<tr>
<th>Player</th>
<th>Strategy/Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Google Wallet</td>
<td>Partnered with MasterCard, Citi, and Sprint; 2012 expansion will be key to success</td>
</tr>
<tr>
<td>VISA</td>
<td>Partner with Google Wallet and Isis; launching open digital wallet and “V.me” for single click ordering</td>
</tr>
<tr>
<td>Isis</td>
<td>JV between Verizon, AT&amp;T, and T-Mobile; accessing product and reception critical in 2012</td>
</tr>
<tr>
<td>MasterCard</td>
<td>Partner with Google Wallet</td>
</tr>
<tr>
<td>PayPal</td>
<td>Supporting a wide range of potential payment forms and holding demos, notably with Home Depot</td>
</tr>
<tr>
<td>American Express</td>
<td>Preparing for mobile payments and e-commerce; launching “Serve” and investing heavily in alternate payments</td>
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Regional View: Europe

A lot of pilots have been in progress for years and have steadily expanded in Europe, thereby moving consumers steadily along the adoption curve.

Mobile Thoughts in Europe:

- **London Olympics May be a Catalyst**
  - Samsung and Visa have partnered to bring NFC Mobile Payments to the London Olympics in 2012
  - Integration NFC for all transport services

- **Concentrated markets for telecoms and banking as well as high smartphone penetration will be expedites for Europe**

- **Transit Might be the Killer App**
  - More than 100 tests have been carried out over the period of the last five years
  - Trials for: Mobile wallet, transport ticketing, identification, healthcare, and interactive displays

- **A Bias Towards Small Ticket-Size Payments is Likely**
  - Telecom operators see themselves as a trusted brand that customers can rely on to host their payment cards, maintain confidentiality, and deal quickly with logistical issues
  - Rather not be burdened with customer service for disputed payments and faulty goods
Regional View: Africa

There are many Mobile Payments pilots in progress in Africa in addition to it being the home to Kenya’s M-PESA, which has become synonymous with mobile money success.

Factors for Success in Africa:

- Presence of Dominant Providers
- Lack of Financial Services Alternatives

A Closer Look at M-PESA:

- M-PESA uses a menu that is loaded on the SIM card of a client’s mobile phone
- Account Opening: Open account at 32,000 agents across the country
- Can send money account to account and bill pay

Other Wallets in Africa:

- M-PESA in Tanzania
- MobileMoney (MTN) in Uganda
- MobileMoney (MTN) in Cote D’Ivoire

M-PESA Flow for Withdrawing Funds

Source: M-PESA
Regional View: Asia

Several countries in Asia are actively pursuing mobile applications, with a strong success in Japan

Countries with Notable Pilots:

- Philippines
- Thailand
- Afghanistan
- Malaysia
- India
- China

Lessons from Japan:

- Specific technology likely matters less than consistent deployment and broad functionality
- Having a dominant player helps
- Consumer adoption is slow
- Japan could be more successful by opening up to existing banking products, increasing consumer incentives, building a more compelling merchant proposition
Regional View: Latin America

Latin America is behind in the game but is rapidly catching up and is well positioned to potentially outpace other markets

Successful Projects:

- **Millicom** – Developing mobile services as part of its Solutions portfolio; partnering with local banks and other global financial services firms; considered the farthest along in Latin America

- **America Movil** – Joint venture with Citi to provide mobile banking services in Mexico, South America and the Caribbean; branded “Tran$fer”

Regional Tweaks to Success Factors:

- **Regulation** – Paraguay is actively observing mobile money market without regulating it, Peru is looking at specific legislation for e-money, and Colombia is looking to widen existing regulation to cover it

- **Reliable Agents** – Banking models rely on trust; projects need to thoroughly screen and educate the networks of agents

- **Reliable Customers** – Customers tend to prepay for cell phone products; operators have limited knowledge of customer’s ability or likelihood of repaying a loan
Thank you for your time today

Questions?
To learn more about Citi Transaction Services’ Mobile Solutions please contact your Citi representative or reach out to our experts:

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