Table of Contents

SECTION 1  Introduction
SECTION 2  Mobile Banking
SECTION 3  Mobile Payments
SECTION 4  Mobile Technology, Shopping, and Consumer Behavior
SECTION 5  Perceived Security Of Mobile Banking and Payments
SECTION 6  Key Takeaways & Conclusion
Motivation for Report

How consumers access financial services is evolving:
- More firms offering mobile banking and payments, and innovation is continuing
- Rapid increase in consumer adoption of smartphones and use of mobile banking and mobile payments

Changes have the potential to affect consumer finances and consumer behavior

May provide a means of promoting economic inclusion and expanding financial access to the unbanked or underbanked

Board conducted 2014 survey to monitor developments in mobile finance and assess consumer perceptions
Survey Background

Board conducted three previous surveys (2011-2013)

Surveys fielded using a nationally representative probability-based online panel of respondents from GfK’s KnowledgePanel®

For the 2014 survey:

• Data collected December 5th-21st, 2014
• Rural oversample (analyzed separately)

Mobile Banking, Mobile Payments, Phone Type, Year

**Mobile Banking**

- **2011**: 20% (Smartphone), 2% (Feature Phone)
- **2012**: 26% (Smartphone), 3% (Feature Phone)
- **2013**: 32% (Smartphone), 1% (Feature Phone)
- **2014**: 37% (Smartphone), 2% (Feature Phone)

**Mobile Payments**

- **2011**: 10% (Smartphone), 2% (Feature Phone)
- **2012**: 12% (Smartphone), 2% (Feature Phone)
- **2013**: 15% (Smartphone), 2% (Feature Phone)
- **2014**: 20% (Smartphone), 1% (Feature Phone)
Mobile Phone Use: 2011-14

<table>
<thead>
<tr>
<th>Year</th>
<th>Smartphone</th>
<th>Feature Phone</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>38%</td>
<td>49%</td>
<td>87%</td>
</tr>
<tr>
<td>2012</td>
<td>45%</td>
<td>41%</td>
<td>86%</td>
</tr>
<tr>
<td>2013</td>
<td>53%</td>
<td>33%</td>
<td>86%</td>
</tr>
<tr>
<td>2014</td>
<td>62%</td>
<td>25%</td>
<td>87%</td>
</tr>
</tbody>
</table>
Mobile Phone Use by Age
(Among all respondents)

- **18-29**: 76% Smartphone, 14% Feature Phone
- **30-44**: 78% Smartphone, 13% Feature Phone
- **45-59**: 58% Smartphone, 29% Feature Phone
- **60+**: 37% Smartphone, 42% Feature Phone

---

Board of Governors of the Federal Reserve System
Mobile Banking

Mobile Banking uses a mobile phone to access your bank or credit union account

You can use mobile banking by:

- Accessing your bank’s web page through the web browser
- Via text messaging
- Using a downloaded application
Mobile Banking Use: 2011-14

(Among respondents with bank account, by phone type)
Mobile Banking Usage
Using your mobile phone, have you done each of the following in the past 12 months? (2014)

- Checked an account balance or checked recent transactions: 94%
- Downloaded your bank’s mobile banking app on your mobile phone: 71%
- Transferred money between your bank accounts: 61%
- Received an alert (e.g., a text message, push notification or email) from your bank: 57%
- Deposited a check to your account electronically using your mobile phone camera: 51%
- Made a bill payment using your bank’s online banking website or banking app: 48%
- Located the closest in-network ATM or branch for your bank: 40%
- Transferred money from your bank account to another person: 25%
Means of Accessing Banking Services
(Among those with a bank account)

- Bank branch: 87%
- ATM: 75%
- Online banking: 74%
- Mobile banking: 35%
- Telephone banking: 33%
Mobile Banking Users’ Access of Banking Services

% Mobile Banking users who used channel in past 12 months
- Mobile Banking: 100%
- Online Banking: 95%
- ATM: 92%
- Branch/Teller: 85%
- Telephone: 36%

% Mobile Banking users who ranked channel among three most important channels
- Mobile Banking: 60%
- Online Banking: 73%
- ATM: 80%
- Branch/Teller: 56%
- Telephone: 17%
Means of Accessing Banking Services, by age
(Among respondents with a bank account)

- **Mobile banking**
  - Over 45: 23%
  - Under 45: 33%

- **Online banking**
  - Over 45: 67%
  - Under 45: 57%

- **ATM**
  - Over 45: 69%
  - Under 45: 83%

- **Bank branch**
  - Over 45: 91%
  - Under 45: 82%

- **Telephone banking**
  - Over 45: 33%
  - Under 45: 32%
Mobile Banking by Age

(Among respondents with bank account, by phone type)
Mobile Banking by Race / Ethnicity
(Among respondents with bank account, by phone type)

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Smartphone</th>
<th>All Mobile Phones</th>
</tr>
</thead>
<tbody>
<tr>
<td>White, Non-Hispanic</td>
<td>34%</td>
<td>48%</td>
</tr>
<tr>
<td>Black, Non-Hispanic</td>
<td>43%</td>
<td>56%</td>
</tr>
<tr>
<td>Other, Non-Hispanic</td>
<td>48%</td>
<td>55%</td>
</tr>
<tr>
<td>Hispanic</td>
<td></td>
<td>53%</td>
</tr>
<tr>
<td>2+ Races, Non-Hispanic</td>
<td>41%</td>
<td>61%</td>
</tr>
<tr>
<td>Total</td>
<td>39%</td>
<td>52%</td>
</tr>
</tbody>
</table>
Mobile Banking by Income

(Among respondents with bank account, by phone type)
Mobile Banking by Geography

(Among respondents with bank account and mobile phone)
What was the main reason why you started using mobile banking when you did?

- I liked the convenience of mobile banking: 35%
- I got a smartphone: 33%
- My bank started offering the service: 20%
- I became comfortable with the security of mobile banking: 6%
- There is no bank branch or ATM near my home or work: 3%
- Other (Please specify): 3%
- To receive fraud alerts or check my account for fraudulent transactions: 1%

Note: Within the “other” category, nearly half of specified responses referred to check deposits and balance inquiry. N=829
MOBILE BANKING

Reasons For Not Using Mobile Banking

- My banking needs are being met without mobile banking: 86%
- I don’t see any reason to use mobile banking: 73%
- I’m concerned about the security of mobile banking: 62%
- The mobile phone screen is too small: 39%
- I don’t trust the technology: 34%
- I don’t have a smartphone: 32%
- It’s too difficult to use mobile banking: 20%
- I don’t do the banking in my household: 12%
- My bank charges a fee for using mobile banking: 6%

N=945
Mobile Banking Areas of Interest

Assuming that the concerns that you have about using mobile banking were addressed, would you be interested in doing any of the following activities with your mobile phone?

- Transfer money from your bank account to another person: 11%
- Make bill payments using your bank’s online banking website or app: 15%
- Deposit a check electronically using your mobile phone camera: 17%
- Locate the closest in-network ATM or branch for your bank: 18%
- Receive alerts (e.g., text message, push notification or email) from your bank: 19%
- Transfer money between your bank accounts: 20%
- Download your bank’s mobile banking app: 21%
- Check an account balance or check recent transactions: 32%
- None, I don't want to use mobile banking: 59%
Who Is Not Interested in Mobile Banking

Age distribution for individuals who would not mobile bank, even if their reasons for not mobile banking were addressed.
Mobile Payments

Mobile payments are purchases, bill payments, charitable donations, payments to another person, or any other payments made using a mobile phone.

You can make payments by:

- Accessing a web page through the web browser on your mobile device
- Sending a text message (SMS)
- Using a downloadable application on your mobile device

The amount of the payment may be:

- Applied to your phone bill (e.g. text message donation)
- Charged to your credit card
- Withdrawn directly from your bank account
Mobile Payments Use: 2011-14

- Smartphone use:
  - 2011: 23%
  - 2012: 24%
  - 2013: 24%
  - 2014: 28%

- All mobile phone use:
  - 2011: 12%
  - 2012: 15%
  - 2013: 17%
  - 2014: 22%
Mobile Payment Usage
Using your mobile phone, have you done each of these in the past 12 months? (Among mobile payments users with a smartphone)

- Paid bills online through a mobile web browser or app: 68%
- Made an online or in-app purchase (e.g., from amazon.com or bestbuy.com): 54%
- Paid for a product or service at a store (including at gas pumps and for restaurant meals): 39%
- Transferred money directly to another person’s bank or other financial account within the United States (e.g., Paypal account): 36%
- Received money from another person’s bank or other financial account (e.g., Paypal account): 31%
- Used an app to receive loyalty or reward points: 30%
- Paid for parking, a taxi, or public transit using an app: 16%
- Made a payment using a text message (including charitable donation by text message): 11%
- Send a remittance (used to send money to relatives or friends living outside the U.S through WesternUnion, USPS SureMoney, etc.): 9%
Mobile Payments by Age

By phone type

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Smartphone</th>
<th>All Mobile Phones</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-29</td>
<td>38%</td>
<td>34%</td>
</tr>
<tr>
<td>30-44</td>
<td>35%</td>
<td>31%</td>
</tr>
<tr>
<td>45-59</td>
<td>21%</td>
<td>16%</td>
</tr>
<tr>
<td>60+</td>
<td>13%</td>
<td>7%</td>
</tr>
<tr>
<td>Total</td>
<td>28%</td>
<td>22%</td>
</tr>
</tbody>
</table>
Mobile Payments by Race/Ethnicity

By phone type

<table>
<thead>
<tr>
<th>Category</th>
<th>Smartphone</th>
<th>All Mobile Phones</th>
</tr>
</thead>
<tbody>
<tr>
<td>White, Non-Hispanic</td>
<td>24%</td>
<td>17%</td>
</tr>
<tr>
<td>Black, Non-Hispanic</td>
<td>42%</td>
<td>34%</td>
</tr>
<tr>
<td>Other, Non-Hispanic</td>
<td>39%</td>
<td>24%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>39%</td>
<td>32%</td>
</tr>
<tr>
<td>2+ Races, Non-Hispanic</td>
<td>35%</td>
<td>23%</td>
</tr>
<tr>
<td>Total</td>
<td>28%</td>
<td>22%</td>
</tr>
</tbody>
</table>
Mobile Payments by Income

By phone type

<table>
<thead>
<tr>
<th>Income Range</th>
<th>Smartphone</th>
<th>All Mobile Phones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $25,000</td>
<td>22%</td>
<td>22%</td>
</tr>
<tr>
<td>$25,000 - $39,999</td>
<td>21%</td>
<td>21%</td>
</tr>
<tr>
<td>$40,000 - $74,999</td>
<td>23%</td>
<td>23%</td>
</tr>
<tr>
<td>$75,000 - $99,999</td>
<td>22%</td>
<td>22%</td>
</tr>
<tr>
<td>Greater than $100,000</td>
<td>20%</td>
<td>23%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>28%</strong></td>
<td><strong>22%</strong></td>
</tr>
</tbody>
</table>
Mobile Payments by Geography

(Among respondents with a mobile phone)
What was the main reason why you started using mobile payments when you did?

- I got a smartphone: 34%
- I liked the convenience of mobile payments: 29%
- The ability to make mobile payments became available: 16%
- I became comfortable with the security of mobile payments: 9%
- Other: 4%
- To take advantage of loyalty or rewards points and discounts: 3%
- A store I visit started offering the service: 2%

N=455
When making mobile payments, which of the following payment methods do you use?

Payment Methods

- Debit card: 55%
- Credit card: 51%
- Bank account: 41%
- Account at a non-financial institution (e.g., PayPal): 15%
- Prepaid debit card: 8%
- Charge to your phone bill: 4%
- Other: 3%
Mobile Payment Services

Have you used any of the following mobile payment services in the past 12 months? (Among those who made a mobile payment and own a smartphone)

- PayPal: 43%
- Starbucks mobile payments: 11%
- Google Wallet: 9%
- Apple Pay: 5%
- Amazon Firefly: 3%
- Square Wallet: 2%
- CardNav: 1%
- Deluxe eCheck: 1%
- LevelUp: 1%
- Softcard: 1%
- Tabbedout: 0%
- Dwolla: 0%

N=428
Reasons For Not Using Mobile Payments

Please tell us of any of the reasons below are why you do not use mobile payments.

- It’s easier to pay with cash or a credit/debit card: 75%
- I don’t see any benefit from using mobile payments: 59%
- I’m concerned about the security of mobile payments: 59%
- I don’t trust the technology: 41%
- I don’t have the necessary feature on my phone: 37%
- I don’t really understand all the different mobile payment options: 31%
- It’s difficult or time consuming to set up or use mobile payments: 31%
- I don’t need to make any payments or someone else pays the bills: 23%
- The places I shop don’t accept mobile payments: 23%

N=2,137
Mobile Payments Areas Of Interest

Assuming that the reason(s) why you do not currently use mobile payments was addressed, would you be interested in doing any of the following activities with your mobile phone?

- Transferring money to someone in another country: 4%
- Making payments to another person (e.g., friend, relative, babysitter) within the United States: 11%
- Receiving money from another person’s bank or other financial account (e.g., Paypal account): 12%
- Paying for parking, a taxi, or public transit using an app: 12%
- Using your mobile phone as a “virtual wallet” to replace some cards in your wallet: 13%
- Making an online or in-app purchase (e.g., from amazon.com or bestbuy.com): 15%
- Paying bills online through a mobile web browser or app: 15%
- Using my mobile phone to pay for purchases at a store: 18%
- Receiving/using coupons and/or reward points on your phone: 20%
- None, I don't want to use mobile payments: 65%

N=2,137
Not Interested in Mobile Payments

Age distribution for individuals who would *not* use mobile payments, even if their reasons for not using mobile payments were addressed.

- 18-29: 31%
- 30-44: 19%
- 45-59: 15%
- 60+: 35%

N=1,401
Mobile Technology, Shopping, and Consumer Behavior
Do you receive each of the following kinds of alerts?

(Among mobile banking users who receive alerts)

- Low balance: 46%
- Statement available notification: 42%
- Deposit or withdrawal: 39%
- Payment due: 35%
- Fraud: 34%
- Credit card balance: 16%
- Other: 5%
- Saving reminders: 5%

N=459
Reactions To Low-Balance Alerts

Thinking of the most recent low-balance alert you received, which of the following actions did you take after receiving the alert? (Among mobile banking users who received low balance alerts)

- Transferred money into the account with the low balance from another account: 44%
- Deposited money into the account with the low balance: 31%
- Reduced my spending: 28%
- None of the above: 17%

N=211
Mobile Phone Usage

Would you like to or do you already use your mobile phone for any of the following purposes?

- Receive offers and promotions based on your location
  - 18% I already do
  - 24% I would like to

- Receive and manage discount offers and coupons
  - 23% I already do
  - 26% I would like to

- Compare prices when shopping
  - 30% I already do
  - 24% I would like to

- Organize, track and store gift cards, memberships, loyalty and reward points
  - 13% I already do
  - 19% I would like to

- Track your finances, purchases or expenses
  - 29% I already do
  - 13% I would like to

N=2,603
Just-In-Time Financial Information While Shopping Affects Decision to Buy

Using a mobile phone to check account balance or available credit before making large purchase: 63%

Deciding not to buy item because of the amount of money left in account or available credit: 53%

N=2,603
Using Smartphone to Compare Prices in a Retail Store Impacts Place of Purchase

- 47% Comparison shopping over the internet
- 33% Finding the best price for an item using a barcode scanning app
- 69% Changing where purchase was made

N=2,603
Using a Smartphone to Get Product Information While Shopping Affects Purchase Decision

- Browsing product reviews or get product information: 42%
- Changing which item was purchased: 79%

N=2,603
Willingness to Allow Mobile Phone to Provide Information

- **I am willing to allow my mobile phone to provide my location to companies I shop with regularly**
- **I am willing to allow my mobile phone to provide personal information to companies I shop with regularly**

<table>
<thead>
<tr>
<th>Opinion</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>6%</td>
<td>33%</td>
<td>33%</td>
<td>39%</td>
</tr>
<tr>
<td>Personal information</td>
<td>3%</td>
<td>19%</td>
<td>37%</td>
<td>26%</td>
</tr>
</tbody>
</table>

N=1,775

Board of Governors of the Federal Reserve System
Perceived Security Of Mobile Banking And Payments
Mobile Banking Safety

Do you password protect your smartphone?

PERCEIVED SECURITY OF MOBILE BANKING AND PAYMENTS

- 2012: 54%
- 2013: 61%
- 2014: 69%

Board of Governors of the Federal Reserve System
Mobile Banking Safety

How safe do you believe people's personal information is when they use mobile banking?

- Don't know: 19% (Not a mobile banking user), 5% (Mobile banking user)
- Very unsafe: 27% (Not a mobile banking user), 6% (Mobile banking user)
- Somewhat unsafe: 27% (Not a mobile banking user), 22% (Mobile banking user)
- Somewhat safe: 24% (Not a mobile banking user), 53% (Mobile banking user)
- Very safe: 3% (Not a mobile banking user), 14% (Mobile banking user)
Mobile Payments Safety

How safe do you believe people’s personal information is when they use a mobile phone to pay for a purchase at a store?

- **Very safe**: 12% (Not a mobile payments user), 12% (Mobile payments user)
- **Somewhat safe**: 25% (Not a mobile payments user), 25% (Mobile payments user)
- **Somewhat unsafe**: 23% (Not a mobile payments user), 23% (Mobile payments user)
- **Very unsafe**: 7% (Not a mobile payments user), 7% (Mobile payments user)
- **Don't know**: 17% (Not a mobile payments user), 17% (Mobile payments user)

**Perceived Security of Mobile Banking and Payments**
Specific Mobile Banking and Payments Security Concerns
(Among those who expressed a concern about security)
Key Takeaways
Key Takeaways

Use of mobile banking continued to increase
- Most common mobile banking activities are checking account balances/recent transactions, transferring money between accounts, and receiving alerts from financial institution
- Remote deposit capture continues to increase

Use of mobile payments broadly defined has risen
- Most common mobile payment activities are paying bills, making online or in-app purchases, and paying for a product or service at a store

Smartphone ownership and convenience are major drivers of adoption

Main impediments to adoption are preference for other methods of banking and payments and concerns about security

Access to “just-in-time” information via mobile phone (e.g. bank alerts) has altered choices for many mobile phone users