

# Mobile Banking and Payments Survey of Financial Institutions in the First District Summary of Results

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## **Federal Reserve Bank of Boston** **Payment Strategies Group**

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The views expressed in this paper are solely those of the authors and not necessarily those of the Federal Reserve Bank of Boston or the Federal Reserve System.

## Current Mobile Banking Landscape in the United States

Since the Federal Reserve Bank of Boston last conducted the Mobile Banking and Payments survey in 2008, a growing number of financial institutions across the United States have begun to offer mobile banking. Similarly, more online consumers and those with mobile phones are using mobile banking. According to Forrester Research, 15 percent of U.S. online adults are active mobile bankers, up from five percent in 2008.<sup>1</sup> The Federal Reserve Board's *2012 Consumer Mobile Financial Services* survey found that 21 percent of mobile phone owners have used mobile banking within the past 12 months.<sup>2</sup> Furthermore, 11 percent of those not currently using mobile banking think that they will probably use it within the next 12 months.<sup>3</sup> As mobile banking becomes more accessible to consumers, it will increasingly become an influencing factor when they select a bank or credit union.

Financial institutions, both large and small, recognize the benefits of providing mobile banking services to their customers. Moreover, banks and credit unions recognize that the mobile channel has the potential to help a financial institution differentiate itself and become more competitive. The increasing importance of the mobile channel is also reflected in the frequency of transacting through mobile banking. A majority of mobile bankers perform the following transactions at least once a month through their mobile device: check balances, view transactions, make payments, receive text messages and transfer funds, resulting in lowered service and transaction costs.<sup>4</sup> While the most common use of mobile banking is to check account balances or recent transactions, financial institutions are devoting more resources to developing new services with advanced features and capabilities, including bill pay, mobile P2P and mobile remote deposit capture to meet growing consumers' growing demands. Mobile channel expenditures are a significant part of overall digital spending for retail bank executives, in particular, spending on alerts, remote deposit capture and P2P payments.<sup>5</sup>

The ubiquity of smartphones has also had an important impact on mobile banking. Forty-seven percent of smartphone owners conduct mobile banking compared with 28 percent of all mobile consumers.<sup>6</sup>

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<sup>1</sup> Brad Strothkamp, "The State of North American Digital Banking: Priorities, Goals, And Metrics," Forrester Research, July 20, 2012.

<sup>2</sup> Matthew B. Gross, Jeanne M. Hogarth, and Maximilian D. Schmeiser, "Consumers and Mobile Financial Services," Board of Governors of the Federal Reserve System, March 2012.

<sup>3</sup> Matthew B. Gross, Jeanne M. Hogarth, and Maximilian D. Schmeiser, "Consumers and Mobile Financial Services," Board of Governors of the Federal Reserve System, March 2012.

<sup>4</sup> Javelin Strategy & Research, "2012 Mobile Banking, Smartphone, and Tablet Forecast," November 2012.

<sup>5</sup> Brad Strothkamp, "The State of North American Digital Banking: Priorities, Goals, And Metrics," Forrester Research, July 20, 2012.

<sup>6</sup> Javelin Strategy & Research, "2012 Mobile Banking, Smartphone, and Tablet Forecast," November 2012.

## Survey Overview

The Federal Reserve Bank of Boston (FRBB) conducted a mobile banking and payments survey of financial institutions (FIs) in New England between August and September 2012. The purpose of the survey was to determine if more FIs had begun to offer mobile financial services since the previous survey conducted in 2008, and to determine what types of mobile services they were offering. The FRBB also hoped to gain insights into the strategies and measures that regional FIs pursued to provide mobile financial services to their customers.

Methodology: The FRBB conducted the survey from August 13 to September 21, 2012. Seven hundred fifty-six FIs in New England received an email that included an electronic version of the survey and an online survey link. One-hundred and twenty-six FIs completed the survey, a 17 percent response rate. The majority of those FIs completed the online survey. Eighteen FIs completed a paper version and returned it via email or mail, which we manually entered in the online survey tool.

### Key Findings

- One hundred eighteen FIs reported that they currently offer or have plans to offer mobile banking and payment services within the next 24 months.
- Eight FIs indicated that they do not have any plans to offer mobile banking or payments at this time, primarily due to the lack of customer interest and resource constraints.
- Security continues to be a key challenge for FIs that offer -as well as those that do not offer- mobile banking.
- All FIs offering or planning to offer mobile banking provide balance inquiry services for various accounts, and most allow customers to transfer funds internally between their own accounts via mobile phone.
- Adoption of mobile payments remains low, but over one-third of FIs reported that they plan to offer these services within the next three years.

## Demographic Information

**Table 1. Actual Number of Financial Institutions in New England by State**

| State | Banks      |                      |     | Credit Unions (CU) |                      |      |
|-------|------------|----------------------|-----|--------------------|----------------------|------|
|       | # of Banks | Assets < \$1 Billion |     | # of CUs           | Assets < \$1 Billion |      |
| CT    | 52         | 43                   | 83% | 127                | 125                  | 98%  |
| MA    | 157        | 128                  | 82% | 207                | 202                  | 98%  |
| ME    | 29         | 24                   | 83% | 64                 | 62                   | 97%  |
| NH    | 22         | 19                   | 86% | 21                 | 20                   | 95%  |
| RI    | 14         | 9                    | 64% | 23                 | 21                   | 91%  |
| VT    | 14         | 13                   | 93% | 26                 | 26                   | 100% |
| Total | 288        | 236                  | 82% | 468                | 456                  | 97%  |

Source: FDIC and NCUA data, as of June 30, 2012

As shown in Table 1,<sup>7</sup> there were 288 banks (representing commercial, savings and community, although most are smaller community banks) and 468 credit unions in New England at the time the survey was administered. Between 2008 and 2012, the total number of FIs in the region decreased from 836 to 756, down 17%.<sup>8</sup>

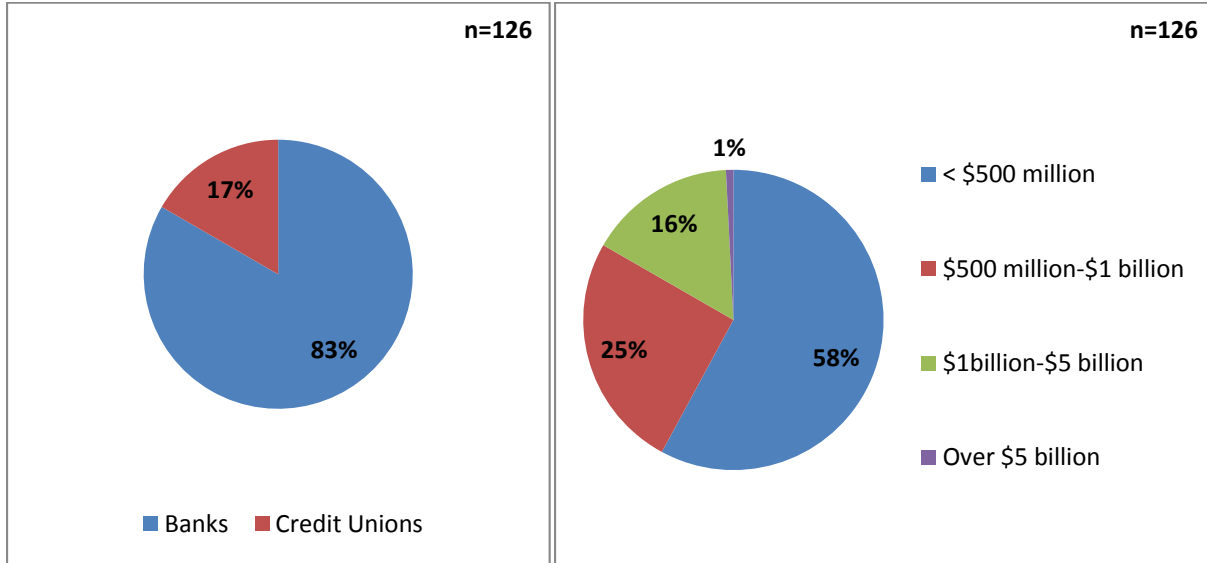
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<sup>7</sup> FDIC <http://www2.fdic.gov/idasp/main.asp>; NCUA <http://researchcu.ncua.gov/Views/FindCreditUnions.aspx>

<sup>8</sup> The FRB defines a community bank as an FI with assets less than \$1 billion. 82% of banks in New England fit the FRB definition.

**Chart A. Mix of FIs in New England**

**Chart B. New England FIs by Asset Size**



The 126 FI respondents comprise a mix of 105 (83%) banks and 21 (17%) credit unions (Chart A). The majority of bank and credit union respondents combined have assets less than \$500 million, 25 percent have assets between \$500 million and \$1 billion, and only 17 percent have assets that exceed \$1 billion (Chart B).

**Chart C. FI Headquarter Locations by State**

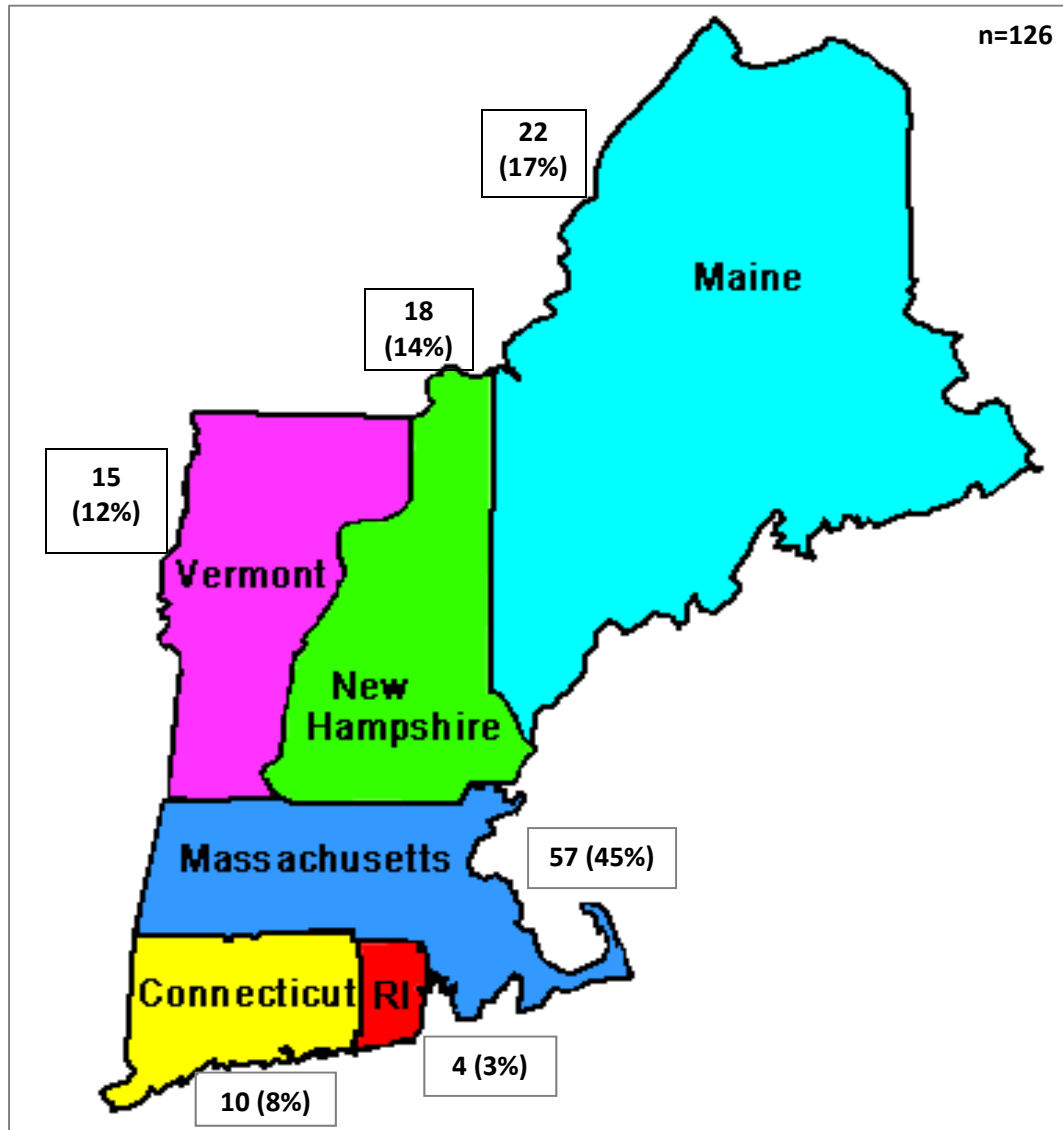
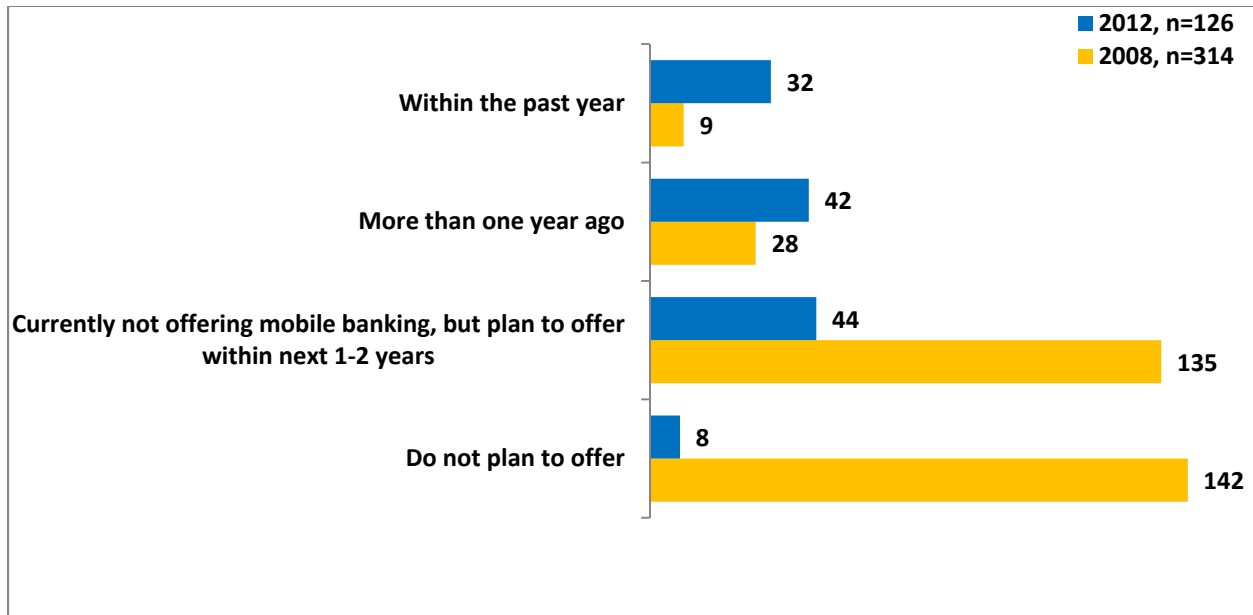


Chart C illustrates how many of the 126 FI respondents are headquartered in each New England state. Massachusetts has the highest concentration of bank and credit union headquarters (45%). Maine, New Hampshire and Vermont are the second, third and fourth, respectively, with 17 percent of respondents headquartered in Maine, 14 percent in New Hampshire and 12 percent in Vermont. FI respondents from Connecticut and Rhode Island in aggregate comprise 11 percent of the total. Connecticut was the least represented in the survey. The actual percentage of FIs representing Connecticut (24%) was much higher than the percentage that responded to the survey (8%).

# Mobile Banking Survey Results

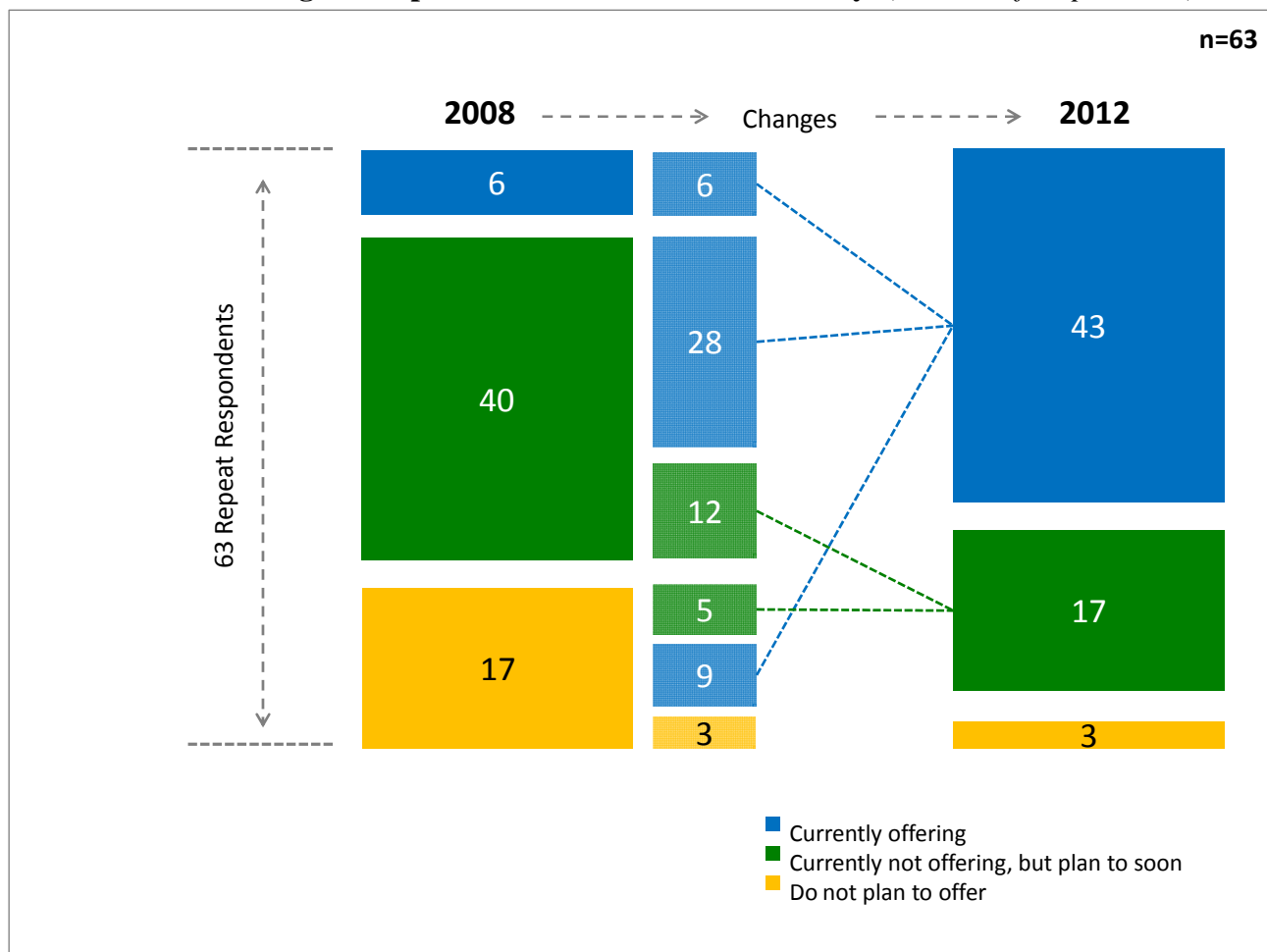
**Chart D. Number of Respondents Offering Mobile Banking, 2012 vs. 2008**



**Q5. When did you start offering mobile banking to your customers?**

In both 2008 and 2012, survey respondents were asked to indicate the status of their mobile banking plans. In 2012, more FIs offered mobile banking, and the number is expected to increase based on plans to offer. While there were fewer respondents in 2012 than 2008 (but with a comparable response rate), more FIs reported in 2012 that they already offered or planned to offer mobile banking services in the next two years (Chart D). Seventy-four FIs (58%) reported that they already offered mobile banking. In contrast, only half that number—37 FIs (12%) — reported that they offered mobile banking in 2008. More telling is that the percentage of FIs that reported no plans to offer mobile banking services declined from 45 percent (142) in 2008 to 6 percent (8) in 2012; while results were based on fewer respondents in 2012, with the exception of Connecticut, the percentage of FIs by state was similar.

**Chart E. Recurring FI Respondents in 2008 and 2012 Surveys** (*number of respondents*)



**Q5. When did you start offering mobile banking to your customers?**

Sixty-three FIs participated in both the 2008 and 2012 surveys (Chart E). We compared the responses from both surveys to map trends for implementing mobile banking. Of the 63 repeat respondents, 17 FIs reported no plans to offer mobile banking in 2008, but 14 changed their status in 2012. Nine of the 14 FIs indicated that they currently offer mobile banking and five reported having plans to offer mobile banking in the near future. Furthermore, of the 40 FIs that reported they were in the planning stage in 2008, 28 now offer mobile banking and 12 anticipate offering the service soon. Overall, 43 repeat respondent FIs offered mobile banking in 2012 and 17 were in the planning stages. Only three FIs maintained their original 2008 status of not planning to offer mobile banking in 2012. These three FIs were located in New Hampshire and Maine.

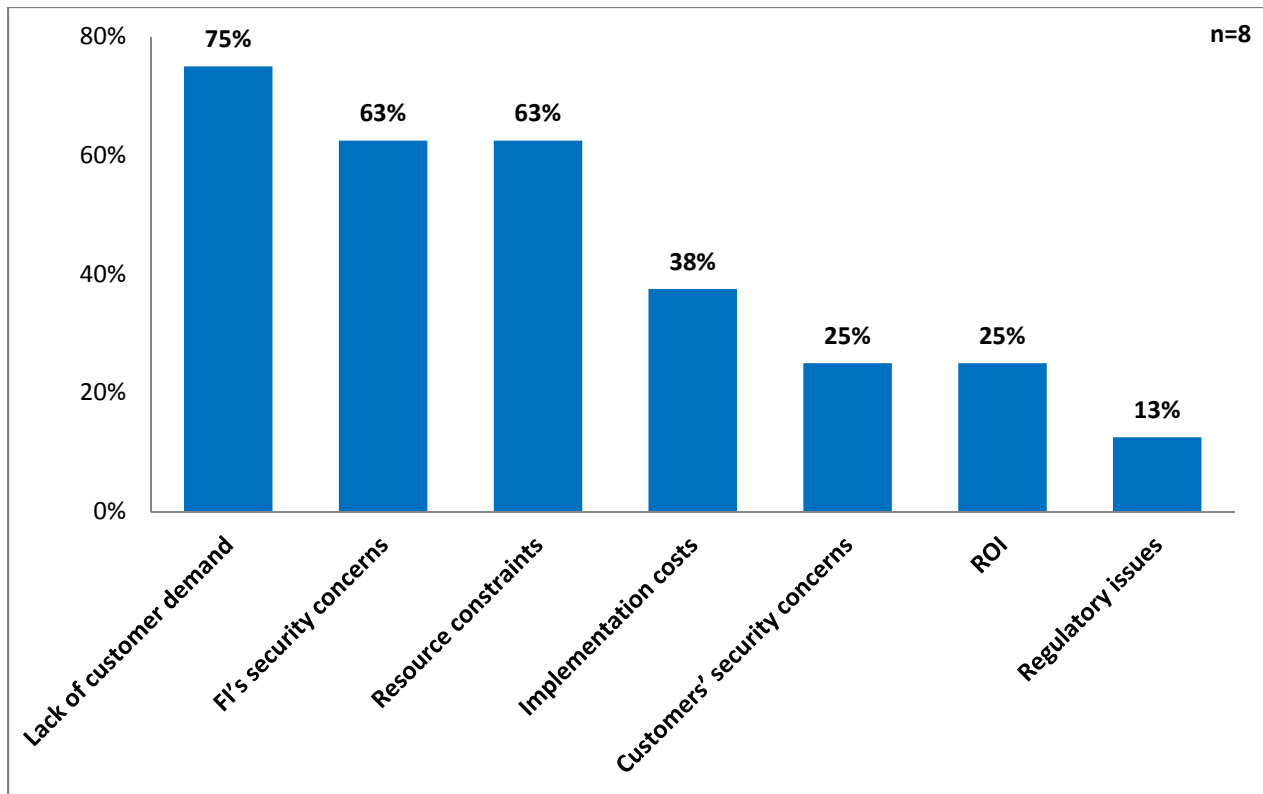


**Table 2. Bank vs. CU Mobile Banking Plans, 2012**

|  | Banks |      | CUs |      |
|--|-------|------|-----|------|
| Implemented over one year ago  | 32    | 30%  | 10  | 48%  |
| Implemented in the past year   | 27    | 26%  | 5   | 24%  |
| Currently do not offer mobile banking, but plan to offer within next 1-2 years | 41    | 39%  | 3   | 14%  |
| Do not plan to offer   | 5     | 5%   | 3   | 14%  |
| Total  | 105   | 100% | 21  | 100% |

Over half of the FI respondents in the 2012 survey already offered mobile banking (56% of banks and 72% of CUs) (Table 2). Showing an upward trend, 39 percent of banks and 14 percent of CUs plan to offer mobile banking services in the next 24 months.

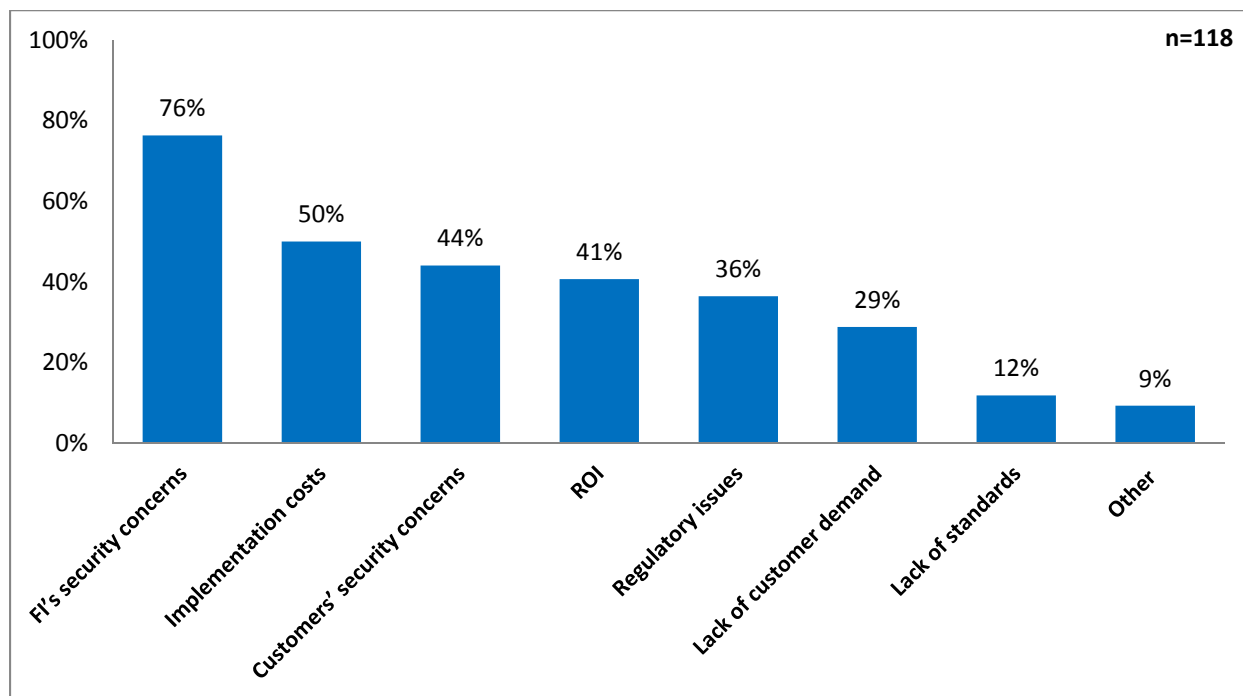
**Chart F. Reasons FIs did not Offer Mobile Banking (% of respondents)**



**Q21. Please select the TOP THREE factors that influenced your decision not to offer mobile banking services.**

Only eight FI respondents do not plan to provide mobile banking to their customers at this time. Six of the eight FIs indicated lack of customer interest as their top reason not to offer mobile banking (Chart F). Security concerns and resource constraints were also key challenges that contributed to five FIs' decisions not to offer mobile banking.

**Chart G. Challenges Associated with Providing Mobile Banking (% of respondents)**



**Q11. Please select the TOP THREE challenges you had when deciding to implement mobile banking.**

As shown in Chart G, over three-quarters of respondents already offering or planning to offer mobile banking reported security as a top issue. About half of the respondents reported implementation costs and customer security concerns as top challenges. Included in the *Other* category were issues with poor mobile coverage and lack of knowledge about the technology and vendors. Mobile coverage can be an issue in geographic areas with limited cell phone tower service, causing dropped calls or incomplete banking transactions, negatively affecting a consumer's experience.

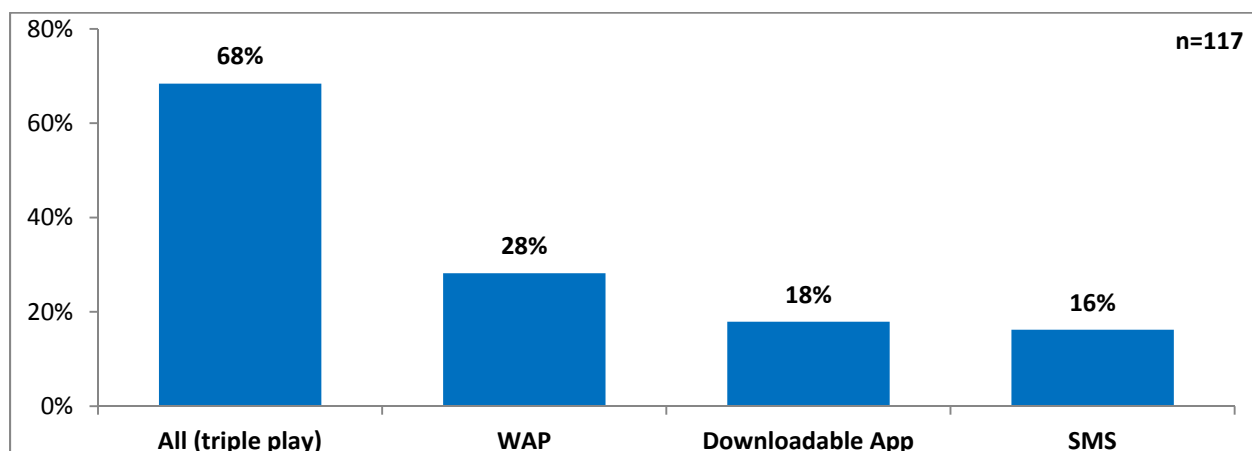
**Table 3. Top Reasons FIs Offer Mobile Banking (% of respondents)**

|   | <b>2012<br/>n=114</b> | <b>2008<br/>n=164</b> |
|---|-----------------------|-----------------------|
| Competitive pressure                            | 29%                   | 28%                   |
| Retain existing customers                       | 29%                   | 21%                   |
| Attract new customers                           | 23%                   | 38%                   |
| Be a market leader with technology              | 16%                   | 12%                   |
| Decrease costs of call center & IVR call volume | 1%                    | 1%                    |
| Increase revenue                                | 0%                    | 0%                    |
| Other   | 2%                    | 0%                    |

**Q14. Please select your primary business reason for offering mobile banking.**

Several key factors motivated FIs to offer mobile banking (Table 3). The top two reasons selected were to retain existing customers (29%) and address competitive pressure (29%). Attracting new customers continues to be relatively important in 2012, but somewhat lower than the 2008 survey results, (23% in 2012 vs. 38% in 2008). In both surveys, FIs identified being a market leader with technology—providing banking services to customers using the most advanced and innovative technology—as a key reason why they decided to offer mobile banking.

**Chart H. Mobile Platforms Selected by FIs (% of respondents)**



**Q6. What mobile banking technology platform do you use or plan to use in the future?**

FIs can choose one, two or three technology platforms to deliver mobile banking services: SMS text message, web browser, and/or customized downloadable applications (apps). They may implement any combination of the three platforms, depending on their needs. In 2012, 68 percent of the respondents offered or planned to offer all three platforms (known as the *triple*

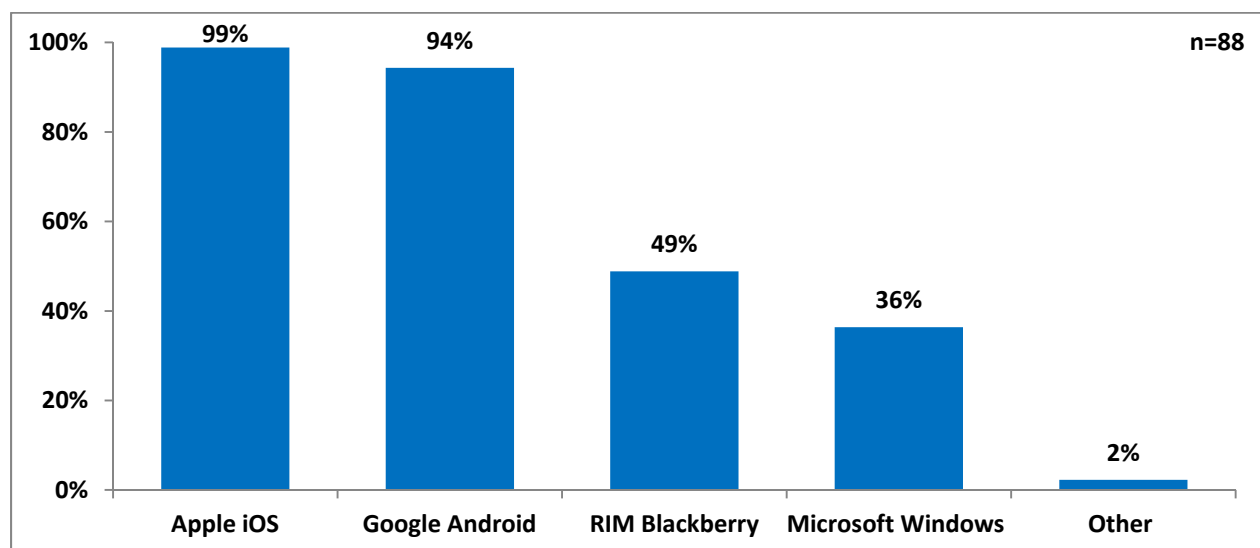
play) (Chart H), compared to only 10 percent of respondents in 2008. Since 2008, FIs have learned from experience that each platform meets different customer demands. Given the growth in smartphone adoption in recent years, 86 percent (18% downloadable apps plus 68% triple play) of the FIs reported that they currently offer or plan to offer a downloadable mobile banking app. In the 2008 survey, the most common access platform FIs provided was the mobile web (89%), and the least common was the mobile app (25%).

**Table 4. U.S. Smartphone Operating System (OS) Market Share<sup>9</sup>**

| Smartphone Operating Systems  | Sep 2012 | Sep 2011 | Sep 2010 |
|-------------------------------|----------|----------|----------|
| Google Android                | 53%      | 45%      | 21%      |
| Apple iOS                     | 34%      | 27%      | 24%      |
| RIM Blackberry                | 8%       | 19%      | 37%      |
| Microsoft Windows             | 4%       | 6%       | 10%      |
| Other                         | 1%       | 3%       | 7%       |
| Total Smartphone Subscribers* | 100%     | 100%     | 100%     |

*\*Total may not add up to 100% due to rounding*

**Chart I. Mobile Operating Systems FIs use for Mobile Banking Apps (% of respondents)**

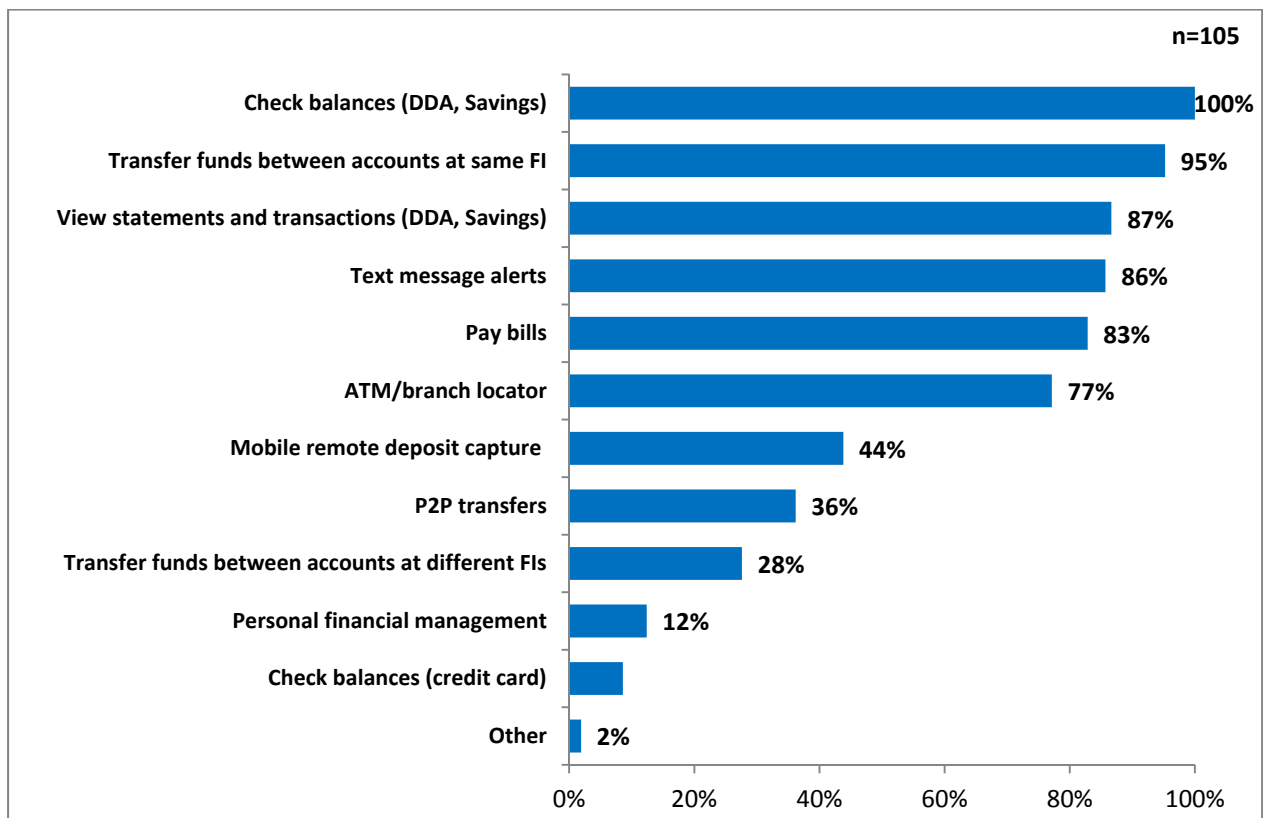


**Q7. Which mobile operating system(s) does your downloadable mobile banking application support?**

<sup>9</sup> Source: comScore 2012, <http://www.comscore.com>

When selecting mobile operating systems, FIs must consider multiple factors, including the cost to develop customized apps and the number of customers using each mobile operating system. Almost all FIs offered or planned to offer mobile banking apps built for Apple iOS (99%) and Android (94%), which aligns with the smartphone OS market shares (Android 53% and iOS 34%), shown in Table 4. In addition, 49 percent of FIs chose to build mobile apps for the Blackberry, and 36 percent included an app for Microsoft Windows, even though the share of subscribers using these operating systems declined between 2010 and 2012 (Chart I). Twenty-eight percent of FIs developed apps compatible with the top four mobile operating systems. Recently, Microsoft announced that its Windows Phone 8 OS would support NFC technology and include a wallet application to store credit and debit card credentials, coupons and other loyalty cards.<sup>10</sup> Window’s new OS may attract more customers, creating demand for FIs to develop mobile banking and payments apps compatible with its system in the future.

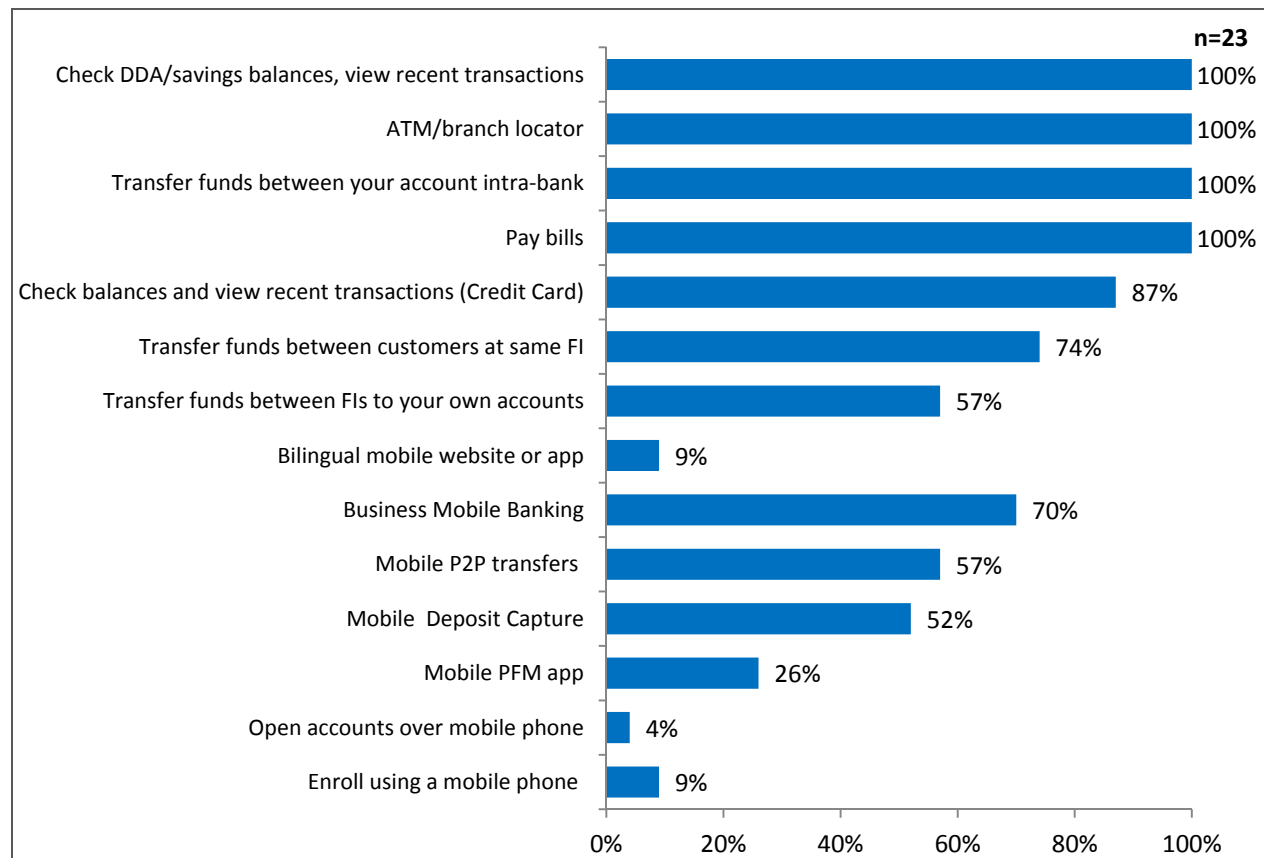
**Chart J. Mobile Banking Services Offered** (% of respondents that offer mobile banking)



**Q8. Which of the following mobile banking products and services do you currently offer or plan to offer within the next two years?**

<sup>10</sup> <http://bits.blogs.nytimes.com/2012/06/20/windows-phone-8/>

**Chart K. Mobile Banking Features among Top FIs**



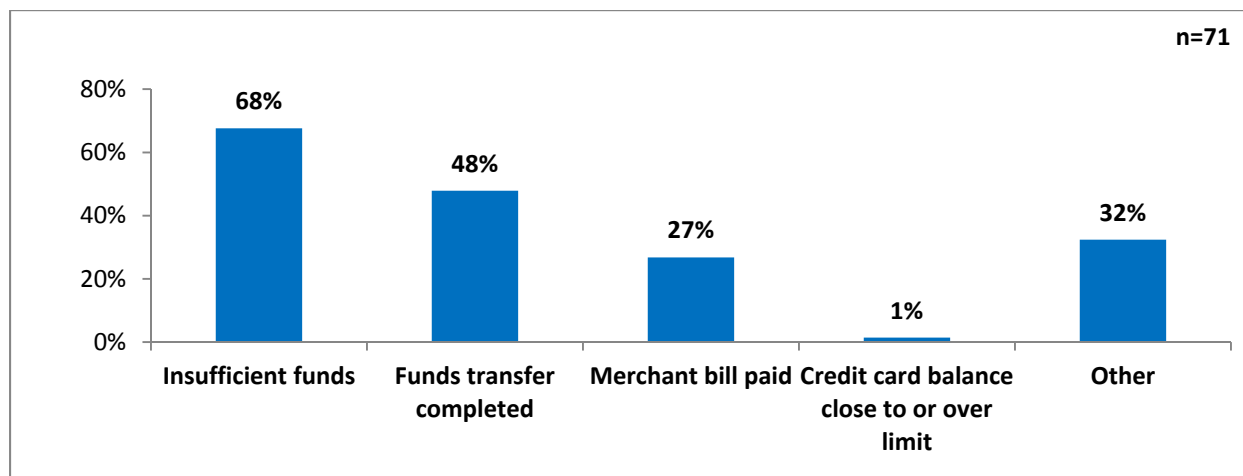
**Source: Javelin Strategy & Research, October 2012**

Most FIs offering mobile banking view the services as complementary to their online banking services. Standard mobile banking services usually include account monitoring capabilities (e.g., checking balances, viewing statements, etc.) and money management features (e.g., transfers between accounts, bill pay, etc.), which are also available through an FI’s online banking platform. As shown in Chart J, all respondents that have mobile banking offer or plan to offer balance inquiry services for deposit accounts, and some for credit cards. Ninety-five percent of these respondents allow customers to use mobile phones to transfer funds internally between their own accounts. In comparison, almost all of the top retail FIs in the U.S. by annual deposit size (23) offer mobile banking, based on a survey Javelin conducted in 2012.<sup>11</sup> These same FIs also offer balance inquiry services, mobile bill pay and internal funds transfers between customers’ own accounts (Chart K).

<sup>11</sup> Javelin Strategy & Research, “2012 Mobile Banking Financial Institution Scorecard: Three Keys to Mobile Money Movement Success,” November 2012. Javelin’s report is based on data from the top 25 U.S. retail financial institutions by gross annual deposit size as of March 31, 2012; percentages in this chart are based on all financial institutions reviewed with mobile banking.

Compared to the FRBB 2008 mobile banking survey, the 2012 results showed an increase in FIs that offered or planned to offer more advanced mobile money management functions (Chart J). Forty-four percent of the FIs indicated that they currently offered or planned to offer mRDC, which enables a customer to use his mobile phone camera to take a picture of a check and deposit it electronically from the phone to the FI.<sup>12</sup> While only seven percent of FIs offered or planned to offer mobile P2P in 2008, 36 percent reported that they offered or planned to offer mobile P2P in 2012. In addition, 12 percent of the respondents offered or planned to offer a personal financial management (PFM) function. Looking at the Javelin results, over half of the top FIs providing mobile banking offered mobile RDC and mobile P2P, and more than a quarter offered a mobile PFM app.<sup>13</sup>

**Chart L. Types of Alerts Offered by Percentage of Respondents – 2012**



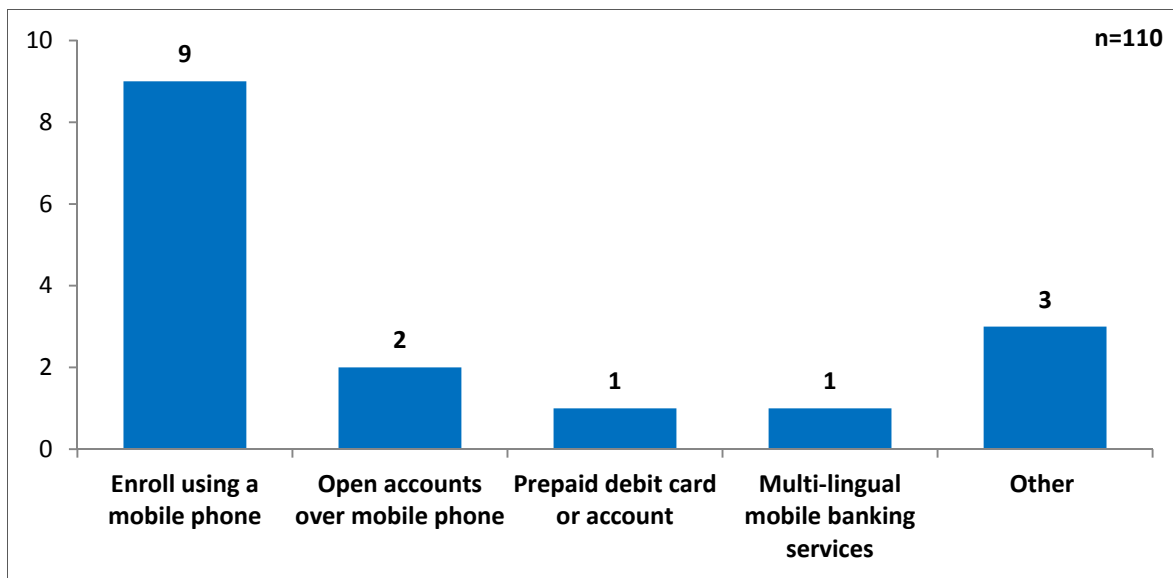
**Q9. What types of SMS text message alerts does your institution offer?**

FIs that offered or planned to offer text alerts increased from 60 percent to 86 percent between 2008 and 2012. About two-thirds of the FIs that offered text message alerts (Chart J) provided alerts for insufficient funds, and 48 percent used alerts to notify of a completed funds transfer (Chart L). The *Other* category included alerts for potentially fraudulent transactions, checks cleared, stop pays, CD balances and declined transactions. These examples show a variety of ways for FIs to use alerts as a tool to communicate important account activity information quickly to customers.

<sup>12</sup> Since mobile RDC was a new technology in 2008, it was not provided as a response choice in the survey and thus data on the service for 2008 is unavailable.

<sup>13</sup> Javelin Research & Strategy, October 2012.

**Chart M. Number of FIs that Offer Mobile Banking Services for the Underserved**



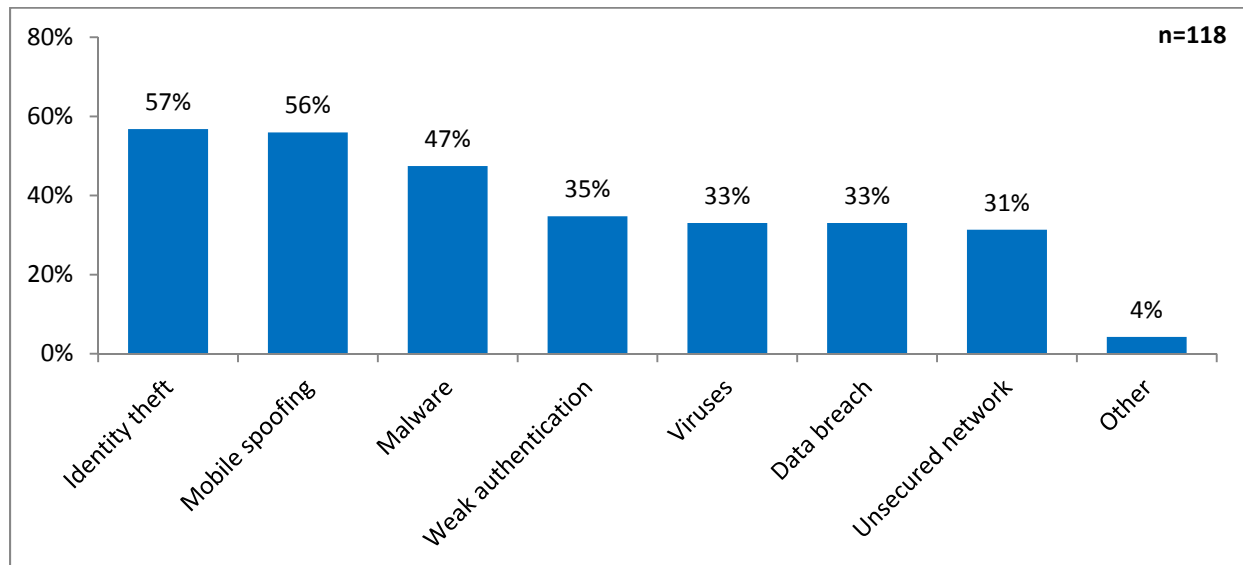
**Q10. Do you offer any mobile banking services that specifically target the underbanked?**

The *2011 FDIC National Survey of Unbanked and Underbanked Households*<sup>14</sup> suggested that mobile technology can potentially help to improve the quality of financially underserved consumers' banking experiences and change their behaviors regarding bank and non-bank financial service providers. For example, using mobile technology can increase the convenience of cashing checks for underbanked and unbanked consumers. However, the New England FI mobile survey results indicated that 90 percent of FIs do not offer or plan to offer any mobile banking services that address the underbanked and unbanked consumer segments (Chart M). Fewer than 10 percent of respondents offered any mobile banking services that targeted the needs of the underserved. Nine FIs reported offering mobile enrollment, which could benefit the underbanked who for various reasons, may not have easy access to online or physical branch banking services. No FI reported offering international remittances services. One FI indicated plans to offer mobile prepaid accounts in the *Other* category. FDIC statistics indicated that consumers who did not speak English, or for whom English was a second language, represented a large portion of the underbanked and unbanked population. And although 21 percent of FIs suggested that a multilingual mobile banking service was "nice to have" in the 2008 survey, only one of the FIs surveyed in 2012 reported offering or planning to offer multilingual mobile services.

<sup>14</sup>2011 *National Survey of Unbanked and Underbanked Households*, Federal Deposit Insurance Corporation, September 2012.



**Chart N. Top Security Concerns Associated with Mobile Banking** (*% of respondents*)



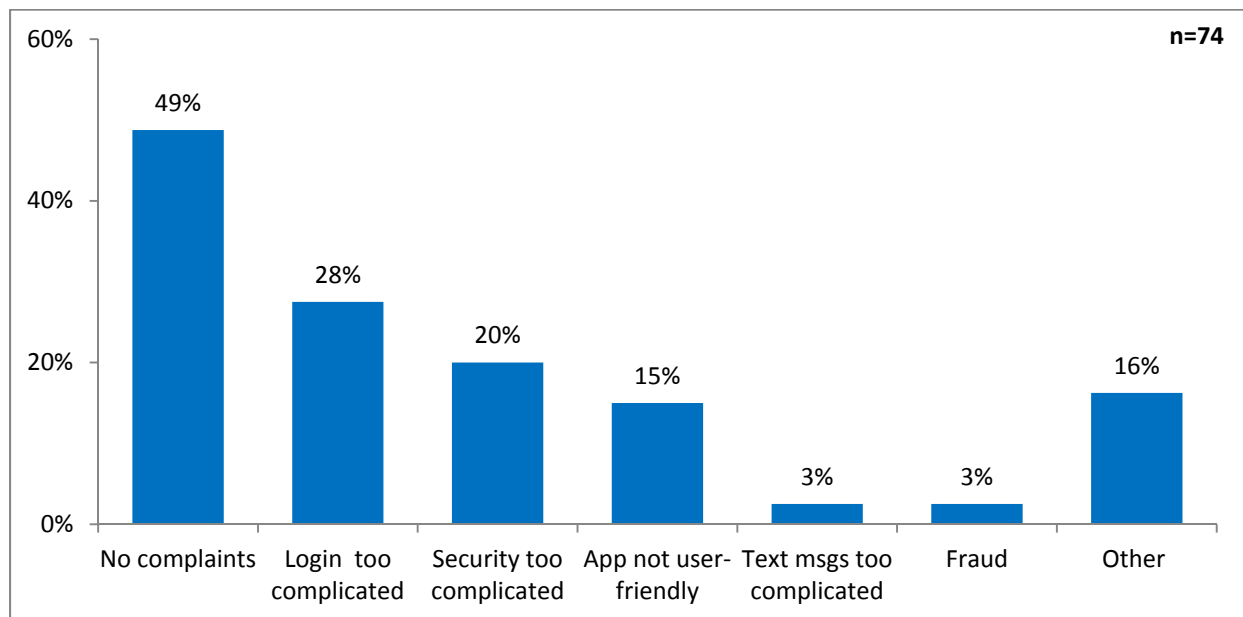
**Q12. Please select your financial institution's TOP THREE security issues associated with mobile banking services.**

As noted earlier, security continues to be a key concern for financial institutions. Chart N illustrates top mobile banking security issues reported by FIs. Over half of the FIs cited identity theft (57%) and mobile spoofing<sup>15</sup> (56%) as their top concerns. Forty-seven percent chose malware<sup>16</sup> as a top security concern. Other security issues, such as weak authentication, viruses, data breaches and network security were reported as top worries by about one third of the FIs. Two additional concerns noted in the *Other* category related to fraud and duplicate deposits from mobile remote capture.

<sup>15</sup> Mobile Spoofing is a misrepresentation or stealing of a legitimate brand through various methods, including, 1. Fraudulent messages (emails, SMS, or phone calls) pretending to be from a legitimate sender; 2. Counterfeit screen inserted on a legitimate website that requests personal information in order to steal user information; 3. Criminal use of a brand to make a mobile app look like it came from a legitimate financial institution.

<sup>16</sup> Mobile malware is malicious software such as viruses, Trojan horses, spyware and malicious active content. Malware is often delivered to mobile devices in plain sight of consumers, but they are unaware of the malicious function of the programs being downloaded.

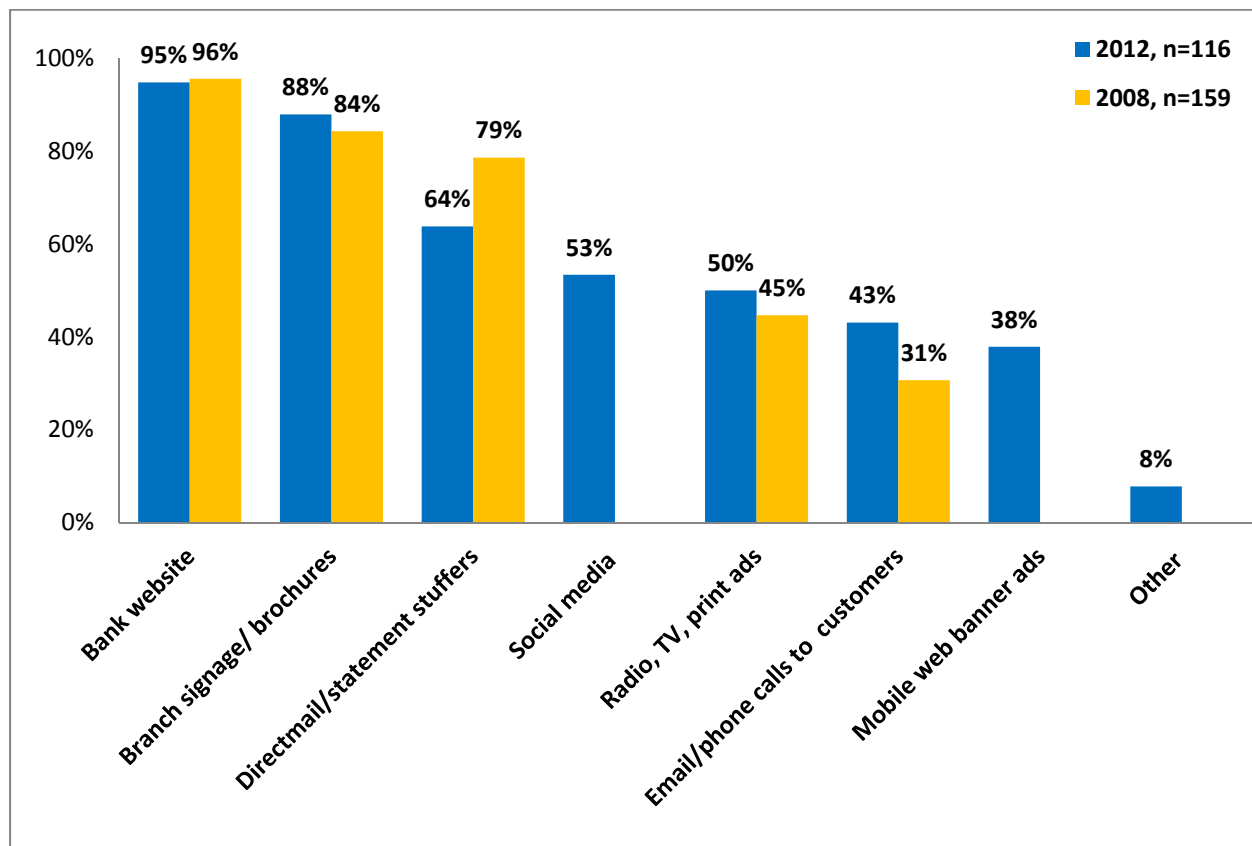
**Chart O. Percentage of FIs Reporting Customer Issues with Mobile Banking**



**Q13. Please select the most common customer problems and/or complaints you have received about mobile banking services.**

Customer satisfaction levels remain high as more FIs offer mobile banking. Approximately half of the respondents reported that they had not received any complaints. Of the FIs that did receive customer complaints (Chart O), only three percent said the complaints related to fraud. Most complaints related to mobile banking functionality, such as a complicated login process, difficult security measures, or unfriendly apps—all issues related to design and perhaps a need for more user training. Complaints cited in the *Other* category included compatibility issues with different smartphone operating systems and new customer problems setting up the mobile app. While this is good news, it should be noted that mobile banking transaction volumes are still relatively low, and many of the FIs surveyed only began offering mobile banking in the last 12 months.

**Chart P. Marketing Strategies use for Mobile Banking– 2012 vs. 2008 (% of respondents)**

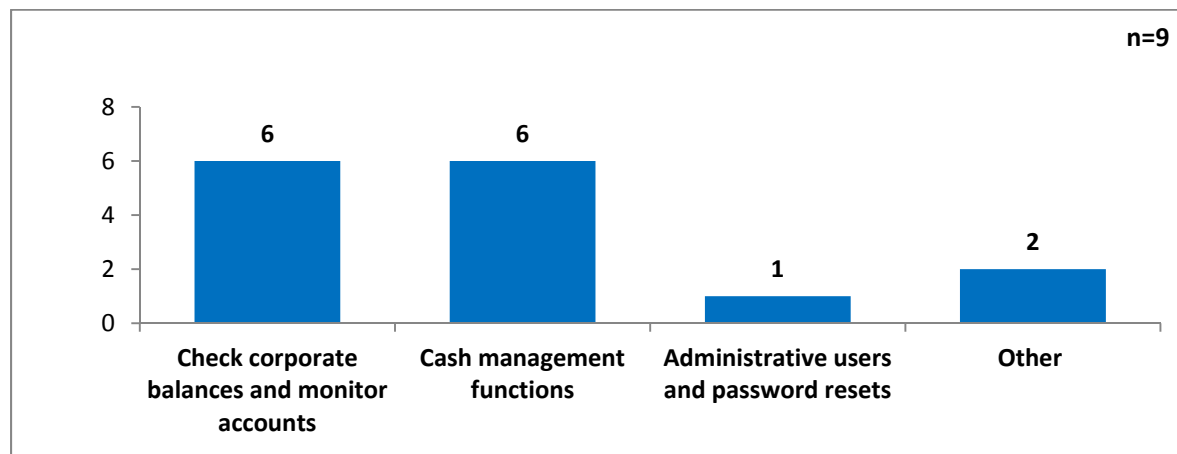


**Q15. How do you (plan to) market your mobile banking services?**

With few exceptions, FIs applied similar marketing strategies for mobile banking in 2008 and 2012 (Chart P). In 2008, social media was still in its infancy and was not included as a marketing option in the survey. However, a 2008 respondent suggested using Facebook in the open response section. In 2012, 53 percent of the FIs reported that they would use social media to promote mobile banking. Using mobile apps to advertise is a fairly new marketing channel and was not included as an option in the 2008 survey.

In the *Other* category, respondents suggested several alternative online and offline strategies. One respondent reported that his FI informed customers about mobile banking when they enrolled in online banking. Other FIs reported advertising in corporate newsletters or printing ads on teller receipts (similar to ads on supermarket receipts).

**Chart Q. Number of Respondents offering Corporate Mobile Banking**



**Q16. Do you offer different mobile banking services to your corporate customers?**

Based on the survey results, most New England FIs only provided mobile banking to retail customers, with 10 percent offering services to corporate customers. Of the nine FIs that offered corporate mobile banking, six provided mobile cash management and account monitoring services (Chart Q). One FI offered administrative user and password reset services. The *Other* category included mobile RDC for corporate clients.

**Table 5. Mobile Banking Retail Customer Adoption Rates**

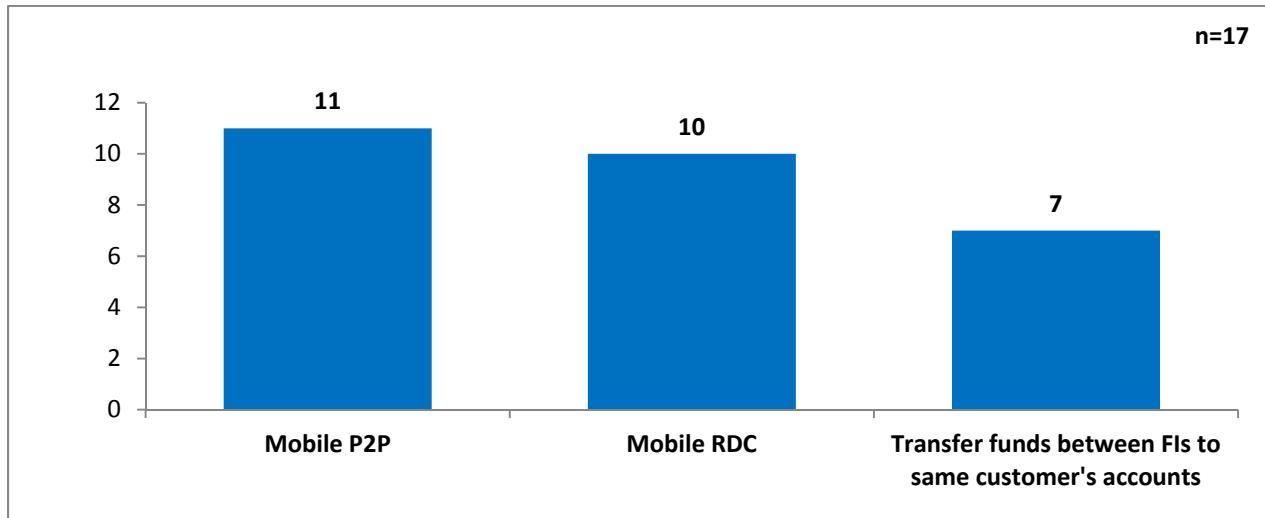
| % of FIs | Number of FIs | % of Customers by FI |
|----------|---------------|----------------------|
| 50%      | 37            | 0-5%                 |
| 45%      | 33            | 6-20%                |
| 4%       | 3             | 21-50%               |
| 1%       | 1             | 50-75%               |
| 0%       | 0             | >75%                 |
|          | <b>n=74</b>   |                      |

**Q17. What percentage of your retail customers uses mobile banking services?**

Table 5 shows retail customer adoption of mobile banking. Retail customers include consumers and small businesses. For 37 (50%) FIs, the percentage of retail customers who have adopted mobile banking ranged from 0 to 5%. This adoption range represents the largest number of FIs in the survey. For 33 (45%) FIs, mobile banking adoption ranged from 6% to 20%. None of the FI respondents reported mobile adoption over 75 percent. However, three FIs had adoption rates between 21 and 50 percent, and one FI reported more than half of its customers have adopted

mobile banking. So, while more FIs have implemented mobile banking since 2008, more work needs to be done to build awareness and adoption of their mobile services.

**Chart R. Potential Fee-based Mobile Banking Services** (*number of respondents*)



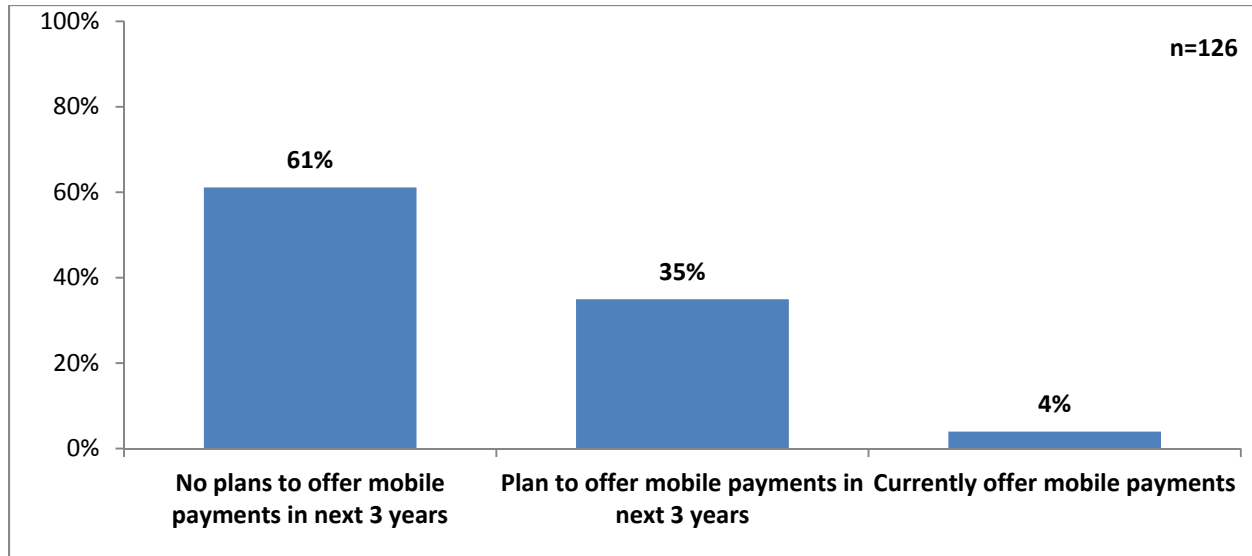
**Q19 & Q 20. Do you (plan to) charge a fee for any mobile banking services? If “Yes,” do you or will you charge a fee for the following services?**

Most FI respondents (84 percent) did not charge or plan to charge for mobile banking services. However, 17 FIs (16%) indicated that they would charge fees for selected mobile banking services, as illustrated in Chart R. Eleven FIs reported that they would charge for mobile P2P and ten reported that they would charge for mobile RDC. Because mobile P2P and mobile RDC are new services with additional value and convenience beyond basic mobile functions, revenue from some customer segments may be feasible.

## Mobile Payment Survey Results

This section covers the few questions asked about mobile payment services in the survey.

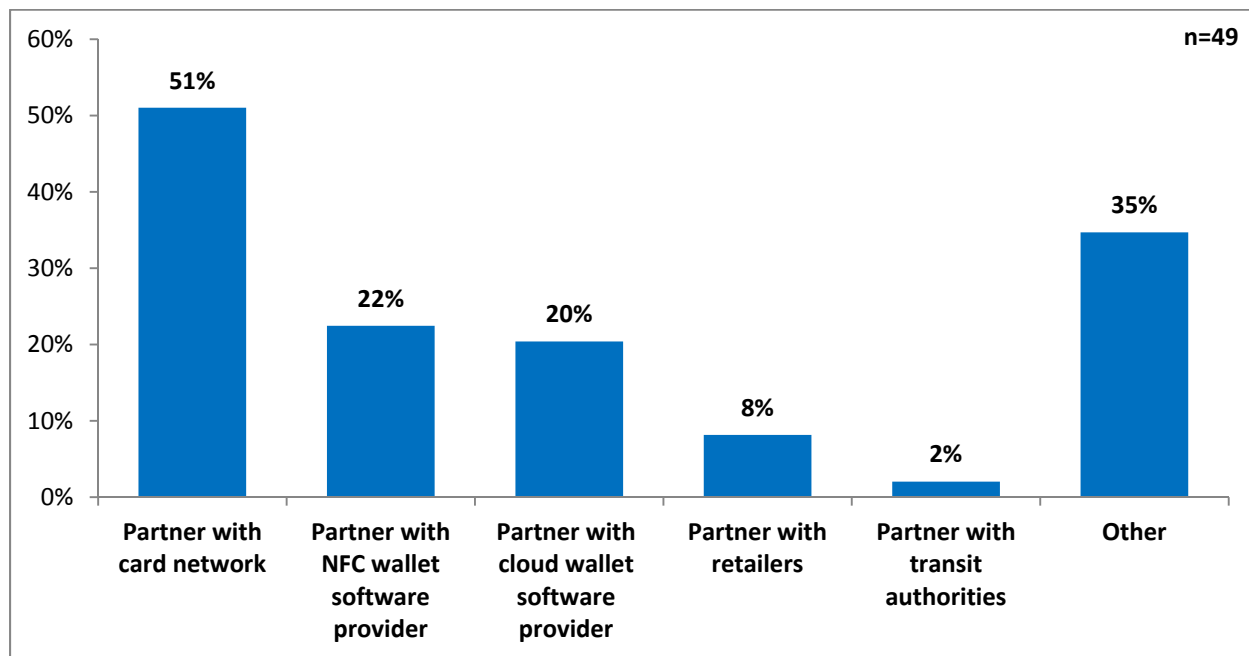
**Chart S. Status of Mobile Payment Services Offered** (*% of respondents*)



**Q 22. Do you (plan to) offer mobile payment services to your customers?**

Only four percent of respondent FIs offered mobile payment services. The majority (61%) of survey respondents had no plans to offer mobile payment services in the next three years, but 35 percent did (Chart S). Offering mobile payment services is a new opportunity for financial institutions to consider. However, FIs must research the different technologies available and conduct due diligence on potential partnerships with non-banks (e.g., mobile solution providers, merchants and mobile carriers). As part of their mobile payment strategies, FIs will also need to modify their risk management programs to support mobile payments.

**Chart T. FI Strategies for Offering Mobile Payments (% of respondents)**



**Q23. How do you (plan to) offer mobile payment services?**

The 49 respondents that offered or planned to offer mobile payments used different implementation strategies (Chart T). Regardless of the mobile payment solution, partnering with other business and/or technical mobile service providers helps to leverage the strengths of each stakeholder. Initially, half of the FIs plan to partner with a card network, while one in five plans to partner with either NFC or cloud<sup>17</sup> mobile solution providers. Most of the FIs that selected the *Other* category indicated that they were uncertain with whom they would partner. However, some reported that they would work with their existing mobile banking providers to offer mobile payments.

<sup>17</sup> NFC (near field communication) is a communication protocol that enables contactless transactions, data exchange and wireless connections between two devices (e.g. mobile phone and merchant terminal) in close proximity. NFC chip may be embedded in mobile handset, on SIM card or on microSD chip. Mobile payment credentials and account information can also be hosted on remotely located network servers – stored remotely in “the cloud.” Payment credentials in cloud wallets are accessible via an app on mobile phone, with a mobile phone number and PIN or a physical card

**Table 6: Mobile Payment Services FIs Plan to Offer (n=44)**

|  | <b>% of FIs</b> | <b># of FIs</b> |
|--|-----------------|-----------------|
| Mobile wallet  | 66%             | 29              |
| Barcode to pay for POS purchase                                    | 59%             | 26              |
| NFC/contactless chip to pay for POS purchase                       | 57%             | 25              |
| Offer mobile prepaid debit card/account                            | 25%             | 11              |
| Offer mobile coupons and rewards with location-based offers        | 25%             | 11              |
| Rewards, loyalty and promotion offers using barcode or LBS         | 23%             | 10              |
| Digital wallet (payment credentials stored on remote server/cloud) | 23%             | 10              |
| Other  | 11%             | 5               |

**Q24. If you (plan to) offer mobile payments, please select all features that your FI is considering.**

Regarding the types of mobile payment functions FIs would offer, 66% selected the mobile wallet<sup>18</sup> as one of the top choices. Over half of the FI respondents are considering barcode and NFC contactless chip technologies for POS payments. Most of the FIs who selected the *Other* category were uncertain about what mobile payment services to offer and were still researching at the time the survey was conducted.

## **Conclusion**

The number of financial institutions in New England that have begun to offer mobile banking and are starting to consider mobile payment services has increased since 2008. FIs are offering mobile banking primarily to meet consumer demand and remain competitive. While fraud has not been a major issue to date, they continue to cite security as a concern. Increased consumer adoption of smartphones has led many FIs to develop mobile banking apps. What has not changed much between 2008 and 2012 is any concerted effort to develop mobile banking services that could attract the underbanked consumer segment. Overall, the results indicate a positive direction for mobile banking, which supports industry findings of increased adoption nationwide.

The final survey question asked for respondent feedback on how FRBB can help increase FI knowledge of mobile banking and payments. Most FIs indicated that the whitepapers and reports that the FRBB publishes have been helpful, but they would also like the FRBB to hold webinars and seminars that include financial updates in the region and provide market

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<sup>18</sup> A mobile wallet is a software application loaded on a mobile device for controlled and secure partitioning and access to payment credentials (payment cards, checking account, coupons, loyalty, transit tickets and medical information) and management of payments made from a mobile phone.



information. Other areas of interest include mobile banking and mobile payment security, and topics related to regulation and compliance.

# Appendix:

## Federal Reserve Bank of Boston

### Mobile Banking and Payments Survey

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#### *Paper Version*

#### Survey Instructions:

**This survey contains four sections.**

- **Sections ONE and FOUR are REQUIRED for all respondents.**
- **For Sections TWO and THREE, please follow the instructions within the sections.**

#### Mailing Instructions:

- Please print the survey and answer all questions as directed.
- Scan/fax the completed survey to:  
  
[Bos.Payment.Strategies@Bos.frb.org](mailto:Bos.Payment.Strategies@Bos.frb.org)
- Or mail the completed paper survey to:

Marianne Crowe  
Payment Strategies, G-Swing  
Federal Reserve Bank of Boston  
P.O. Box 55882  
Boston, MA 02205

## Section 1: Respondent Profile

1. Name of Financial Institution\*

\_\_\_\_\_

2. ABA Number\*

\_\_\_\_\_

3. Corporation Address

Address Line1: \_\_\_\_\_

Address Line 2: \_\_\_\_\_

City/Town: \_\_\_\_\_

State: \_\_\_\_\_

ZIP: \_\_\_\_\_

Country: \_\_\_\_\_

4. Email\*\* : \_\_\_\_\_

\* Required fields

\*\* If you would like to receive an electronic copy of the survey results report, please provide an email address.

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## Section Two: Mobile Banking

Please refer to the definition below for questions in the **MOBILE BANKING** Section:

DEFINITION of MOBILE BANKING: "Use of a mobile phone to connect to a financial institution to access bank/credit account information, e.g. view balances, transfer funds between accounts, pay bills, receive account alerts, locate ATMs, deposit checks, etc."

5. When did you start offering mobile banking to your customers? (Check ONE.)
- Within the past year
  - More than one year ago
  - Currently not offering mobile banking, but plan to offer within next 1-2 years
  - Do not plan to offer (**If you chose this option, please go directly to question 21. Otherwise, continue**)
6. What mobile banking technology platform do you use or plan to use in the future? (Check ALL that apply.)
- SMS text messaging
  - Web Browser accessed via mobile phone
  - Downloadable Application
7. Which mobile operating systems does your downloadable mobile banking application function support? (Check ALL that apply.)
- Google Android
  - Apple iOS
  - Microsoft Windows phone
  - Blackberry
  - Other: \_\_\_\_\_
  - N/A

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8. Which of the following mobile banking products and services do you currently offer or plan to offer within the next two years? (Check ALL that apply.)

- Check balances (DDA, Savings)
- View statements and transaction history (DDA, Savings)
- View credit card balances
- Bill payment and/or presentment via online banking function
- SMS text message alerts
- Transfer funds between accounts within the same FI
- Transfer funds between accounts at different FIs
- ATM/branch locator
- Person to Person money transfer
- Access to brokerage services
- Mobile Remote Deposit capture (use mobile phone camera to take picture of check)
- Personal financial management
- Other: \_\_\_\_\_

9. What types of SMS text message alerts does your institution offer? (Check ALL that apply.)

- Insufficient funds
- Credit card balance close to or over limit
- Funds transfer completed
- Merchant bill paid
- Low balance alert
- Other: \_\_\_\_\_
- N/A

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10. Do you offer any mobile banking services that specifically target the underbanked\*?

- Prepaid debit card or account
- International remittances
- Open new accounts via mobile phone
- Enroll in mobile banking via mobile phone
- Multi-lingual mobile banking services
- No, do not offer any
- Other: \_\_\_\_\_

\*DEFINITION of UNDERBANKED: consumers who have a checking or savings account but use alternative financial services, such as non-bank money orders, check cashing services, and payday loans, at least once a year.

11. Please select the TOP THREE challenges you had when deciding to implement mobile banking? (Check THREE only.)

- Lack of customer demand
- Customers' security concerns
- Financial institution's security concerns
- Regulatory issues
- Lack of standards/interoperability
- ROI
- Cost of implementation/ongoing service fees
- Revenue sharing issues with mobile carriers
- Other: \_\_\_\_\_

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12. Please select your financial institution's TOP THREE security issues associated with mobile banking services. (Check THREE only.)

- Identity theft
- Malware – customer may download an infected mobile banking app from app store
- Viruses
- Unsecured network
- Mobile spoofing\*
- Data breach
- Weak authentication
- Other \_\_\_\_\_

\*DEFINITION of MOBILE SPOOFING: a misrepresentation or stealing of a legitimate brand through various methods, including:

- Fraudulent messages (emails, SMS, or phone calls) pretending to be from a legitimate sender
- Counterfeit screen inserted on a legitimate website that requests personal information in order to steal user information
- Criminal use of a brand to make a mobile app look like it came from a legitimate financial institution

13. Please select the most common customer problems and/or complaints you have received about mobile banking services? (Check ALL that apply.)

- App is not user-friendly (too slow, performance issues)
- Security too rigid or complicated
- Login process too complicated
- Fraud
- Text messages too complicated
- Never had any customer complaints
- Other: \_\_\_\_\_

**Turn to NEXT Page**

14. Please select your primary business reason for offering mobile banking.  
(Check only ONE.)

- Attract new customers
- Retain existing customers
- Be market leader with technology
- Competitive pressure
- Increase revenue
- Decrease operations costs related to Call Center and IVR call volume
- Other: \_\_\_\_\_

15. How do you (plan to) market your mobile banking services? (Check ALL that apply.)

- Direct mail/statement stuffers
- Radio, TV, print ads
- Branch signage and brochures
- Email or phone calls to existing customers
- Social media marketing (e.g. Facebook, Twitter)
- Banner ads on other mobile apps or websites
- Post on bank website
- Other: \_\_\_\_\_

16. Do you offer different mobile banking services to your corporate customers? (If yes, select ALL that apply.)

- Check corporate balances and monitor accounts
- Cash management functions
- Administer users and reset passwords
- No, all customers use the same mobile banking services
- Other: \_\_\_\_\_

**Turn to NEXT Page**



17. What percentage of your retail customers uses mobile banking services?

- 0-1%
- 1-5%
- 6-10%
- 11-20%
- 21-30%
- 31-50%
- 50-75%
- >75%

18. What percentage of your corporate customers uses mobile banking services?

- 0-1%
- 1-5%
- 6-10%
- 11-20%
- 21-30%
- 31-50%
- 50-75%
- >75%

19. Do you or will you charge a fee for any mobile banking services?

- Yes
- No

20. If you answered “Yes” for question 19, do you or will you charge a fee for

- Mobile RDC
- Mobile P2P
- Mobile transfer from customer’s account at one bank to same customer’s account at another bank
- Other: \_\_\_\_\_
- N/A

**Turn to NEXT Page**

**If you chose “do not plan to offer” for question 6, please answer question 21. Otherwise go to question 22.**

21. Please select the TOP THREE factors that influenced your decision not to offer mobile banking services. (Check THREE.)

- Lack of customer demand/interest
- Customers’ perceptions of security concerns
- Financial institution’s security concerns
- Regulatory issues
- Lack of standards for interoperability
- ROI
- Cost of implementation
- Revenue sharing issues with mobile carriers
- Resource constraints

**Turn to NEXT Page**

## Section Three: Mobile Payment

Please refer to the following definition for questions in the Mobile Payment Section:

DEFINITION of MOBILE PAYMENTS: Use of a mobile phone to make a purchase at a retail point-of-sale (POS) location, on the Internet for goods and services or digital content, for transit, or to transfer money. Payment may be initiated via SMS/text message, mobile Internet, downloadable app, contactless NFC chip, and/or barcode.

22. Do you (plan to) offer mobile payment services to your customers?
- We currently offer mobile payment services
  - We plan to offer mobile payments in the next three years
  - At this time, we do not have any plans to offer mobile payment services in the next three years **(If you chose this option, please go to question 25. Otherwise, continue to question 23.)**
23. How do you (plan to) offer mobile payment services? (Check ALL that apply)
- Partner with a (credit, debit or prepaid) card network
  - Offer rewards/coupons by partnering with retailers
  - Partner with transit authorities
  - Partner with an NFC-enabled wallet provider (e.g. Google, ISIS)
  - Partner with a cloud-based wallet provider (e.g. PayPal)
  - Other: \_\_\_\_\_

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24. If you plan to offer mobile payment services, please select all features that your FI is considering. (Check ALL that apply.)

- Pay for purchases at retail point-of-sale (POS) locations using barcode
- Offer mobile coupons and rewards using location-based offers or other technology
- Pay for purchases at retail POS locations using contactless NFC (near field communication) technology
- Offer mobile prepaid debit card or account
- Rewards, loyalty and promotion offers using barcode or location based technologies
- Mobile wallet\*
- Digital wallet (payment credentials stored on a remote server or cloud)
- Not applicable
- Other: \_\_\_\_\_

\*DEFINITION of MOBILE WALLET: Secure container in mobile phone that stores multiple payment credentials (debit card, credit card, prepaid and bank accounts) and value added services, such as reward and loyalty cards, that can be securely accessed to manage and initiate payments.

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## Section Four: Demographics

25. What is your FI's asset size?

- < \$500 million
- Between \$500 million-\$1 billion
- Between \$1-5 billion
- More than \$5 billion

26. How many branches does your FI have?

- 1
- 2-10
- 11-25
- 26-50
- 50

27. Please indicate all geographic locations where you have branches. (Check ALL that apply.)

- Connecticut
- Maine
- Massachusetts
- Boston Metro Area
- New Hampshire
- Rhode Island
- Vermont
- Beyond New England
- Other: \_\_\_\_\_

**Turn to NEXT Page**

28. Please share your ideas on what role(s) the Federal Reserve Bank of Boston can play in helping to increase your knowledge of mobile banking and mobile payments.

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**END**

**Thank you for taking the survey!**