Mobile Banking in New England is Mainstream: 2014 Mobile Banking and Payments Survey of Financial Institutions in the First District – Summary of Results

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I. Introduction

This report offers insights into the mobile banking practices and mobile payment plans of banks and credit unions in New England based on a survey conducted in 3Q 2014. The survey was designed to provide updated information and additional data points in key areas including:

- Number of banks and credit unions offering mobile banking and payment services
- Types of mobile services offered or planned
- Technology platforms supported
- Business drivers, benefits, and challenges associated with mobile services
- Consumer and business adoption of mobile banking services
- Future plans and activities of banks and credit unions related to mobile payment services

Banks and credit unions offer similar services in an expanding array of information and features via mobile devices. This year's survey asked about 18 different offerings in the following categories:

- Basic information about the institution (e.g., ATM, branch locator)
- Account and transaction information, history
- Funds transfer
- Bill payment and presentment
- New services (including person-to-person, Mobile RDC, cross-border)
- Viewing card information, history

Key Highlights

- Mobile banking must now be considered a baseline banking service for banks and credit unions in New England
- Credit unions were out early in offering mobile banking, but by 2014 a greater percentage of banks offered such services and more credit unions still had 'no plans to offer'
- Mobile banking is a free service to the market by virtually all FIs
- Mobile banking services are seen as a key tool for customer retention by both banks and credit unions
- However credit unions view attracting new members as the key differentiator of mobile banking
- FIs offer an expanding array of mobile banking services to consumers and, increasingly, to businesses – and agree on essential functionality set
- 2014 saw a dramatic uplift in customer adoption rates over 2012-13 rates
- Mobile payments is on the horizon for regional FIs

The findings illustrate an active environment for mobile banking and, prospectively, for mobile payments in the future. The most significant finding was that mobile banking should now be considered a baseline service that New England financial institutions (FIs) must offer to meet the demands of consumers and businesses and to remain competitive. Also notable was the pace of change in mobile services offered by the New England financial community – a dramatic uplift from prior years' survey findings. Institutions in the region are continuing to offer new banking and payment services via the mobile channel and are adding more customers to their mobile banking services.

This report presents aggregate information from **179 financial institutions: 109 banks and 70 credit unions, a response rate of 26%**, based on the 694 FIs in New England that received the survey.

II. Survey Background and Methodology

The Federal Reserve Bank of Boston (FRBB) and NEACH, the New England ACH Association, have been conducting joint mobile banking surveys of financial institutions in New England since 2008 to assess the state of mobile banking and payment services offered by those institutions. The two organizations published their first survey in 2008; followed up with a mini-survey in early 2010 that focused on mobile services, customer adoption, and market segments; and conducted a second major survey in 2013, which pulled together topics from both prior surveys.

Data collection for the 2013 survey was conducted jointly by the FRBB and NEACH in late 2012 and early 2013, respectively. At that time, the FRBB surveyed New England banks (and several credit unions), and NEACH, assisted by credit union entities, surveyed regional credit unions. The 2014 survey covered the same topics as the 2013 survey but updated many of the questions and added several new questions.

Methodology

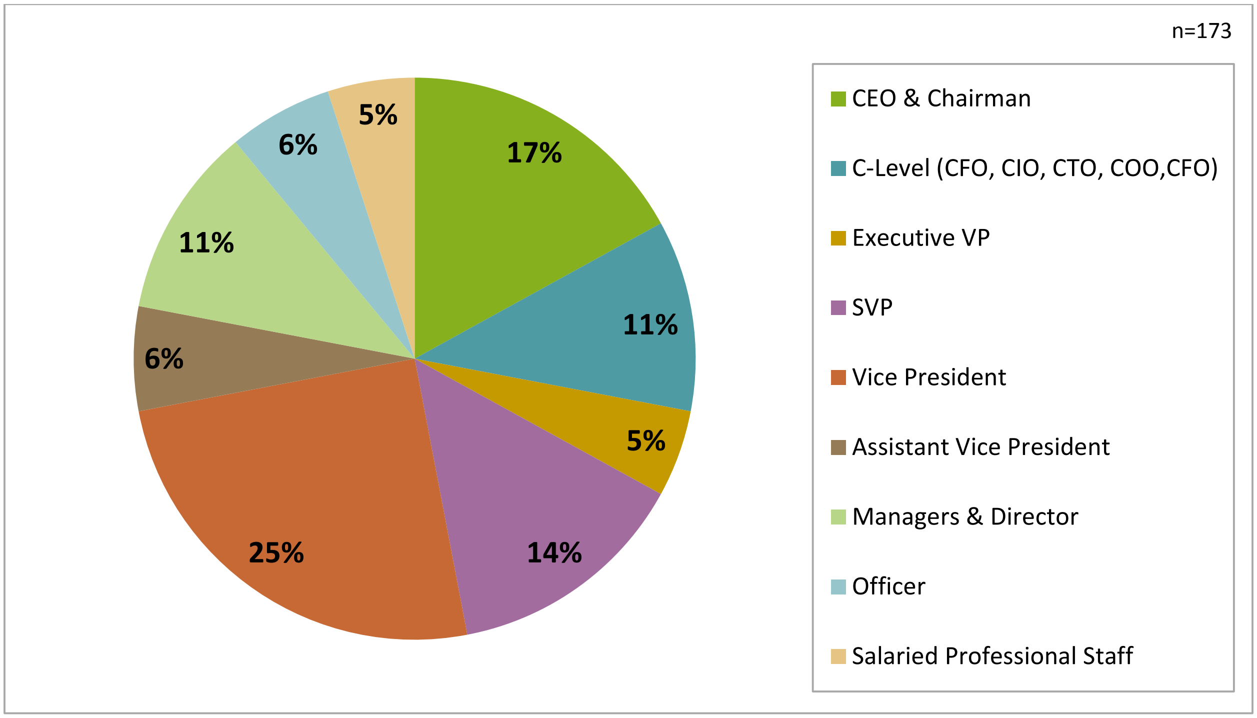
The FRBB and NEACH developed the 2014 survey instrument jointly, retaining questions from previous surveys and adding new questions related to key areas of market change.[1] The survey was distributed to regional banks and credit unions and ran from July 17, 2014 through August 15, 2014.

The FRBB and NEACH distributed the survey via email and contacted banks and credit unions directly. Additionally, Tricorp Federal Credit Union (Tricorp) and the Credit Union League of Connecticut were instrumental in the credit union community by promoting the survey to their member constituencies. Responses were made online by most participating financial institutions or were entered manually by FRBB employees based on printed survey returns.

[1] In 2014, for the first time four other Federal Reserve Districts (Atlanta, Dallas, Minneapolis and Richmond) participated in the survey and reviewed survey content. While this report only addresses results from the New England region, a consolidated report will be published in June.

Figure 1 shows the titles of respondents at participating financial institutions. Twenty-eight (28) percent of all respondents were CEO or C-level executives, representing 39 percent of the credit union respondents but only 15 percent of the bank participants.

Figure 1: Titles of Survey Respondents (*% of respondents*)

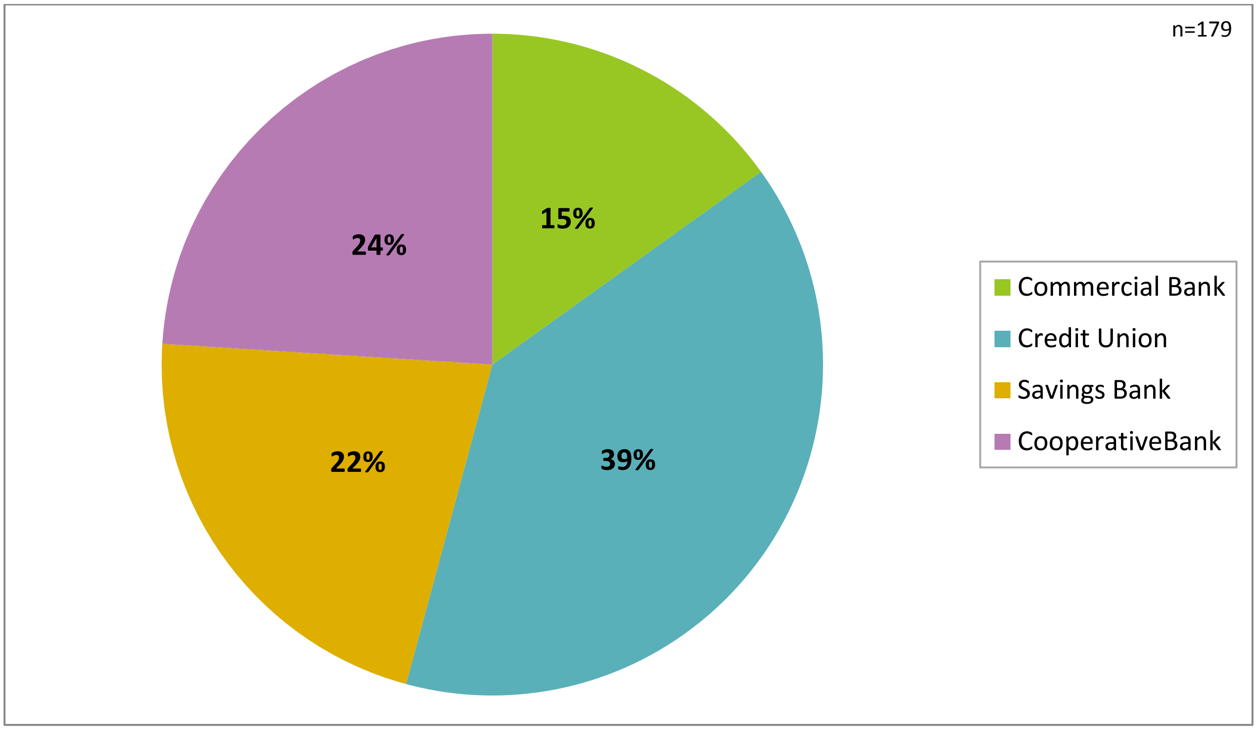


Q4.Contact title

Demographics of Survey Respondents

Based on the following demographics, the survey results of New England financial institutions present a picture of how this group of smaller, member-centric institutions and community banks are bringing mobile services to their consumer and business members across the region, most particularly within the northern New England states. **Figure 2** highlights the response breakdown among credit unions and banks in the region. Credit unions represented 39 percent of the respondents, followed by cooperative banks, 24 percent; savings banks, 22 percent; and commercial banks, 15 percent.

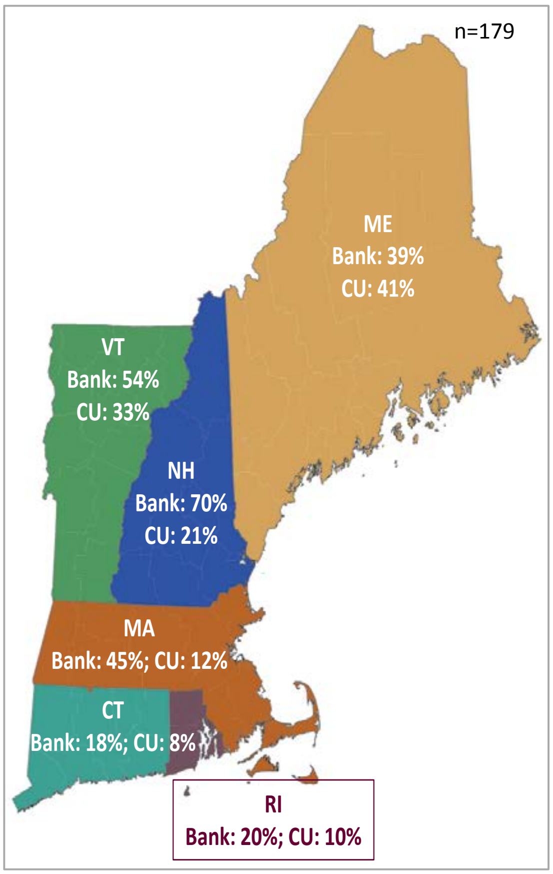
Figure 2: Survey Respondents by Institution Type (*% of respondents*)



Q9. Please indicate your financial institution type.

The headquarters of the respondents do not always align with the geographic dispersion of financial institutions within the region. The location of the bank respondent pool does correlate somewhat to location of banks within the region, but the credit union pool does not. In Maine, the number of credit union respondents represents a strong affiliation to Tricorp. Tricorp's participation in endorsing the survey to its membership helped increase participation, especially among smaller credit unions that might not have a NEACH membership. **Figure 3** shows both the percentages of respondent banks and credit unions in each state (on the map) and the actual number of bank and credit union respondents compared to the state totals (in the boxed table).

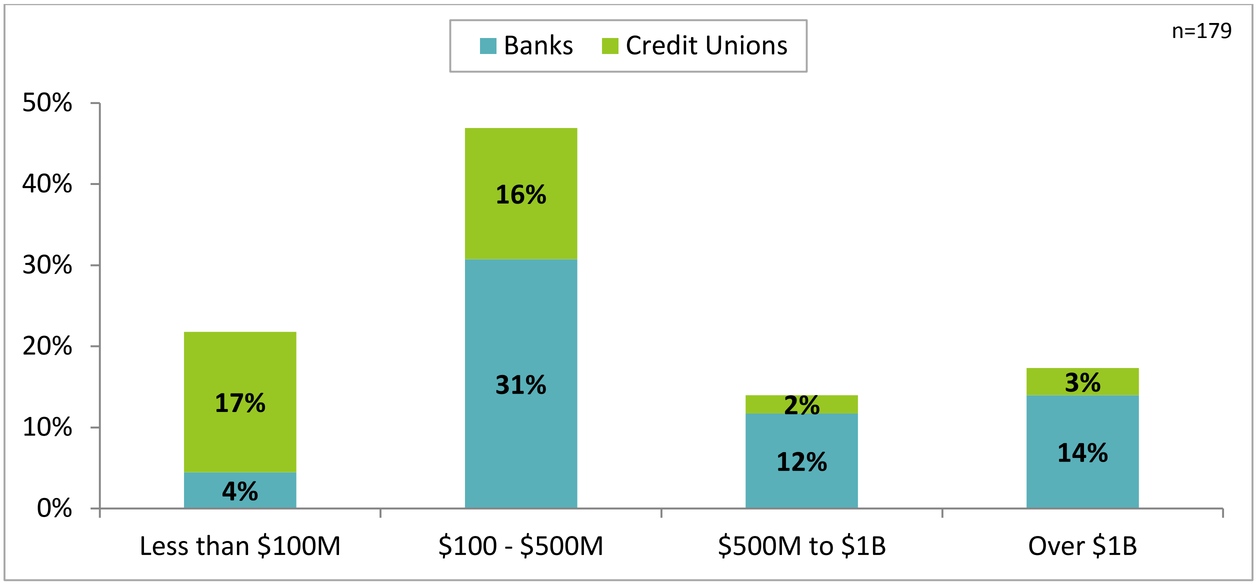
Figure 3: Headquarter Locations of Survey Respondents



State	Banks		Credit Unions	
	# of respondents	State total	# of respondents	State total
CT	8	45	9	115
MA	67	149	22	189
ME	11	28	25	61
NH	14	20	4	19
RI	2	10	2	21
VT	7	13	8	24
Total	109	265	70	429
Source: State total data FDIC and NCUA, June 2014				

The vast majority of FIs in New England are community banks and credit unions; fewer than 15 percent of the region's institutions have assets greater than $1 billion – and banks are larger than credit unions. The survey respondents reflect this situation. More than two thirds (68 percent) of the respondents are institutions with less than $500M in assets, and of these, 21 percent are under the $100M mark (**Figure 4**). The very smallest institutions are overwhelmingly credit unions, whereas the preponderance of banks has assets in the $100M to $500M range. Fourteen (14) percent of respondents were banks and three (3) percent of respondents were credit unions with assets greater than $1 billion.

Figure 4: Survey Respondents by Asset Size (*% of respondents*)



Q8. What is your FI's asset size?

III. Mobile Banking Infrastructure

According to industry analysts, 58 percent of U.S. mobile phone users have smartphones, [2] and thus more banks and credit unions are motivated to offer their mobile services through apps that can be customized to meet their customers' requirements. According to the Federal Reserve Board's (FR Board) 2014 *Consumer and Mobile Financial Services survey*, 71 percent of mobile banking users have installed mobile banking apps on their phones.[3] In New England, our research has shown that regional FIs have responded to this fluid situation by offering a range of technology platforms.

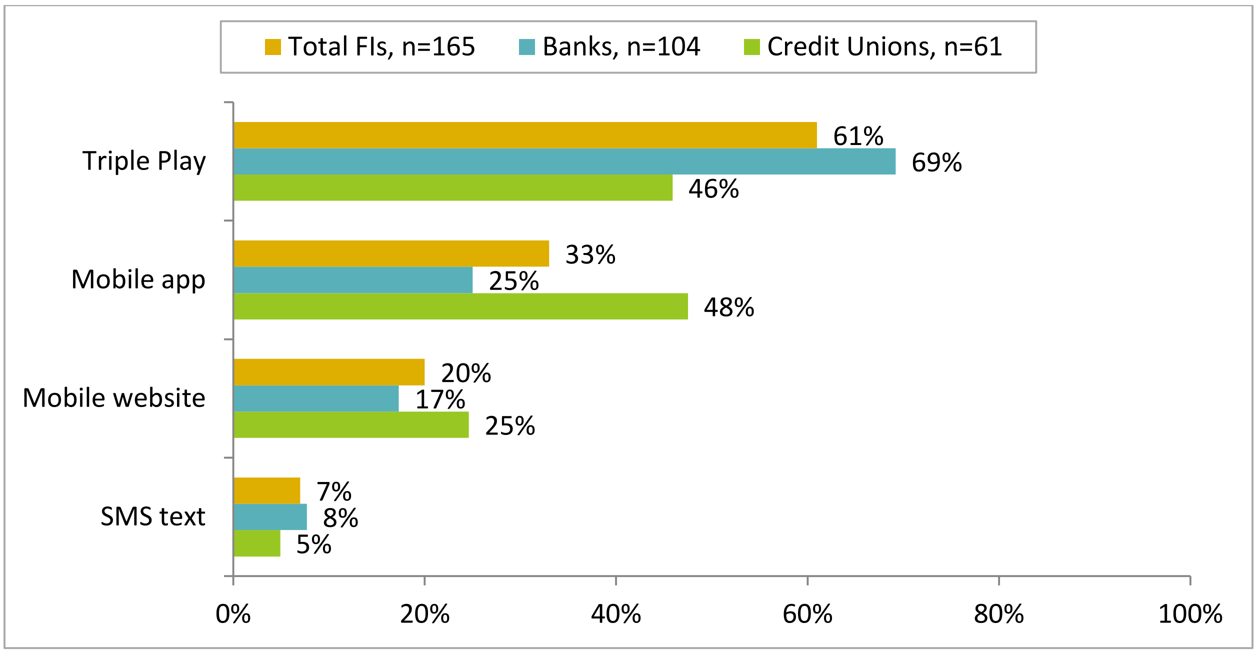
Banks provide customers with several mobile banking technology platforms – downloadable applications (apps), web browser, and SMS text message, or some combination thereof. The 2014 results for banks are still consistent with this trend – demonstrating an on-going increase in the percentage of FIs that offer all

[2] "Cell Phone and Smartphone Ownership Demographics," *Pew Research Internet Project*, January 2014. http://www.pewinternet.org/data-trend/mobile/cell-phone-and-smartphone-ownership-demographics/
[3] "Consumers and Mobile Financial Services survey," *Board of Governors of the Federal Reserve System*, March 2015. http://www.federalreserve.gov/econresdata/consumers-and-mobile-financial-services-report-201503.pdf

"triple play" services to their customers. The percentage of these "triple play" banks grew six percentage points, from 63 percent at year-end 2012 to 69 percent by mid-year 2014.

The same was not true for regional credit unions: in a break from 2013's findings, the 2014 data evidences a move away from the "triple play" mentality of previous years when credit unions supported all three technology platforms (**Figure 5**). Credit union respondents offering all three options fell from more than 62 percent in 2013 to 46 percent in 2014. The reason for this change is unknown but may be attributable to the fact that credit unions that were early mobile banking adopters have learned that offering all alternatives is no longer necessary. Individually, the platform of choice among respondent credit unions is the downloadable app, offered by 48 percent of respondents. (Several FIs offer two platforms.)

Figure 5: Mobile Platforms Selected by FI Respondents (*% of respondents*)



Q12. What mobile banking platform do you (plan to) use? (Select ALL that apply)

Like financial institutions in other districts, the credit unions and banks in New England maintain two clear choices for mobile operating systems (OS), Apple iOS and Google Android (**Figure 6**). A year ago use of iOS was about two (2) percent higher than Android, at 84 percent among surveyed credit unions and six (6) percent higher for banks. Today banks and credit unions support the two systems equally – by 98 percent of respondents.

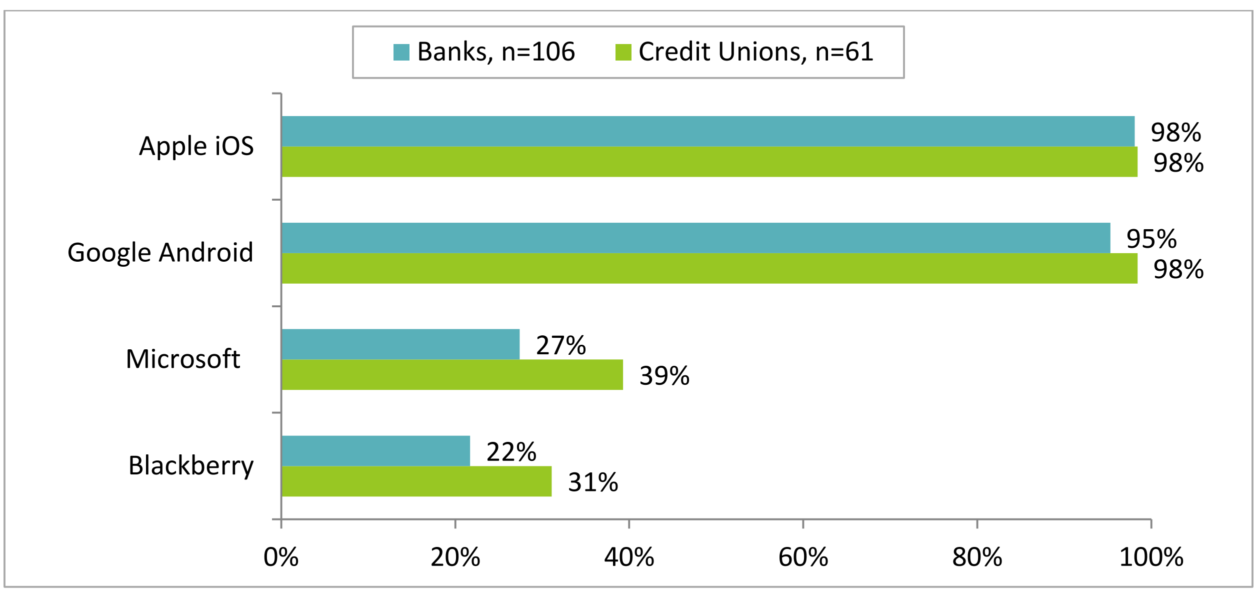
Credit unions: In 2013, over 40 percent of credit unions supported Blackberry for their mobile apps; today that percentage is just 32 percent; and support for Microsoft Windows gained two percentage points to stand at 40 percent. A more finite breakdown of the data shows the number of credit unions offering different OS:

- 15 credit unions support all four mobile operating systems
- 30 credit unions support only Apple and Google
- 9 credit unions support Apple, Google, and Microsoft
- 4 credit unions support Apple, Google, and Blackberry
- 2 credit unions support Apple, Google, and "other"

Banks: Comparing 2014 to 2012, the percentage of banks supporting Apple iOS (98 percent vs. 97 percent) and Google Android (95 percent vs. 91 percent) increased slightly, while banks supporting the Windows OS decreased from 35 percent to 27 percent and, more significantly, banks supporting Blackberry for their mobile apps fell from 53 percent to 22 percent. A finite breakdown of the bank data shows how banks are offering different OS:

- 18 banks support all four mobile operating systems
- 66 banks support only Apple and Google
- 11 banks support Apple, Google, and Microsoft
- 5 banks support Apple, Google, and Blackberry

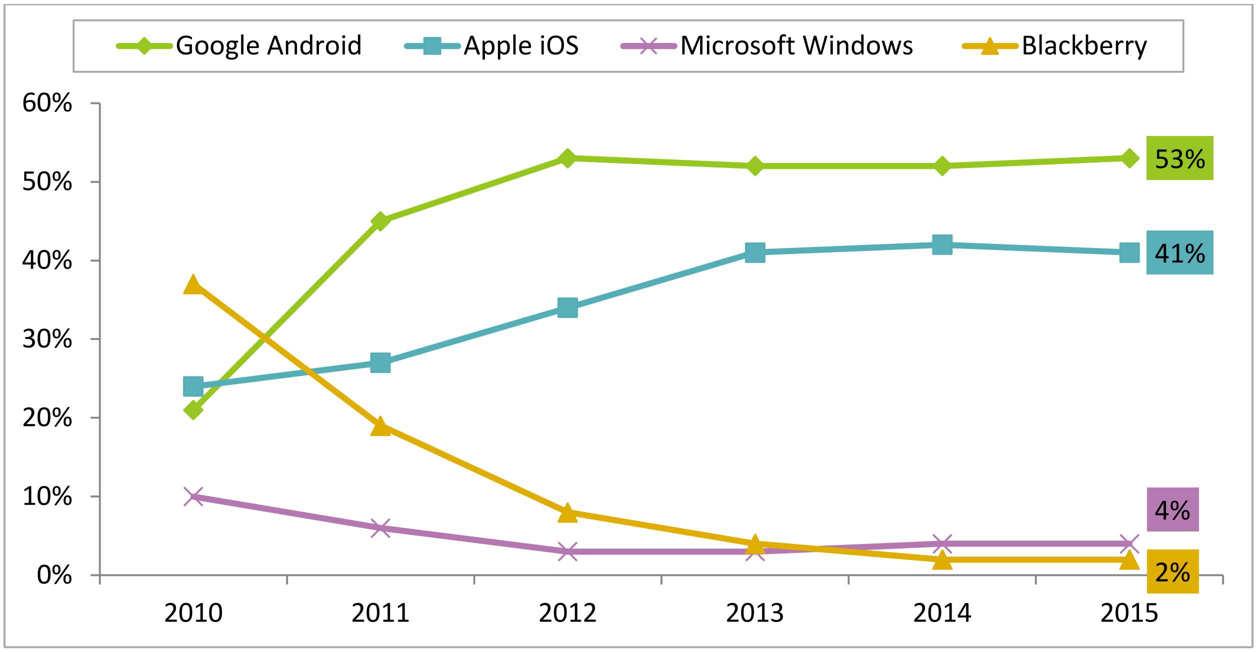
Figure 6: Mobile Operating Systems FIs Support for Mobile Banking Apps (*% of respondents*)



Q13. Which of these mobile operating systems does or will your mobile banking application support? (Select ALL that apply)

Given the widespread usage of smartphones, the results are hardly surprising. This trend is in sync with national trends: iOS and Android combined represent 94 percent of the U.S. smartphone operating system market share (**Figure 7**).[4] For the past several years, Blackberry and Microsoft market shares have declined, accounting for only four (4) percent and two (2) percent, respectively, in 2014. There is a cost to supporting multiple operating systems, including not only technology-related expenses, but also ensuring a consistent user experience across different platforms, maintenance, and customer service.

Figure 7: U.S. Smartphone Operating System Market Share, 2010-2015

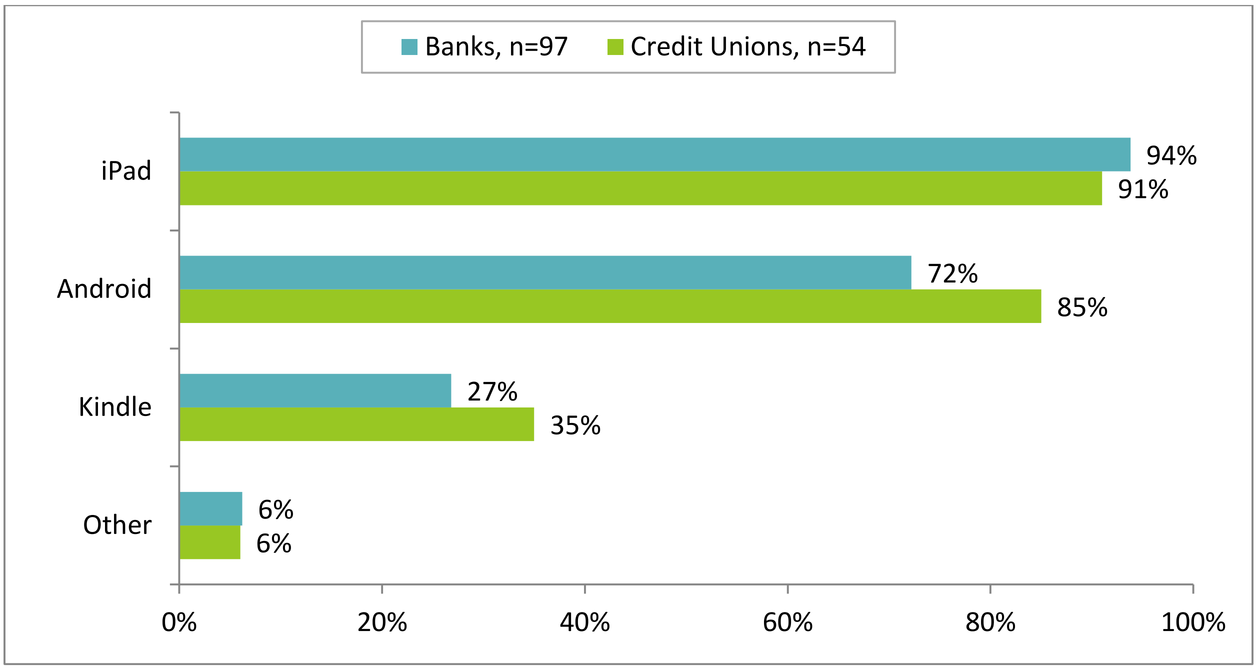


Source: comScore, 2010-2015

[4] "comScore Reports January 2015 U.S. Smartphone Subscriber Market Share," *comScore*, March 4, 2015. http://www.comscore.com/Insights/Market-Rankings/comScore-Reports-January-2015-US-Smartphone-Subscriber-Market-Share

Financial institutions are recognizing the value of the tablet as a medium for mobile banking, as it sits in between the mobile phone and PC, and is still portable. New in 2014, the survey asked respondents about support for tablet computers (**Figure 8**). For credit unions, there is a difference between Apple and Android: the iPad has an edge, with 91 percent offering services on the Apple platform and 85 percent supporting Android tablets. Thirty-five (35) percent of credit unions support Kindles. A breakdown of the credit union data shows that 19 respondents support all three tablets; 25 support both iPad and Android; five support iPads only; and two support Android only. Similar to credit union results, most banks offer or plan to offer apps that support several tablets. Following the smartphone trend, most banks are developing apps for iPads (94 percent), with Android second (72 percent). In addition, more than a quarter of bank respondents (27 percent) currently or plan to offer mobile banking services for the Amazon Kindle.

Figure 8: Support of Mobile Banking Apps for Tablets by FI Respondents (*% of respondents*)



Q14. Do you (plan to) offer mobile banking services via a tablet application? (Check ALL that apply)

IV. Mobile Banking Survey Results for Banks

Demographic Overview of Bank Respondents

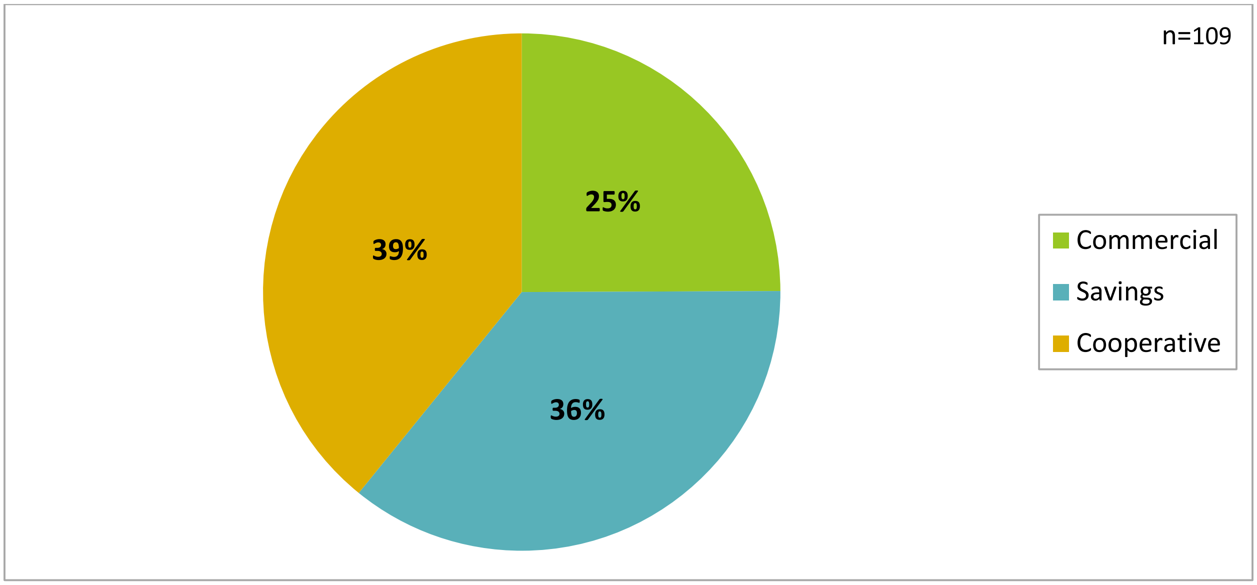
As of July 2014, there were 265 commercial, savings, and community banks in New England, down from 288 banks in 2012 when the previous survey was conducted. One hundred nine (109) respondents represented all six New England states, for a total bank response rate of 40 percent. In Massachusetts, Maine, Rhode Island and Vermont, the number of respondents as a percentage of the total New England bank population was representative **(Figure 9).** Connecticut and New Hampshire were outliers. The actual percentage of banks representing Connecticut (17 percent) in the New England region was much higher than the percentage that responded to the survey (9 percent). Overall, bank respondents across New England were fairly representative of the actual number of banks in each state.

Figure 9: Bank Respondents by State as Percentage of New England Bank Population

State	Actual # of Banks	State as % of Region	# of Bank Respondents	State as % of Region
CT	45	17%	8	7%
MA	149	56%	67	61%
ME	28	11%	11	10%
NH	20	8%	14	13%
RI	10	4%	2	2%
VT	13	5%	7	6%
Total	265	100%	109	100%

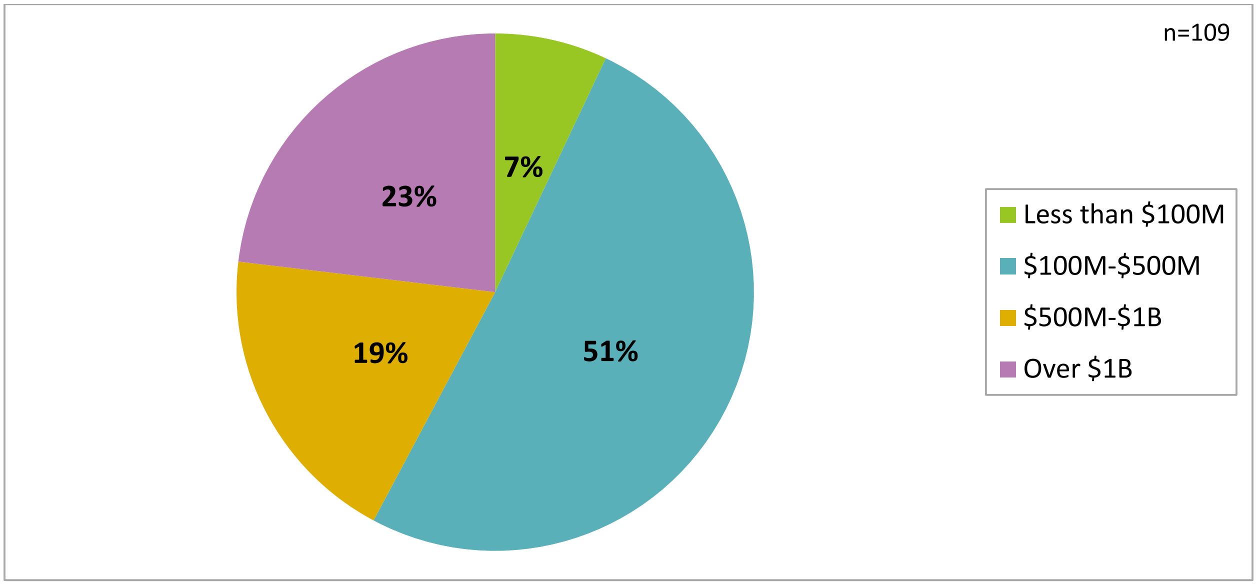
The 109 bank respondents comprised a mix of commercial (25 percent), savings (36 percent), and cooperative[5] (39 percent) banks (**Figure 10**). The largest number of banks (51 percent) had assets between $100M and $500M, with only seven (7) percent holding assets less than $100M (**Figure 11**).

Figure 10: Bank Respondents by Financial Institution Type (*% of respondents*)



Q9. Please indicate your financial institution type

Figure 11: Bank Respondents by Asset Size (*% of respondents*)



Q8. What is your FI's asset size?

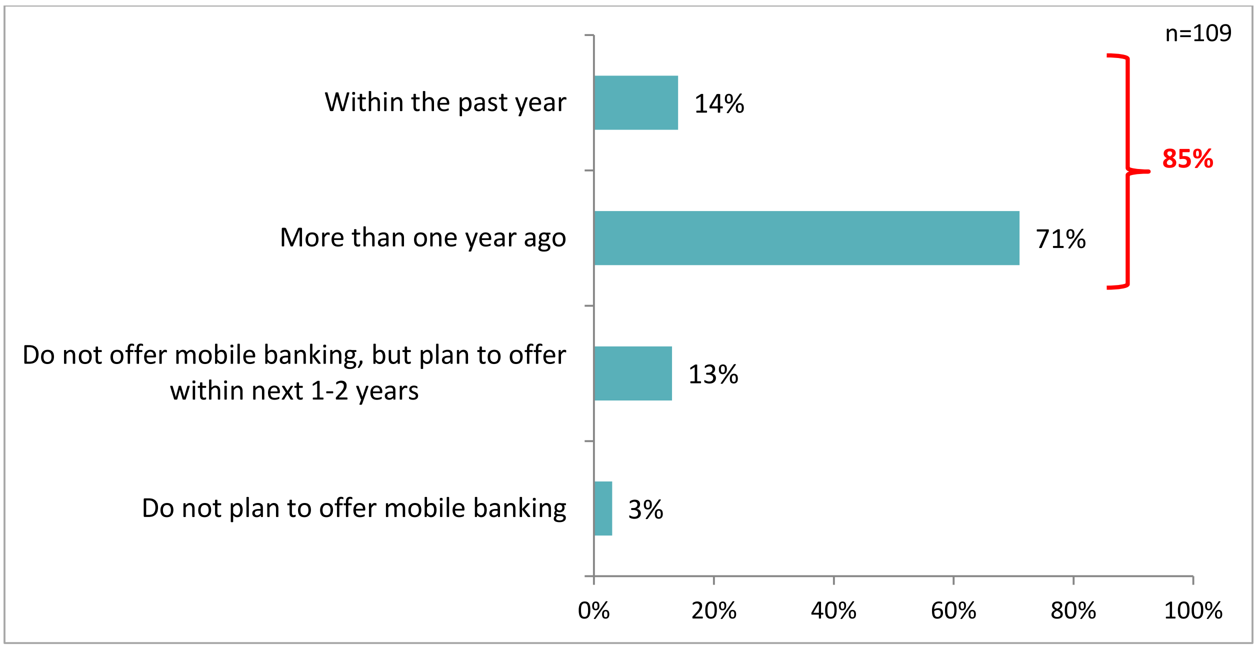
[5] A **co-operative bank** is a financial entity which belongs to its members, who are at the same time the owners and the customers of their bank. Co-operative banks are often created by persons belonging to the same local or professional community or sharing a common interest. www.icba.coop

Mobile Banking Results for Banks

Since 2012 when respondents were last asked about their mobile banking plans, mobile banking has become a standard offering of the majority of banks in New England. Banks that already offered mobile banking increased from 56 percent in 2012 to 85 percent in 2014 (**Figure 12**). Another 13 percent plan to offer mobile banking by 2016.[6]

Only three respondent banks reported no plans to offer mobile banking services in the 2014 survey. All three noted the same top two factors influencing their decision: security and lack of customer demand. Two banks also reported lack of a business case and regulatory issues as contributing factors and the third bank indicated lack of standards and interoperability as important. Comparing these results to the five banks that reported no plans to offer mobile banking services in 2012, four of those banks cited lack of customer demand as the top influencing factor. Three banks also noted that security and resource constraints impacted their decision not to offer mobile banking in 2012, although the latter seems no longer an issue, as the key issues are now market-focused.

Figure 12: Status of Banks Offering Mobile Banking Services (*% of respondents*)



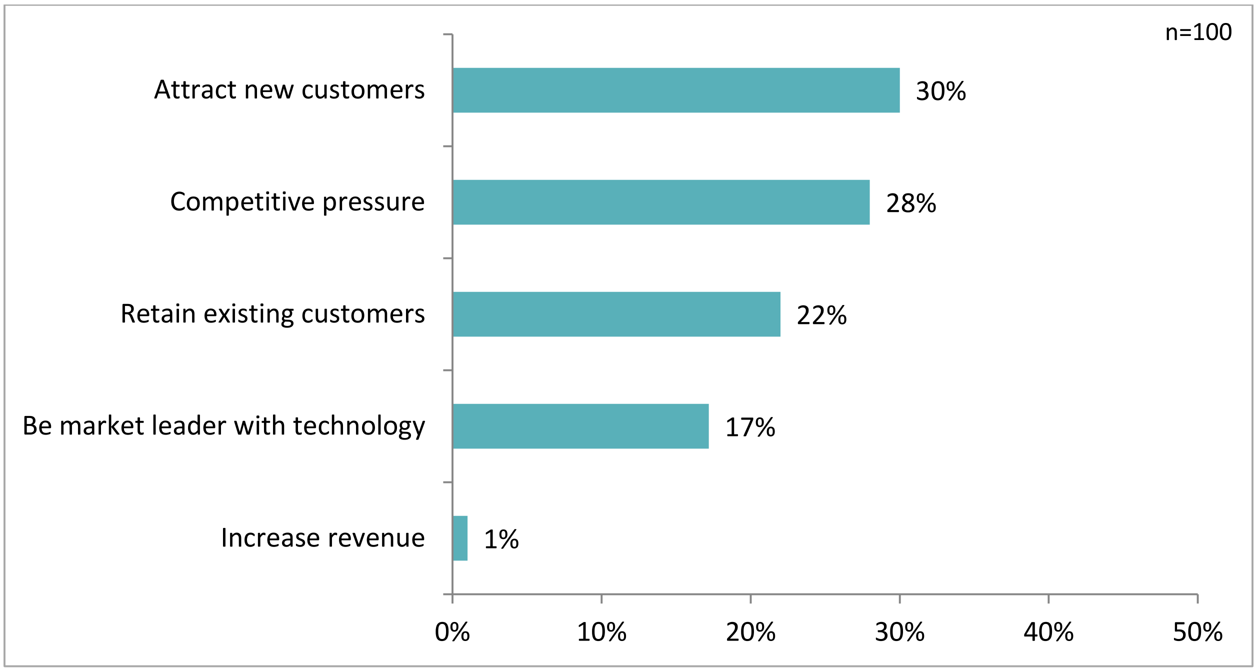
Q11. When did you start offering mobile banking to your customers? (Check ONE)

[6] In comparison, the 30 largest US retail FIs by annual deposit size offer mobile banking today. "2014 Mobile Banking Financial Institution Scorecard," *Javelin Strategy & Research*, December 2014.

A number of key factors motivated banks in New England to offer mobile banking (**Figure 13**). Responding to competitive pressure continues to be banks' major reason to offer mobile banking. Interestingly, attracting new customers became a higher priority in 2014 than 2012, selected by 30 percent of the banks, compared to only 23 percent in 2012. This was offset by only 22 percent of the banks selecting "retain existing customers." With retention stable, banks can focus more on leveraging mobile banking services to attract new retail customers and to improve profitability.

These results are consistent with broader industry trends. A March 2014 Fiserv study[7] found that across all age categories, consumers who use digital channels for banking generate higher revenue than non-digital bankers, and mobile bankers generate even higher revenue than online bankers. According to Javelin, the average cost of a mobile transaction is $0.10, about half that of a desktop computer transaction and significantly less than the $1.25 average cost of an ATM transactions, which makes mobile an attractive channel for banks.[8]

Figure 13: Top Reasons Banks Offer Mobile Banking Services (*% of respondents*)

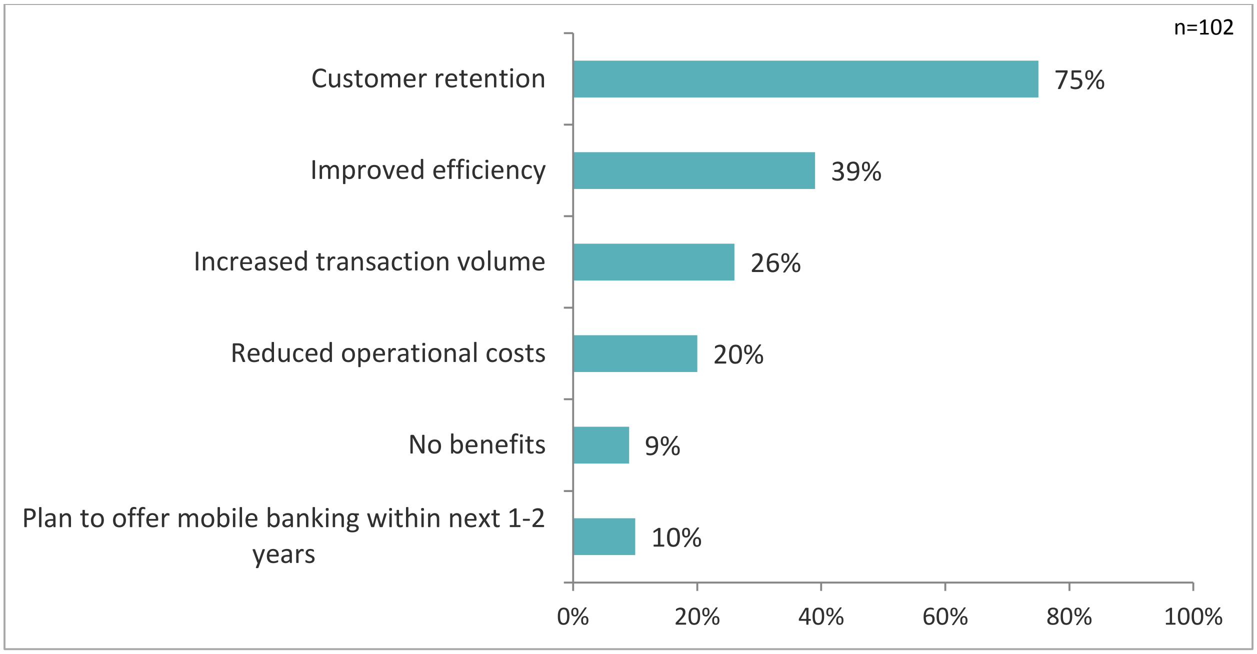


Q21. If you (plan to) offer mobile banking, what is your primary business reason? (Check only ONE)

[7] "Exceeding the Mobile Adoption Benchmark: Effective Strategies for Driving Greater Adoption and Usage," *Fiserv*, Nov. 2014.
[8] "Leveraging an Omni-channel Approach to Drive $1.5B in Mobile Banking Cost Savings," *Javelin Strategy & Research*, July 2013.

Banks still view customer retention as a major benefit of mobile banking. Thirty-nine (39) percent have experienced improved efficiency, 26 percent saw increased transaction volume and 20 percent had lower operational costs. Just nine (9) percent of respondents did not see any benefit in offering mobile banking (**Figure 14**).

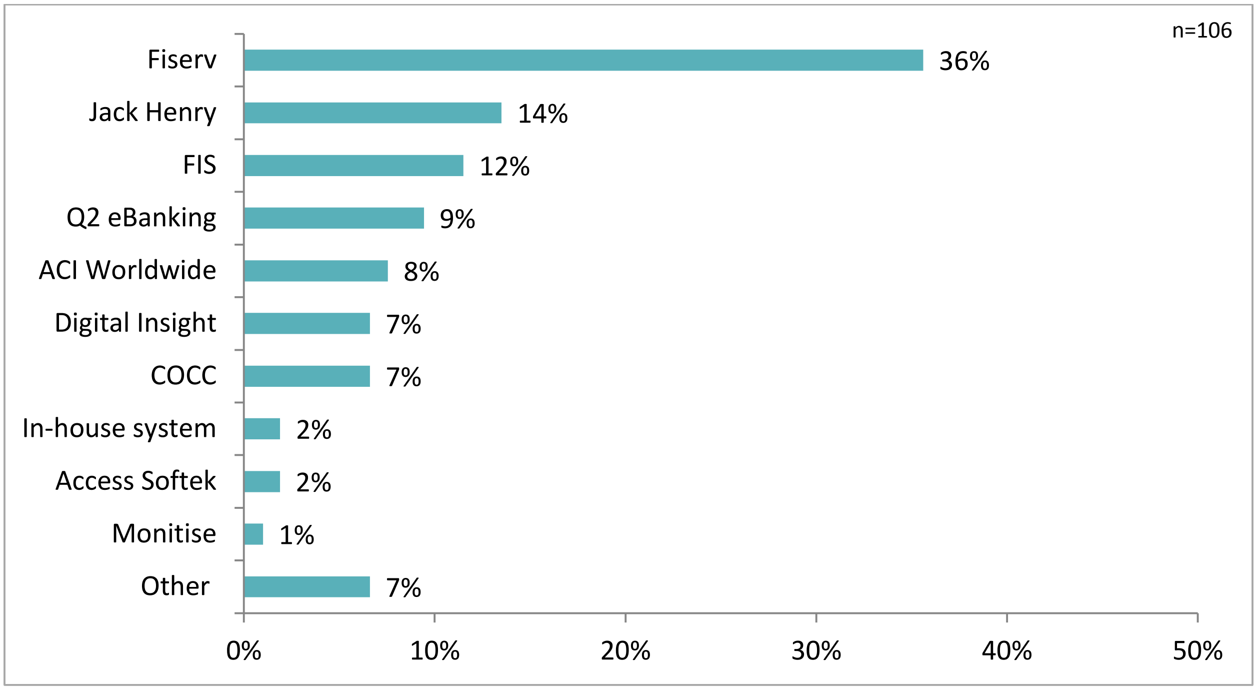
Figure 14: Business Benefits Banks Achieved by Offering Mobile Banking (*% of respondents*)



Q22. What business benefits have you achieved since offering mobile banking? (Check ALL that apply)

Unlike credit unions, most New England banks chose their core deposit processors as their mobile banking solution vendors (62 percent). Fiserv, a major core deposit processor in New England, has a large lead over other vendors, although there are several competitors in this market (**Figure 15**). Thirty-four banks using Fiserv, Jack Henry or FIS have assets between $100M and $500M, but another fourteen FIs, almost evenly distributed among these three vendors, have assets over $1B. Just two banks, both located in Massachusetts, use in-house solutions.

Figure 15: Mobile Solution Vendors Used by Banks (*% of respondents*)

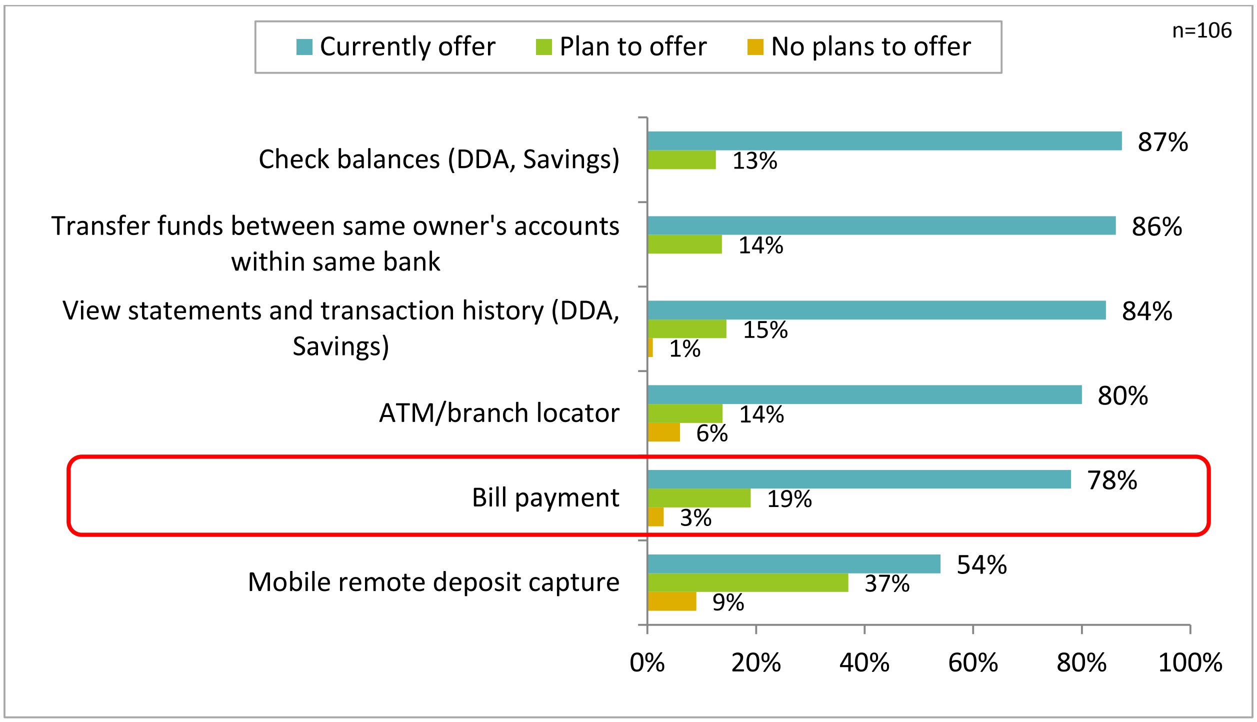


Q15. What company provides or will provide your mobile banking system?

Mobile Banking Services Offered by Banks

Most banks offer mobile banking services as a complement to their online banking services. Many services are the same, but offered through the mobile channel. However, some features are unique to the mobile channel (e.g., mobile Remote Deposit Capture (mRDC)), ATM/branch locator). Over 80 percent of the banks currently offer or plan to offer standard mobile banking services that are already available through their online channel, such as account monitoring capabilities (e.g., check balance, view statements, etc.) and money management features (e.g., transfers between accounts and bill pay) **(Figure 16**). Mobile RDC has become a standard offering among banks in New England. While only 39 percent of bank respondents reported offering mRDC in 2012, this percentage rose 15 points to 54 percent in 2014. The 2013 FR Board survey reported a similar increase in consumer demand for mRDC, with 51 percent of mobile banking users having used it within the preceding 12 months compared to 38 percent in 2013.[9]

Figure 16: Standard Mobile Banking Services Offered by Banks (*% of respondents*)

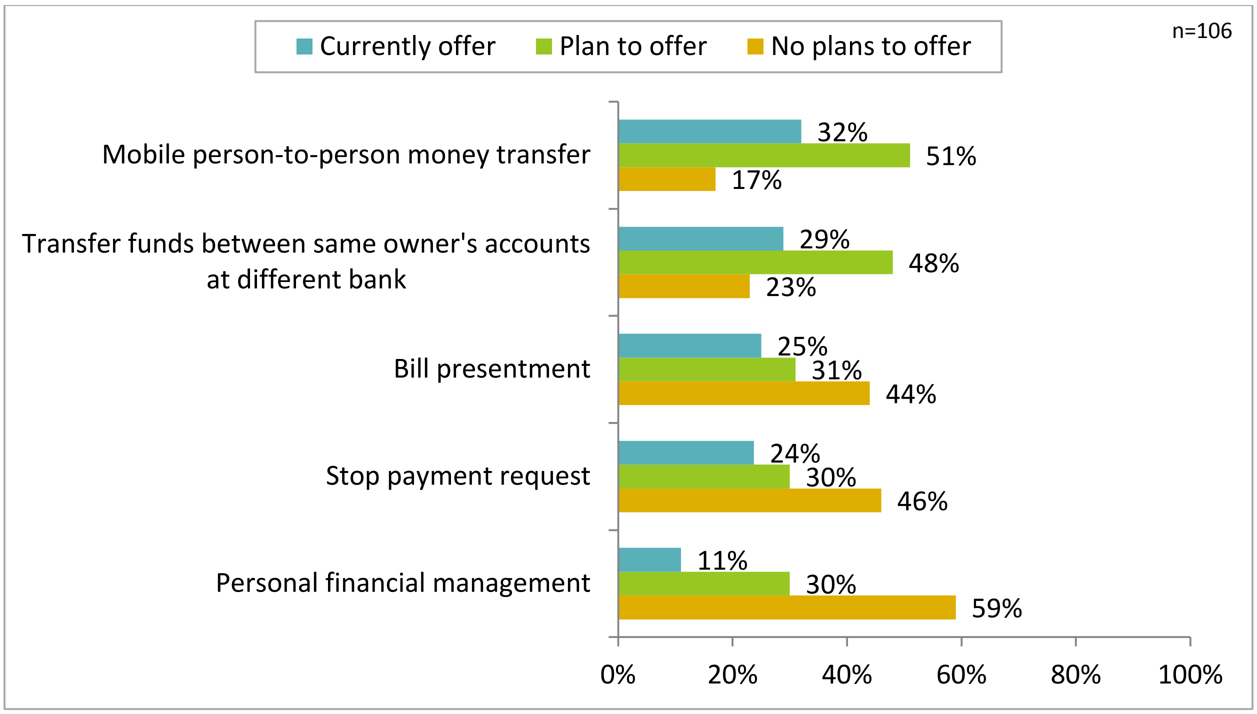


Q16. Which of the following mobile banking services do you currently offer or plan to offer?

[9] "Consumers and Mobile Financial Services 2015," *Board of Governors of the Federal Reserve System*, March 2015. http://www.federalreserve.gov/econresdata/consumers-and-mobile-financial-services-report-201503.pdf

The percentage of banks that offer advanced mobile services has increased, as shown in **Figure 17**. These services are enhancing the value-added features and leveraging the convenience of mobile. Seventy-seven (77) percent of banks either offer or plan to offer the ability for retail customers to transfer funds between their own accounts at different banks via mobile. The percentage of banks offering or planning to offer mobile person-to-person transfers increased significantly between 2012 and 2014, from 34 percent to 83 percent. In comparison, 47 percent of the largest U.S. FIs offered a mobile P2P transfer capability in 2014.[10] Having a relationship with a core deposit processor with its own P2P solution (e.g., Fiserv or FIS) may contribute to the high percentage of New England banks that offer P2P.

Figure 17: Advanced Mobile Money Management Functions Offered by Banks (*% of respondents*)



Q16. Which of the following mobile banking services do you currently offer or plan to offer?

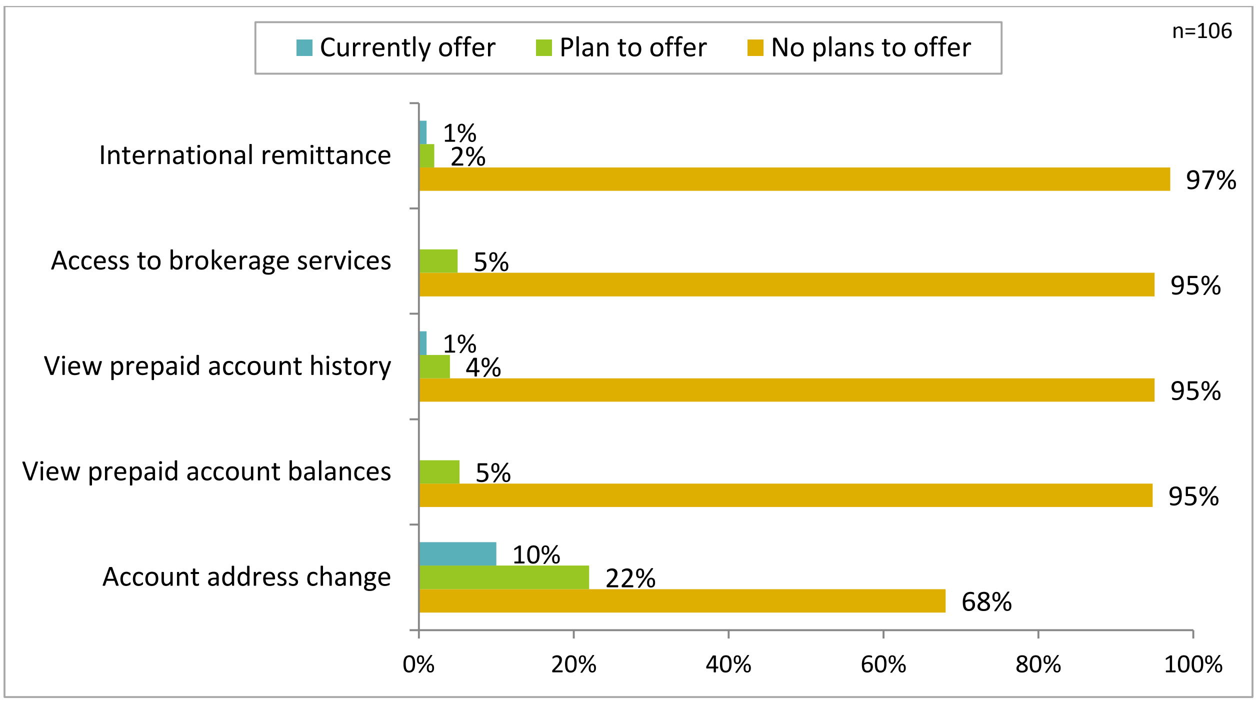
[10] "2014 Mobile Banking Financial Institution Scorecard," *Javelin Strategy & Research*, December 2014.

There are some banking services that only a few banks offer via the mobile channel:

- Only 10 percent of respondents allow customers to reorder checks and make account address changes from their mobile phones
- Seven (7) percent of banks enable customers to view credit card balances, statements and history via mobile
- One commercial bank offers mobile international remittance services
- One savings bank offers prepaid account monitoring capabilities (e.g., check prepaid balance and view transaction history).[11]

Figure 18 highlights the five services that almost all of the banks (95-97 percent) *do not* plan to offer via the mobile channel. The one exception is the ability to change one's account address via mobile, which 32% of the banks indicated some interest in offering (10% currently offer and 22% plan to offer). Account address change is the only *convenience* feature linked to a bank account on the list.

Figure 18: Mobile Banking Services Few Banks Have Plans to Offer (*% of respondents*)



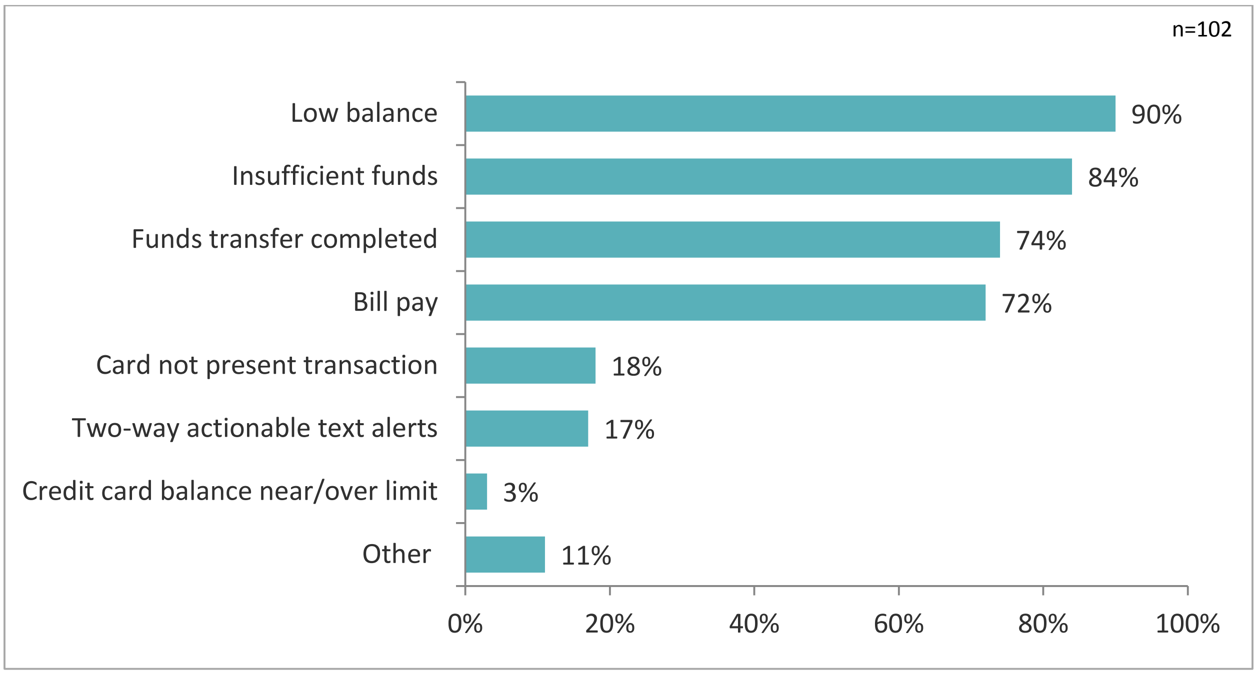
Q16. Which of the following mobile banking services do you currently offer or plan to offer

[11] In November 2014, the CFPB proposed new federal consumer protections for the prepaid market, including easy and free access to account information. Under the CFPB proposal, FIs would be required either to provide periodic statements or make account information easily accessible online for free, ensuring that consumers are able to see their account balance and transaction history. The proposal would cover general purpose reloadable cards, and mobile and other electronic accounts that can store funds.

Because many consumers have near-constant access to their mobile phones, using mobile phones to send alerts has the potential to provide "just-in-time information" that can influence consumer financial behavior and help them to make better financial decisions. **Figure 19** shows different types of alerts that banks provide to help customers manage their funds. The two most popular alerts are low balance (offered by 90 percent of the banks) and insufficient funds (offered by 84 percent), followed by alerts to notify of completed funds transfers (74 percent) and bill pay (72 percent).[12] There is a large gap between banks offering the top three alerts and the last three in the list: CNP (card-not-present) transaction, two-way and credit card balance limit. These are more advanced alerts, involving two-way communication, ecommerce and other remote transactions or credit cards.

The 2014 FR Board survey reported that 57 percent of consumers who used mobile banking received alerts from their FIs via email, text and push notifications. The most commonly received types included alerts for low balances (which corresponds to the number one alert offered by banks below), and notification of available statement, payment due (bill pay) and deposit or withdrawal.[13]

Figure 19: Types of Alerts Offered by Banks (*% of respondents*)



Q18. What types of mobile alerts do you (plan to) offer? (Check ALL that apply)

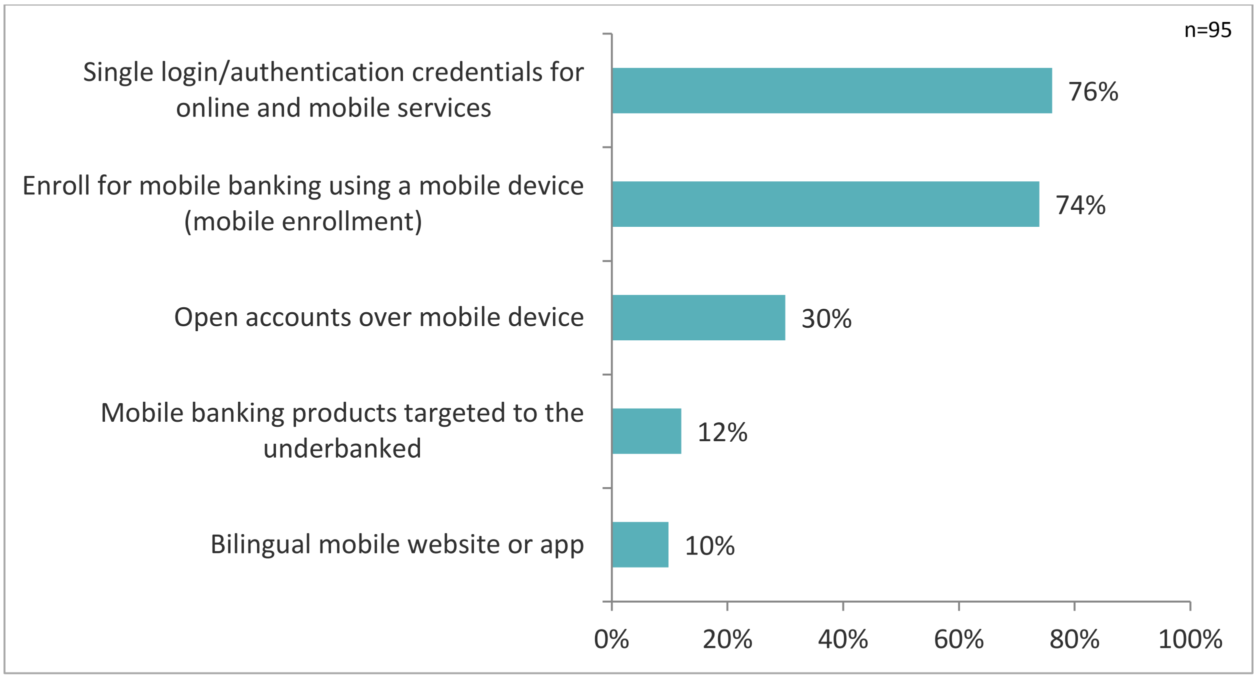
[12] The 'Other' category included a variety of alerts including daily balances, checks cleared, ACH payments, P2P payment confirmation, maturing loan and CD, and loan payment due.

[13] "Consumers and Mobile Financial Services 2015," *Board of Governors of the Federal Reserve System*, March 2015. http://www.federalreserve.gov/econresdata/consumers-and-mobile-financial-services-report-201503.pdf

More New England banks are adding new mobile banking features to enhance customer convenience **(Figure 20).** Seventy-six (76) percent of respondents now offer single login with same authentication credentials for online and mobile banking services. Enrollment in mobile banking via a mobile device increased significantly from 2012 to 2014: in 2012 only 10 percent of banks offered it, but by 2014 74 percent of the banks did. Thirty (30) percent allow customers to open accounts via their mobile devices. In contrast, only seven (7) percent of the largest U.S. FIs with mobile banking services support mobile banking enrollment, and only 17 percent offer new account opening with a mobile device.[14] This gap suggests that smaller banks may have closer relationships with their retail customers and as such are willing to offer more advanced services to them.

Only 12 percent of banks target services to underbanked consumers. Nine banks,[15] varying by asset size and location, plan to offer bilingual mobile services.

Figure 20: Mobile Banking Services Offered by Banks (*% of respondents*)



Q17. Which of the following mobile banking services do you currently offer or plan to offer?

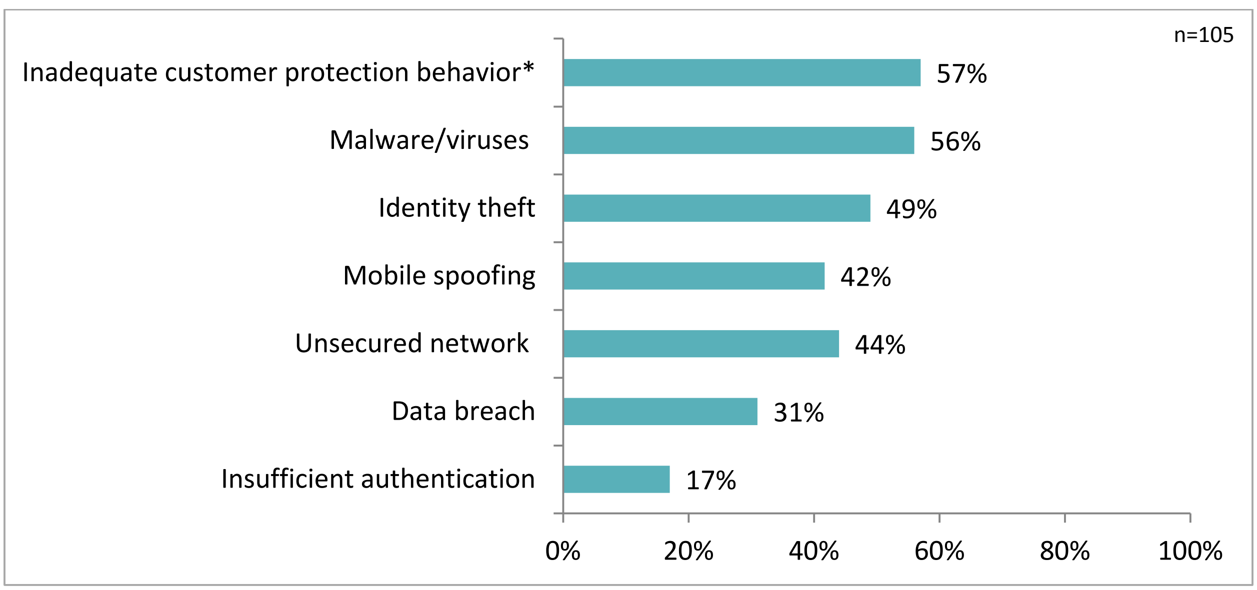
[14]"2014 Mobile Banking Financial Institution Scorecard*," Javelin Strategy & Research*, December 2014.
[15]These nine banks are located in Chelsea, Fall River, Greenfield, Holyoke, Lowell, North Quincy, and Springfield, MA; North Providence, RI, and Willimantic, CT.

Banks continue to consider security as a high priority for mobile banking. Their key security considerations are shown in **Figure 21**; mitigating technologies are highlighted in **Figure 22**. The survey included "inadequate customer protection behavior" as a response for the first time in 2014, and it was selected as one of the top security concerns by 57 percent of the banks, nearly tied with "malware/viruses." This suggests that banks are realizing that customers have some control over the security of their mobile devices and transactions and should possibly share some of the responsibility to protect them. Forty-nine (49) percent of the banks selected identity theft as one of the top three concerns (vs. 52 percent in 2012), 42 percent chose mobile spoofing (vs. 53 percent in 2012), and 17 percent chose insufficient authentication (vs. 35 percent in 2012).

Despite the data breach activity in the past couple of years, only 31 percent of the banks selected "data breach" as one of their top three security concerns for mobile banking services in 2014. This may reflect both the relatively smaller size of banks in the survey and that many don't offer credit cards and so are not directly impacted. Yet the percentage of banks reporting concerns with unsecured networks increased from 31 percent in 2012 to 44 percent in 2014, which can expose payment credentials to data breach.

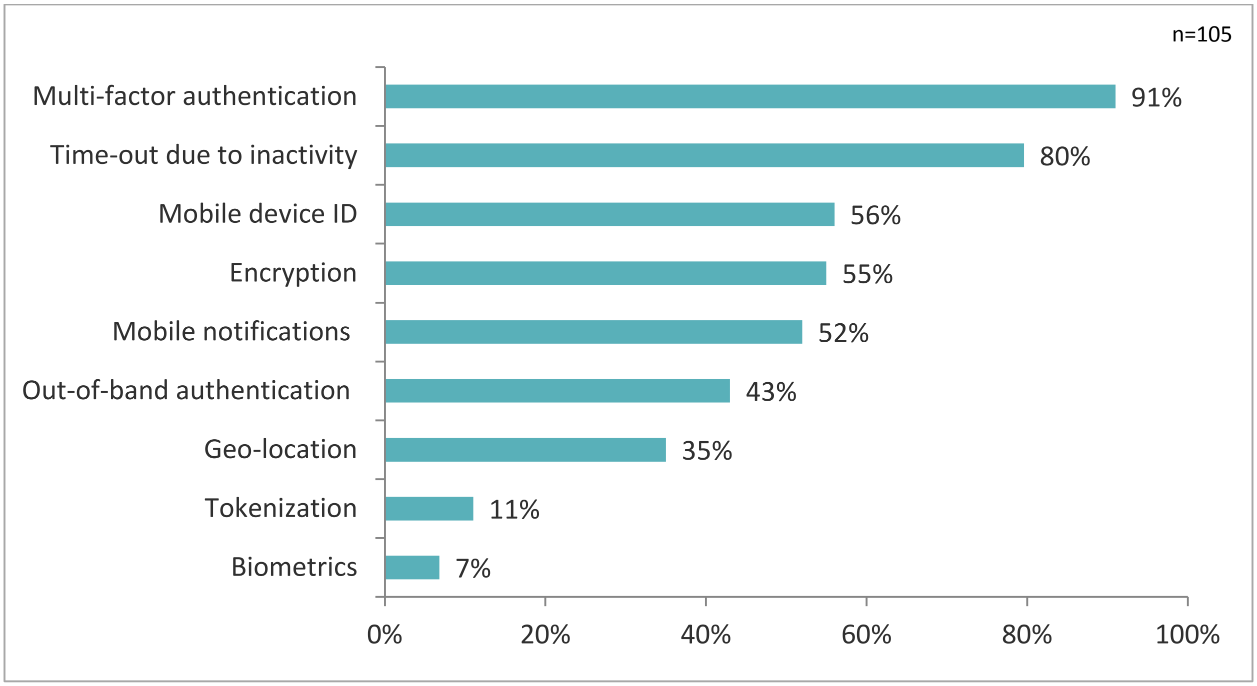
Banks are using a variety of technologies to enhance mobile security. Almost all (91 percent) use multi-factor authentication (MFA), 80 percent use "time-out due to inactivity," 56 percent check the mobile device ID, 55 percent encrypt the data and 52 percent use mobile notifications to strengthen security. Use of newer security methods, such as tokenization and biometrics, is low but we expect to see adoption of these tools grow over the next few years for mobile banking and payment activities, influenced by the roll-out of the Apple Pay mobile wallet, which uses tokenization and biometrics (fingerprint) for authentication, and similar solutions currently in development for Android phones.

Figure 21: Mobile Banking Security Concerns of Banks *(% of respondents)*



Q19. Please select your FI's TOP THREE security related issues or concerns associated with mobile banking.
**New answer choice in 2014 survey.*

Figure 22: Methods Used by Banks to Enhance Mobile Security (*% of respondents*)

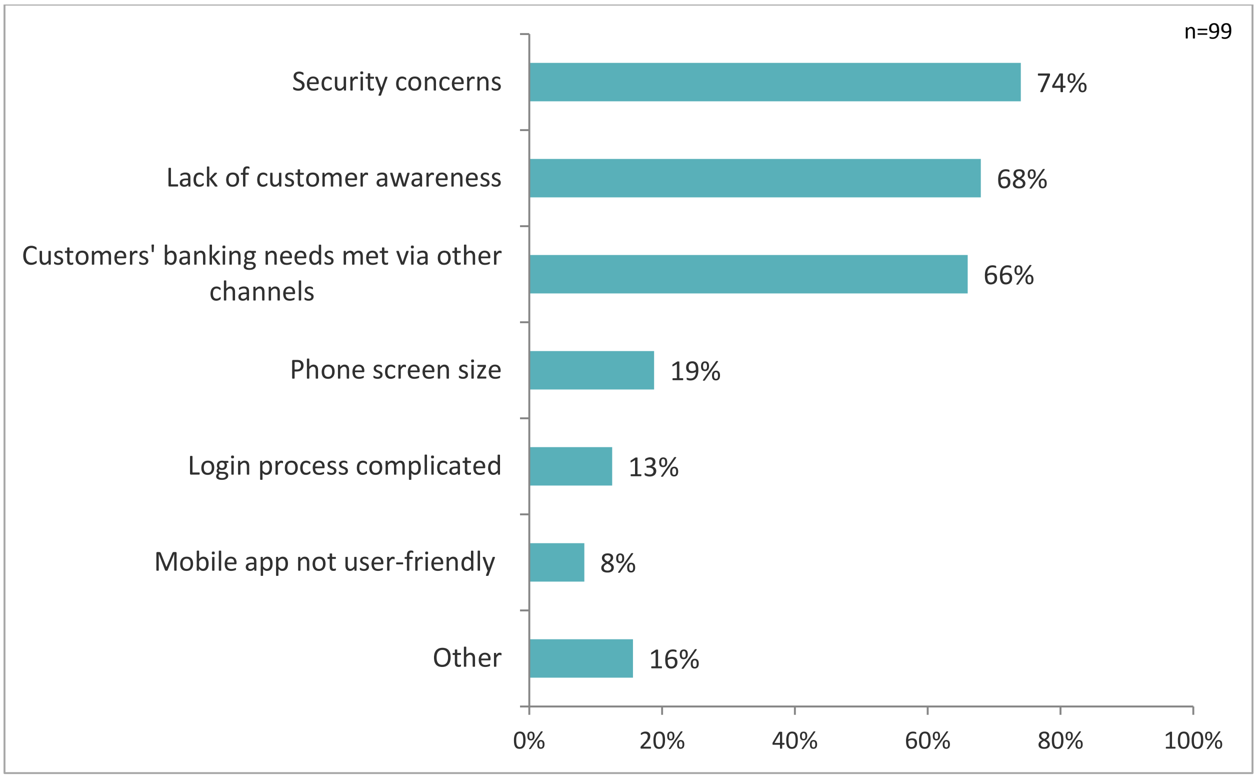


Q20. Which of the following does your FI currently use or plan to use to enhance mobile security? (Check ALL that apply)

Seventy-four (74) percent of bank respondents viewed security concerns as a top barrier to consumer adoption of mobile banking (**Figure 23**). They reported several other barriers to adoption almost as important as security, such as customers' banking needs being met through other channels (66 percent), and lack of customer awareness (68 percent). Both suggest that customers may not understand the added value of mobile banking and the need for more marketing and education. These perspectives by New England banks are consistent with consumer results from the 2014 FR Board survey, which reported that of consumers who do not use mobile banking, 86 percent said their banking needs were met via other channels, 73 percent did not see any reason to use it, and 62 percent cited security concerns.[16]

The issues of least concern to banks are not surprising: phone screen size, a complicated login process, and the mobile app not being user-friendly, which have been addressed by redesign and improved mobile solutions and processes.

Figure 23: Top 3 Issues Hindering Customer Adoption of Mobile Services (*% of respondents*)

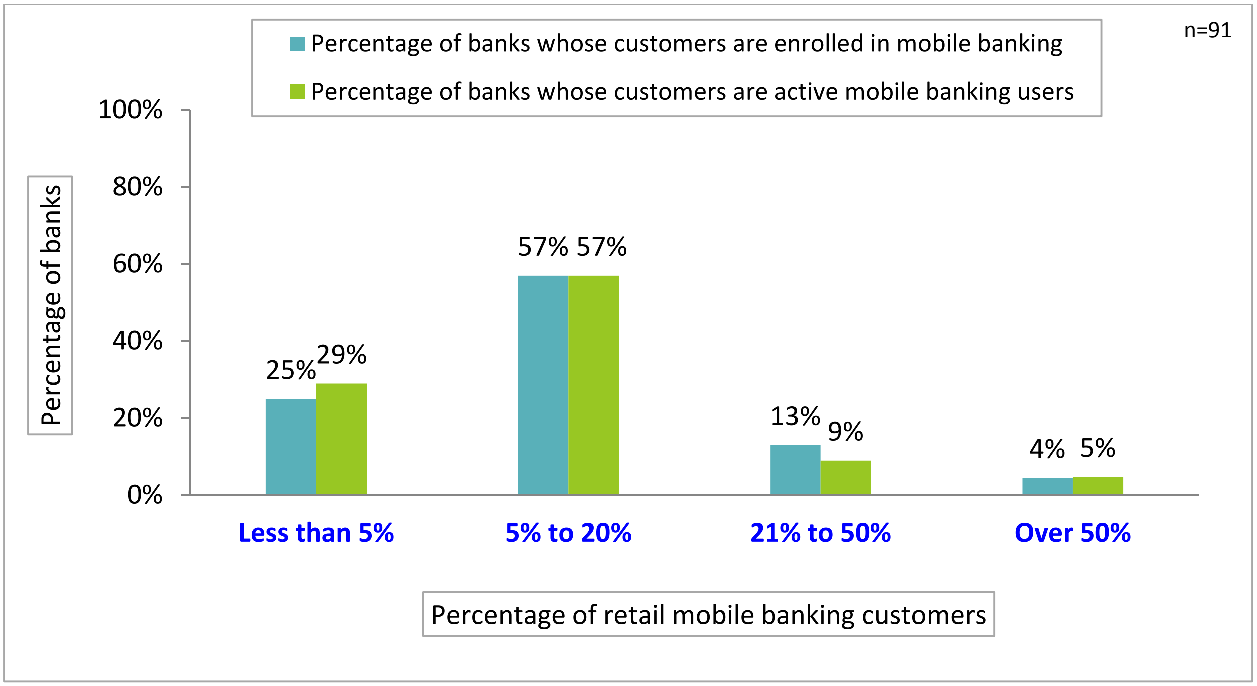


Q25. What are the THREE most common reasons you believe prevent customer adoption of mobile banking?

[16] "Consumers and Mobile Financial Services 2015," *Board of Governors of the Federal Reserve System*, March 2015. http://www.federalreserve.gov/econresdata/consumers-and-mobile-financial-services-report-201503.pdf

Retail customer adoption of mobile services is improving. Fifty-seven (57) percent of bank respondents reported that customer enrollment is in the "5% to 20%" range of retail customers; and 57 percent of banks have "5% to 20%" of active mobile users (**Figure 24**). [17] Only four banks (five (5) percent) reported more than 50 percent of their customers actively use mobile banking - two banks with assets over $1 billion and two with assets between $500 million and $1 billion.

Figure 24: Consumer Adoption of Banks' Mobile Banking Services



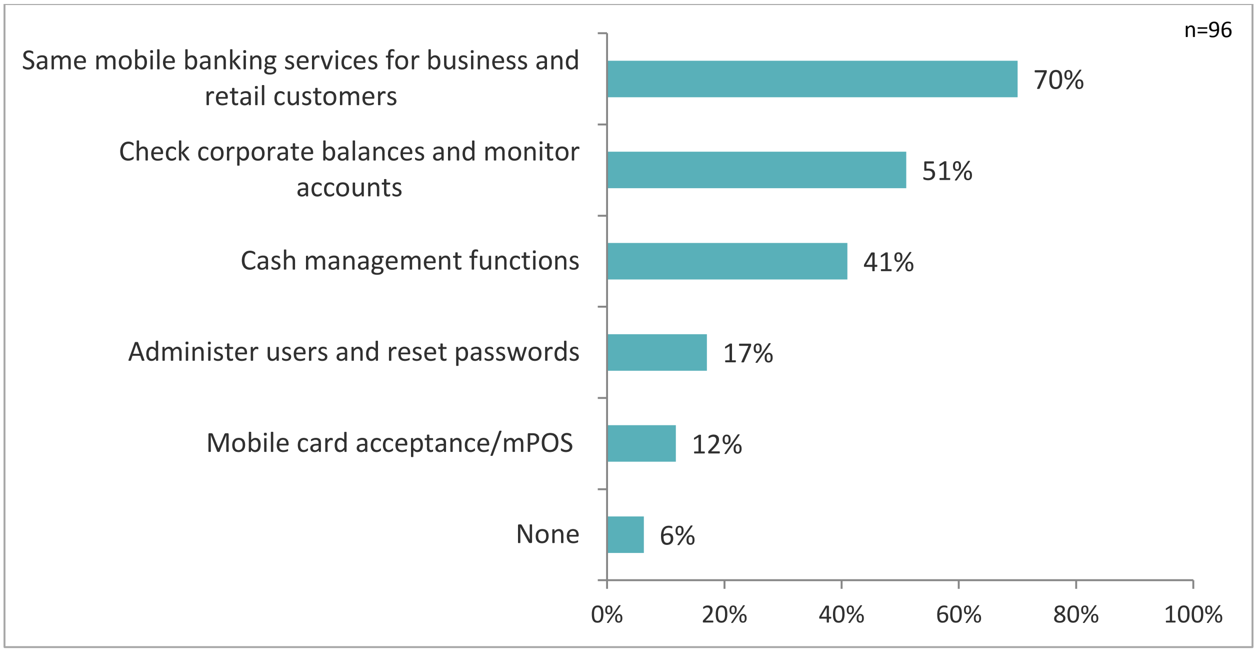
Q24. What percentage of your retail customers has used your mobile banking services?

[17] Active mobile users are defined as mobile banking customers who used mobile banking at least once in the previous 90 days.

There is still very little activity in the business mobile banking segment. Seventy percent (70) of banks offer the same mobile services to their retail and business customers (**Figure 25**). Fifty-one (51) percent of respondents allow their business customers to check corporate balances and monitor accounts, and 41 percent offer cash management functions.

Only a few banks (12 percent) provide business-specific mobile services, such as mobile card acceptance, in contrast to findings in a survey by ath Power, where 65 percent of business customers said their most desired mobile functionality is mPOS (mobile card acceptance at Point-of-Sale).[18]

Figure 25: Mobile Banking Services Offered by Banks to Business Customers (*% of respondents*)



Q26. What additional mobile banking services do you (plan to) offer your commercial customers? (Check ALL that apply)

Business customer adoption of mobile banking in New England is much lower than consumer adoption. Possible reasons include: (1) banks started with consumer mobile banking services first, and as comfort and experience have grown, they have begun to consider offering mobile services to businesses; (2) in most cases banks start by offering the same consumer mobile banking functions to small businesses – few have developed specific business mobile services or have targeted different business segments (small businesses vs. corporates); and (3) banks may be more selective in how they market mobile services to businesses to manage risk.

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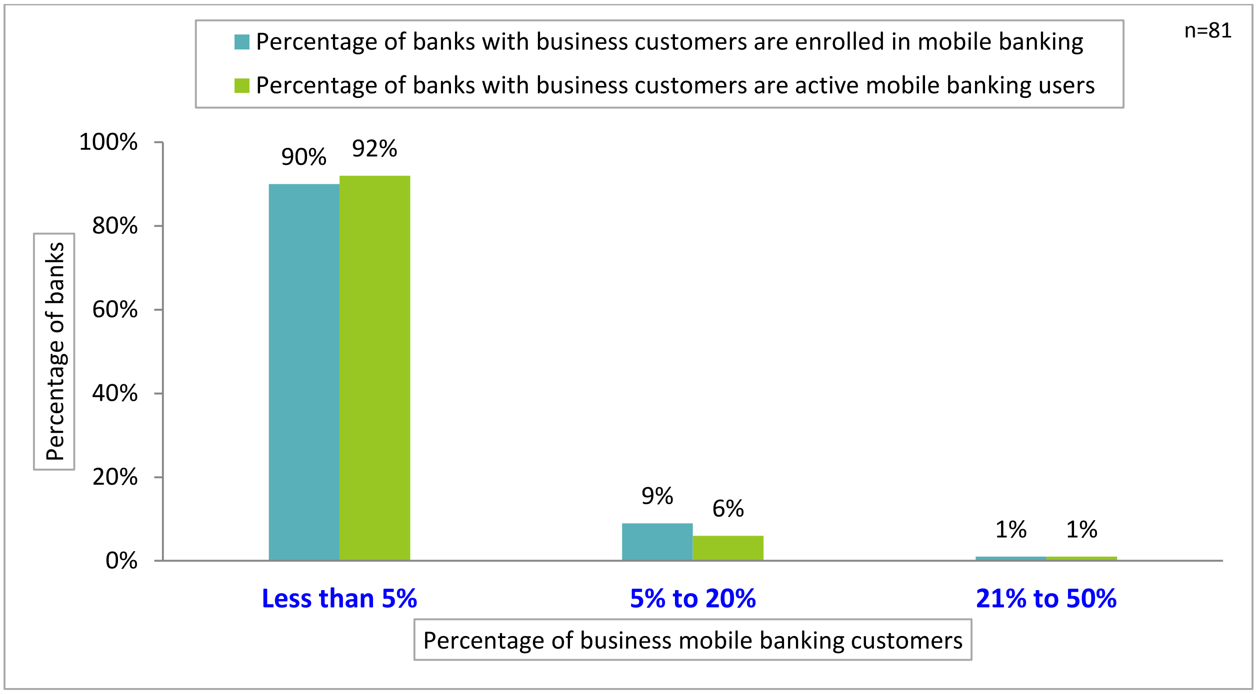
[18] ath Power survey mentioned above from: Sarah Todd, "Small Business Owners Badly Want Mobile Banking: Survey," *American Banker*, January 7, 2014. http://www.americanbanker.com/issues/179_5/small-business-owners-badly-want-mobile-banking-survey-1064735-1.html

Ninety (90) percent of bank respondents had "less than 5%" of their business customers enrolled, and 92 percent had "less than 5%" active mobile users (**Figure 26**). The only bank that fell into the "21%-50%" range for business customers enrolled and actively using mobile banking services was located in Massachusetts.[19] Clearly there is a lot of room for growth in the business segment.

Figure 26: Business Adoption of Banks' Mobile Banking Services



Q27. What percentage of your commercial customers has used your mobile banking services?

Studies indicate that mobile banking services could hold serious sway over small business owners. The ath Power poll found that 66 percent of small business owners would be prepared to switch banks to improve their access to mobile banking services.[20] Many banks do not offer a full suite of mobile banking services, lacking online account access, payroll services, and online payment approvals and authorization.

According to a 2013 Aite survey,[21] only 14 percent of U.S. small business respondents reported being able to set up wire transfers via mobile, but 24 percent wanted to initiate wire transfers using a mobile device, and eight (8) percent saw this function as critical. Fifteen (15) percent of Aite's survey respondents used mRDC; 35 percent said they wanted to have mRDC; and nine (9) percent said this

[19] Capital One Bank market research in 2013 found that 66 percent of respondents cited security as the primary barrier to widespread adoption of corporate mobile banking. http://www.banktech.com/payments/corporate-mobile-banking-not-so-fast/d/d-id/1296751

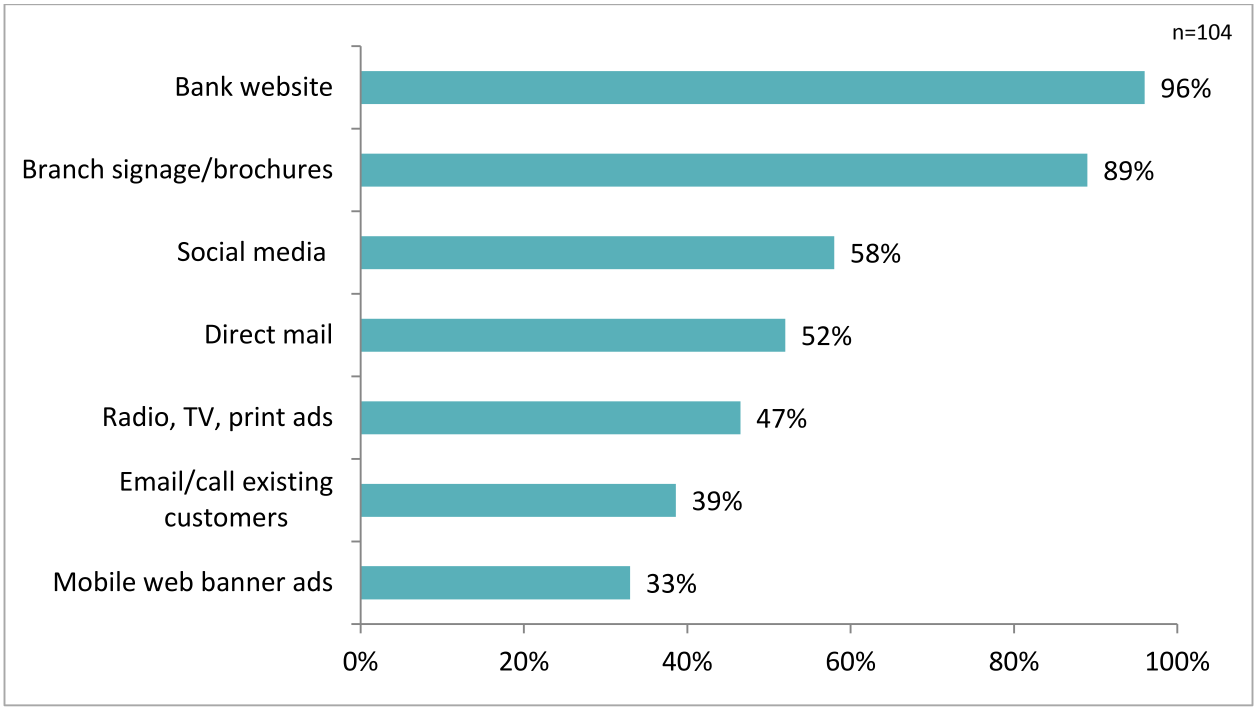
[20] Ibid.

[21] Robin Arnfield, "Study finds small business mobile banking services lacking in US," *Mobile Payments Today*, February 12, 2014. http://www.mobilepaymentstoday.com/articles/study-finds-small-business-mobile-banking-services-lacking-in-us/

feature would be critical.[22] Examples of other mobile banking services that small businesses would like to use are locking in foreign exchange rates and resetting passwords.

Banks are improving their marketing strategies to build consumer awareness and increase adoption of their mobile banking services (**Figure 27**). Banks continue to market mobile banking services primarily through their website and branch signage and brochures -- but there appeared to a slight shift from other traditional marketing tools to social media in 2014. Fewer banks are marketing via more costly direct mail than in 2012. Marketing through radio, TV, print and mobile web banner ads remain relatively static.

Figure 27: Marketing Methods Used by Banks (*% of respondents*)

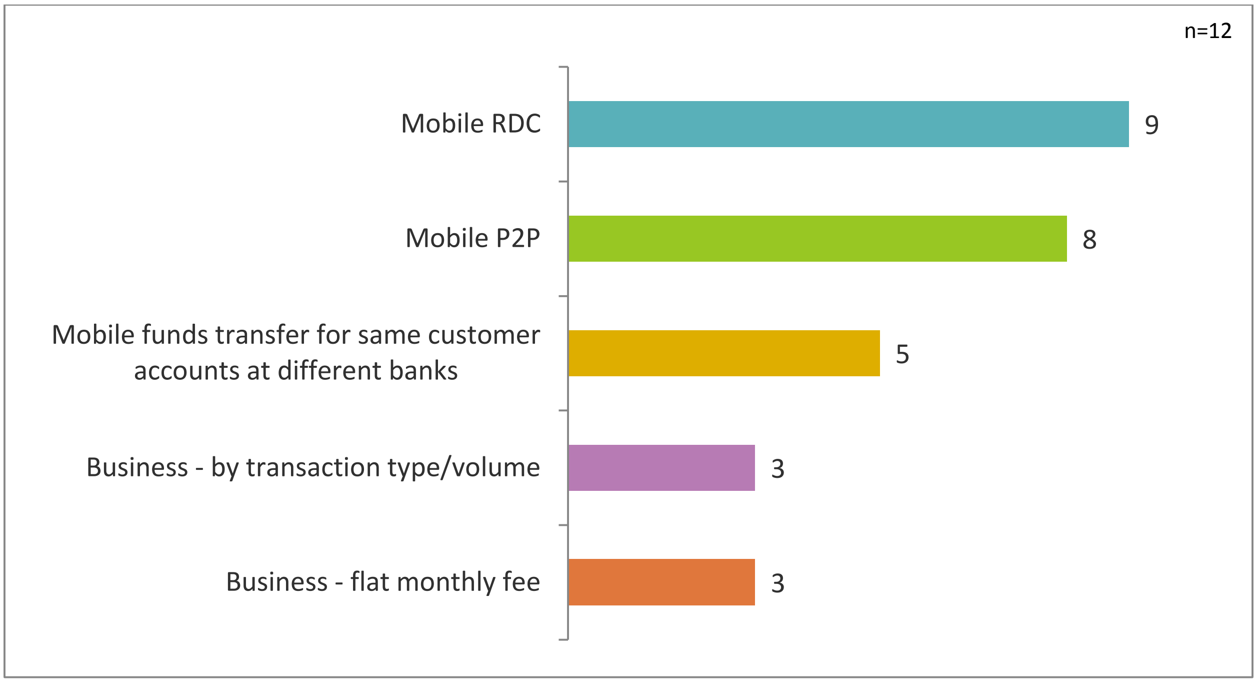


Q23. How do you (plan to) market your mobile banking services? (Check ALL that apply)

[22] The 2014 Federal Reserve Bank of Boston-NEACH survey did not differentiate mRDC for retail and business customers.

Similar to responses from the 2012 survey, very few banks plan to charge fees for mobile banking services **(Figure 28).** Twelve respondents reported plans to charge fees for services such as mRDC and P2P payments. Based on the survey results it is not possible to distinguish how many banks are already charging fees from those planning to charge once they implement the services.

Figure 28: Potential Fee-based Mobile Banking Services (*# of respondents*)



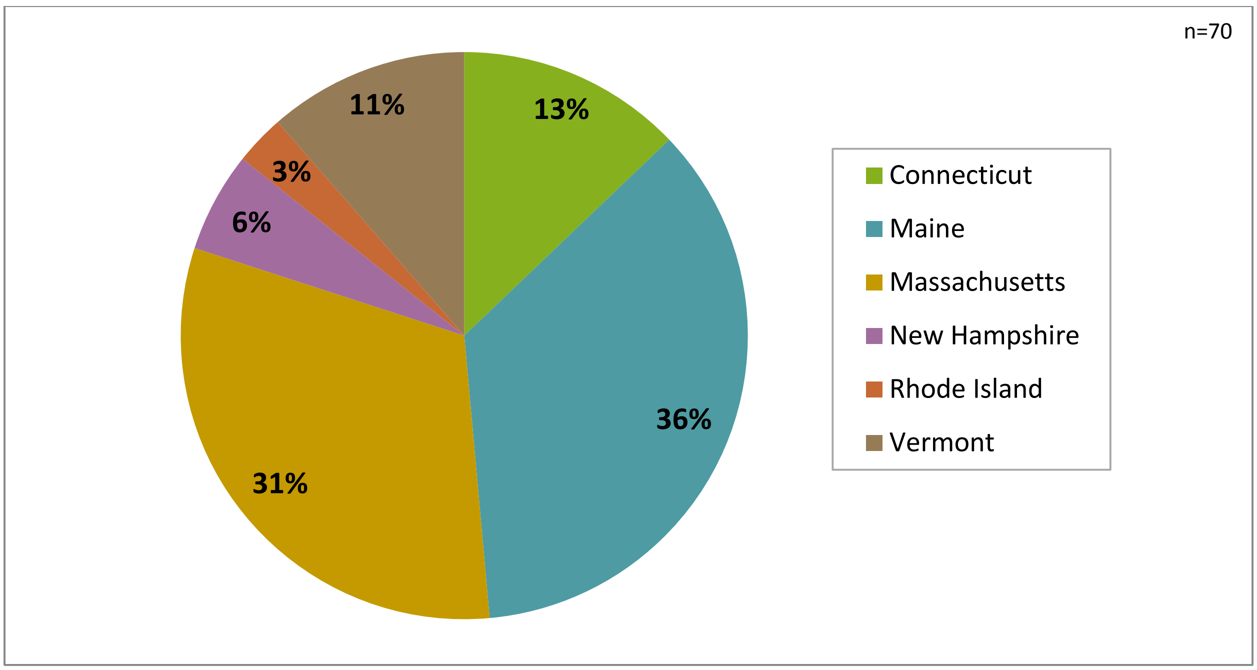
Q29. Please indicate ALL services for which you (plan to) charge a fee. (Check ALL that apply)

V. Mobile Banking Survey Results for Credit Unions

Demographic Overview of Respondent Credit Unions

This section presents an overview of the credit union respondents to the survey – some 70 institutions located across the region. As **Figure 29** illustrates, most respondents were located in the states of Maine and Massachusetts.[23] The strong concentration of respondents in these states correlates to the Tricorp membership.

Figure 29: Headquarter Locations of Credit Union Respondents (*% of respondents*)

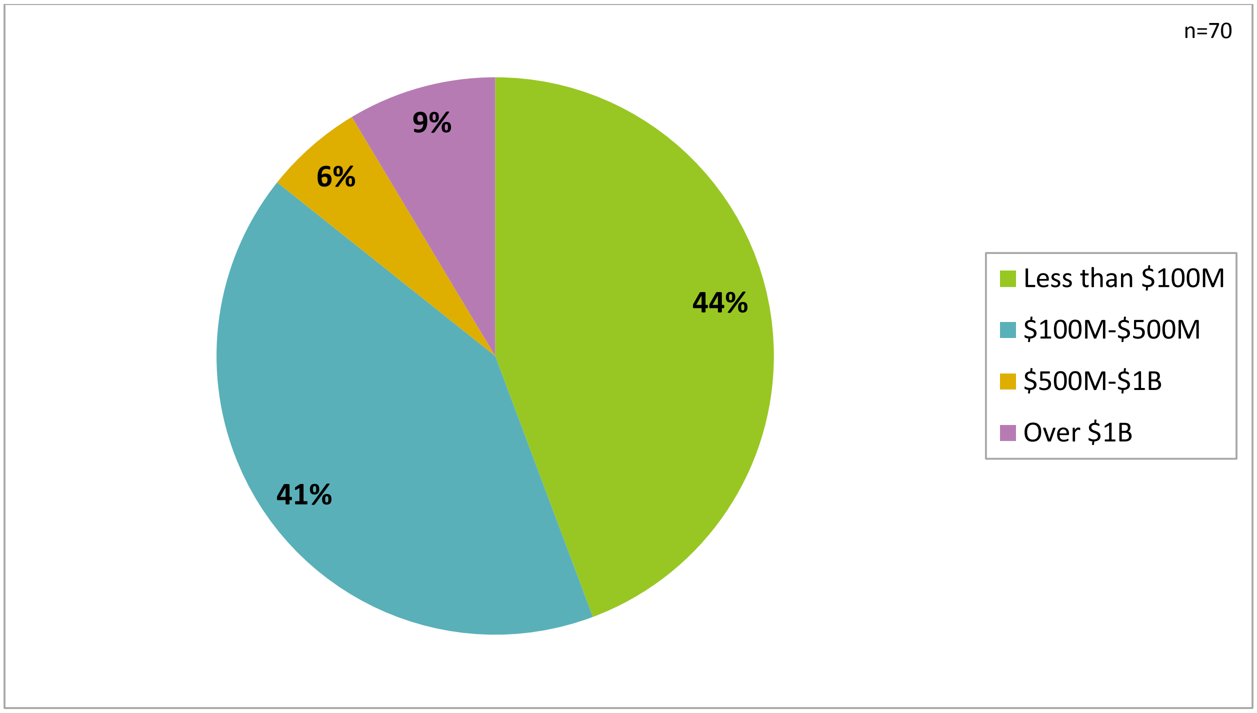


Q7. Corporate Address

[23] Tricorp assisted NEACH and the FRBB by promoting the survey to its members, many of whom responded to the survey.

Despite the geographical concentration, however, the asset size of these credit union respondents aligns more closely with those of all NEACH member credit unions: 85 percent of credit union respondents have fewer than $500M in assets compared to 90 percent within the NEACH membership (**Figure 30**). Credit union asset size, however, differs considerably from the bank respondents' asset mix. Regionally, the smallest FIs are credit unions, and even among respondents, 44 percent of credit unions had assets below $100M. Just over half (51 percent) of bank respondents had assets between $100M and $500M, with only eight (8) percent holding assets less than $100M (**See Figure 11 in previous section**).

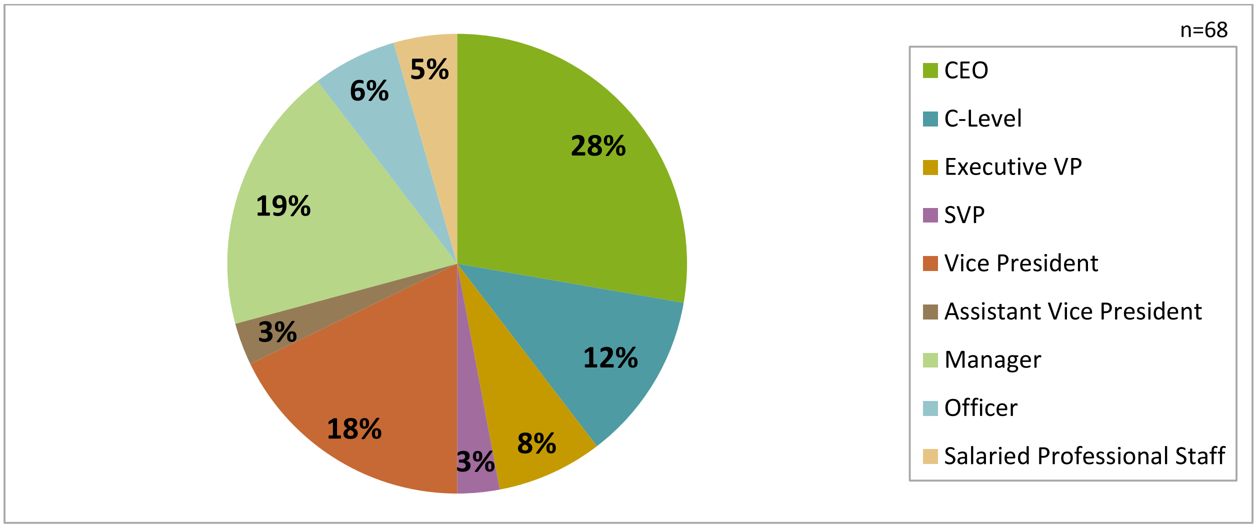
Figure 30: Credit Union Respondents by Asset Size (*% of respondents*)



Q8. What is your FI's asset size?

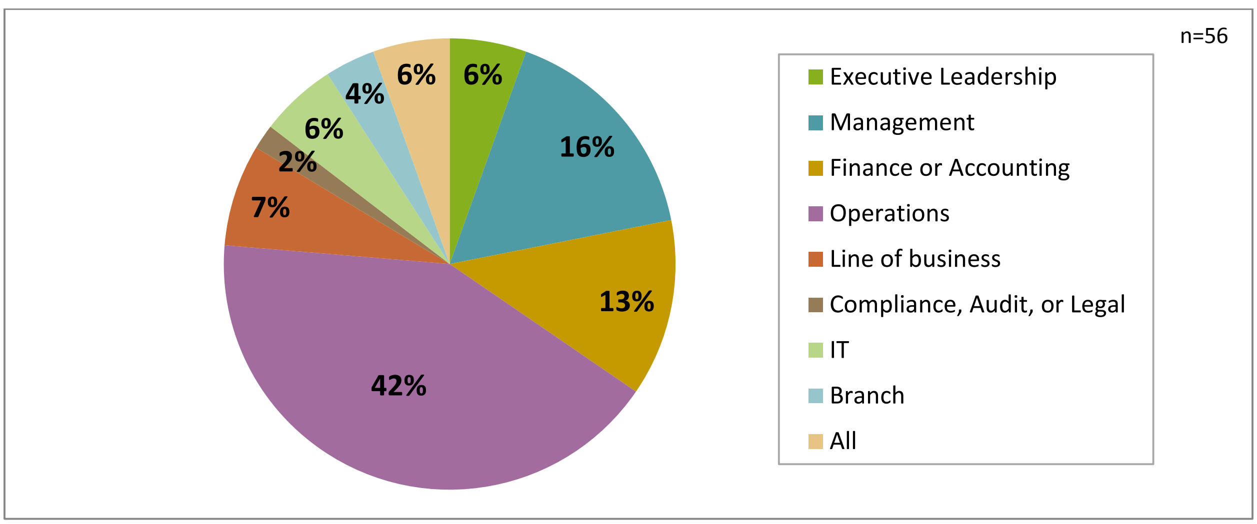
All but five (5) percent of credit union participants are officer level or above. Twenty-eight (28) percent are CEOs; 12 percent are C-level executives; and 11 percent are senior or executive vice presidents **(Figure 31).** Although 22 percent listed their job position as "executive leadership" or "management," and 13 percent cited "finance or accounting," when it comes to respondents' functional affiliation, a significant percentage (42 percent) came from 'operations.'[24] (Refer to **Figure 32.)**

Figure 31: Title of Credit Union Respondents (*% of respondents*)



Q4.Contact title

Figure 32: Functional Area of Credit Union Respondents (*% of respondents*)



Q5. Functional Area of Contact

[24] This is not surprising given NEACH's connection to its credit union members through ACH operations, but it speaks to the importance of operations as the knowledgeable and accountable department for mobile banking and payments at most NE credit unions.

Mobile Banking Results for Credit Unions

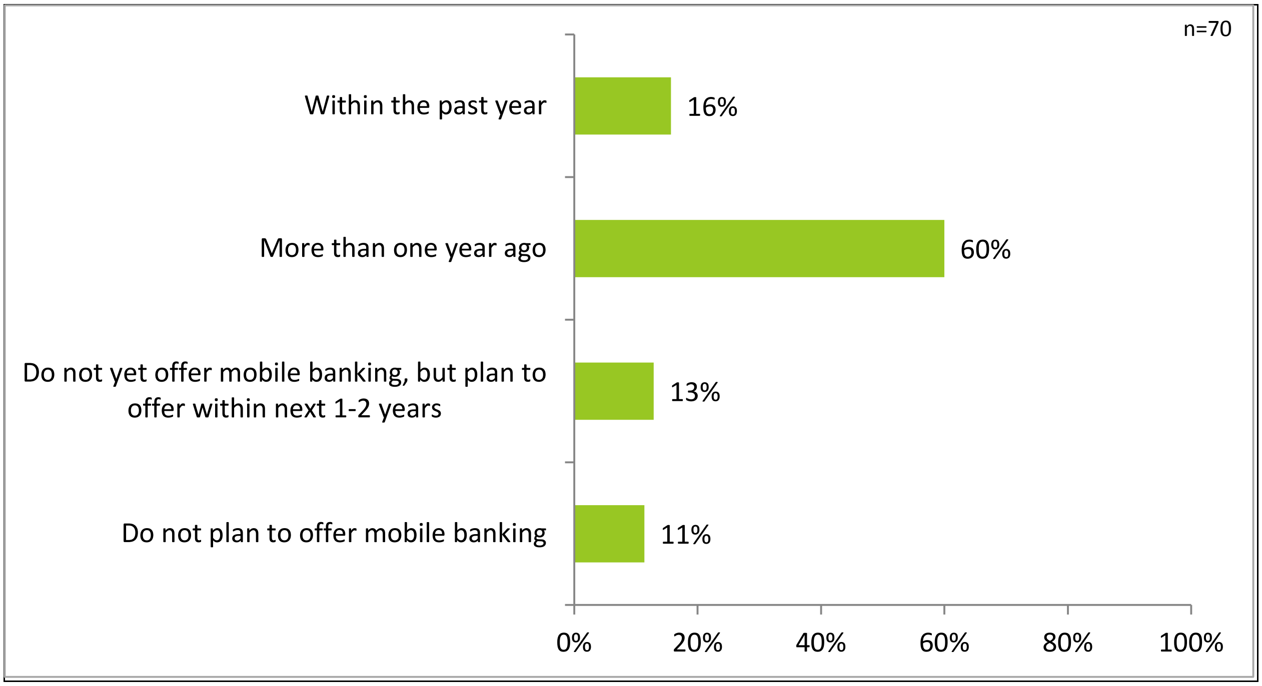
In the 2008 survey, only eight credit unions offered mobile banking services to their members. By the time of the mini- survey two years later, an additional seven credit unions did so, and by the 2013 survey, the total, aggregate number of credit union survey respondents offering mobile banking was 42. That number rose eight percentage points from 2013 to 2014 – from 68 to 76 percent – to reach a total of 53 respondent credit unions (**Figure 33**).[25] Another nine (13 percent) plan to offer mobile banking within the next 12 to 24 months (**Figure 34**). The percentage of credit unions with "no plans to offer mobile banking services" was 11 percent (eight institutions), identical to the 2013 percentage (seven institutions). Clearly, with so few respondents opting out of offering the service, mobile banking must be considered a common "baseline" service for credit unions throughout the region.

Figure 33: Credit Unions Offering Mobile Banking Services over Time

Date	Number of Credit Unions		Percent of Respondents Offering Mobile Banking
	Offer Mobile	Don't Offer Mobile	
2008	8	20	29%
2010	15	28	35%
2013	42	20	68%
2014	53	17	76%

[25] Due to the difference between the 2013 and 2014 respondent pools, the increase in the 12-month period does not quite correlate. Adding the 2013 "within the past year" and "more than 1 year ago" responses comes to almost 68 percent, but the current (2014) "more than 1 year ago" percentage is just 59 percent.

Figure 34: Status of Credit Unions Offering Mobile Banking Services (*% of respondents*)

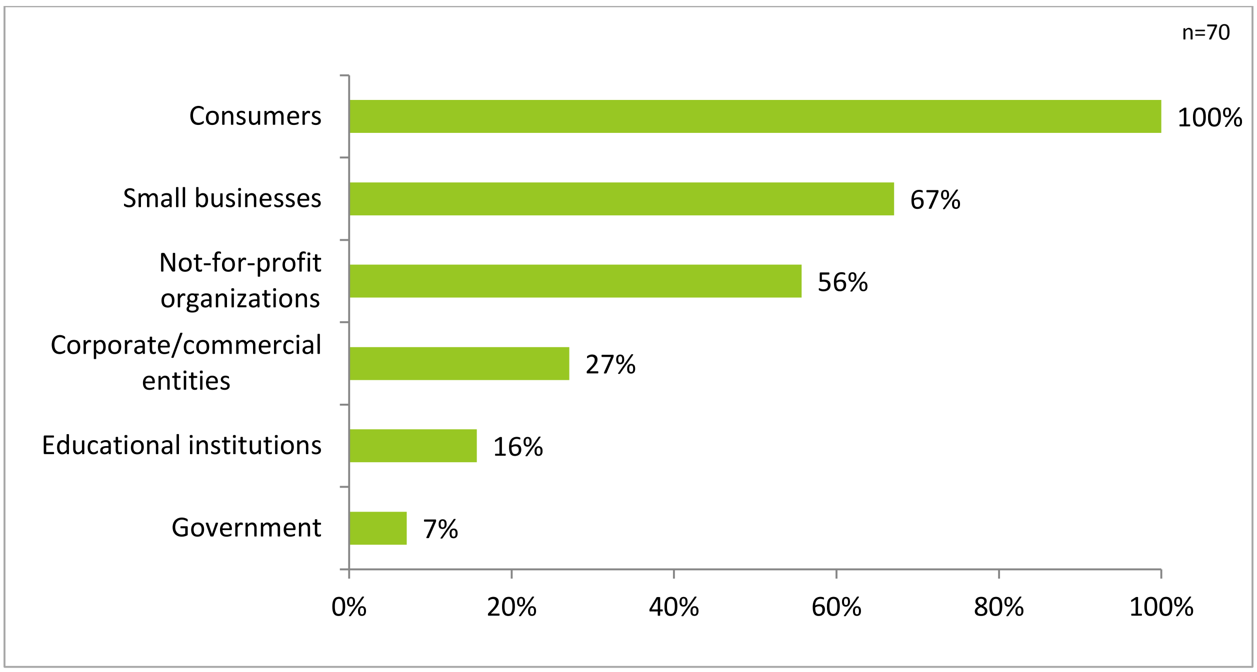


Q11. When did you start offering mobile banking to your customers? (Check ONE)

Credit unions initially targeted mobile banking services to consumers. Today, however, given the ubiquity of the mobile channel, credit unions, like banks, provide services to a wide array of entities **(Figure 35)**, although it is only more recently that they have branched out to a wider membership. Today, 71 percent of respondents provide services to small businesses, commercial/corporate firms, not for profit organizations, educational institutions, and/or government entities. The type and variety of members depends on the institution's charter, but the survey found little correlation to asset size, even though all but one of the largest respondents (more than $1B in assets) has corporate members.

Despite the consumer focus, most credit unions are still not targeting underbanked consumers with mobile services – just 14 percent do so, even though industry analysts tout mobile services as an advantageous service for the underserved market segment.

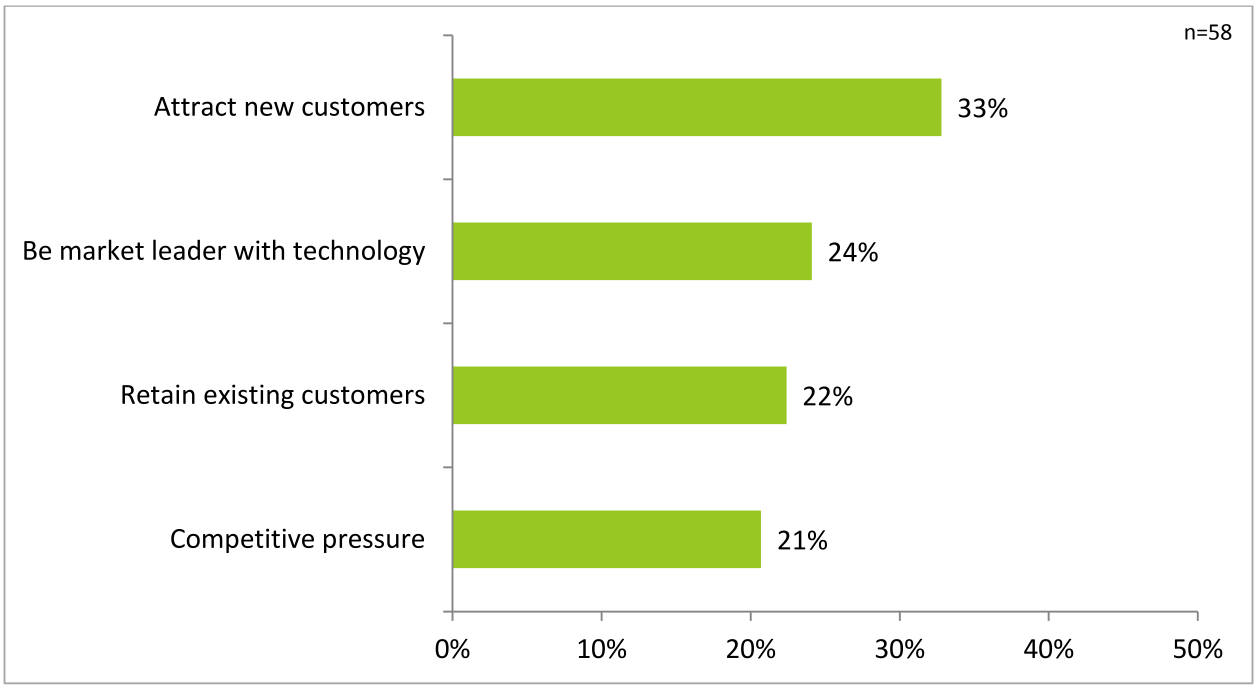
Figure 35: Types of Members to Which Credit Unions Offer Mobile Banking Services (*% of respondents*)



Q10. Please indicate to whom you provide services. (Check ALL that apply)

The primary business reasons that credit unions offer mobile banking services to their members have not changed in the aggregate, but the emphasis on "attracting new members" and "being a market leader with technology" is new (**Figure 36**). Both these objectives rose 10 percent from 2013 to 2014. Equally compelling, in all earlier FRBB-NEACH surveys, "retaining existing members" was the foremost reason for credit unions to offer mobile services; but in this latest survey, member retention clocked in at third place. In fact, the whole emphasis has changed since 2013, when the focus was, in order, member retention, member acquisition, competitive pressure, and technology leadership. Now that they have experience with the channel and technology, credit unions are using mobile to attract new, presumably younger, consumers as well as to appeal to businesses with a need for mobile services.

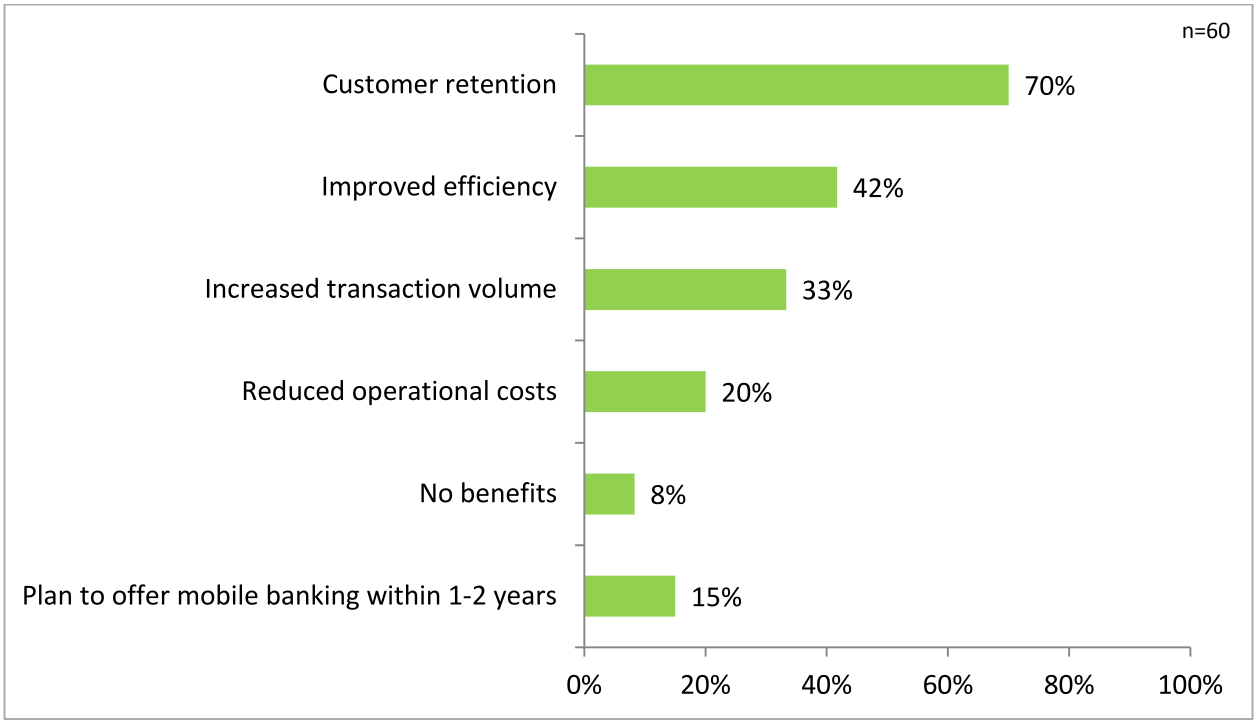
Figure 36: Top Reasons Credit Unions Offer Mobile Banking Services (*% of respondents*)



Q21. If you (plan to) offer mobile banking, what is your primary business reason? (Check only ONE)

What the data appears to be showing is that as mobile matures as a channel, mobile banking is seen both as a service for credit unions to lead with and as a benefit in retaining current members (70 percent) **(Figure 37).** The other business benefits that credit union respondents perceive relate to efficiency (42 percent), reducing operational costs (20 percent), and adding transaction volume – volume coming from new members and from organic growth among existing relationships (33 percent).

Figure 37: Business Benefits Credit Unions Achieved by Offering Mobile Banking (*% of respondents*)



Q22. What business benefits have you achieved since offering mobile banking? (Check ALL that apply) [26]

[26] Question 22 was added in 2014 to ascertain whether or not FIs had yet experienced benefits of offering mobile banking services.

Only eight (8) credit union respondents did not have plans to implement mobile banking services. A comparison of the reasons for this cited in 2014 and 2013 is shown in **Figure 38,** which presents a quite different picture despite the small number of respondents. Cost of implementation was cited by all "no plans" respondents in 2013, but "cost" was mentioned by just two credit unions this time around (albeit ranked first by each of them), which points to better pricing/lower expense for implementation of mobile banking as the service matures. In 2014, the focus has shifted to business case issues, headed by a perceived "lack of member demand." Security and regulatory issues continue to be concerns. Most credit unions, however, perceive the business benefits and competitive environment to be more compelling – and are seeing more member adoption of their mobile banking services.

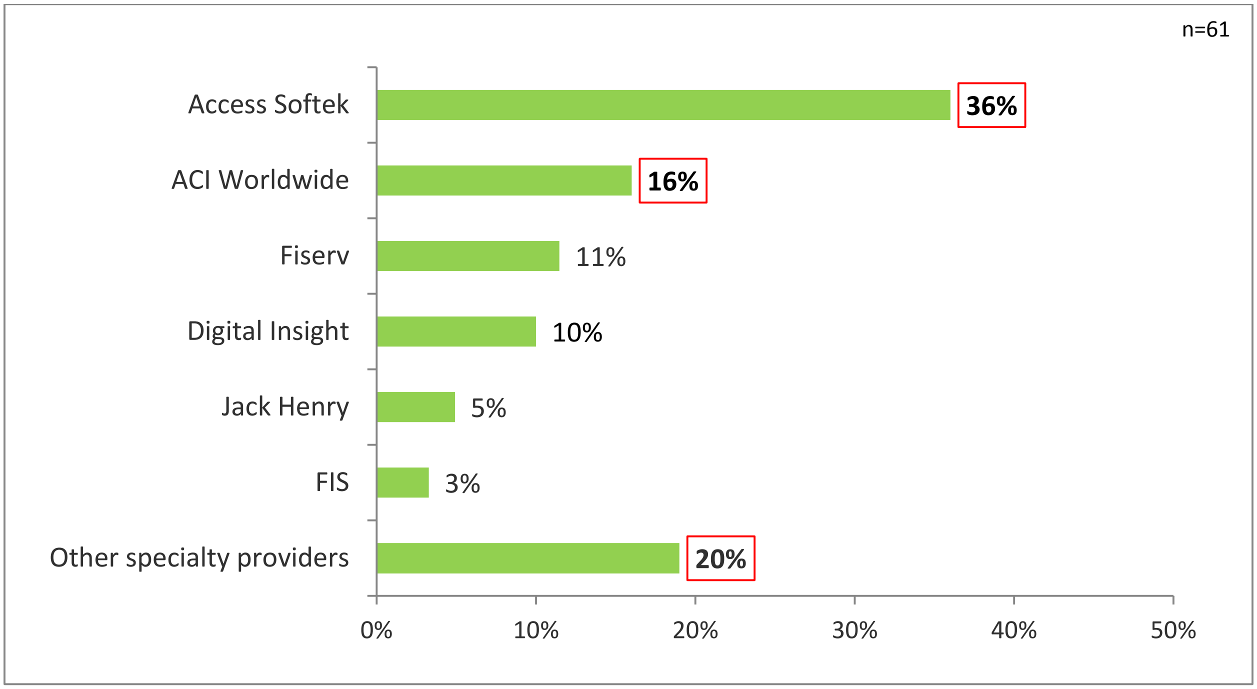
Figure 38: Reasons Credit Unions Do Not Offer Mobile Banking Services

Credit unions with 'No plans to offer mobile banking'		Reasons that influenced credit unions not to offer mobile banking services *(Ranking not used in 2013)*
2014	8 Credit Unions (12%)	• Lack of member demand ranked #1 by three credit unions; and #2 by one • Security concerns and cost/expense each ranked #1 by two credit unions • Regulatory issues ranked #2 by two credit unions • Lack of ROI/business case cited by 3 credit unions (ranked #2 by one) • Lack of cell phone coverage cited by 2 (ranked #5)
2013	7 Credit Unions (11%)	• Cost of implementation (5 credit unions) • Credit union's security concerns (2 credit unions) • Other reasons: lack of member demand; lack of business case/ROI; members' perception of security concerns; regulatory issues

Q30. Please RANK the items that influenced your decision not to offer mobile banking services. Please rank them from 1 to 7 in order of importance with 1 as the most important.

Given the strategic importance of mobile banking for member acquisition and member retention, it makes sense that credit unions are relying on vendors that specialize in mobile banking systems (rather than core processing). One of the biggest surprises in the survey was the extent to which credit unions have eschewed their core banking processors for mobile-savvy specialty providers. Seventy-two (72) percent of credit unions surveyed selected a specialist firm; just 28 percent are offering mobile banking services through their core processing provider (**Figure 39**). As mentioned earlier, this is significantly different from banks, which rely on their core providers for mobile services to a much greater extent.

Figure 39: Mobile Solution Vendors Used by Credit Unions (*% of respondents*)



Q15. What company provides or will provide your mobile banking system?

Mobile Banking Services Offered by Credit Unions

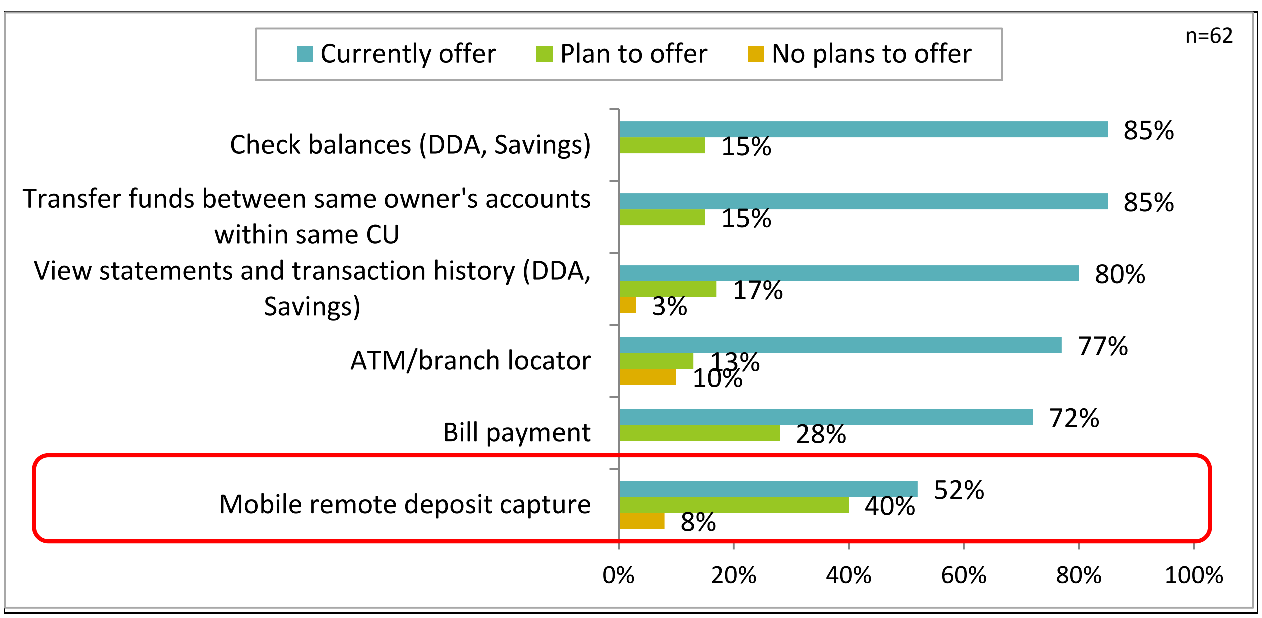
Typically credit unions view the mobile banking services that they offer in the same way as those they offer via the online channel. The services may not be identical, although virtually all of them are, but even those distinct to the mobile channel tend to be seen as an adjunct to existing online capabilities.

Many mobile banking services that credit unions offer may now be considered mainstream in the sense that they are offered by more than 50 percent of respondents. However, some services are just beginning to see traction and remain nascent for many institutions; and credit unions have given an outright “no” to a handful of services. The service with the highest planned growth is person-to-person (P2P) payments (44 percent of respondents).

Figure 40 shows those services that have been implemented or are planned for implementation by more than 50 percent of respondents. With the exception of mRDC, which just tipped over the 50 percent mark, five other services are offered by more than 70 percent of the respondent pool. Comparing credit union and bank results for those FIs currently offering or planning to offer these mainstream mobile banking services, the percentages are remarkably similar.

These “bread and butter” capabilities, which are unchanged from 2013, include the ability to check balances, view statements/transaction history, locate an ATM/branch, and move funds between a member’s own accounts within the credit union. Mobile RDC has skyrocketed from two credit unions in 2008, to 18 in 2013, to 32 respondents in 2014. [Note that a higher percentage of respondents in 2013 supported checking balances (100 percent), transferring funds among accounts of a single owner (96 percent), and viewing statements (85 percent) – underscoring that these really are baseline services for credit unions.]

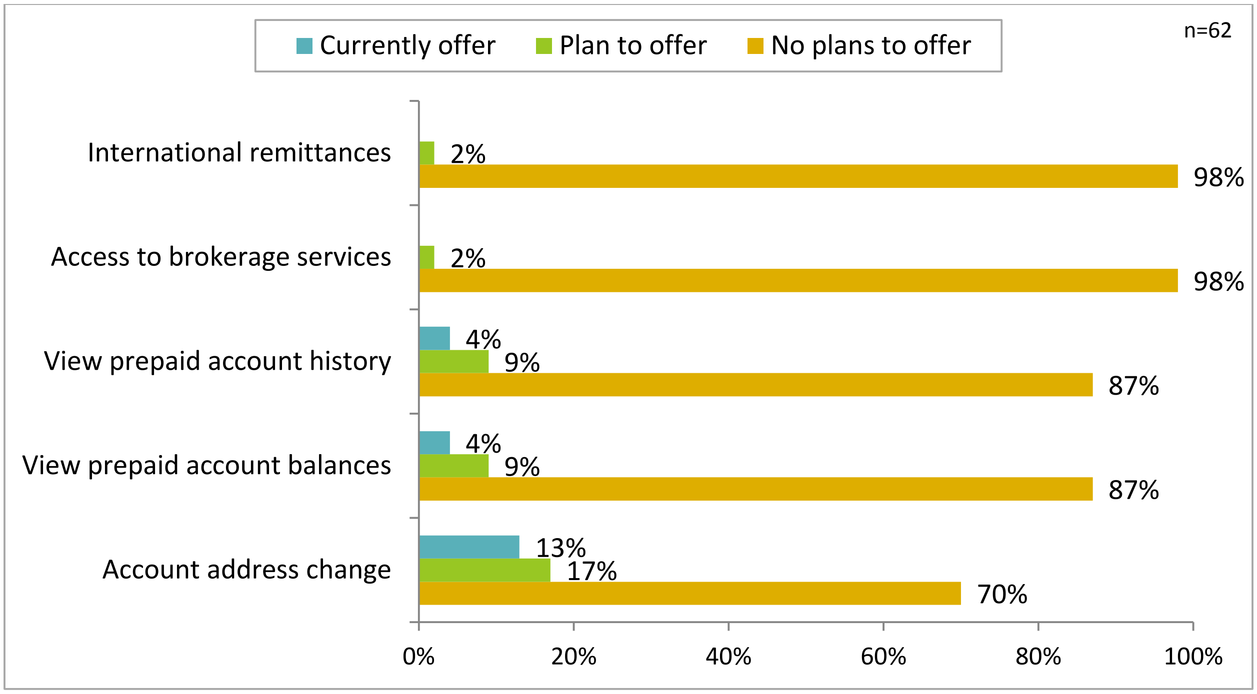
Figure 40: Standard Mobile Banking Services Offered by Credit Unions (*% of respondents*)



Q16. Which of the following mobile banking services do you currently offer or plan to offer?

Figure 41 highlights five services that 70 to 98 percent of respondents have no plans to offer. The overwhelming "no" responses are more indicative of the fact that many credit unions do not offer these services at all than reflective of the mobile channel itself. The one exception – true for banks as well – is "account address change," which is an online convenience feature that 30 percent of credit unions either offer or plan to extend to the mobile channel in the near future. Interestingly, fewer banks (5 percent) than credit unions (13 percent) currently offer or plan to offer the capability to view prepaid account balances and history via mobile.

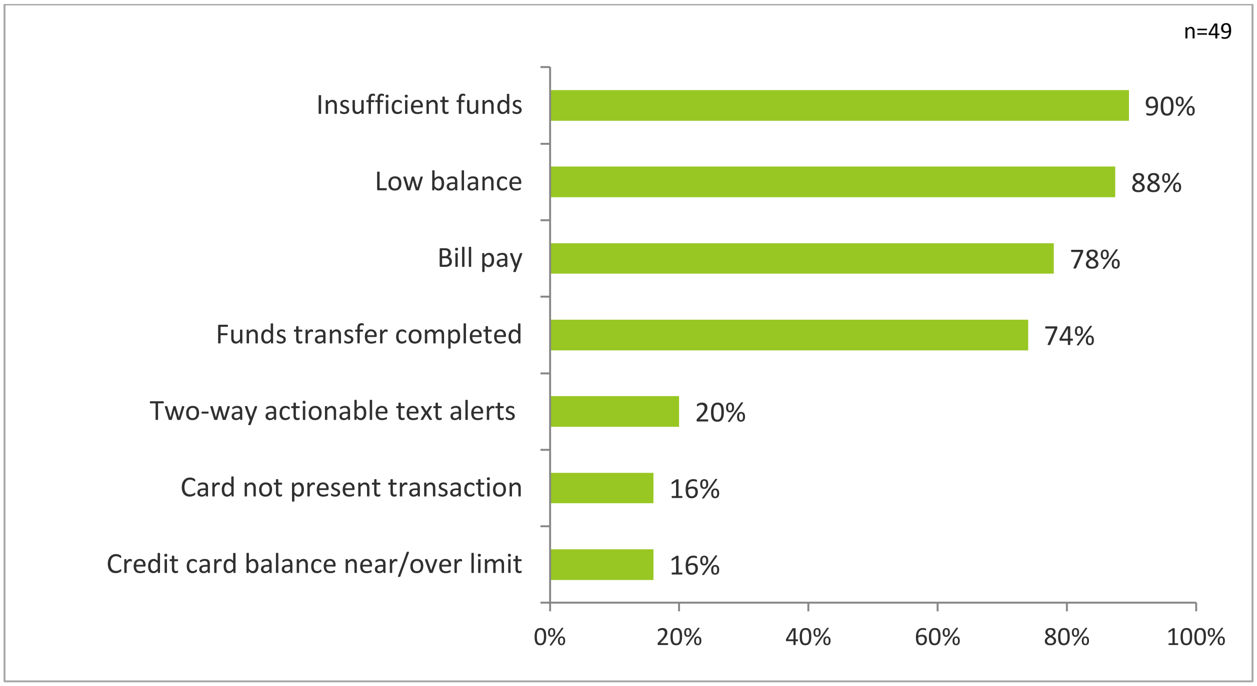
Figure 41: Mobile Banking Services Credit Unions Have No Plans to Offer (*% of respondents*)



Q16. Which of the following mobile banking services do you currently offer or plan to offer?

Mobile also opens the way for credit unions to offer a variety of SMS text alerts, but so far most alerts offered are concentrated in four areas: "insufficient funds" and "low balance" provide warning messages, while "bill payment" and "funds transfer completed" provide informational updates. Other alerts are offered by fewer than 20 percent of respondents (**Figure 42**). The most common alert offered by 44 respondents was for "insufficient funds" (90 percent), followed closely by "low balance" (88 percent). The results are similar to the banks' responses, with one exception: 16 percent of credit unions offer credit card balance alerts, compared to three (3) percent of the banks.

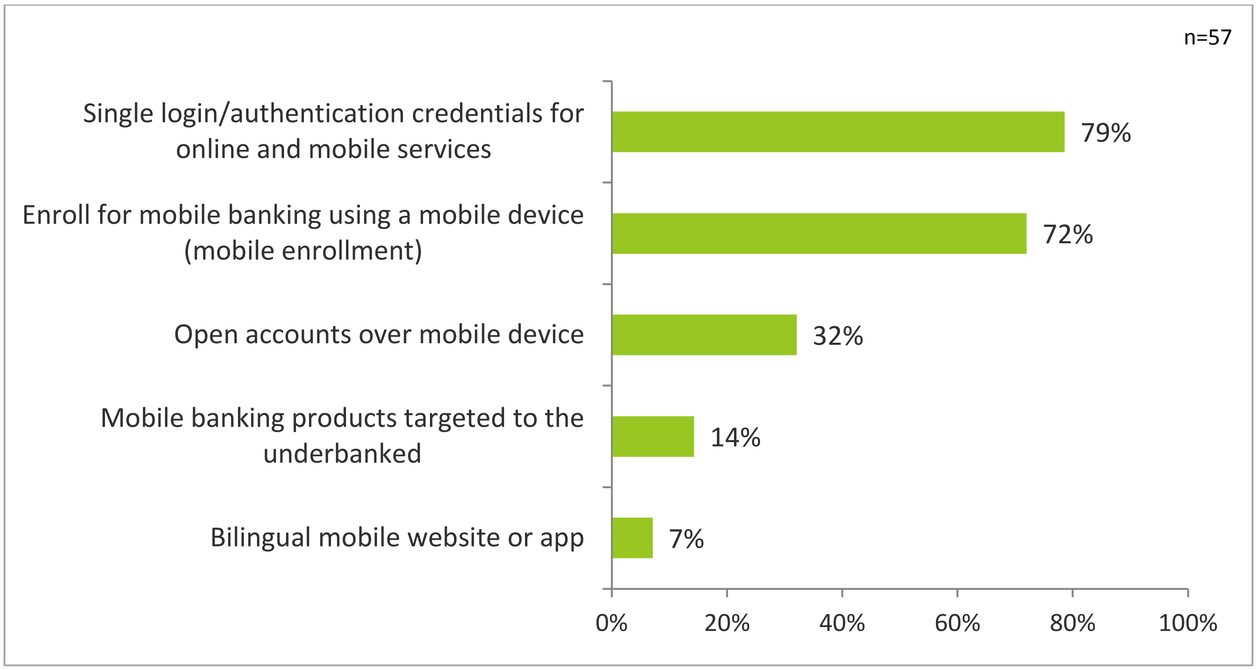
Figure 42: Types of Alerts Offered by Credit Unions (*% of respondents*)



Q18. What types of mobile alerts do you (plan to) offer? (Check ALL that apply)

Two additional mobile capabilities are becoming mainstream, while several others are still not offered by many credit unions (**Figure 43**). The two that have gained traction among about three-fourths of the respondents are "single login/authentication for mobile and online services" (79 percent) and "mobile enrollment" (72 percent). About one-third of the respondents support opening accounts via a mobile device (32 percent). As noted earlier, just eight respondents target underbanked populations with mobile services (even though the underbanked represent about 20 percent of households nationally).[27] Just four respondents offer bilingual services,[28] also considered a product targeted at the underbanked as well as to immigrant populations.

Figure 43: Mobile Banking Services Offered by Credit Unions (*% of respondents*)



Q17. Which of the following mobile banking services do you currently offer or plan to offer?

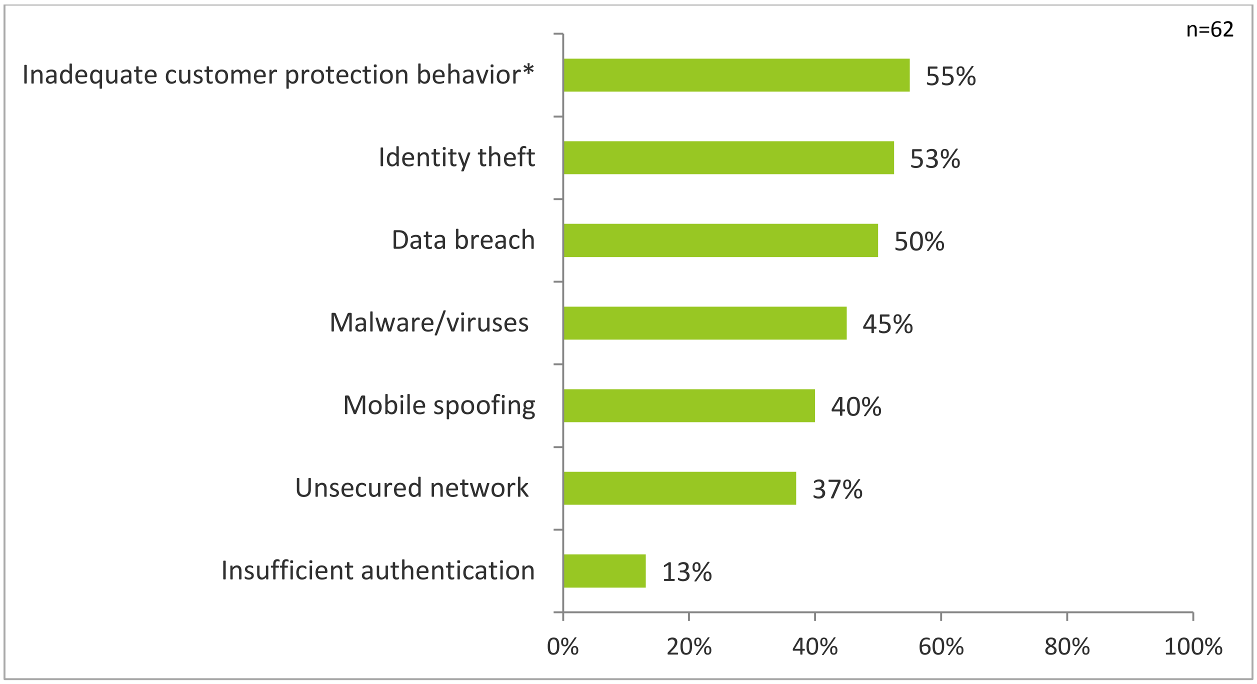
[27] According to the FDIC July 2014 and cited by Jim Marous, "Rethinking the Potential of the Underbanked Segment," on July 28, 2014 in *The Financial Brand.* http://thefinancialbrand.com/41258/underbanked-potential-research-2014/

[28] Credit union respondents offering bilingual services are located in East Hartford and Manchester, CT; Pawtucket, RI; and Salem, MA. Two credit unions have assets greater than $1B; 1 between $100M-500M; and 1 less than $100M.

Credit unions consider security of major importance, which requires investment in security technologies to manage. Respondents' chief security-related concerns are shown in **Figure 44**; mitigating technologies are highlighted in **Figure 45**. Interestingly, credit union respondents (55 percent), similar to bank respondents (57 percent), were somewhat more concerned about their members' "inadequate protection behavior" than any other single topic. In aggregate, however, incursions by fraudsters and other criminals outweigh customer behaviors, although in this case the emphasis on a given concern is quite different from that of the banks.

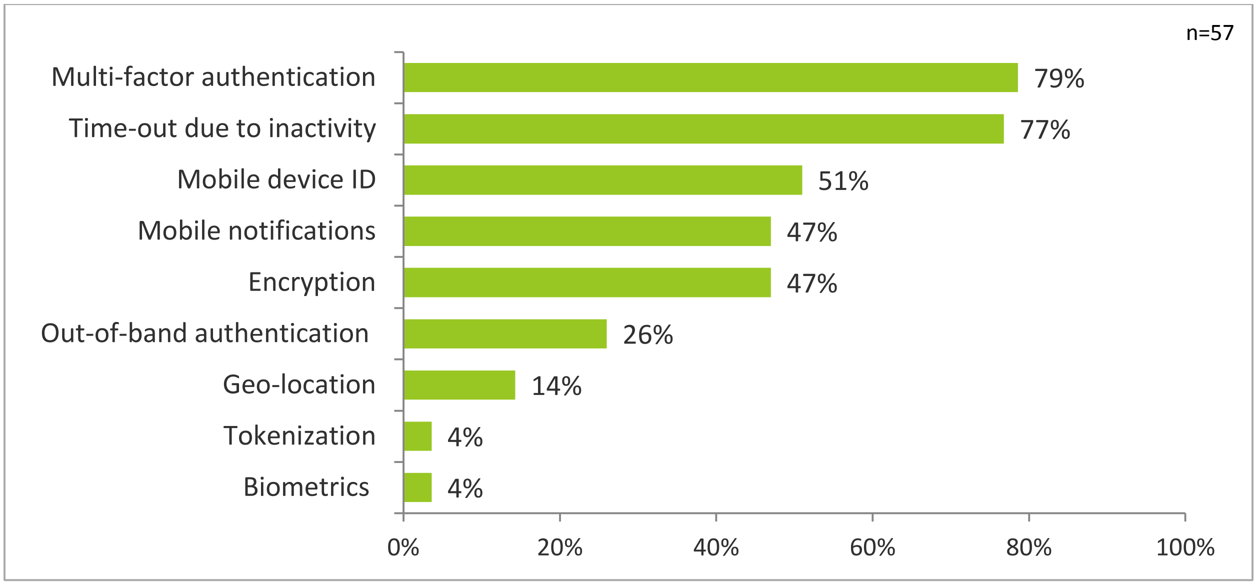
The only minor concern noted, "insufficient authentication," is "minor" simply because respondents have implemented a wide range of automated and/or layered controls. Seventy-nine (79) percent of credit unions are now using multi-factor authentication as required by the NCUA and the FFIEC for all financial institutions – surprisingly topping "inactivity timeout," which was selected by 77 percent of the group.

Figure 44: Mobile Banking Security Concerns of Credit Unions (*% of respondents*)



Q19. Please select your FI's TOP THREE security related issues or concerns associated with mobile banking.
**New answer choice in 2014 survey.*

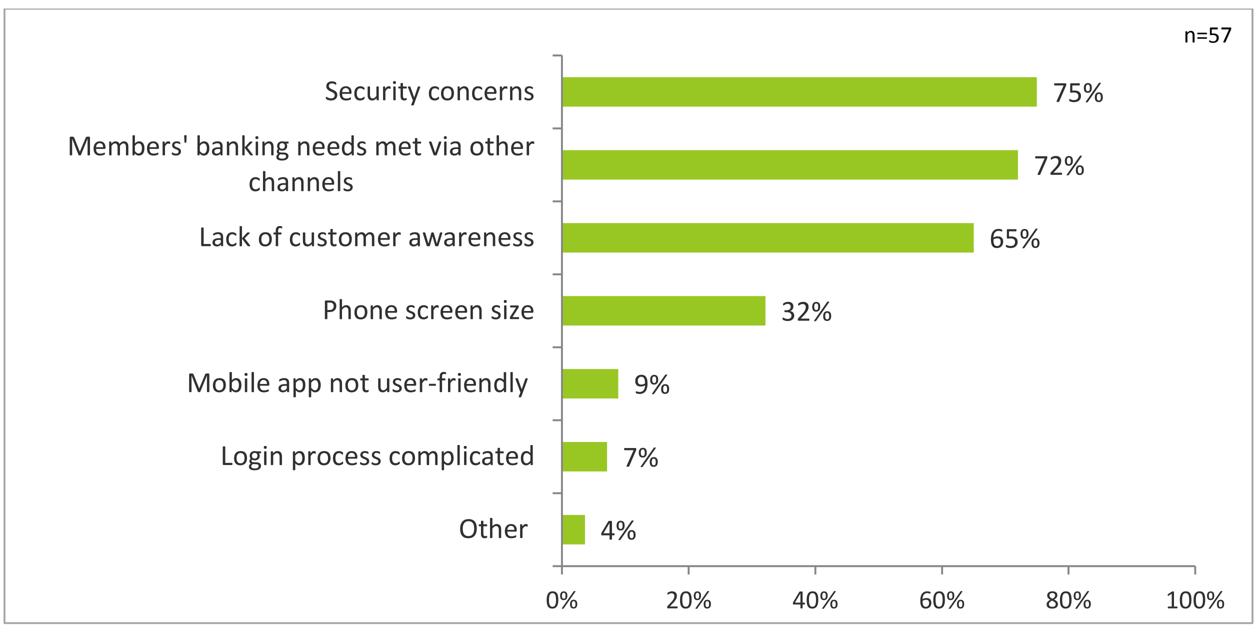
Figure 45: Methods Used by Credit Unions to Enhance Mobile Security (*% of respondents*)



Q20. Which of following does your FI currently use/plan to use to enhance mobile security? (Check ALL that apply)

Seventy-five (75) percent of credit union respondents also view security issues as an impediment to greater member adoption of mobile banking services (**Figure 46**). There are, however, other issues that credit unions believe are hindering adoption, including the fact that members have other ways to satisfy their banking needs (72 percent) and as yet have a limited awareness of mobile banking services (65 percent).

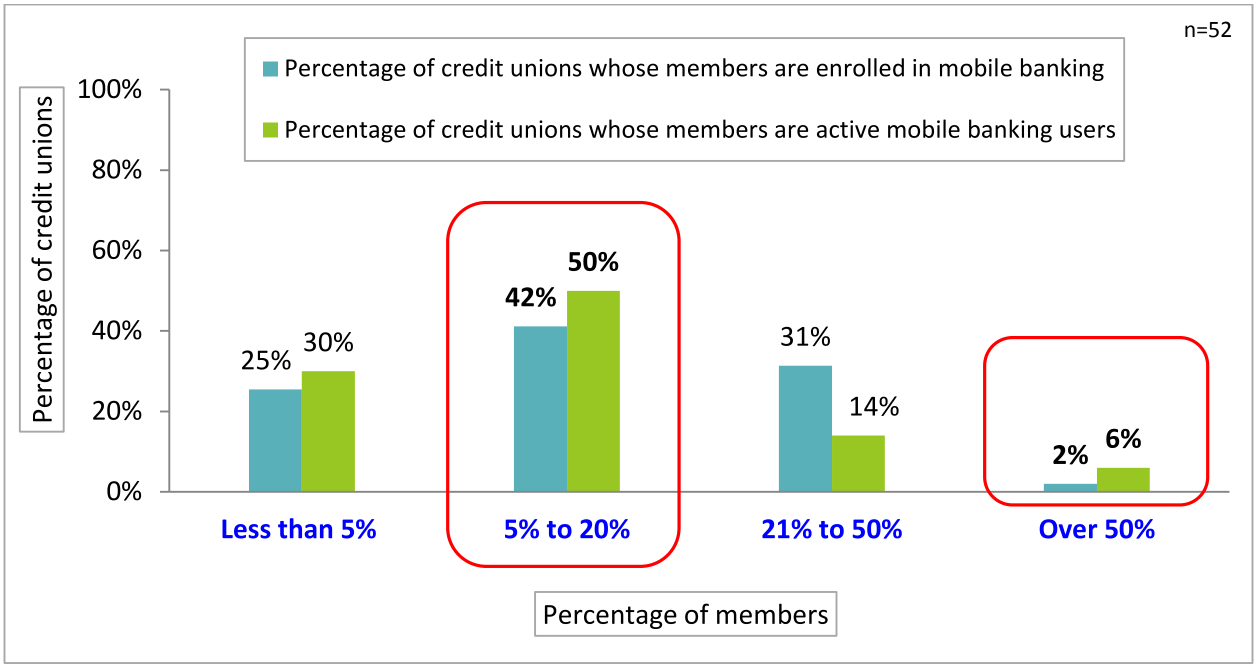
Figure 46: Top 3 Issues Hindering Member Adoption of Mobile Services (*% of respondents*)



Q25. What are the THREE most common reasons you believe are preventing greater customer adoption of mobile banking? (Check THREE only)

Member adoption of mobile services, however, is thriving. This is a sea change in the market. For the first time in the history of this survey (i.e., since 2008), and even since 2013, credit unions are reporting that consumer adoption, as well as enrollment, has moved out of the 'less than 5%' adoption quartile and into the "5% to 20%" range. Forty-two (42) percent of respondents have members enrolled and 50 percent have active users at this level. Six (6) percent of credit unions actually have "over 50%" of their consumer members actively using their mobile banking services (**Figure 47**).[29]

Figure 47: Consumer Adoption of Credit Unions' Mobile Banking Services

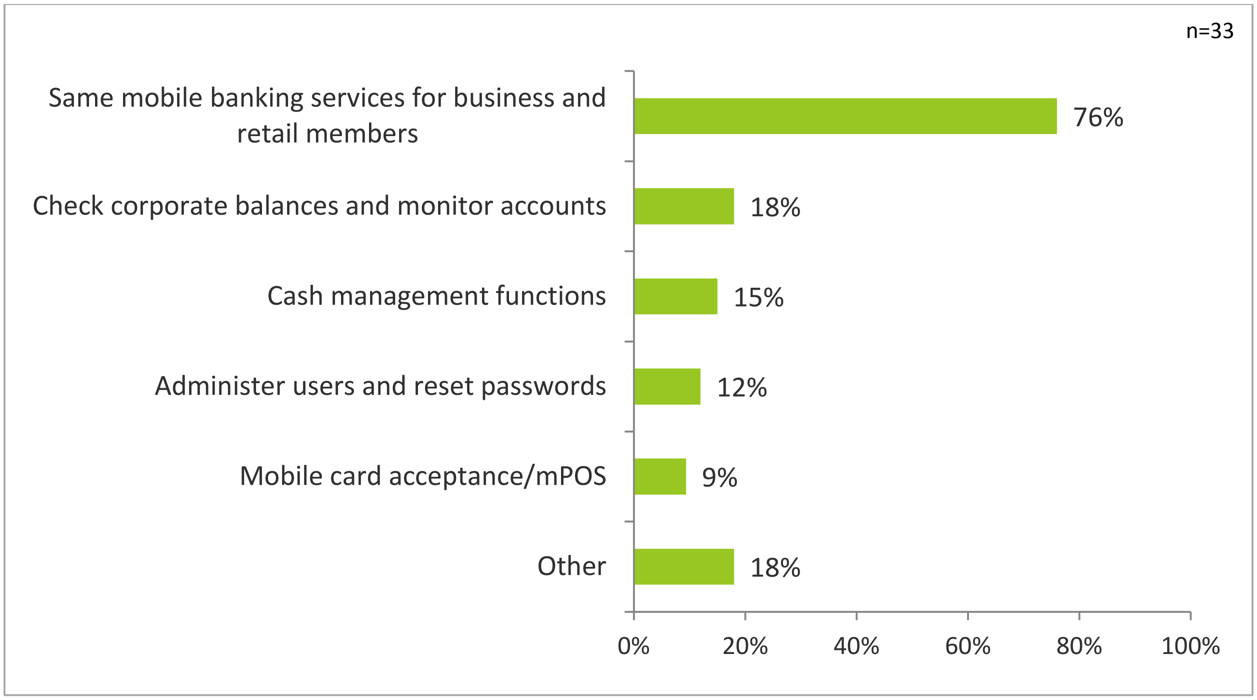


Q24. What percentage of your retail customers has used your mobile banking services?

[29] Active user is defined as a consumer or business that has used the financial institution's mobile banking services at least once in the previous 90 days.

Adoption by businesses should continue to increase because almost 30 percent of credit unions are now differentiating the services that they offer to businesses (**Figure 48**), although 76 percent of credit union survey respondents are offering or planning to offer the same services to all members, consumer and business alike. The business-focused services include the ability to check corporate accounts, cash management functions, and administrative privilege setup. With the exception of the last service, the other services are substantially the same as those for consumers – typically with modified verbiage but a similar look and feel – all are offered by fewer than 18% of the respondents.

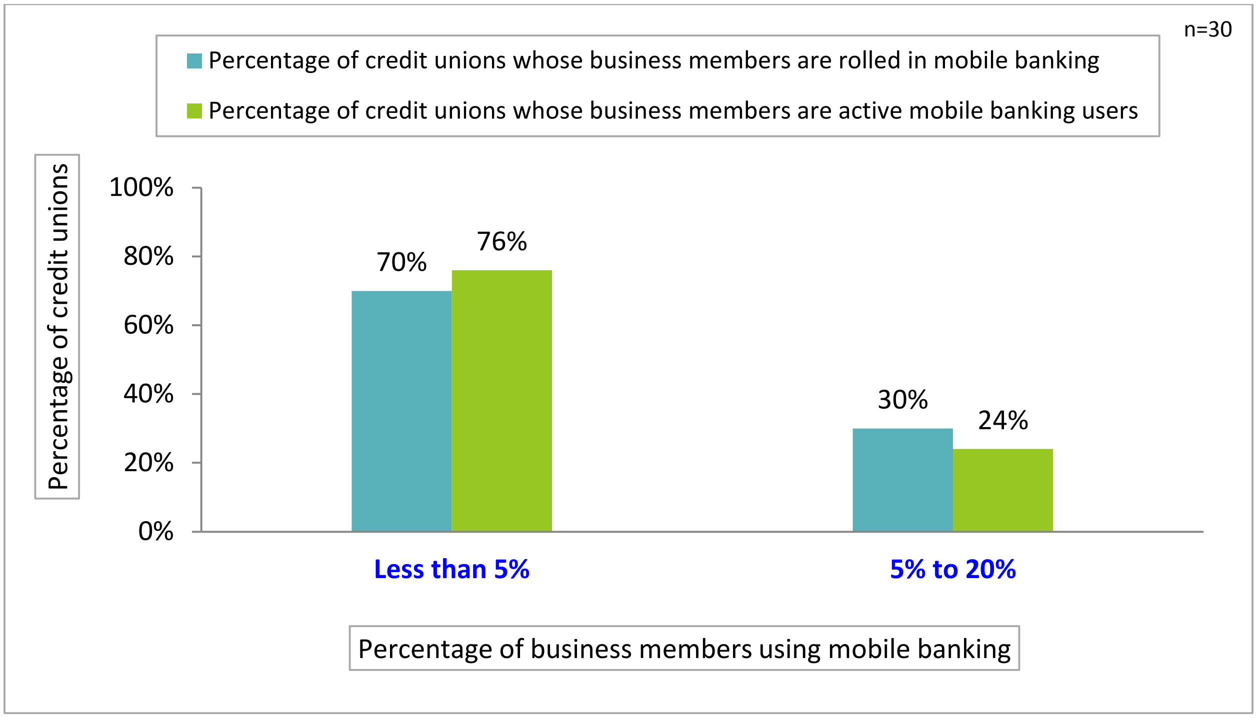
Figure 48: Mobile Banking Services Offered by Credit Unions to Business Members (*% of respondents*)



Q26. What additional mobile banking services do you (plan to) offer your commercial customers? (Check ALL that apply)

Adoption by businesses is promising within those institutions that have business members. Although mobile services were offered later to businesses than to consumers, rollout to business members is accelerating. Among the 30 respondents that provided information, 76 percent have "less than 5%" of their businesses actively using their mobile services, while 24 percent have "5% to 20%" of their business base actively using mobile banking. On the enrollment side, 70 percent of respondents have fewer than five (5) percent enrollment and 30 percent have up to 20 percent enrollment of business members. (Refer to **Figure 49** below.)

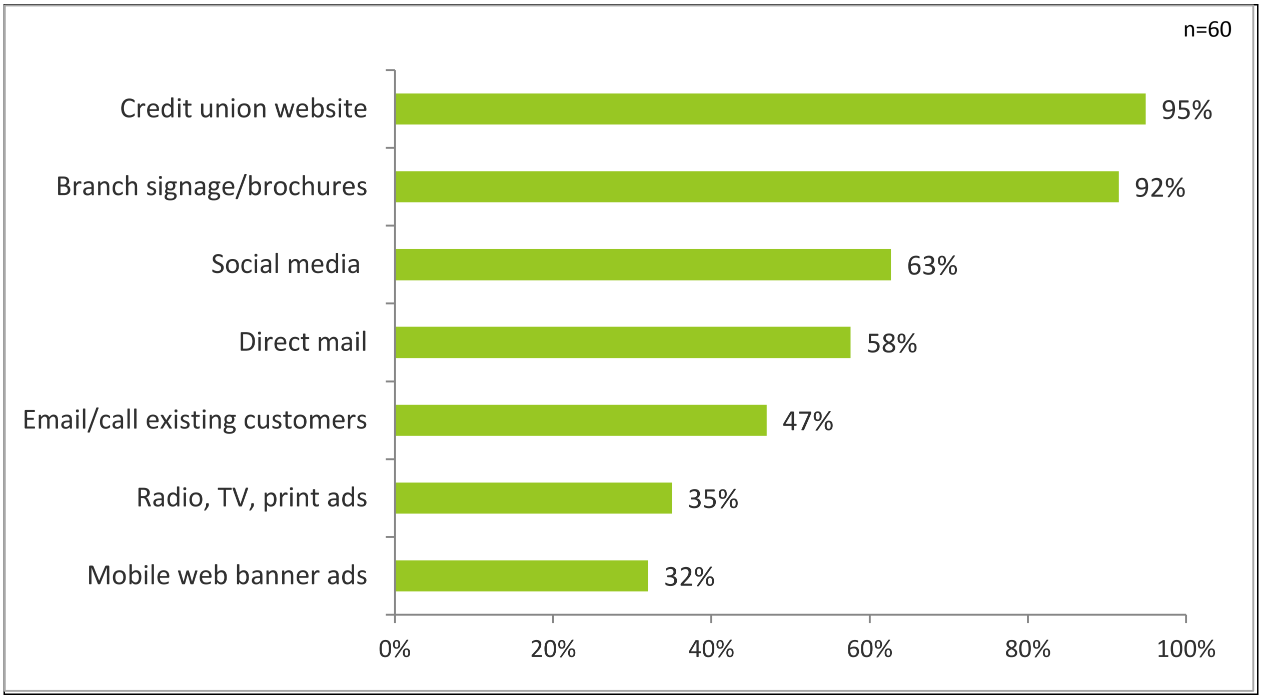
Figure 49: Business Adoption of Credit Unions' Mobile Banking Services



Q27. What percentage of your commercial customers has used your mobile banking services?

Another reason for increased adoption by consumers and businesses appears related to a change in the way credit unions are promoting their mobile banking services (**Figure 50**). Reliance on promoting on other websites/apps (e.g., radio, TV, and print media and mobile web banner ads) fell 20 percent from 2013, while promotion on the credit union's own website is now done by 95 percent of credit union respondents (and 96 percent of banks). Other marketing and promotion methods used by more than 50 percent of credit unions included in-branch promotion (92 percent), social media (63 percent), direct mail/statement stuffers (58 percent) and email/phone calls to existing members (47 percent).

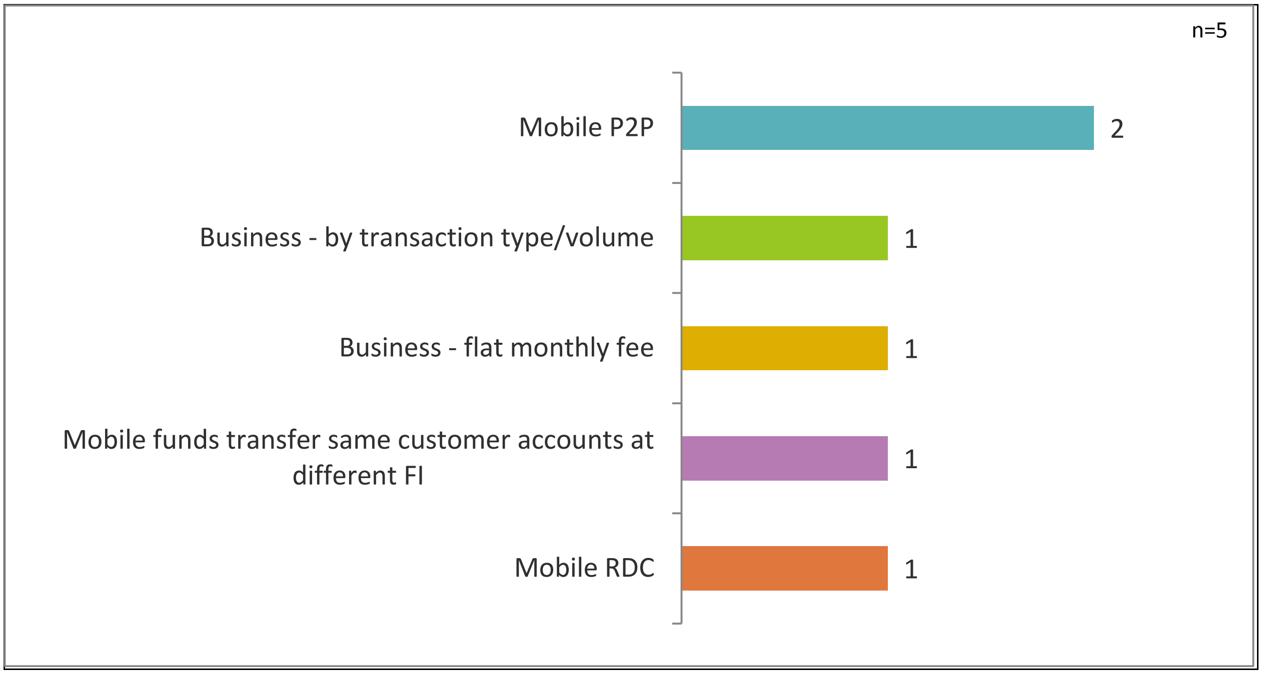
Figure 50: Marketing Methods Used by Credit Unions (*% of respondents*)



Q23. How do you (plan to) market your mobile banking services? (Check ALL that apply)

Ultimately one fact about mobile banking services remains static: most credit union respondents, like most U.S. financial institutions, are not charging their members for information received or delivered via the mobile channel (**Figure 51**). Just five credit unions are charging a fee for emerging services, and, in one case, to commercial members. This data is virtually identical to 2013's.

Figure 51: Mobile Banking Services of Credit Unions Remain a Free Service (*# of respondents)*



Q29. Please indicate ALL services for which you (plan to) charge a fee. (Check ALL that apply)

VI. Mobile Payments Results[30]

For this survey we defined mobile payments as the use of a mobile phone to pay for purchase at retail point of sale (POS) or food service location, on the Internet for goods and services or digital content, or to pay for transit, parking or other transportation services, ticketing, etc. Payment may be initiated via mobile internet, downloadable app, contactless near field communication (NFC), quick response (QR) code, and/or SMS text message.

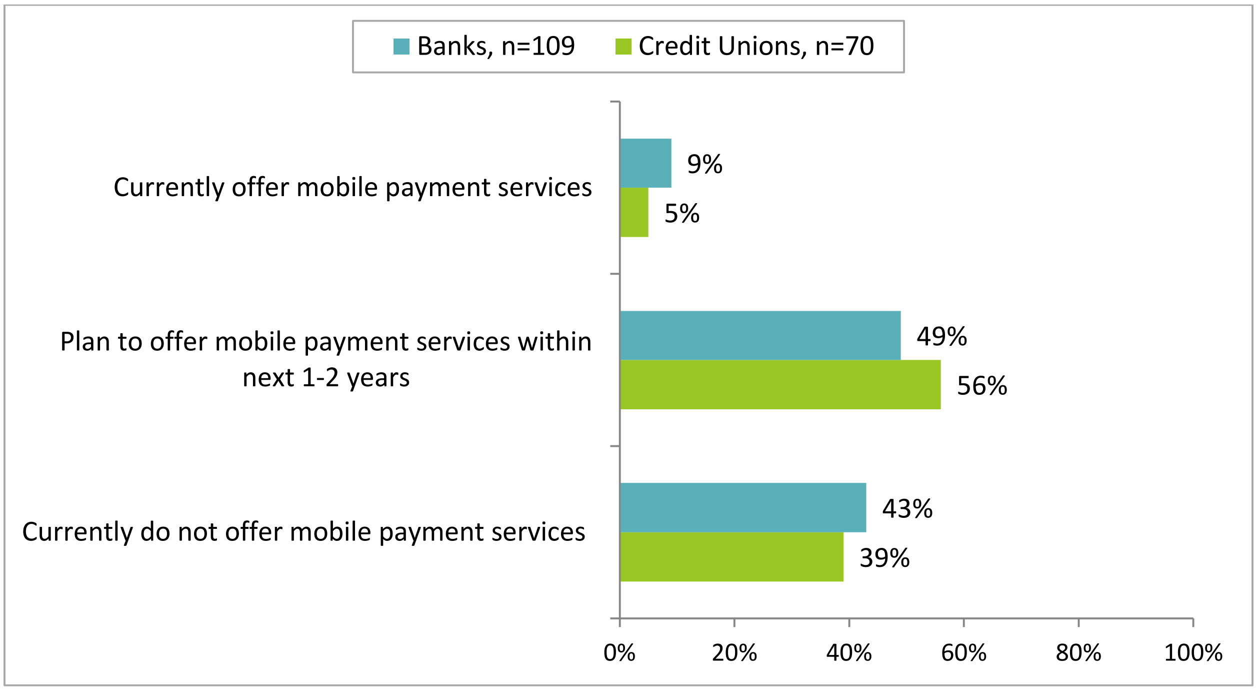
This section of the report covers six questions in the survey that asked for information about mobile payment services. Many of these services are still emerging within the industry as a whole in the U.S., so it was not to be expected that financial institutions in New England would as yet be active in the mobile payments space. The questions related to mobile payments, therefore, were forward looking, focused on "plans" rather than implementation.

[30] This survey was conducted three months before the launch of *Apple Pay*, which is a mobile wallet designed for iPhone 6/6 Plus users in the U.S. to make payments with their mobile phones, both at POS and within participating apps, using near field communication (NFC). To enhance security, Apple Pay stores a token instead of the actual credit/debit card account number in the secure element chip in the phone to process a payment transaction.

Interest in offering retail mobile payments among financial institutions in New England has increased since 2013 **(Figure 52).** Five (5) percent of respondent credit unions, or four institutions, indicated that they offer mobile payments today: three have offered payments for more than 12 months. (This compares to six respondents in the 2013 survey.) Nine (9) percent of bank respondents, or nine institutions, indicated that they currently offer mobile payments: four have offered payments for more than 12 months.

The major change that has taken place in the past 12 months, however, is the shift from financial institutions with "no plans to offer" to those that are "planning to offer" mobile payments within the next 12 to 24 months. For credit unions, the percentages are virtually reversed: from 55 percent and 35 percent, respectively, in 2013, to 39 percent and 56 percent in 2014. The percentage of banks planning to offer mobile payments increased from 34 percent in 2012 to 49 percent in 2014. Similarly, the percentage of bank respondents reporting "no plans to offer" decreased 21 percentage points from 64 percent to 43 percent during the 18 month period between surveys.

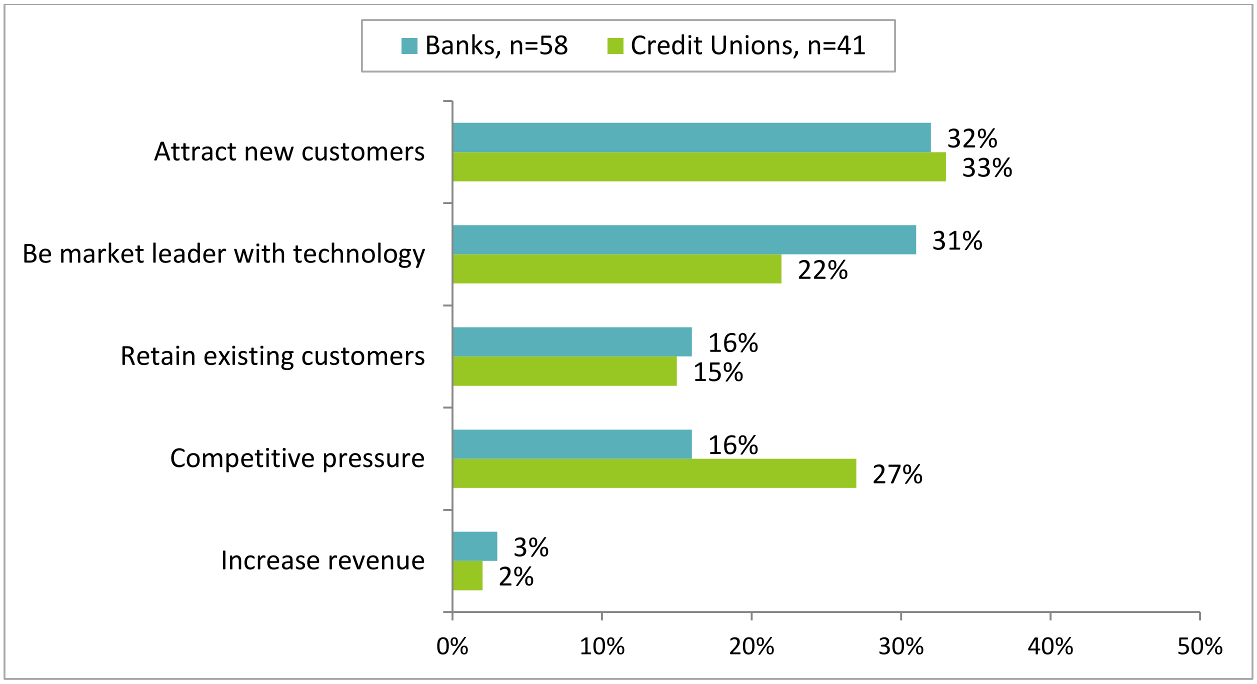
Figure 52: Status of Financial Institutions Offering Mobile Payment Services (*% of respondents*)



Q31. Do you (plan to) offer mobile payment services to your customers? (Check ONE)

Financial institutions offer retail mobile payments for different reasons from why they offer mobile banking. Both bank and credit union respondents indicated the top two business reasons for offering mobile payment services were to attract new customers (32 percent and 33 percent, respectively) and to be a market leader with technology (31 percent and 22 percent, respectively) (**Figure 53**). As FIs stabilize their mobile banking presence, they are leveraging their experience to develop mobile payment strategies to attract new and presumably younger customers, given the demographics of mobile payment users. While competitive pressure was cited by the greatest number of respondents as their primary reason to offer mobile banking services, FIs perceive it as a less compelling reason to offer mobile payment services.

Figure 53: Business Drivers for Offering Mobile Payment Services (*% of respondents*)

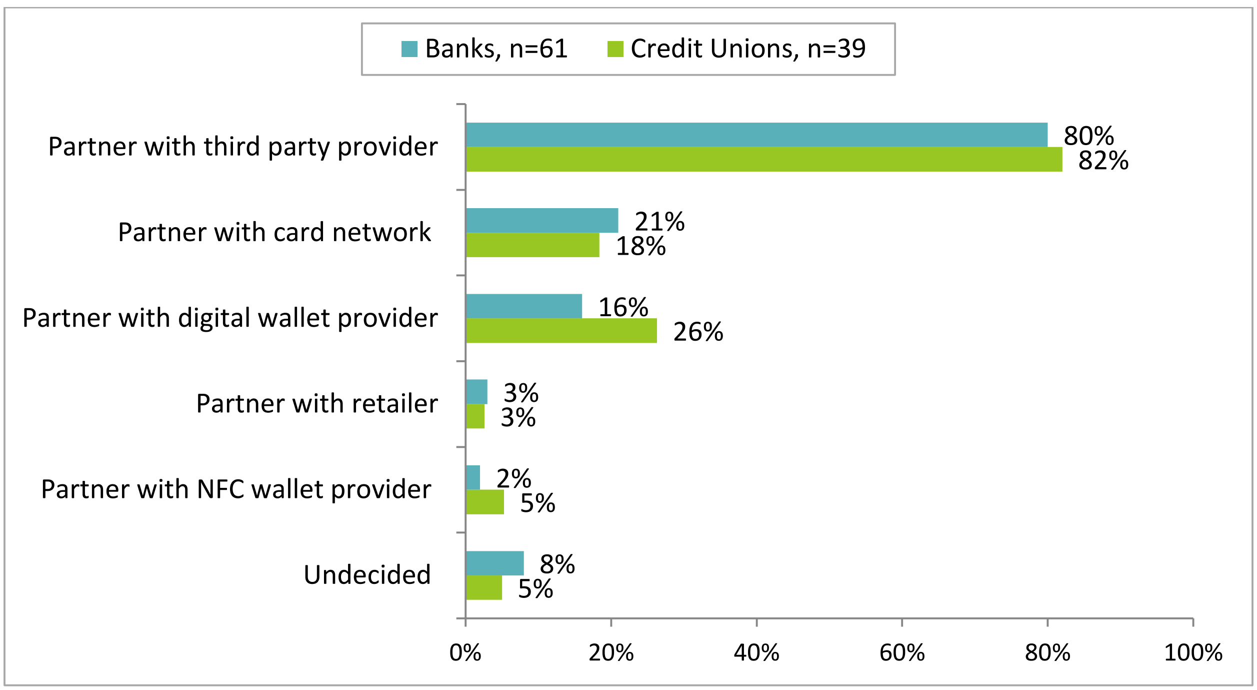


Q34. If you (plan to) offer mobile payment services, what is your primary business reason? (Check only ONE)

Financial institution respondents (61 banks and 39 credit unions) offering or planning to offer mobile payment services responded with surprising unanimity as to how they would deliver payment services (**Figure 54**). Eighty (80) percent of banks and 82 percent of credit unions said "partner with a third party provider" – a response choice that was not available in the 2012/2013 survey. (This high response may include some of the more specific choices presented as well, since third party providers could include wallet providers in some cases.)

But the change is deeper than this. In 2014, just 18 percent of credit unions and 21 percent of bank respondents said they would "partner with a card network" compared to 41 percent in 2013 and 47 percent in 2012, respectively. The number of financial institutions that indicated "partner with a NFC wallet provider" also declined: credit unions choosing this strategy fell almost 21 percentage points from 2013 to 5 percent in 2014; banks from 18 percent in 2012 to two (2) percent in 2014. 'Other' financial institutions noted that they have not reached a decision. None of the respondents indicated plans to partner with transit authorities or develop their own in-house mobile payment solution.

Figure 54: Financial Institution Strategies for Offering Mobile Payments (*% of respondents*)

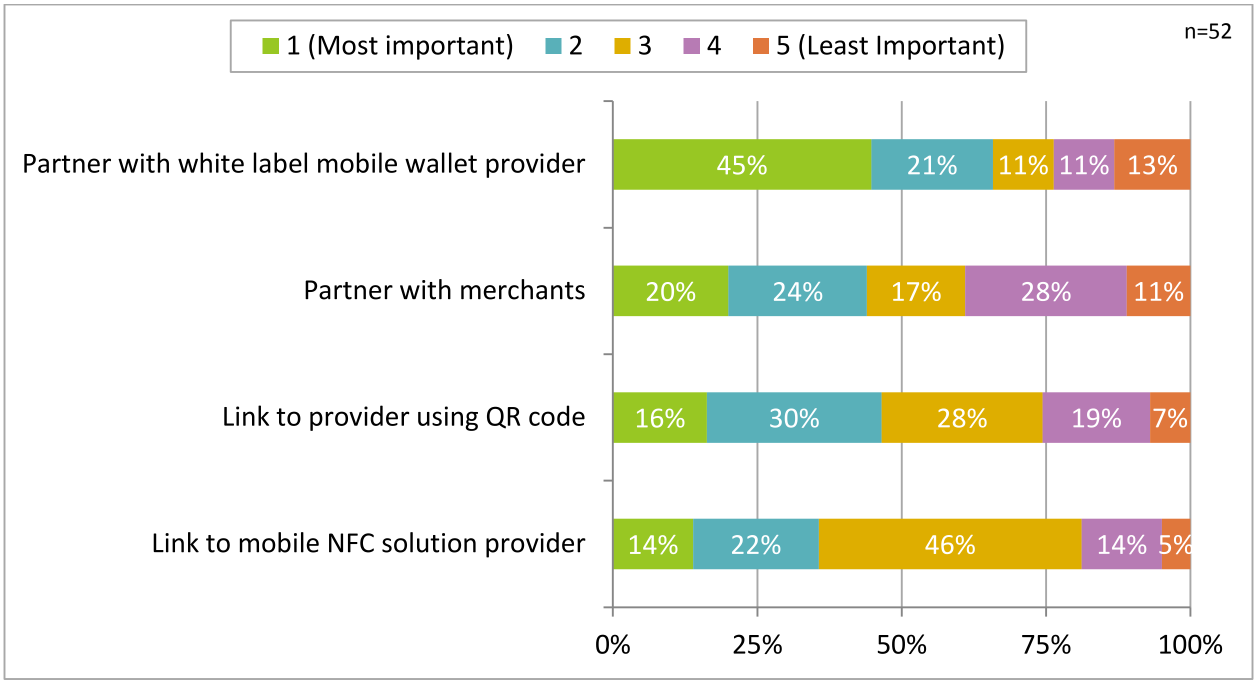


Q32. How do you (plan to) offer mobile payment services? (Check ALL that apply)

There are a few white label mobile wallet providers in the market today that already work with some FIs, and banks perceive the greatest value in partnering with them to offer mobile payment services as part of their mobile banking app and to preserve their bank brand (**Figure 55**).

Most important	Partner with a white label mobile wallet provider:	45%
2nd most important	Link to provider using QR code	30%
3rd most important	Link to mobile NFC solution provider	46%
4th most important	Partner with a merchant	28%

Figure 55: Ranking of Value of Mobile Payment Services by Banks (*% of respondents*)

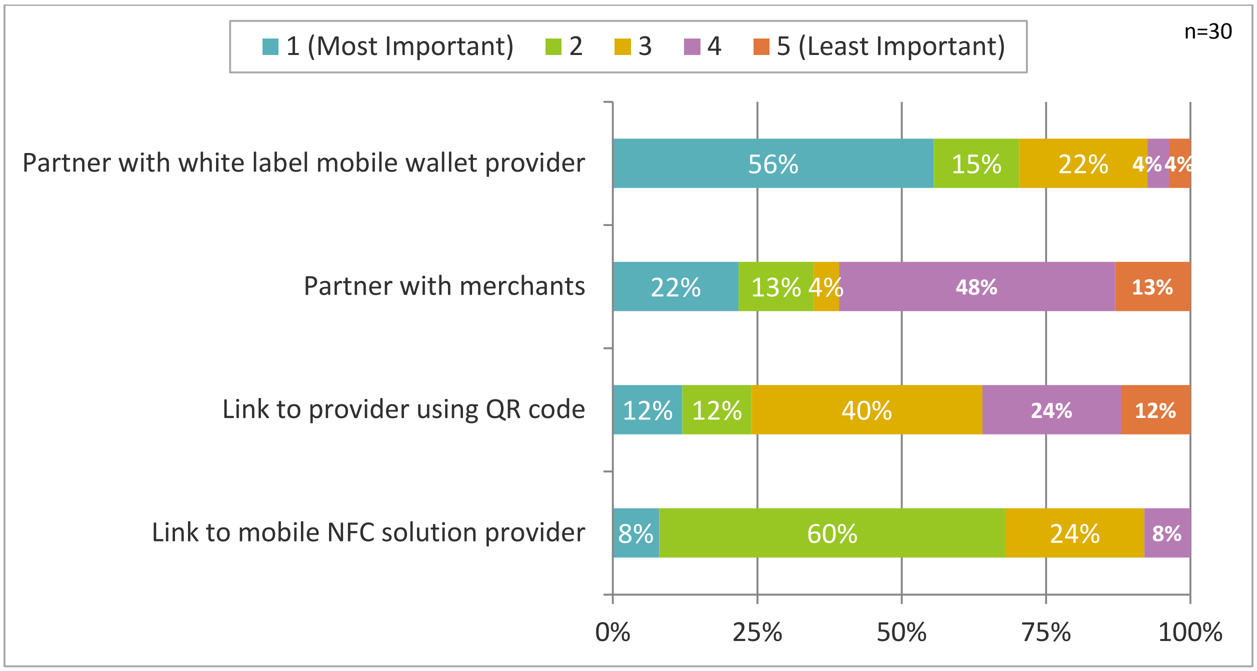


Q33.Please RANK the mobile payment services below based on your perception of the value of offering them as part of your mobile banking app from 1 to 5 in order of importance with 1 as the most important.

The interest in a partnership with a white-label mobile wallet provider is even more apparent from credit unions' ranking of mobile payment services based on their *perception of the value* of offering such services as part of their mobile banking app (**Figure 56**). Although only 27 credit union respondents participated in the ranking, a clear pattern of first, second, third, and fourth rankings[31] shows in the responses (from highest to lowest):

Most important	Partner with a white label mobile wallet provider:	56%
2nd most important	Link to mobile NFC solution provider:	60%
3rd most important	Link to provider using QR code:	40%
4th most important	Partner with a merchant	48%

Figure 56: Ranking of Value of Mobile Payment Services by Credit Unions (*% of respondents*)

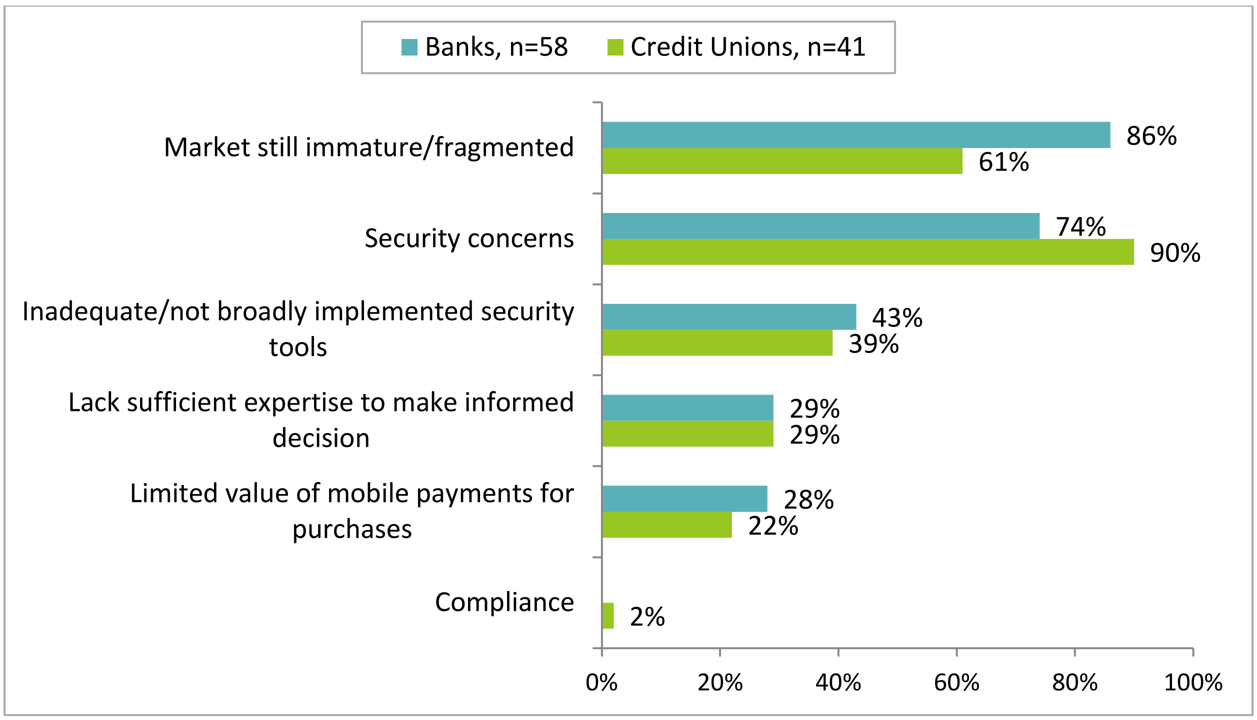


Q33.Please RANK the mobile payment services below based on your perception of the value of offering them as part of your mobile banking app from 1 to 5 in order of importance with 1 as the most important.

[31] Note that these are the percentage of respondents that ranked a given service as first, second, third, or fourth, not total votes for a given choice. ("Other" rankings have been excluded from the data.)

Not surprisingly in such a new and dynamic market, financial institutions perceive a number of barriers in offering mobile payment services for purchases by their customers (**Figure 57**). Banks and credit unions both rank security and market fragmentation as the top two barriers. Banks view market fragmentation (86 percent) to be a greater barrier than security (74 percent) in offering mobile payments for purchases. In contrast, security tops the list of concerns for credit unions, with 90 percent of respondents indicating that security is an issue for them. Two-thirds (61 percent) of credit unions believed that the market is still too fragmented and immature to offer a mobile purchase-payment option – the sole barrier selected by nine respondents. Nearly one-third (29 percent) of FIs indicated that they "lack sufficient expertise to make [an] informed decision," and approximately one quarter of respondents find little value in mobile purchase payments.

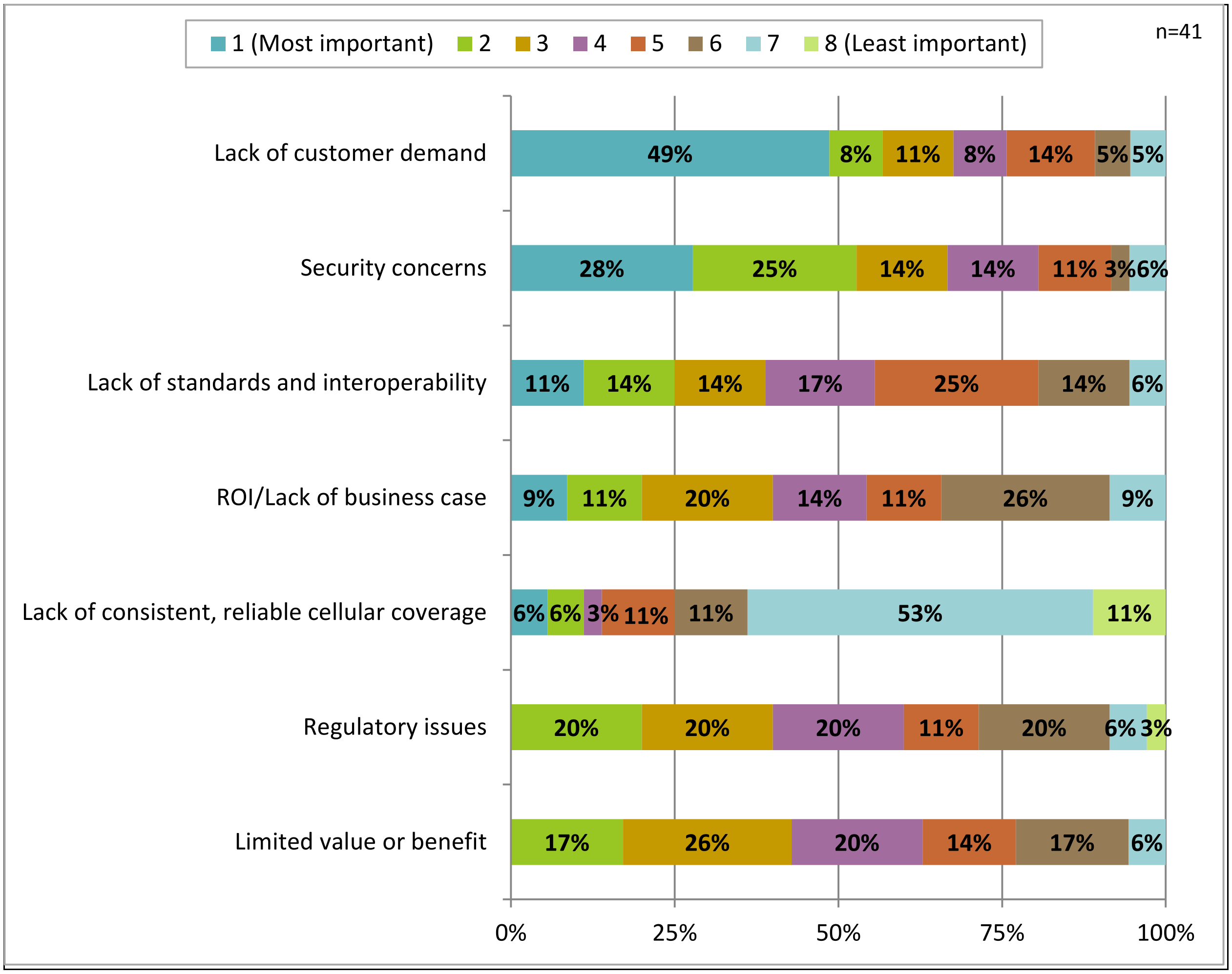
Figure 57: Perceived Barriers to Offering Mobile Payment Services (*% of respondents*)



Q35. Which barriers do you see to offering mobile payments for purchases (Check ALL that apply)

Of the forty-one banks that answered this question, almost half (49 percent) ranked "lack of customer demand" as their most important reason for not offering mobile payments **(Figure 58).** Fifty-three (53) percent ranked "security" as most important or second most important (28% and 25% respectively). Rankings of other reasons, such as ROI, lack of standards and interoperability, limited value, and regulatory issues, were fairly distributed across the rankings from most to least important. Consumer adoption and security of mobile payments go hand-in-hand in terms of industry efforts to increase awareness and adoption. Complicating the situation, however, is the need for merchants to be active participants and to accept the mobile payment solutions for consumers to use.

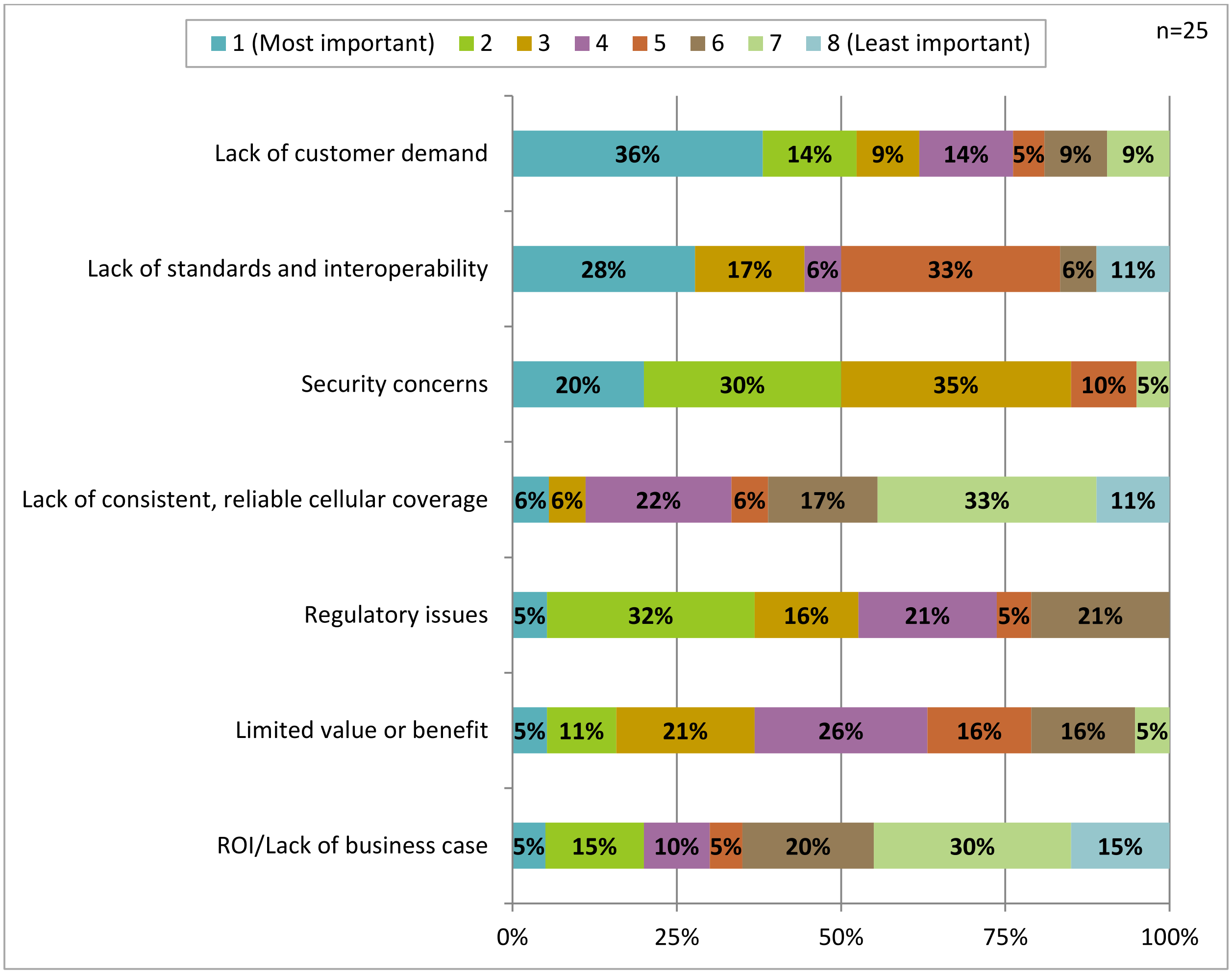
Figure 58: Ranking of Reasons Not to Offer Mobile Payments by Banks (*% of respondents*)



Q36. Please RANK the items that influenced your decision not to offer mobile payment services. Please rank them from 1 to 8 in order of importance with 1 as the most important.

Interestingly, the key barrier preventing credit unions from offering mobile payment services is "lack of member demand," for which 22 respondents, 36 and 14 percent respectively, ranked as *most* or *very* important (a "1" or "2" rating). And "ROI/lack of business case," the flip side of "lack of demand," took the number two ranking. Three credit unions each selected "lack of member demand," "lack of standards," and "regulatory issues" as their second highest rating. (All rankings are shown in **Figure 59**.)

Figure 59: Ranking of Reasons Not to Offer Mobile Payments by Credit Unions (*% of respondents*)



Q36. Please RANK the items that influenced your decision not to offer mobile payment services. Please rank them from 1 to 8 in order of importance with 1 as the most important.

VII. Commonalities & Differences

Despite the fact that banks and credit unions have inherently different structures, they often approach their customers/members in similar ways, particularly the smaller FIs. There are finite ways to think about and implement mobile banking and payment services among all but a few financial institutions. Certainly in New England, there is, on the whole, unanimity in many aspects of mobile services – a unanimity shaped by the mobile environment and local competitive pressures.

Several of the major commonalities that were observed in the 2014 survey data include:

Commonalities

- Banks and credit unions see common benefits to offering mobile banking, including customer retention (75 percent of banks and 70 percent of credit unions); increased efficiency (39 and 42 percent); decreased operations costs (20 and 20 percent); and increased transaction volume (26 and 33 percent)
- They perceive the same primary barriers to implementation and rollout: security issues and a lack of customer demand
- All FIs view mobile banking as essential to retain existing customers/members
- Banks and credit unions have an almost identical approach to marketing, focusing on their own websites (96, 95 percent), their branches (89, 92 percent), and to a lesser extent, social media (58, 63 percent)
- As FIs gather experience, the "triple play" is losing its hold and institutions are recognizing that mobile apps are the future for mobile banking services - concurrently, development of apps for tablet PCs is growing rapidly
- FIs are assessing both a single login for online and mobile services, and mobile enrollment; both are capabilities requested by customers
- Respondents still have little interest in providing multi-language capabilities; and only a few indicate activities targeted for the underserved/underbanked
- Banks and credit unions are rolling out new mobile banking services to consumers, but are just beginning to address the unique needs of businesses; to-date, the same services are being offered to all customer segments
- Credit unions and banks are interested in mobile payments, but security and market fragmentation are still fostering uncertainty in determining whether to implement such services in the near-term

Differences

- Some credit unions do not have business members and/or have a defined focus (e.g., municipal fire-fighters) that makes their approach to mobile banking services different from that of banks
- Although respondents view mobile banking as important to customer retention, credit unions, for the first time in survey history, rated new member acquisition more highly
- While banks somewhat increased their focus on offering "triple play" platforms, credit unions reduced their focus in this area

- With respondents now offering the standard basic services, banks and credit unions are beginning to emphasize different services (e.g., personal financial management by banks) and approaches (e.g., use of “specialty” vendors by credit unions; stronger commercial focus by banks)

VIII. Conclusions & Recommendations

The 2014 survey, similar to the one done in 2012/2013, highlights how changes in the mobile landscape are shaping the mobile banking services that banks and credit unions in New England are offering to their consumer and business relationships – and how these institutions are assessing mobile payment services. Unlike previous surveys, however, this new survey underscores the rapidity with which mobile technology, competition, and a new comfort level with mobile are driving change.

Conclusions

Clearly there are broad conclusions that can be drawn.

First, not only is there is an expectation by consumers but there is also a recognition by financial institutions that services delivered through the mobile channel must approach the robustness of those delivered online. Put simply, mobile banking is now a “baseline” standard service that FIs in the region must offer. This situation does not yet apply to mobile payment services, however, which still lack sufficient traction in the marketplace and involve other industry stakeholders in addition to FIs. The introduction of Apple Pay for point-of-sale purchases is anticipated to change this situation by providing a rationale both for its iPhone 6 users to make mobile purchases and for merchants to enable NFC on POS terminals. Additionally the market has coalesced around a standard set of services that FIs are expected to offer via the mobile channel.

Second, although many credit unions were earlier adopters, banks now lead in mobile banking implementation rates. Between the 2013 and 2014 surveys, credit unions added mobile banking at a year-over-year increase of seven (7) percent, but the implementation rate of banks in the region was 13 percent during the same period. By 2014, 84 percent of bank respondents had implemented mobile banking services compared to 75 percent of credit union respondents. Also important, just three percent of banks have no plans to offer mobile while 11 percent of credit unions do not – a gap that’s closing for banks but remains constant from 2013 for credit unions.

Third, mobile banking services originated in the consumer marketplace and like many recent services are being offered without charge – making mobile yet another “free” service. There may be a wedge for value-added pricing for specialized business services. Federal Reserve research has found that businesses are willing to pay for some (near) real-time payment services and this finding might be applicable to mobile. [32] Future opportunities for pricing in the mobile payments space remain weak, particularly until adoption increases, while P2P may be a possibility. In New England, however, institutions, almost without exception, are not charging fees to customers. There is no New England institution, credit union, or bank which considers mobile banking as being significant in increasing its revenue.

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[32] Federal Reserve Payments Improvement consultation paper: https://fedpaymentsimprovement.org/wp-content/uploads/2013/09/Payment_System_Improvement-Public_Consultation_Paper.pdf

Fourth, mobile banking services are still viewed as important – more so by credit unions – to retain and acquire customers. The findings indicate that a financial institution's mobile offerings and its rollout to customers (as expressed in customer enrollment and adoption rates) rise with the institution's comfort level and expertise with mobile as they continue to enhance the service. Many New England FIs have now offered mobile banking for several years and appear to have a greater understanding of the technology and how to leverage it to provide more value to their customers. The 2014 survey found strong increases in implementation of advanced services such as mRDC, which is now offered by more than 50 percent of FIs in the region, and mP2P, which is being positioned for aggressive rollout by banks in particular. For the first time in the history of the survey, credit unions and banks reported that consumer adoption of their mobile banking services moved definitively past the "less than 5 percent" range into the "5 to 20 percent" range and above; and in 2014, 70 percent of banks and credit unions had adoption rates greater than five percent.

Finally, despite barriers cited by some respondents, there was a sea change in FIs' thinking about mobile payments in the 18 months between the 2012/2013 and 2014 surveys. The percentage of banks planning to offer mobile payments increased from 34 percent to 49 percent; and the percentage of credit unions planning to do so jumped from 35 percent to 55 percent during the period. New England FIs have moved into an assessment phase, where they are considering the dramatic changes in the landscape and technology. For more than 80 percent of FIs partnership with a third party is becoming their market entry strategy.

Recommendations

It is imperative that financial institutions at least keep pace with the market. With the pace of change accelerating, falling too far behind the curve is risky. The extent of this competitive pressure must be gauged on the unique business of a given institution, but maintaining parity with competitors is important, and for attracting younger cohorts, it is essential.

FIs, therefore, should use these survey findings to determine areas where they need to invest to maintain parity or might want to invest to take advantage of current opportunities in the market. The data presented here identifies mobile banking services that are baseline "must offer" services, those that are poised for growth, and those that are potential future opportunities.

Business-centric services, as an example, are still relatively new, and functionality and services that are focused on business needs from the ground up should be developed. This does not need to be overly complex; but it is important to start rolling out services to serve unique business banking needs.

Delivering services via different form factors is becoming more important and if not doing so already, FIs should assess expanding from mobile phones to tablet computers to attract other customer segments, including businesses. A single login is important according to consumers' online feedback to New England institutions. Additionally FIs should consider updating their strategy from "the same as online" to "mobile-specific" or "mobile-only."

FIs must also hone their marketing efforts to increase customer adoption and to make their mobile offerings more prominent. The survey's results show a change in marketing from external spend (e.g., media buys) to marketing on the FI's website and in statements, as well as a consideration on how to use social media for marketing mobile banking services. Non-bank competitors are adept with social media, and FIs should consider how best to leverage this channel more. Any retail bank that doesn't have a link to mobile on its homepage is missing an opportunity. For example, FIs could also look at search engine optimization (SEO) so that "mobile" always appears in any search on the institution.

With security so much at the forefront, FIs should continue efforts to build up their defenses. Customer education is essential – especially given the concerns that respondents share about poor customer behavior. Multifactor authentication is required by regulators and MFA considerations should be integral to mobile services. Security will become even more important with mobile payments and there are tools (e.g., tokenization, encryption, geo-location and biometrics, etc.) available to FIs in the market.

More institutions are and should be assessing their options for mobile payment services, particularly at the point-of-sale. This is one of the most dynamic and complex areas of the market, so it is understandable that smaller FIs will want to wait for proven alternatives – as well those offered by their mobile solution providers. Nonetheless, with partnering as a go-to-market strategy for offering mobile payment services, banks and credit unions should be gauging the alternatives now.

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