

Executive Summary

This report reveals two main findings that are essential for financial services leaders. First, with mobile deposit now a mainstream capability, new rules for winning apply. Second, it's still early enough for leaders to win by focusing on particular customer experience differentiation opportunities. Now more than ever, financial services executives must view mobile deposit as an essential building block within their overall channel migration, cost-reduction, and digital payments strategies. This report is intended to be the essential playbook for achieving just that.

From 2016 to 2017, we've seen major changes relative to how banks are embracing mobile deposit.

- Last year, two of the top 15 banks across the country charged for mobile deposit. This year, this service is made free of charge to all consumers, and is often widely promoted through different advertising channels.
- Banks are beginning to raise limits and reduce holds times—all helping
 contribute to greater adoption these past 12 months than all previous
 years combined—yet they're not moving fast enough. Once a capability
 approaches mainstream status, you can no longer win if you continue to
 penalize customers who use it.

The bar has risen, with CX (Customer Experience) Rankings shifting from 2016. Wells Fargo climbed from 6th place last year to 2nd place this year with an improved user experience and great use of real-time capabilities, while Chase slipped from the top 10 due to areas such as manual capture. Smaller FIs are particularly vulnerable with smartphone-savvy consumers, and therefore auto-capture must now be treated as a must- have feature across all strata of the financial services industry.

Adoption is growing at a colossal pace. Over 40% of current mobile deposit users adopted the service in the past 12 months. This move is increasingly shifting customers out of the branch and into the mobile channel.

Nearly eight in ten existing mobile deposit users are 'very' or 'somewhat likely to recommend this service' at larger FIs versus more than half at smaller FIs (78% at larger versus 64% at smaller FIs). Customer experience affects the

likelihood to recommend: ease of use is the biggest motivator to the greater adoption of mobile deposit (47% of larger FI customers versus 38% of smaller FI customers).

Barriers to Adoption

Fear of fraud is the most powerful impediment to widespread mobile deposit adoption, cited by 43% of non-users from large FIs. FIs must unequivocally assure customers that mobile deposit is every bit as secure as an ATM or bank branch. Immediate feedback and receipts upon deposit acceptance, and notification of funds availability will help resolve these fears. Walking customers step-by-step through their initial experience may also alleviate worry, as fear over making a mistake is holding back 34% of non-users at large FIs.

Whether reality or myth, banks must destroy the old-school and illogical notion that using the latest technology (mobile deposit) can somehow result in built-in delays to access their money. When asked about why they had most recently used an ATM or bank branch rather than mobile deposit, customers of many FIs indicated they **needed access to funds as soon as possible**. Financial institutions such as TIAA have implemented messaging to reassure customers that mobile deposit will always be as fast or faster than ATM or branch methods, a model that other FIs should also follow.

For customers who do use mobile deposit, 48% of those at large FI customers reported no problems at all. Those that did experience issues cited problems like funds not being available in a timely manner or being unable to get a clear picture of the check. This could be the result of many smaller FIs not yet offing auto-capture, and this feature is becoming key for customer satisfaction and repeat use.

In 2017, for the first time, none of the major banks reviewed charged a fee for standard processing of mobile deposits. Still, **worries over fees remains a block** to nearly one out of three FI customers. Therefore, marketing the cost-free nature of mobile deposit is an imperative to boost channel migration.

Deposit-limit policies at three quarters of FIs essentially represent penalties for customers who use mobile deposit, representing an The five institutions among the 15 reviewed with the highest customer experience ratings:

- 1 Capital One
- Wells Fargo
- 3 BBVA
- 4 Fifth Third
- 5 Citizens

unsustainable barrier to digital migration and growth. While this year's report finds two FIs achieving parity between mobile and ATM or branch deposit (up from just one in last year's report), the industry can do better. Many consumers state they have been prevented from using mobile deposit by the FI's dollar limits, yet conversations with industry executives tell us that advanced risk management policies can enable customer-friendly deposit limits that also limit misuse.

For branch training and promotion most banks must up their game by educating branch staff to promote mobile deposit. Customers will value this; the top way most consumers learned about mobile deposit came as a result of a conversation with a branch employee. However, during our mystery-shopping visits to branches and calls to phone bankers, we received different answers for deposit limits and availability of funds from the same banks. Some financial institutions have implemented messaging to reassure customers that mobile deposit will always be as fast or faster than ATM or branch methods, a model that other FIs should also follow.

Overview, Audience & Methodology

Overview

The rapid adoption of mobile financial services among U.S. consumers has quickly shifted mobile deposit to a must-have mobile banking feature. This report provides best practices for mobile deposit services, including current benchmarks, targets, and research-backed strategies for increasing consumer adoption and usage.





Audience

Designed for an audience of digital banking and payments leaders in U.S. financial institutions (FIs), the report lays out a strategic roadmap to optimize retail mobile deposit offerings and deepen customer engagement and loyalty, using a data-driven approach.

Methodology

This report has a primary focus on customer experience for 15 large U.S. retail multi-channel FIs, using an all-new methodology. The overall results of this report should not be directly compared with the 2016 version.

Consumer attitudinal and behavioral data is the result of surveying 1,044 consumers in July 2017, using a questionnaire designed by Futurion and fielded through Qualtrics. The results have been



weighted to reflect the U.S. online population in age and gender, using U.S. Census data. Early in the survey, consumers were asked to identify the FI through which they deposit the majority of their checks, and the name of this FI was piped throughout remaining questions to ensure the appropriate responses were representative of their primary bank or credit union relationship.

Working with digital strategy and design agency Comrade, live deposit accounts were accessed for each of the 15 FIs during July and August of 2017, with all ratings provided by Comrade's user experience designers. We collected and analyzed UX data across six user experience or heuristic categories (comprising a total of 20 individual categories). FIs were scored based on user experience measures pioneered by Jakob Nielsen, with modification to fit the mobile deposit process. Two policy areas were rated, based on either information found in the app, on the FI's site, or provided by customer service agents. To develop the total ranking for each FI's overall mobile deposit customer experience, each FI's average standing within each of the six UX areas was summed, and then compared to that of all other FIs.

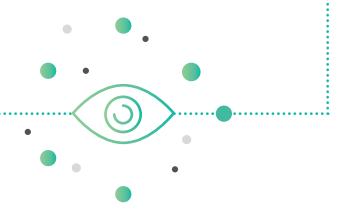


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Banker Support and Marketing For Mobile Deposit

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Consumer Research Findings

Growth Explodes: Even Laggards Are Adopting Mobile Deposit

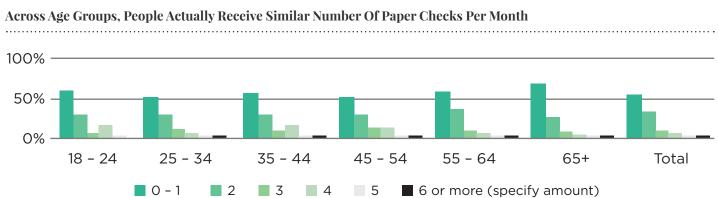
Mobile deposit is no longer an optional feature, and is now a fundamental building block of mobile banking for FIs of all shapes and sizes. Mobile deposit adoption is expanding rapidly: 40% of existing customers started using it just this year. Another 27% started using it between one to two years ago.

Among those who first used mobile deposit in the past year, just 25% cite mobile deposit as their main method for depositing checks. Contrast this to those who first used mobile deposit between one and two years ago, 53% of whom say that mobile deposit is the main method they use to deposit checks. This rapid evolution bodes well for the long-term acceptance and volume of mobile deposit.

Even among the laggards ("I'm a late adopter") and the luddites ("I only try new technology when I have to"), adoption growth has been strong in the past year. Across all customer segments and categories, mobile deposit is going mainstream, and fast.

Good news for FIs seeking faster overall rates of channel migration: this year's latest batch of mobile deposit adoptees is more likely to have used mobile deposit within the last seven days (at 38%, versus 32% for largest FIs, or 34%, versus 27% for smaller FIs).

Figure 1



Myth Busting

The myth is busted that paper checks are only a phenomenon among baby boomers. The average consumer receives about 1.5 checks per month, with 11% receiving four or more checks each month. As shown in Figure 1, across their lifespan, people among all age groups receive a similar number of paper checks each month. Among 18 to 24-year-olds, 56% receive 0 to 1 paper checks per month, exactly the same percentage as for all consumers at 56%. Another 24% of 18 to 24-year olds receive two checks per month on average, compared to 23% of all consumers. Additionally, the 25 to 34-year age demographic is the most likely to have used mobile deposit in the past 12 months at 63% versus 50% for all consumers. The idea that millennials are much less likely to receive paper checks is a myth.

How Distance Affects Mobile Deposit Use

Mobile deposit is an imperative for all financial institutions, but especially for those institutions covering sparsely populated areas or servicing customers outside of branch networks. Smartphone capabilities like mobile deposit are increasing in importance, while the physical branch distribution network slowly becomes less pivotal. A deep understanding of the target customer base is central when implementing mobile deposit. As shown in Figure 2, among consumers with no FI branches nearby, approximately four out of every five primarily use mobile deposit (79%).

How Distance to ATM or Branch Affects Consumers' Primary Deposit Method

	No [FI] Branches/ ATM Near Me	1 Hour +	30-60 Min	15-30 Min	5-15 Min	Under 5 Min	I'm Often at Branch/ATM	All
Mobile Deposit on Smartphone or Tablet	79%	71%	76%	61%	44%	31%	45%	44%
Bank Branch Using a Teller	7%	0%	5%	19%	24%	27%	30%	23%
ATM Location	0%	29%	10%	13%	24%	36%	25%	26%
I Never Receive a Paper Check	14%	0%	10%	6%	8%	6%	0%	7%
Some Other Way (Specify)	0%	0%	0%	0%	0%	0%	0%	0%

Motivations to Use Mobile Deposit

About one in every six FI customers already uses mobile deposit to make every single paper check deposit. For the rest, ease of use continues to be cited as the top usage barrier, followed by faster access to cash, assurance that check was satisfactorily deposited, and assurances of safety advantages (Figure 3.)

Ease of use is the biggest motivation to the greater adoption of mobile deposit (47% of larger versus 38% of smaller FI customers). Merely offering mobile deposit is not enough: the simplicity and speed of mobile deposit must reinforce the initial drive to adopt.

Delayed funds availability hampers greater mobile deposit use. 'Faster access to my cash' would encourage 37% and 29% of larger and smaller FI customers, respectively, to use mobile deposit more. Federal regulations specify time frames within which FIs must make deposits available to consumers, while banks have some latitude in associated **communication** practices regarding funds **availability**. At a minimum, FIs should make every effort to align their mobile and ATM funds availability and communication policies; many have already done this.

Figure 2

Assurances and notifications come to the fore next. Consumers at both large and small banks desire assurances that 1) checks are successfully deposited and 2) the process is secure. To ensure highest adoption, marketing plans for mobile deposit should include these declarations to increase confidence among undecided consumers.

Fees remain a block to 23% and 19% of large and small FI customers respectively. With the retail giants now having removed the fee disadvantage that sometimes accompanied digital, it's time for all FIs to make sure customers are aware that convenience doesn't come at a cost.

Within such a communications effort, incentives could be an effective way to jump-start usage. Among consumers who bank with a large FI, one in five state that prizes would increase adoption (21%).

Consumer Likelihood to Recommend Mobile Deposit

Nearly three-quarters of large FI customers are champions of mobile deposit, with over half of existing mobile deposit customers at large institutions and 47% at smaller institutions 'very likely' to recommend the feature (Figure 4). Customers at large FIs demonstrate a greater affinity for mobile deposit, which is a problem for smaller FIs that needs to be addressed. Several customers in the verbatim comments stated they adopted mobile deposit due to the urging of a relative or friend.

Approximately 13% to 20% of users are 'neither likely nor unlikely' to recommend mobile deposit. To shift these customers into supporters, FIs–and smaller institutions in particular–must examine and fulfill the motivations for–and resolve impediments to–adoption. Interestingly, first-year customers are underrepresented in the 'very likely' to recommend category (51%, versus 59% overall), while being overrepresented among those 'neither likely nor unlikely' to recommend (18%, versus 12% overall). Our interpretation: FIs now have a relatively stronger need to focus more heavily on aspects of mobile deposit CX that drive confidence, such as stated paper check retention times or real-time status updates.

Figure 3

In Their Own Words: What Would Cause Customers to Use Mobile Deposit More?

Larger FI / Smaller FI

Ease of Use

47% / 38%

Faster Access to Cash

37% / 29%

Assurance Check Was Satisfactorily Deposited

32% / 33%

Assurance of Safety Advantages

30%/30%

Remove Fees

23% / 19%

Prizes

21% / 12%

Already Use Mobile Deposit

17% / 16%

Higher Deposit Limits

9% / 7%

Other (Specify)

3% / 8%

Reasons to First Adopt Mobile Deposit

Time savings dominates as the initial reason for using mobile deposit, cited by almost two-thirds of mobile deposit users (66%). A related need, 'faster access to my money,' accounts for another 15% of initial users. The 13% of users who view mobile deposit as 'eliminating a tedious chore' personify the steep decline in branch foot traffic.

Challenges Using Mobile Deposit

The good news is that up to 48% of mobile deposit users have had no problems processing their check deposits. The major impediment to mobile deposit is the inability to get a clear picture of the check. This problem is especially critical among smaller FIs (cited by 32% of smaller FI customers versus 21% of larger FI customers). Automatic image capture alleviates this obstacle. Because autocapture is so important to consumers, mid-market fintech vendors must now fast-track the capability, to ensure they don't give their clients' customers or members yet another digital-related reason to switch to a large bank. Long holds were a problem among almost twice as many larger FI customers versus smaller (15% versus 8%, respectively). The deposit notification system needs to be very clear and feedback should be immediate, as up to 16% of smaller FI customers were not sure if their checks were processed. Likewise, minor lingering incidence of accidental duplicate deposit (3% to 5%) are seen among both small and large FI customers.

Figure 4

Clear Majority of Mobile Deposit Users Would Recommend It to Others

Larger FI / Smaller FI

Very Likely

59% / 47%

Somewhat Likely

19% / 17%

Neither Likely Nor Unlikely

13% / 20%

Somewhat Unlikely

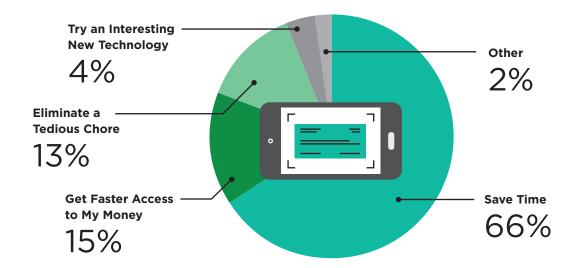
2% / 3%

Not Likely At All

6% / 13%

Figure 5

Time Savings Dominates Reasons For First Using Mobile Deposit



Fear of Fraud, Flubs, and Fees

Fear of fraud, flubs, and fees are the top hindrances to mobile deposit adoption. Among non-users, fear of fraud is the most powerful inhibitor, cited by 43% (Figure 7). Next comes worries about making mistakes when using mobile deposit, cited by 34% of non-users. About one in five non-users is concerned about having to pay fees.

Comparing attitudes to usage levels shows stark differences between those who are using mobile deposit (past seven days) and non-users and/or lapsed users. A lower percentage of weekly users of mobile deposit demonstrate fraud fears (12%), instead focusing on more positive attributes: the time savings (41%) and feelings of control (42%) that mobile deposit offers them. Slightly more than one in nine non-users has never heard of mobile deposit (12%). The next section will identify effective marketing efforts to increase awareness of mobile deposit.

Effective Mobile Deposit Marketing

Market awareness is critical for full adoption. Yet many customers can't recall mobile deposit ever being mentioned in-branch at their primary financial institution. Further still, 12% of our survey respondents indicated that they had no idea mobile deposit even existed prior to taking our survey. For a service that represents both cost savings and a fundamental channel shift, this must change.

The most effective method of raising awareness is direct solicitation by branch employees. Our survey found that the top method of first learning about mobile deposit was a conversation with a branch employee (although fewer consumers at smaller institutions learned about it this way, 23% versus 33% at larger FIs). Additionally, when asked how they learned about mobile deposit, 37% of smaller FI and 24% of larger FI customers could not recall mobile deposit ever being mentioned during an FI interaction. This represents an opportunity to increase in-person solicitation of mobile deposit, especially among smaller institutions. Phone or online interactions with agents significantly lagged behind in-person contact, but twice as many customers at larger FIs versus smaller FIs were informed about mobile deposit through this medium.

FIs offering mobile deposit need to focus primarily on training branch personnel to help spread the word, with direct mail used as an additional

Figure 6

Primary Challenges Using Mobile Deposit

Larger FI / Smaller FI

Getting a Clear
Picture of the Check

21% / 32%

Funds Were Not Available in a Timely Manner

15% / 8%

I Wasn't Sure If the Check Went Through

11% / 16%

Low Dollar Limits
Prevented Mobile Deposit

10% / 9%

Figure 7

	All Respondents	Used Mobile Deposit in the Last 7 Days	Lapsed: Mobile Deposit Over a Year Ago	Never Used Mobile Deposit
I'm Worried That It Could Lead to Fraud	23%	12%	35%	43%
I'm Worried That I Might Make a Mistake Using It	17%	7%	32%	34%
I'm Worried About Having to Pay a Fee	11%	6%	19%	20%
It's Too Complicated	6%	3%	6%	12%
It's a Time-Saver	37%	41%	26%	11%
I Feel Like It Could Be Safer Than Using a Bank Branch or ATM	10%	14%	10%	10%
It Puts Me in Control	26%	42%	19%	8%
It's More Enjoyable Than Going to an ATM or Branch	21%	29%	10%	8%
Other (Specify)	4%	2%	0%	6%

supporting mechanism (such as in advertisements or statement stuffers). Direct mail solicitation was the method that 15%-16% of consumers first learned about mobile deposit, compared to advertising which was cited by 6% of FI customers. The smartest FI's are offering their customers low-value checks which can only be deposited via mobile, in both direct mail campaigns and in-branch demos, and are tracking ongoing usage from those customers that follows their initial deposits.

Ways to Increase Mobile Deposit Use

Core messaging for mobile deposit marketing efforts should center on assurances of safety, speed and no added costs. The first priority in marketing must be to address those fears and solve for the customer's pain points.

Therefore, the first priority in marketing must be to address those fears and solve for the customer's pain points.

Figure 8

How People First Learned of Mobile Deposit

Larger FI / Smaller FI

I Can't Recall Mobile Deposit Ever Being Mentioned in an Interaction with [FI]

24% / 37%

In a Conversation With a Branch Employee

33% / 23%

In a Direct Mail-Out

16% / 15%

Some Other Way (Describe)

11% / 14%

In an Advertisement

6% / 6%

With a Telephone or Online Chat Service Agent

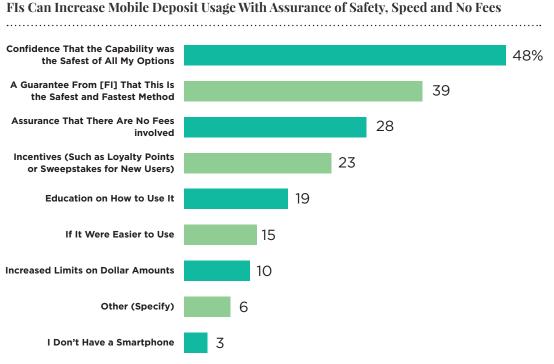
9% / 4%

Incentives can be effective, especially with the 18- to 34-year-old crowd (28% versus 23% for all consumers).

Consumer education is vital to the success of the service. In-person training, videos, print and online ads, targeted distribution of mailed and in-branch low-value checks that can only be deposited via mobile, and other forms of direct marketing are all necessary to spur initial consumer adoption. Once initiated, the customer experience and ease of use will drive repeat business.

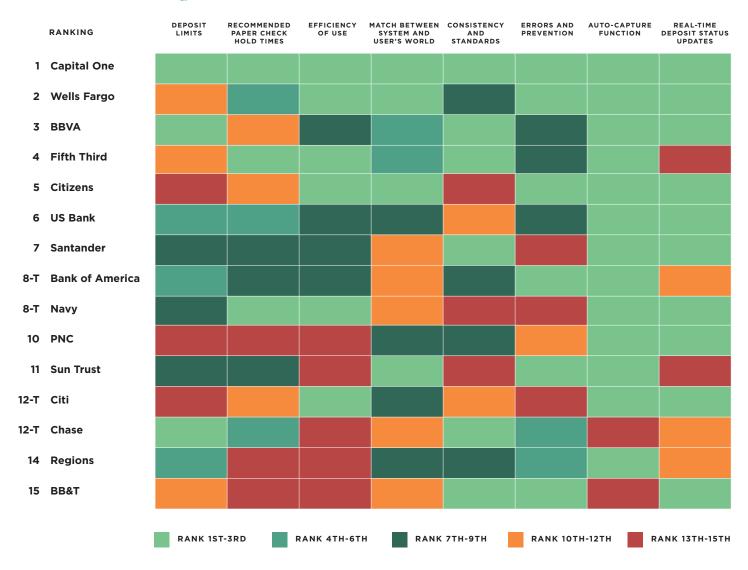
Figure 9

Fig Can Increase Mobile Denesit Useda With Assurance of Safety Speed and No Fee



Consumer Experience Ranking

Detailed FI Findings



The methodology changed between our 2016 and 2017 reports. We streamlined the categories, while aligning all areas in the 2017 structure to the model created by design pioneer Jakob Nielsen. We also removed the 2016 category of pricing, since none of the 15 banks rated in this report now charge for mobile deposit.

Banks' policy decisions changed in many areas, with three providers now having removed the deposit-limits disadvantage that often exists when trying to use a smartphone to deposit checks instead of an ATM or branch (up from just one in 2016). Our informal conversations with bankers suggests that higher mobile deposit limits need not necessarily lead to higher losses, because some of the FIs with the most accommodating policies have stated that they have reined in write-offs by developing particularly advanced risk management policies. As a result, this report once again urges more banks to create channel parity in check-deposit limits. What message does it send to customers when their financial institution urges them to make mobile their first choice for check deposits, and then sets a policy for

that channel which is certain to turn away more users than does the branch or ATM?

Perhaps the easiest area for FIs to improve the experience of mobile deposit is in the recommended days that they advise customers to retain the paper check. Our position is that every FI should drop arbitrary recommended hold times, such as 15 or 30 days, because such artificial and lengthy timespans are likely to create unnecessary concern. Three of the FIs in our study now advise customers when it's safe to destroy (or otherwise store away forever) the paper image of the check, which creates confident 'your deposited check is as good as cash' black-and-white thinking. Even when factoring in the FIs that follow our recommended "we've got it, so you don't need it" paper-retention advice when communicating to customers, the average number of paper-retention days across all 15 FIs is 11.5.

Auto-capture is offered by all but two FIs in our study (BB&T and Chase), and this continues to be a feature highly prioritized by consumers. We realize that many community banks and credit unions are not yet able to provide this capability because it isn't currently offered by their fintech vendor. It needs to be a high priority on all product roadmaps, matching the importance assigned to it by end-users. This is a noticeable blindspot—and one that will be of increase importance to later adopters—and therefore we recommend that community banks and credit unions work with their mobile partners and Mitek to implement auto-capture within their mobile app.

Capital One

1st Place

Summary

Capital One once again claims top honors in this year's study.

Let's give credit where credit is due: there's simply a lot to like about Capital One's app. It's a delight to use from start to finish, with everything you need generally right where you need it, never too much, too little, too soon, or too late. As one Capital One customer stated, "The effort to do this (mobile deposit) is minimal."

Given the bank's strengths in analytics, it's time for Capital One to up its deposit limits. As a traditional powerhouse issuer, digital-first and branchless relationships call for the bank to be among the leaders in check deposit leaders. As with our study's other branch-light FI, Navy FCU, Capital One customers are more likely to have no alternative but to deposit checks via smartphone, so the bank needs to find a way to match deposit limits offered by BBVA, Chase and PNC.

A mobile-deposit customer at Capital One stated, "I have never been to a branch," and that's the type of all-around capability for which this bank is striving. Way to go, Capital One.

Heuristics	
Deposit Limits	3
Recommended Paper Check Hold Times	1
Efficiency of Use	1
Match Between System and Users' World	2
Consistency and Standards	1
Error and Prevention	1
	es
Real-Time Deposit Status Updates	1

Wells Fargo

2nd Place

Summary

Wells Fargo's mobile deposit is now one of the very highest-rated FIs, just coming in at second place.

Wells Fargo's UX received strong ratings from our designers, with every area receiving a top 5 score or better, except one: Consistency and Standards (which received a ninth-place rating). It's great to see one of the nation's largest banks-and early digital pioneer-now earning a strong UX score for mobile deposit.

Risk-related policy decisions represent Wells Fargo's strongest improvement opportunity, and in particular its rather harsh check deposit limits. Indeed, our analysis of the Wells Fargo customers in our quantitative survey found them to be one-and-a-half times as likely (15% versus 10% for all survey respondents) to cite low dollar limits as a reason for having recently chosen to use a branch or ATM to deposit checks.

Wells Fargo can also improve its recommended paper check retention times, where it currently scores a fifth place by asking customers to retain the documents for five days. This priority also may be borne out by our survey data, where Wells Fargo customers appear to be slightly likely (33% versus 30% for all survey respondents) to state that 'assurance that the check was satisfactorily deposited' would cause them to be more likely to use mobile deposit at greater volumes. Now that Wells Fargo has impressively moved into #2, this is perhaps one of the simplest changes the bank can make to rival Capital One for first place in the future. Way to rocket up in the mobile deposit customer experience ratings, Wells Fargo.

Heuristics	
Deposit Limits	11
Recommended Paper Check Hold Times	5
Efficiency of Use	3
Match Between System and Users' World	2
Consistency and Standards	9
Error and Prevention	2
Auto-capture Function	Yes
Real-Time Deposit Status Updates	1
•••••	• • • • • • • • •

BBVA

3rd Place

Summary

BBVA is once again among the nation's mobile deposit leaders, in third place among 15 to score alongside or ahead of the nation's very largest banks in customer experience.

BBVA leads the industry with deposit limits, an area borne out by our consumer survey research as being of paramount importance to adoption. Yet the bank's demonstrated confidence in risk policies doesn't carry over to the paper check retention recommendations it communications to customers, with the bank advising customers to retain the paper documents for 15 days (which places it among those scoring worst in this study).

Our customer experience designers always placed BBVA's app in the upper half of all CX areas, with scores ranging from first place for Consistency and Standards to mid-pack for both Efficiency of Use and Error and Prevention. One BBVA customer's comment about its mobile deposit was simply, "I love it!" BBVA's mobile deposit app is among the best in the nation, which certainly reflects its latecomer status (the bank was the last among those we studied to offer it). However, to maintain its impressive leadership position—which in turn drives digital migration and overall payments leadership—it will need to bolster a few areas over the next year.

Heuristics	
Deposit Limits	1
•••••	• • • • • • • • • • • •
Recommended Paper Check Hold Times	11
•••••	• • • • • • • • • • • • • • • • • • • •
Efficiency of Use	8
	• • • • • • • • • • • • • • • • • • • •
Match Between System and Users' World	5
•••••	• • • • • • • • • • • • • • • • • • • •
Consistency and Standards	1
• • • • • • • • • • • • • • • • • • • •	
Error and Prevention	8
•••••	· · · · · · · · · · · · · · · · · · ·
Auto-capture Function	Yes
•••••	· · · · · · · · · · · · · · · · · · ·
Real-Time Deposit Status Updates	1

Summary

Everyone loves to see a player punch above their weight, and at #4 in our study of the nation's larger retail FIs, that's just what Fifth Third has done. There's a lot to like about Fifth Third's mobile deposit offering, and its weakest area is one that requires a partnership of digital and risk leaders.

The bank excels among its peers in core UX areas, achieving impressive firsts in Efficiency of Use and Consistency and Standards. One customer raved, "I love it" while another opined, "It's fun." Other regionals relying on this report to identify best practices examples need look no further than Fifth Third to see best of breed in these two areas (versus simply assuming that assets are the most reliable indicator of who's best).

We also applaud Fifth Third for adopting the recommended best-practice standard in Recommended Paper Check Hold Times, where it shares first place with Capital One and Navy by simply advising customers once the deposit is as good as cash.

It's now time for Fifth Third to revisit its check deposit limits, which just aren't realistic for many of its most important customers. Daily limits of \$3,000 after incubation and monthly limits of \$7,500 just won't cut it with high net worth individuals. (Attention risk managers, while we promise that Fifth Third's digital executives didn't ask us to write this, we need to let you know that you're holding your innovation counterparts back!) Nice job on achieving a top-tier mobile deposit user experience, Fifth Third.

Heuristics	
Deposit Limits	12
Recommended Paper Check Hold Times	1
Efficiency of Use	1
Match Between System and Users' World	5
Consistency and Standards	1
Error and Prevention	8
Auto-capture Function	Yes
Real-Time Deposit Status Updates	12

Citizens

5th Place

Summary

Citizens ranks solidly in the upper half of the nation's larger 15 retail FIs, which is an admirable accomplishment.

Citizens has the potential to boost adoption of mobile deposit more efficiently than others we rated because two of its primary shortcomings—Deposit Limits and Recommended Paper Check Hold Times—are compliance or policy related (compliance managers, we hope you're reading this and will support your digital channels peers in their important efforts to benefit from their impressive accomplishments in the many other areas we rated). As borne out in our consumer survey research, deposit limits are simply a frustrating show-stopper for many consumers—and in this digital day and age there's just no good justification for placing your virtual channels at a disadvantage.

Citizens punches well above its weight in several areas rated by our design professionals, notably *Error and Prevention*, *Match Between System and Users'* World, and *Efficiency of Use.* As one of their customers states: "I love it (mobile deposit) and don't know how I used to live without it."

Heuristics 13 **Deposit Limits** Recommended 11 Paper Check **Hold Times** 3 Efficiency of Use Match Between 2 System and Users' World Consistency and 13 Standards Error and Prevention **Auto-capture** Yes Function Real-Time **Deposit Status** Updates

US Bank

6th Place

Summary

US Bank's mobile deposit experience has made significant gains.

The bank has a recommended paper check retention timespan of just five days that is far better than the industry average of 11.5, yet with so many competitors having moved to our recommended stance—that of simply advising customers when the deposited check is as good as cash and therefore can be put away forever—more improvement is possible.

US Bank advises its customers of deposit limits that are similarly among the most customer friendly in the industry-at \$10,000 for either daily or monthly-yet with incubation limits at the rather harsh amount of \$1,000, our scoring system knocked US Bank down several points in this overall ranking area.

Marketing its no-fee for consumer mobile deposits policy is still needed as customers complained, "I don't use it [mobile deposit] because I don't want to incur a fee."

UX scores are solidly middle-of-the-pack overall, never better than seventh or worse than twelfth. Further scrutiny did reveal some perfect ratings areas, which often were those related to communications with the mobile deposit user.

Way to move up in the rankings, U.S. Bank.

Heuristics	
Deposit Limits	6
Recommended Paper Check Hold Times	5
Efficiency of Use	8
Match Between System and Users' World	8
Consistency and Standards	12
Error and Prevention	8
Auto-capture Function	Yes
Real-Time Deposit Status Updates	1
• • • • • • • • • • • • • • • • • • • •	· · · · · · · · · ·

Santander

7th Place

Summary

Santander's standing is solidly in the middle tier, which isn't a bad place to be for a super-regional that is among the smallest of the 15 rated by our designers. With a few select changes in UX and policies, it could move up dramatically in the future.

Santander's mobile deposit app earned a couple of extreme ratings from our designers. Good news first: the *Consistency and Standards* of the app exceeds that of every other FI we tested, with exactly perfect scores for every one of the four subcategories that made up this area of ratings. This is something for the Santander team to view with pride.

Now the bad news: *Error and Prevention* is near the bottom of all 15 rated FIs. While Santander's app achieved a couple of strong outcomes within the *Error and Prevention* category (namely related to error messages themselves), scores were much lower for the two additional subcategories that made up the overall *Error and Prevention* category.

Santander customers' comments reflect the highs and lows of the app's overall experience: "It (mobile deposit) just takes too long to clear." Our designers found the app to be much needier in 'Help is available and accessible' and 'Tips are accessible and functioning.'

Heuristics	
Deposit Limits	7
Recommended Paper Check Hold Times	8
Efficiency of Use	8
Match Between System and Users' World	11
Consistency and Standards	1
Error and Prevention	13
Auto-capture Function	Yes
Real-Time Deposit Status Updates	1

Housisties

Bank of America

8th Place (Tie)

Summary

At 8th place, Bank of America has mid-tier scores for mobile deposit customer experience. Their experience as a digital leader causes us to believe they'll be vying for top rankings before too much time passes.

Our consumer survey sentiment data finds that consumers place ease of use as a top factor, which suggests that Bank of America has thus far succeeded with mobile deposit because of two factors: its overall strong mobile banking product and marketing efforts, and its success with the younger consumers who have often been the first to use new features. Good news for Bank of America: its customers are slightly more likely (57% versus 52%) than those of other banks to be 'very likely' to recommend mobile deposit to others.

Bank of America should adjust its policies related to deposit limits and recommended paper check hold times to achieve a more customer-friendly mobile deposit experience, following the lead of Capital One and Fifth Third in these areas. Indeed, when Bank of America customers who had most recently chosen a branch or ATM rather than their smartphone to deposit a check were asked to provide a reason, Bank of America customers were slightly more likely to cite 'the amount of the check exceeded the single check limits.'

Bank of America can apply the high standards for Error and Prevention (where it is #2) to its needier area of Match Between System and Users' World (#11) in order to similarly achieve overall excellence for mobile deposit. Several Bank of America customers stated that they use an ATM or branch because of their belief that checks deposited by phone take several days longer to clear. This calls for either a review of policy, customer communication, or both.

Heuristics	
Deposit Limits	4
Recommended Paper Check Hold Times	8
Efficiency of Use	8
Match Between System and Users' World	11
Consistency and Standards	7
Error and Prevention	2
Auto-capture Function	Yes
Real-Time Deposit Status Updates	12

Navy

8th Place (Tie)

Summary

Navy's mobile deposit offering has many strong areas-including some firstplace standings-yet they ultimately can't overcome a few key areas that hold back its overall standing.

As expected from this digital leader, the nation's largest credit union has many strong points to tout. Navy's no-nonsense recommended paper check retention times are best of breed (it's now among the leaders, instilling confidence by rapidly telling customers when the deposit is as good as cash and that it's safe to stop saving the check).

One hardcore UX area that is closely scrutinized by our designer-raters– *Efficiency of Use*-was excellent enough to garner a third-place rating. However, three similarly core UX areas represent trailing positions (see table).

Navy must now revisit the all-important (based on the results of our consumer quantitative survey) research: deposit limits. Perhaps this is why one customer stated, "I tried to use it (mobile deposit) in the past and received errors; will attempt to revisit this feature in the future." We recommend that Navy investigate this report's best-of-breed leaders carefully to understand how a few intrepid banks are able to enjoy both high deposit limits and low write-offs (as relayed to us by the bankers themselves in private interviews).

With Navy's leadership in so many areas related to digital, we know it won't be long before the mobile check deposit experience also vies for best-of-breed.

Heuristics	
Deposit Limits	8
•••••	• • • • • • • • • • • • • • • • • • • •
Recommended Paper Check Hold Times	1
•••••	
Efficiency of Use	3
•••••	
Match Between System and Users' World	11
•••••	
Consistency and Standards	13

Error and Prevention	15
•••••	• • • • • • • • • • • • • • • • • • • •
Auto-capture Function	Yes
•••••	• • • • • • • • • • • • •
Real-Time Deposit Status Updates	1

PNC

10th Place

Summary

PNC's mobile deposit offering has many strong areas, yet just a couple of primary challenging areas cause it to ultimately rank between the second and third tiers.

Good news: there are many strong areas related to heuristics, showing the FI's competitive UX design capabilities.

Onto the rest, deposit limits simply turn many customers away. Making matters worse for an area of high importance to bank customers, we found that the customer service team was not consistently aware of what the deposit limits are.

The other policy area we rated, that of Recommended Paper Check Hold Times, represents an area PNC can improve in. At fifteen recommended days, the bank is simply asking customers to hang on to something for an arbitrary period that is too far "out of sight, out of mind" and thus won't engender a feeling of either convenience or confidence.

Heuristics	
Deposit Limits	14
Recommended Paper Check Hold Times	8
Efficiency of Use	8
Match Between System and Users' World	5
Consistency and Standards	10
Error and Prevention	8
Auto-capture Function	Yes
Real-Time Deposit Status Updates	1
•••••	· · · · · · · · · · · ·

SunTrust

11th Place

Summary

SunTrust's mobile deposit customer experience has some clear areas of leadership, yet also earned mid or trailing scores from our designers that placed it behind several other banking leaders.

Two UX areas earned top-shelf rankings from our designers: Match Between System and Users' World, and Error and Prevention. Because the industry has seen SunTrust's demonstration of excellence in design-related areas beyond mobile deposit, this reflects the bank many in the industry expect.

Other aspects of SunTrust's app-Efficiency of Use and Consistency and Standards-didn't come out as strong, and our raters felt the bank needs to revisit the app with the intention of achieving greater usability throughout.

Likely reflecting the app's many strong points, one customer stated, "I find it really convenient," Yet perhaps reflecting Suntrust's known older-leaning demographic another stated, "I have my concerns because of the newness of the technology."

Both policy areas that we rated represent opportunities for SunTrust. The bank's paper check hold time feels too conservative and arbitrary at 14 days. At \$8,000 per month, the bank's deposit limits (both during and after incubation) aren't wildly out of whack with its peers, yet the daily limits of \$2,000 will simply be a barrier to use for many–and in particular its most valuable customers in categories such as high net worth or consumers who comingle personal and business finances.

Heuristics	
Deposit Limits	8
Recommended	•••••
Paper Check Hold Times	7
•••••	
Efficiency of Use	13
Match Between	
System and Users' World	1
•••••	• • • • • • • • • • • • • • • • • • • •
Consistency and Standards	13
•••••	• • • • • • • • • • • • • • • • • • • •
Error and Prevention	2
Auto-capture Function	Yes
	• • • • • • • • • • • • • • • • • • • •
Real-Time Deposit Status Updates	15
•••••	• • • • • • • • • • • • • • • • • • • •

Hormistics

Citi

12th Place (Tie)

Summary

There should be more bright spots in Citi's mobile deposit experience, and the bank's reliance on payments and alternatives to traditional branches speaks to the eventual payoff that will be realized when specific improvements are made.

Citi has a reputation for being outstanding at both fraud-related risk management and related customer communication, which makes the bank's last-place standing in deposit limits and 11th in recommended check hold times seem out of place. Yet based on conversations with industry leaders, we also understand that this traditional leader in both digital and fraud practices may temporarily have their hands tied by more stringent regulatory requirements. In any event, and based on the monthly deposit limits communicated to us by the bank's own customer service agents and app instructions, the monthly check limits of \$3,000 are simply a prohibition on usage for many would-be mobile deposit users.

While the app is among the best in Efficiency of Use (and mid-pack in Match Between Systems and Users' World), the UX isn't up to par for this global banking leader in both Consistency and Standards and Error and Prevention.

Heuristics	
Deposit Limits	15
Recommended Paper Check Hold Times	11
Efficiency of Use	3
Match Between System and Users' World	8
Consistency and Standards	10
Error and Prevention	13
Auto-capture Function	Yes
Real-Time Deposit Status Updates	1
	• • • • • • • • • •

Chase

12th Place (Tie)

Summary

Chase is among the leaders in mobile deposit customer adoption, yet its app needs fine-tuning in some crucial areas.

As with BofA customers, Chase customers are more likely to use mobile deposit than other channels, exceeding the national average by (49% versus 38%) in adoption. Chase made its check deposit limits more accommodating over the last year, now tied for first alongside BBVA and newcomer PNC in a category that consumers state as being important. That's an important win.

Chase falls behind in other areas that are also key to a great customer experience, particularly Efficiency of Use and Match Between Systems and Users' World.

Where Chase once again lags behind nearly all other industry players is in the all-important area of auto-capture, which alone would have move it up three positions in our study. As one customer complained, "Mobile deposit didn't accept my check," while another listed "technical difficulty" as the reason they weren't able to complete a mobile deposit. Other consumers in our quantitative research study cited various specific frustrations that will be obviated once the bank adds auto-capture.

Heuristics	
Deposit Limits	1
Recommended Paper Check Hold Times	4
Efficiency of Use	14
Match Between System and Users' World	11
Consistency and Standards	1
Error and Prevention	6
Auto-capture Function	No
Real-Time Deposit Status Updates	11

Housisties

Regions

14th Place

Summary

Regions has some of the strongest opportunities to improve in this year's study, similar to what we found in 2016.

At 30 days, Regions' Recommended Paper Check Hold Times likely won't communicate the confidence that results in customer adoption, and therefore we recommend that this policy be prioritized for reconsideration. Any length of time beyond just a few days could be seen as arbitrary and confidence-eroding by end-users. .

While the bank's post-incubation deposit monthly limit of \$10,000 is more welcoming than that of several other FIs, incubation period limits of \$1,500 could cause problems for many a customer. We recommend that this disparity be revisited.

Regions' UX earned several respectable scores from our designers. However, Efficiency of Use stood out as the one area most deserving of improvement. As one customer observed, with mobile deposit, "it takes longer to get my money." It wasn't so much an ease of use issue, as our raters found the app to be essentially at industry parity in that subcategory. Rather, our designers felt that the app would prove to be problematic in the "easy to learn" subcategory.

Heuristics	
Deposit Limits	5
Recommended Paper Check Hold Times	14
Efficiency of Use	14
Match Between System and Users' World	8
Consistency and Standards	7
Error and Prevention	6
Auto-capture Function	Yes
Real-Time Deposit Status Updates	14



15th Place

Summary

BB&T's mobile deposit app excels in a vital design area—Consistency and Standards—where it tied for best-of-class with five other industry heavyweights. Another area of industry superiority is Real-Time Deposit Status Updates, which is also vital as users seek updates when migrating more payments activity to virtual channels. These two areas prove that the regional powerhouse is capable of digital excellence. And this sort of optimism is vital when the bank earns an overall last place among 15 large retail financial institutions.

BB&T has five areas requiring primary attention: reducing Recommended Paper Check Hold Times (which provides or detracts from customers' sense of confidence and clarity when migrating to digital), Deposit Limits (why should there be an inherent disadvantage to depositing checks via mobile?), Efficiency of Use (which is particularly important for new users), Match Between System and Users' World and a lack of an Auto-capture Function.

In the words of one BB&T holdout customer, "BB&T's mobile deposit takes too long for funds to be available." In comparison to the several large retail banks that have increased their check deposit limits since our 2016 report (three now claim 'unlimited' status, up from just one in the prior year), BB&T advises customers that deposits are limited to \$5,000 during incubation or \$10,000 after. Such limits will prove to be a roadblock with the bank's most important customers, including high-net-worth individuals and business operators, and place BB&T at risk of having a delayed digital migration effort or losing out altogether to other 'unlimited' rivals such as BBVA, Chase and PNC.

Where BB&T lags behind nearly all other industry players is in the all-important area of auto-capture, which alone would have move it up several positions in our study. With consumers increasingly used to point-and-click capabilities on their smartphone, the eventual addition of this singular capability will do much to improve customer delight and usage levels, while supporting the banks' overall digital migration efforts.

Heuristics	
Deposit Limits	10
Recommended Paper Check Hold Times	14
Efficiency of Use	14
Match Between System and Users' World	11
Consistency and Standards	1
Error and Prevention	8
Auto-capture Function	No
Real-Time Deposit Status Updates	1

Banker Support and Marketing For Mobile Deposit

Phone Banker Education

The following section highlights the understanding and awareness from bank employees and phone representatives regarding their specific FI's mobile deposit experience. Our hypothesis is that the success of mobile deposit adoption is dependent on frontline employees who engage directly with customers on a daily basis.

We contacted all 15 banks a series of times through the phone channel under the guise of opening a new account and asked whether that institution provided mobile deposit. We then asked specifically about limits as a new customer to measure if there was variability in the answers with the same institution.

The key finding of this study was that many of the phone bankers are ill-informed and provide conflicting answers, which is a deterrent to adoption.

Almost half of the fifteen national and regional banks (seven total) we contacted provided us with different information. One phone rep stated that the bank had a mobile monthly limit of \$10,000, whereas another phone rep from the same bank stated that the amount was only \$5,000 and was unclear if there were any daily limits. We received conflicting responses and a recurring pattern of misinformation became clear.

When asked about having any limits at all, the phone bankers for three specific banks explained how there are no limits for mobile deposit and that users can deposit a check of any value at any time. This information conflicted with the deposit limits stated in the apps themselves, which clearly provided definitive values for monthly and daily deposits.

"One phone rep stated that the bank had a mobile monthly limit of \$10,000 whereas another phone rep from the same bank stated that the amount was only \$5,000 and was unclear if there were any daily limits."

Best Practices for Phone Bankers

Ensure that bankers get consistent training and that mobile deposit requirements aren't complex. The more complex the bank limits and requirements, the more difficult it is to educate phone bankers. Customers can tell when a phone banker uses a bank product as opposed to trying to read an FAQ during a service call. When a phone banker is unable to answer basic information about mobile deposit or passes on incorrect information, they expose the customer to a negative service issue.

An even more varying banker response (as opposed to what is published by the bank) is the topic of hold times for checks once they have been deposited through the mobile app. While the websites and apps clearly provided suggestions of anywhere from 2–30 days, most representatives stated that users could destroy their checks following the 24-hour period when the funds would become available.

Branch Banker

Mystery shopping was also conducted among retail branches with bankers. Due to geographic limitations and access to all branches, this research was only conducted with seven of the top 15 banks listed within the study.

The goal of this research was to gain a better understanding of how mobile deposit was being promoted in the different branch locations, either through marketing collateral or through direct interaction with the bankers themselves.

Of all the branches that were visited, none displayed any type of advertisement for mobile deposit. Although some included callouts for online and mobile banking, the marketing of these channels did not highlight any of the benefits with mobile deposit.

When speaking to the bankers directly, the tone was more conversational, with bankers highlighting how mobile deposit could address everyday needs.

A banker from Chase explained the advantages of using mobile deposit, while demonstrating an example on his own phone. Another banker talked about the cross-country traveler who works odd hours and gets paid at random times, and how this was a better solution than going to the bank. In each instance, the discussions with the seven bankers were more compelling an experience based on the conversational nature of the tone and ability to walk through their experience with customers.

Best Practices for Branch Bankers

Remove any policy-driven hindrances that would otherwise relegate mobile deposit to a second-tier experience (versus the in-branch or ATM). Highlight how it can change customer lifestyles by making things easier. Also, encourage phone bankers to demonstrate with their own devices when possible. This creates greater trust when a customer knows that the banker is using the same services that they are promoting.

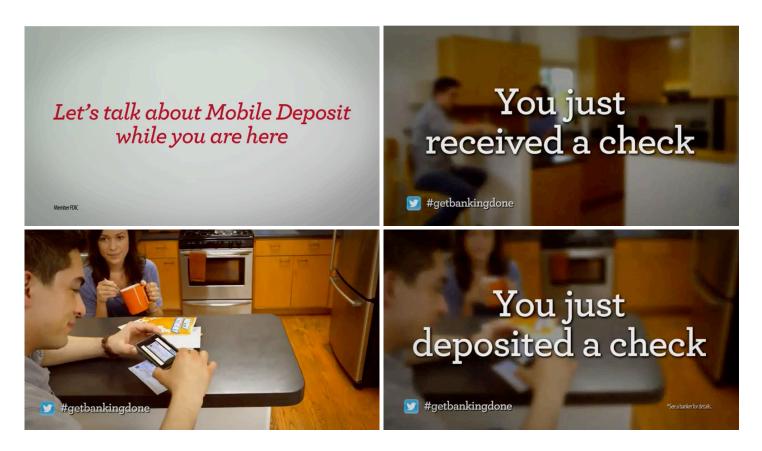
Marketing

Within mobile banking, mobile deposit has been specifically marketed to consumers in a variety of ways. However, to increase adoption, marketers need to extend their boundaries and reach consumers wherever they spend their time, whether in a physical location or online. Targeted banner ads can reach clearly defined demographics online, while proper employee training and in-store promotion can appeal to existing customers who have not yet adopted the feature. TV ads are a powerful and effective tool, as are online videos and tutorials, yet for such a unique and advantageous technology, creativity must be infused into marketing campaigns to generate buzz with potential customers.

For example, one major financial institution mailed checks to its customers to incentivize them into trying mobile deposit. Social media marketing is also integral to reaching adoption goals, specifically for younger consumers. Services like Twitter, Facebook, and Snapchat have proven to be powerful channels for promoting products and services. Demonstrating how easy it is to deposit checks using an actual mobile device is a highly-effective way to persuade customers to try it on their own.

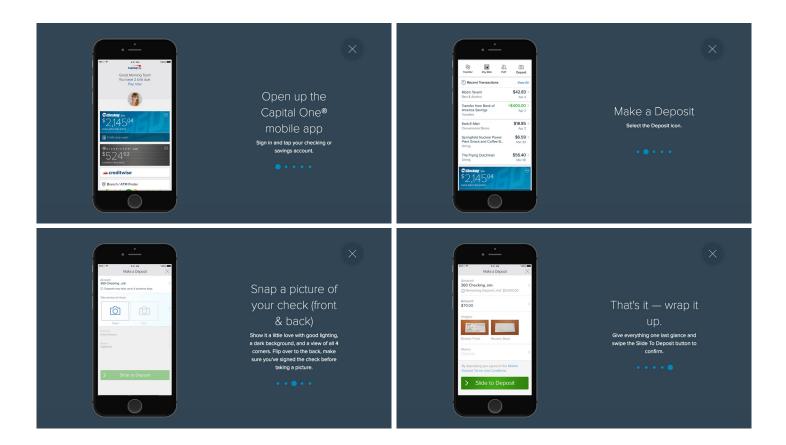
Wells Fargo Video Demo

Wells Fargo promotes mobile deposit with videos that work both as advertisements and brief tutorials.



Capital One Website Prototype

Capital One offers a lightly functional prototype demonstrating the ease of use of mobile deposit by allowing users to click through the experience of depositing a check via its mobile app.



Chase TV Commercials

Chase has published a number of humorous TV commercials touting the benefit and ease of using mobile deposit. The commercials cover a wide range of generations and careers, promoting the feature to a variety of potential adopters.





In Conclusion

The landscape surrounding Mobile Deposit has seen a definitive shift. Adoption is growing fast, with over 40% of current mobile deposit users initially adopting in the past year.

Previous research proved that customer experience is correlated to adoption. With this study once again finding markedly different experiences among the top 15 multichannel FIs, banks once again have a playbook from which to accelerate digital migration and boost overall digital success.

Now more than ever, mobile deposit is an increasingly mainstream component of overall channel migration, cost-reduction, and digital payments strategies. Fee elimination, increased deposit limits, and shorter hold times are all both causes and evidence of FIs more fully winning with Mobile Deposit.

The bar is rising for mobile deposit customer experience, with auto-capture, deposit limits at parity with other deposit channels, and real-time status updates becoming necessary features to maintain a strong overall customer experience. These features can help mitigate barriers to adoption like fear of fraud and worries over fees.

Marketing and customer education can also play a significant role in driving adoption. Our findings this year show that while the top way of learning about mobile deposit was through conversations with a branch employee, branch training is inconsistent and most banks need to improve training and promotion around Mobile Deposit.

For financial institutions to now realize first-tier levels of adoption, they must now provide a total customer experience-including specific changes in policy, education and staff training-to assure customers that there is no safer, faster, or simpler method to deposit checks than via mobile.

The age of mobile deposit is here, and we look forward to helping banking leaders achieve more than their fair share of adoption.

Definitions

Definitions: Heuristics

Efficiency of Use – The system should cater to both experienced and inexperienced users and allow users to tailor frequent actions.

- The system is easy to use All users are able to navigate and operate through the app with ease
- Findability The MD function is easy to locate within the app

Clear Terminology – The system should speak the user's language, with words, phrases and concepts familiar to the user, rather than system-oriented terms and banking jargon. Follow real-world conventions, making information appear in a natural and logical order.

- Account information The user can see all relevant account information clearly and concisely
- Help & documentation User can easily locate help options and assisted documentation
- Monetary Values All monetary values are displayed clearly and concisely
- · Limits Deposit limits are easy to find and understand
- Check Image Captures Instructions for photographing a check for deposit are clear and easy to understand
- Buttons/ Actions Each button clearly conveys the action it performs
- Options Users can easily see the options available (ex: change accounts, cancel deposit, read help topics)

Match User Expectations - All dialogues are easy to understand and able to clearly and easily instruct the customer to perform necessary actions. Users wish to be:

- Able to select accounts / change accounts User can select or change the account to which they will deposit their check
- Able to enter dollar amount seamlessly
- Able to open up help/ tips easily Easily access help and/or tips during the process
- Unable to take photos due to missed/incorrect action The app should not let users proceed until they have captured a correct image of their check

- Given direction on photo capture The user should be instructed to hold the camera steady, find clear lighting, etc.
- Funneled toward the objective All actions should clearly be steps toward the final goal of a successfully deposited check
- Able to easily correct errors User can see and edit deposit information all through the process
- Able to cancel or sign off at any time throughout the process Closing out a session should pose no risk of a prematurely or incorrectly deposited check

Consistency and Standards - Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.

- Are style and colors for appropriate banking institutions being followed?
 The look and feel (colors, fonts, graphics) match what users associated with the bank's materials and branding, and are appropriate for a fiduciary institution.
- Are user inputs consistent across the system? Actions users take work consistently across the app. For example, entering a dollar amount should work the same way every time
- Are account information and limit values all readable and easy to understand? Users can clearly and easily locate and understand all account information, deposit limits, deposit cut-off times, etc.
- Are titles, labels, and actions are clearly defined and do they follow the same design patterns? Text, labels, and buttons should work together to create a consistent experience
- Do photo capture actions match for both front and back capture? The instructions users read and actions they take should be the same for photographing both the front and back of every check

Hierarchy and Context – The hierarchy and context should easily funnel the user through their actions in order to reach their desired goal with no confusion.

• Users must be told the daily cutoff time for deposits first, clearly displayed at the beginning of the process

- The help option must be easy to identify
- Users should be able to choose the account to which they will deposit before entering the dollar amount of the deposit
- Automatic photo capture features should take accurate photos of the front and back of every check
- Photo tips should be easy to access
- Users must be able to cancel out of taking a picture at will
- Help should be easily accessible within the capture window
- Users should be able to manually capture an image of the front and back of their check and have the app accept such submissions
- The deposit should be easy to complete once a check has been properly photographed and the correct information entered

Error Prevention - Good error messages are a vital design element, preventing problems from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.

- Help is available and accessible at all times
- Tips are accessible and functioning during photo capture
- Photo capture error messages assist in the capture
- The app alerts users who enter incorrect or insufficient dollar amounts when depositing checks
- Users are made aware of deposit amounts exceeding their current deposit limits

Auto-capture – The check image is captured automatically when the "best"conditions are detected by the app.

- Users should be automatically taken to the Auto-capture feature once all prior steps are completed.
- The process of capturing an image is the same for both the front and back of a check
- Users should be able to toggle their phones flash when photographing a check

- The app should provide an error message if the phone is too unsteady to take a clear image
- If the app provides a sizing window to frame or outline the check during image capture, this feature should function correctly
- The help window must be available and functioning properly during image capture
- Users must be able to cancel image capture at will

Item Processing- The transaction is processed and functions as expected, providing notifications and displaying the proper data

- Are the correct limits visible (amount, cutoff time etc.)? The app clearly displays deposit limit, cutoff time, and processing time in a way users can easily understand
- Are they customer specific? Deposit limits are not based on a bank defined amount but how much customers may have in relation to their current account balance. Or If you are a premiere account holder your daily and monthly limits may be higher than the standard checking account.

Real-Time Deposit Status Updates - Is this information current, correct, and occurring in real time?

- Are the deposits current? Deposits should be accepted in real time.
- Does the bank receive deposits in a timely manner? Deposit status is to be provided immediately, letting users know their deposit is being processed in a timely matter
- Are funds available when promised? Funds must be available to the user no later than indicated by the app at the time of deposit
- Does the user receive a confirmation message once the action is completed? Email or in-app confirmation should be sent immediately upon receipt of the deposit
- Are the fund values correct? The funds deposited into the user's account should match their deposit submission exactly. However, if that is not the case the bank should notify the customer that a correction was made.

About The Author

Visit us at www.futurion.digital

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Jim Van Dyke, CEO of Futurion, is a research-based strategic technology consultant, helping leaders capture the future of digital consumer identity, payments and financial services.

Prior to Futurion, Jim founded and led Javelin Strategy & Research. Mr. Van Dyke also volunteers on the Consumer Advisory Board of the Consumer Financial Protection Bureau (CFPB), with a focus on fintech. He has held various research, strategy, and management positions in his 30+ years of experience in digital commerce. Jim has presented to venues including executive boards, vendors' client summits, and agencies including the U.S. House of Representatives (Congress) and Ways and Means Committee. He has been widely cited in global media including Bloomberg, Financial Times, Fox News live television, National Public Radio (NPR), the front page of the New York Times, and Wired.

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Customer experience metrics include heuristic data measuring user experience and mystery shopping research obtained in active partnership with Comrade. Fees, deposit limits, and check retention policies were obtained through publicly available data from each bank.