

# Mobile financial services

Raising the bar on customer engagement

Deloitte  
University  
Press



BANK	
Payment	
72,897,000	45,487,000
15,747,000	
394,107,000	12,850,000
22,287,000	45,474,000
<b>495,337,000</b>	<b>37,011,000</b>
129,623,000	77,8914,000
15,474,000	29,686,000
929,000	81,199,000
	14,977,000
	129,622,000



A research report by the  
Deloitte Center for Financial Services

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# The business imperative behind mobile offerings

**W**HILE many financial services companies have been relatively quick to jump on the mobile bandwagon, the industry still has a long way to go in capturing the full potential of this rapidly evolving technology.

Mobile capabilities have quickly become table stakes. For instance, almost all major banks, insurance companies, and investment firms have mobile apps.<sup>1</sup> However, according to our recent survey of consumers (see sidebar, “About the survey”), an alarmingly high percentage of respondents are unaware of financial services mobile apps available to them. Even if customers are familiar with them, many are hesitant to use such mobile services due to concerns over security, privacy, and ease of use. Those who do take advantage of mobile services are mostly conducting rudimentary transactions they can already do online via their desktop or laptop. Companies have yet to

fully leverage mobile technology to ramp up engagement with customers.

What’s more, the highly dynamic nature of mobile technologies is likely to present financial services companies with two additional challenges. First, “mobile” is becoming less about a specific device and more about how to augment customer interactions with the multiplicity of technology options available now, with more to come in the near future. Initially viewed as a convenient extension of services over the phone, offering voice activation, push-button instructions, and live interactions, mobile now encompasses a range of digital devices and applications to widen engagement opportunities with customers on the go, as well as those who increasingly use mobile devices in their homes or offices.

Take the example of Westpac Bank in New Zealand. In January 2014, the bank announced

## ABOUT THE SURVEY

The data presented in the report are from an online survey conducted by Andrews Research Associates on behalf of the Deloitte Center for Financial Services. The survey was conducted during the first two weeks of January 2014 and had a total sample of 2,193 respondents. Survey respondents were required to own a smartphone, be at least 21 years of age, have a minimum annual household income of \$25,000, and have a bank checking account. About half of the sample was also required to have life, home, or auto insurance. Respondents were distributed across income levels and age groups. The sample included over 500 respondents from households with income above \$100,000 per annum. The sample was weighted to represent the broader US smartphone population.

that it is testing the latest innovations in wearable technology (Google Glass™ and smart watches) and micro-location sensors such as iBeacon™ to “drive customer value.”<sup>2</sup> Westpac is not alone at the forefront of mobile technologies. In the United States, Fidelity is marketing a “free Fidelity Market Monitor for Glass™” that can be used to keep track of stock quotes.<sup>3</sup> And in the insurance arena, in response to policyholders’ demands, Allstate Insurance introduced a claims-processing mobile app called QuickFoto Claim<sup>SM</sup> that enables customers to file for claims right after an accident.<sup>4</sup>

Second, mobile technology is reshaping customer engagement in a dramatic manner. Due to mobile’s ubiquity and ease of use, consumers are tethered to their mobile devices to an extent unmatched by any other technology in the past. And for many, mobile is increasingly becoming the primary method of interaction with their financial services providers.

Meanwhile, the “mobility” in mobile technology is becoming increasingly relative, as 57 percent of respondents to the recent Deloitte survey use smartphones “the most” in their homes. Given this fact, should the at-home mobile experience that financial services companies offer be different from out-of-home experiences, where there is perhaps greater concern about security and privacy? Should financial companies and other service providers be designing “location-aware” and “context-specific” mobile offerings? The answer is probably yes.

## Gearing up for the new era in digital evolution

The industry is entering a new phase in its digital evolution. But this time around, financial services companies are better prepared to keep pace with innovations and creatively adapt them to serve customers. This is evident in the sharper strategic focus and organizational energy around the mobile channel we observe in all financial service sectors.

However, to be successful in this new era, companies need to galvanize their efforts around three key objectives:

1. Increase mobile adoption
2. Leverage mobile devices’ current capabilities
3. Proactively prepare for the future of mobile technologies

## Adoption across the financial services sector is not uniform

Not all industry sectors are moving forward at the same pace in terms of consumer awareness, perception of value, and adoption. Indeed, the majority of respondents to our recent consumer survey about the use of mobile technology in financial services were not even aware whether their insurer or investment manager offered a mobile app. In addition, they placed a much higher value on the ability to interact using mobile devices with their banks than with other financial providers.

Part of the reason for this is that banks simply interact more frequently with consumers, making mobile options more convenient and valuable. Insurers, for example, usually only engage policyholders at the time of sale, at renewal, or when a claim is filed, while most individual investors do not make frequent changes to their investments. Banking customers, on the other hand, pay bills, make deposits, or withdraw funds on a daily, weekly, or at least monthly basis.

This is not to suggest that banking is necessarily ahead of the other financial services sectors in terms of mobile capabilities. Thus far, the banking, insurance, and investment management sectors have all focused primarily on migrating existing online functions onto tablets and smartphones. Following a pattern similar to the early days of web adoption, the



emphasis has been on incorporating fairly routine transactions onto mobile platforms.

While this is a necessary step, financial companies will likely need to pursue a dual strategy going forward to make further headway with consumers on the mobile front. The more immediate goal is to raise awareness of the current, rudimentary services available through mobile. However, the longer-term objective should be to move beyond transactional, episodic interactions and offer more engaging real-time services so as to differentiate a company's mobile capabilities and boost brand loyalty.

A third path might be to generate additional revenue by charging fees for those who want premium mobile financial services. Such initiatives may prove to be problematic, however, as our survey found few respondents open to the idea of actually paying extra for mobile services. Still, companies could reap a substantial, albeit indirect, return on their mobile investments by offering “killer apps” with unique, value-added benefits that enhance the customer experience, bolster client retention, and draw new prospects into the fold.

## MOBILITY AND CUSTOMER ENGAGEMENT BEGINS WITH AWARENESS, THEN TRUST

Customer engagement is increasingly becoming a key focus area for financial services companies. The reasons are quite obvious. Few would doubt that engaged customers translate to greater economic value: Customers who are more engaged tend to be more loyal and, as a result, more profitable.

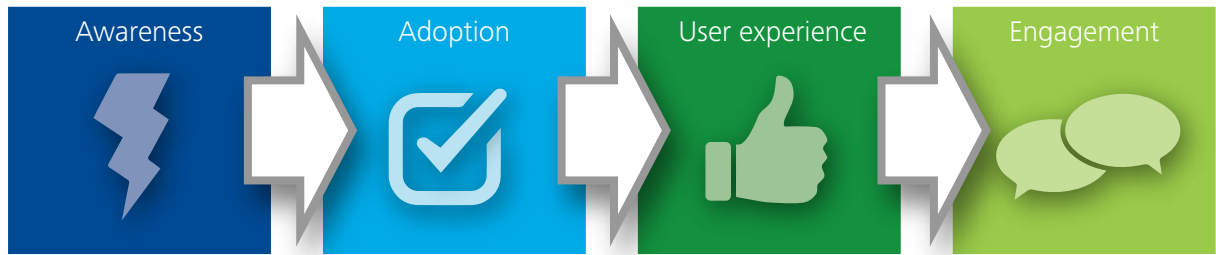
But a key obstacle for companies is that consumers have become less trusting and more demanding. The financial crisis, in particular, eroded consumer trust across the financial services spectrum. And although public perceptions have improved somewhat since then, “the need to rebuild trust through performance is increasingly apparent.”<sup>5</sup>

So in an age where attention spans are short and competition for mindshare intense, how can financial services companies build and enhance customer engagement?

The digital channel could hold substantial promise in this regard. Evidence is mounting that consumers who use mobile devices for their interactions with service providers are also more likely to have deeper engagement.<sup>6</sup> For instance, according to Simple, a digital-only bank acquired by BBVA, its clients interact with the bank an average of 2.4 times a day, considerably more than other banks' customers make in-person visits at bank branches.<sup>7</sup>

But how can financial services companies proactively elevate customer engagement beyond the existing boundaries offered by current mobile experiences?

We posit a four-step model of mobile customer engagement (figure 1). The first step is to generate awareness of a company's mobile offerings; the second step is for the consumer to adopt them. The third step is consistent usage—that is, once a mobile offering (an app, for instance) is adopted, it has to be used on a regular basis. The fourth step is to achieve a deeper, more meaningful engagement with customers through mobile connections and services.

**Figure 1. Mobile customer engagement model**

Source: Deloitte Center for Financial Services.

Graphic: Deloitte University Press | DUPress.com

## The road to enhancing consumer interactions

This report draws from our survey data on the use of mobile technology in financial services, as well as our in-house subject matter expertise, to help financial services companies craft strategies to accomplish the following:

- **Capture low-hanging fruit** by making consumers more aware of the mobile capabilities already available to them and convincing more of them to use such services—in part by overcoming concerns about hardware, privacy, and security
- **Leverage the current capabilities** of mobile devices so that companies can more fully capitalize on what the technology has to offer in terms of convenience and cost savings
- **Prepare for the future** so that companies can keep up with, and perhaps even get ahead of the curve on mobile services, taking advantage of the transformation in communications, sensing, and community building being facilitated by this ubiquitous technology

Tackling these three elements can help financial services companies create deeper engagement with consumers and become an

integral part of a customer's regular mobile routine. Accomplishing this will require agility and persistence, as the development of mobile capabilities in this rapidly evolving technology environment is likely to be an ongoing journey rather than a final destination.

## Getting on the map: Generating greater awareness and usage of mobile apps

Providing financial services via mobile devices—whether simply to follow the migration of consumers from desktops and laptops to smartphones and tablets or to achieve more ambitious engagement objectives—is only half the battle. The other half is making consumers aware of these capabilities and then convincing more people to actually use them.

Lack of awareness is a major barrier to adoption for at least two of the three financial sectors. For example, 65 percent of survey respondents with a life insurance policy were not even sure whether their carrier offered a mobile app. The same can be said for 63 percent of those with homeowner's or renter's insurance, as well as 57 percent of auto insurance consumers. And nearly half of survey respondents were not sure whether their mutual fund, retirement account, or investment account providers offer mobile apps.

Banks have achieved greater awareness and usage at this point. In fact, 63 percent of smartphone users had interacted with their bank via a mobile app, compared with less than half that percentage for insurance and investment management. As for value, 39 percent of those surveyed characterized the ability to deal with their bank on a mobile device as extremely or very important, versus only 23 percent for investment-related activities and just 19 percent for insurance.

Again, this may in part be attributable to the nature of basic banking versus other financial services, with bank customers making inquiries and initiating transactions more regularly. But the twofold challenge for all financial sectors remains: how to increase the number of mobile interactions with consumers, as well as how to initiate and maintain deeper engagement via mobile devices by offering more sophisticated capabilities.

Right now, the vast majority of mobile interactions with financial services companies involve rather routine transactions.<sup>8</sup> In banking, that means accessing account balances, finding a nearby branch or ATM, transferring money, and paying bills. The same can be said for insurance (for routine activities such as filing or checking on claims or accessing a certificate of insurance) as well as investment management/brokerage (for checking balances and moving funds among accounts), although the usage rates are far below those of banking.

Keep in mind that companies still have work to do to achieve full utilization of even routine capabilities. For example, over half of the respondents in our survey do not use mobile devices to pay bills or transfer funds,

and a large majority does not use them to transfer money to other people or to make deposits remotely by taking a picture of a check and forwarding it to their bank. Among insurance customers, about three-quarters of our survey respondents do not use mobile devices to display an insurance card or file a claim. For investment management/brokerage customers, more than half of our respondents do not even check their balances or positions on mobile devices, while 80 percent do not trade securities that way.

This trend persists despite the frequency of advertisements in mainstream media calling attention to the availability of mobile apps

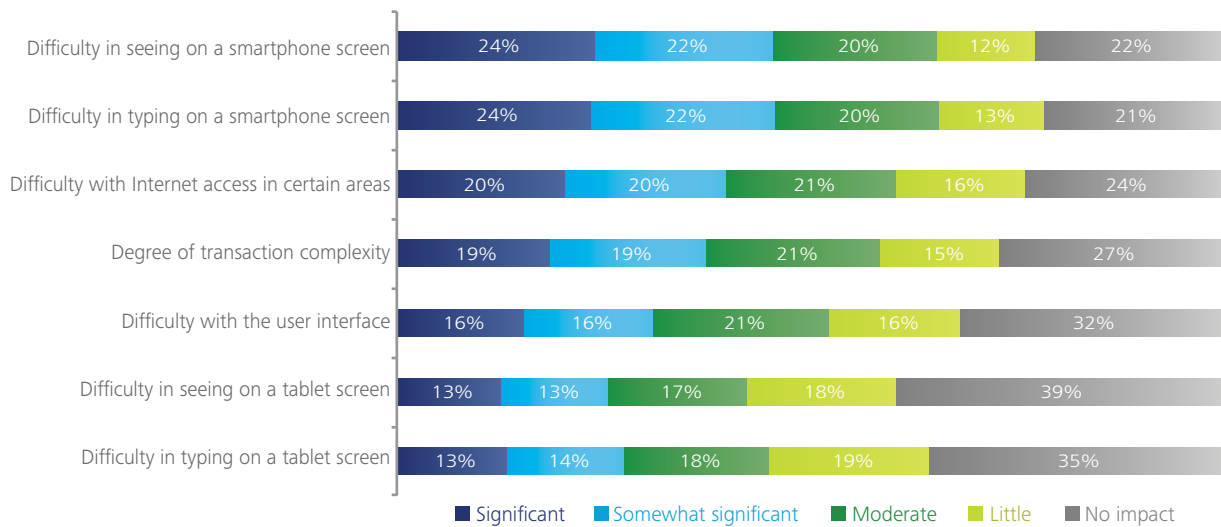
offering routine transactional capabilities. Since Marshall McLuhan pointed out in his signature 1967 book that “the medium is the message,” perhaps a more proactive communications campaign via social media and search engine optimization is in order to reach those who are most likely to communicate and do business virtually.<sup>9</sup>

If they haven’t already done so, companies should also be training client-facing staff to continually point out and remind customers about the mobile services at their disposal, especially since mobile adoption could spare such client-facing personnel the burden of performing many routine functions or responding to frequently asked questions.

But even if greater awareness is achieved, adoption could still be a problem for many financial services companies due to technical challenges related to the devices themselves and the wireless networks they tap, as well as psychological misgivings arising from widespread concerns about privacy and security.

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**Figure 2. Limitations in using mobile devices<sup>10</sup>**

Source: Deloitte Center for Financial Services.

Graphic: Deloitte University Press | DUPress.com

## Overcoming obstacles to usage

Mobile technology offers the convenience of access on the run, from virtually any location. In addition, many people are using mobile devices for a variety of purposes in the comfort of their own homes, working their TV remote control with one hand and a mobile device with the other (if they are not already watching a program or playing a game on their smartphone or tablet).

Yet for many consumers, when it comes to conducting financial services over mobile devices, the advantages and conveniences offered by smartphones and tablets are being trumped by more negative considerations about the devices themselves and data security.

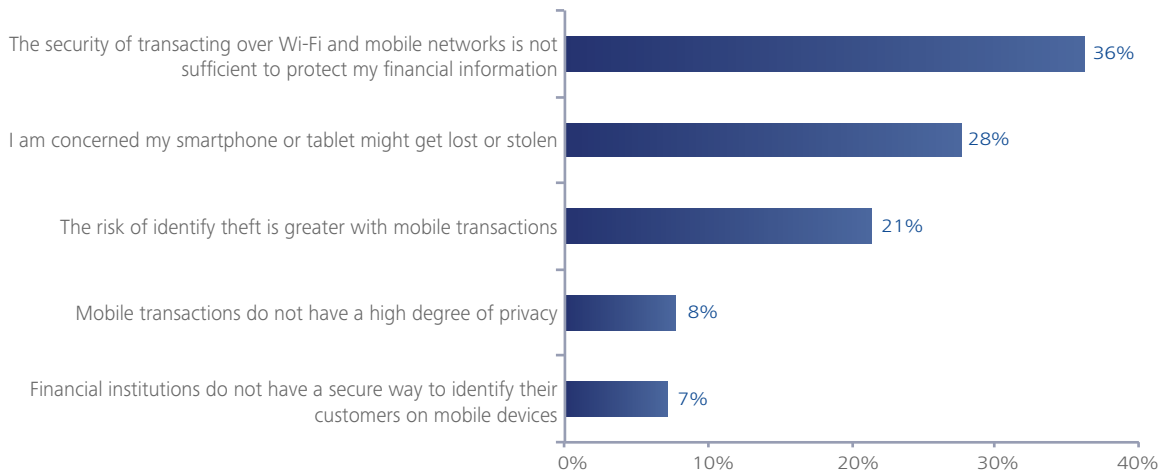
For instance, one in four survey respondents said that the difficulty of seeing and typing on a small smartphone screen was a significant limitation that discouraged them from using their mobile device more often (figure 2). Such factors—which were much less of a concern for those using tablets—were also cited, particularly by older consumers, as by far the two most significant barriers to using smartphones to conduct their financial services business.

Meanwhile, 61 percent of those who do not regularly use mobile devices for financial services cited security issues as the prime reason. This is 22 points higher than the percentage citing the next most common reason (a preference for doing such business in person or with a human being over the phone). The concern about security is also evident in other studies.

This is one area where banks are at a decided disadvantage compared with other financial sectors. In our survey, 64 percent of respondents said they were either extremely or very concerned about data security when banking over their mobile devices, versus a smaller (but still substantial) 54 percent of investment management clients and 45 percent of insurance consumers. Such concerns have clear consequences, as three in ten respondents said that security issues had prompted them to severely restrict the use of mobile devices for financial services.

A little over one-third of respondents were insecure about transacting financial services business on mobile devices because they do not trust the security of the Wi-Fi and mobile networks transmitting their data. Meanwhile, when asked about their primary security

**Figure 3. Factor most influencing security concerns related to mobile devices**



Source: Deloitte Center for Financial Services.

Graphic: Deloitte University Press | DUPress.com

concern, 28 percent cited the risk of their mobile device being lost or stolen, and 21 percent cited the risk of identity theft (figure 3).

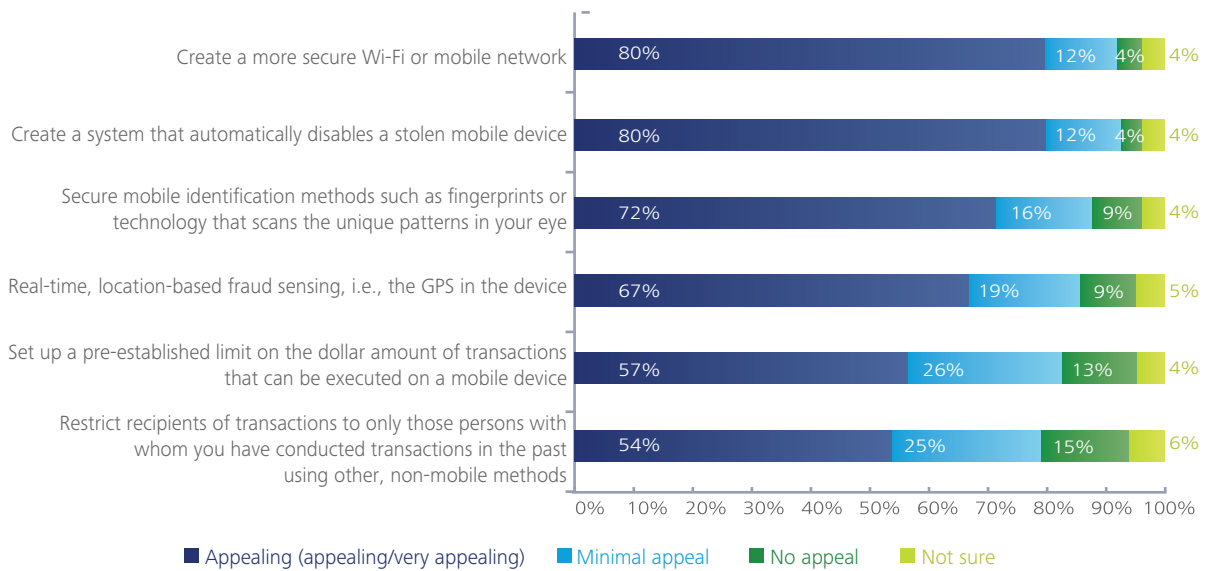
To boost adoption and set the stage for more ambitious applications, companies will likely have to take tangible steps to reassure consumers about the security of their mobile financial transactions. Along those lines, 80 percent of those surveyed would like the ability to remotely disable a lost or stolen device, while 72 percent would appreciate the use of biometric identification (such as fingerprints or eye scans) to enable a device for financial services transactions. For banking security, over half of our respondents like the idea of

preclearing a limited number of people who could receive funds in a mobile payment, as well as setting a dollar limit on such transactions. Two-thirds supported leveraging the mobile device's GPS for real-time, location-based fraud sensing (figure 4).

Implementing these and other concrete security measures, then calling attention to such efforts in advertising and social media campaigns designed specifically to address such concerns, could perhaps help overcome lingering consumer hesitations about accessing personal financial information or transacting financial business over smartphones and tablets.<sup>11</sup>

Younger respondents, in general, were more aware of the availability of mobile apps in financial services, as well as more likely to use them.

**Figure 4. Appeal of different factors mitigating mobility security concerns**



Source: Deloitte Center for Financial Services.  
 Graphic: Deloitte University Press | DUPress.com

## Targeting marketing to mobile prospects

Another way to widen adoption and expand usage of mobile financial applications might be to target different audiences with different messages, focusing on whatever issues concern each segment the most.

To start out, a two-pronged strategy based on age might be in order. Older prospects could receive mobile pitches about a company’s efforts to alleviate security concerns for routine transactions. The messaging for younger prospects could be more focused on using mobile to create a virtual community around financial services issues, as well as to take advantage of advanced, value-added interactive capabilities. For example, our survey found that younger consumers would be far more open than older consumers to having their driving monitored on a mobile device in return for a discount from their auto insurer.

Indeed, age was the most significant differentiating factor among the consumers in our survey. Younger respondents, in general, were more aware of the availability of mobile apps in financial services, as well as more likely to

use them. In addition, younger respondents reported fewer technical problems working with such devices, and they were not as concerned as their older counterparts when it came to security. Moreover, younger segments were more open to sharing personal information with their financial services companies, as well as to receiving alerts about products and services based on their profile.

Still, while younger consumers may be more receptive to services via mobile devices, that does not mean they will be an easier group to recruit and retain as customers simply because of the availability of financial apps. Indeed, this segment is likely to be more demanding in their expectations for mobile financial services, given their mobile service experiences with other industries employing more advanced apps.

In addition, while older consumers might be a tougher sell for mobile services because of their deeper concerns about security and the ease of using smartphones, this segment, broadly speaking, has the most to bank, invest, and insure. Targeted efforts to communicate how mobile security and usage issues might be overcome are therefore critical.

# Leveraging the current potential of mobile devices

**T**HE new generation of smartphones is remarkable. Among their “cool” features are high-quality cameras, voice commands, finger scanners, heart rate sensors, and fitness trackers. These innovative options present financial services companies with tremendous new opportunities. However, for the most part, companies have merely scratched the surface in using mobile technologies to connect and strengthen relationships with customers.

## Going from high-touch to “v-touch”

One of the most entrenched beliefs in the financial services industry has been the notion that certain services—especially those that are complex in nature, such as wealth management or annuities—can only be delivered using high-touch, person-to-person interactions.<sup>12</sup> This prevailing wisdom has dictated many a service delivery strategy in the past. But, more recently, economic pressures have driven some financial services companies to rethink this approach and to become more selective in using high-cost delivery models.

Fortunately, advances in mobile technology, coupled with more robust network and data infrastructure, can further accelerate this trend toward low-cost channels.<sup>13</sup> Some services, hitherto delivered using the high-cost face-to-face method, can now be offered virtually, using innovations such as video-enabled ATMs, voice-over-IP video services, video calls, and mobile web conference apps.

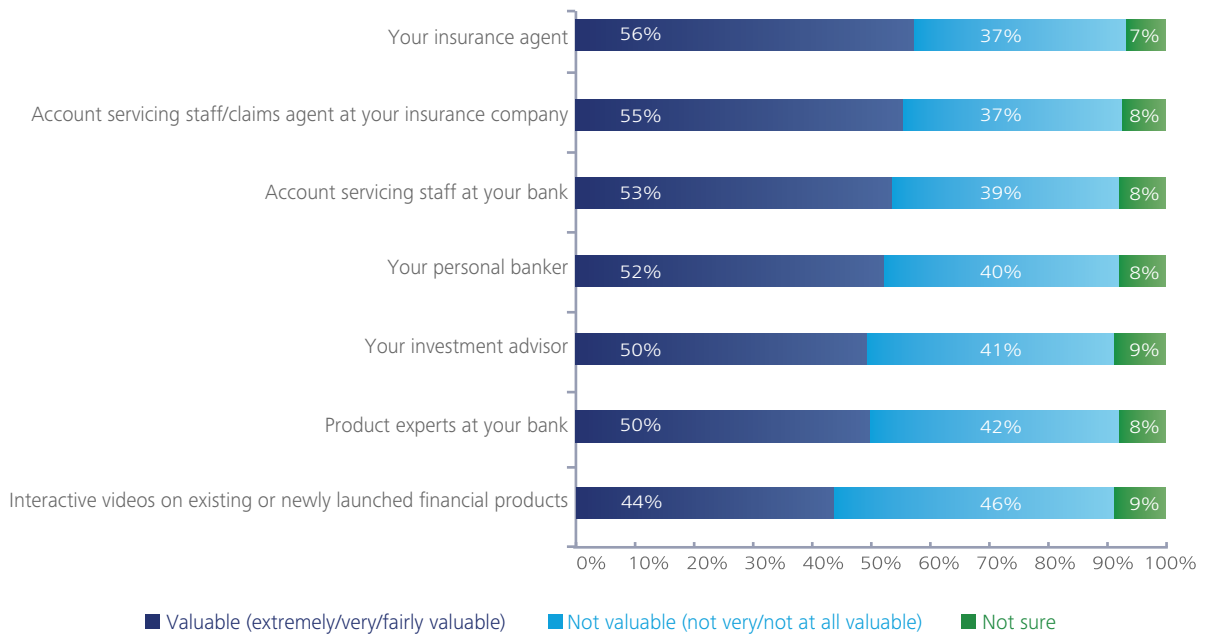
There are a number of advantages to using these low-cost virtual-touch (v-touch) methods. First, the convenience of service delivery

is highly appealing to customers. (Imagine whipping out the smartphone or the tablet to initiate a video chat with your financial advisor or insurance agent from home or any other remote location.) The second appeal is the opportunities that virtual service can create to deliver a more personal touch and encourage more frequent interactions, possibly increasing stickiness and customer satisfaction.

Potentially, these virtual-touch channels could also result in cost savings due to higher productivity, decreased travel time by service staff, and a reduced need for physical office space. On the other hand, v-touch could also drive greater demand for service time, leading to the need to maintain greater capacity to handle these interactions. But if the intent is to enhance customer engagement, the additional investments in resources might be worthwhile in the long run. (Of course, companies should take care not to resort to the v-touch approach when face-to-face meetings might be more appropriate.)

In our survey, about half of the respondents found immediate access to a video call with insurance agents, personal bankers, and investment advisors appealing (figure 5). This level of interest is uniform across income groups; however, younger respondents assign a higher value to these options. This suggests that targeting the younger demographic segment with virtual services can be quite effective.

The survey also shows that voice commands are seen as quite helpful by a majority of respondents. More than half thought that using voice commands for basic services such as bill payments or looking up account balances was helpful.

**Figure 5. Value of immediate access to video calls with financial services staff**

Source: Deloitte Center for Financial Services.

Graphic: Deloitte University Press | DUPress.com

Imaging is another smartphone/tablet feature that financial services companies could use to simplify customer interactions. This trend is already underway in a number of areas, where customers can send images of documents for loan processing, funds transfers, or insurance claims. Image transmission could also be used to reduce data entry during customer onboarding.<sup>14</sup>

The comforting fact is that video-, image-, and voice-based features have now become basic functionality in mobile devices. And with bigger screen sizes on the horizon (with the emergence of “phablets,” for instance), one can easily envision virtual methods of interaction with companies becoming more common in the future.<sup>15</sup> Of course, v-touch might not appeal to all segments equally, but increasing consumer comfort will lead to a greater propensity to use it.

The challenge of migrating to an increasingly v-touch world is not restricted to consumers alone. Companies will need to invest

in new infrastructure to enable virtual interactions and train their staff to conduct these sessions effectively. Compliance training will also be a necessary component of a v-touch effort.

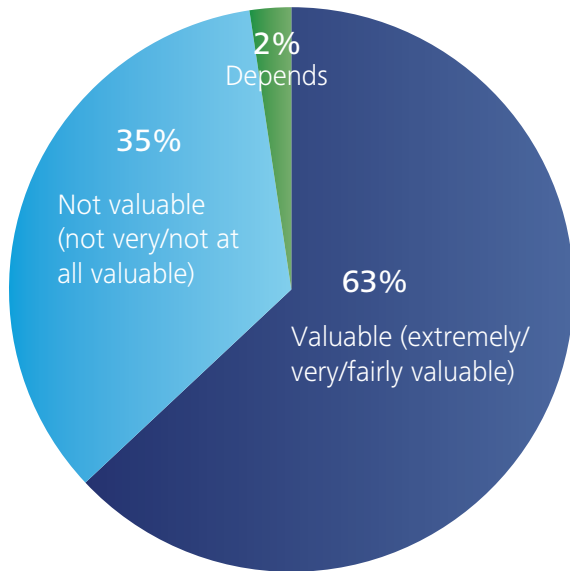
## Going biometric for security and ease of use

Biometrics is another mobile device capability that financial services companies could leverage to make customer interactions easier and more secure. Some of the current devices in the market, such as the iPhone 5S<sup>TM</sup> and Samsung Galaxy S5<sup>TM</sup>, already have fingerprint scanners, for instance.<sup>16</sup> And, what’s more, there is increasing evidence that financial services companies are using voice biometrics for authentication.<sup>17</sup>

This appears to be just the beginning. In the next few years, more advanced biometric solutions in the form of palm-, iris-, and facial-recognition features that are embedded in mobile devices are likely to emerge.<sup>18</sup>



**Figure 6. Value of biometric identification**



Source: Deloitte Center for Financial Services.  
 Graphic: Deloitte University Press | DUPress.com

From the consumer’s perspective, these features carry substantial value. According to our survey, nearly two-thirds of smartphone users said they would find it valuable to use biometric identification (fingerprint, voice scan, or retinal scan) on mobile devices for ATM transactions and payments (figure 6). Male, younger, and high-income (\$100,000+) respondents are slightly more comfortable with making payments using biometric security. This should be welcome news for financial services companies, which can use these advanced technologies to provide greater security and superior experience.

However, the comfort level with biometric security and encryption decreases as the amount of the transaction increases. For instance, the proportion of consumers who are comfortable with this technology drops from 26 percent for a transaction size of \$1,000

to only 11 percent for a transaction worth \$10,000. This finding illustrates that biometric solutions may be more successful for smaller transactions. As consumers gain experience with biometrics, they might then be more willing to use them for larger payments.

## New ways to use locational data

One of the most impressive features of today’s mobile devices is the Global Positioning System (GPS) feature, which has become more reliable and user-friendly over the last several years.<sup>19</sup>

It appears that GPS, which most smartphones have these days, is ripe for value-enhancing services by financial services companies. Telematics (that is, the use of sensors to track driver behavior) is one particular example. About half the smartphone users in our survey, for instance, would allow their driving to be monitored via a mobile app in return for a price discount. Other applications in payments (validation and fraud detection, for example) could also be enhanced using mobile locational data.

However, financial services companies may face some obstacles in collecting and using this information. For instance, only about a quarter of our respondents said they would be willing to link the GPS function on their smartphone or tablet to bank accounts to make it possible to pay automatically for routine expenditures.

Another potential application for GPS is for in-store customer service. The most striking possibility may be to use Bluetooth “beacon” technology, which can find a precise location within enclosed spaces such as retail stores, to improve the in-store experience at a bank branch or other financial services facilities.<sup>20</sup>

# Plan, adjust, and rethink as mobile technologies evolve

**T**O assess mobile's future, one may need to redefine "mobile." More than just a phone or tablet, a mobile device can be any "untethered, connected thing," according to Andrew Lippman, associate director of the MIT Media Lab.<sup>21</sup> Future developments may therefore offer improved sensing of the world surrounding the user as well as a heightened connection to objects through the increasing deployment of the "Internet of Things" (IoT).

Given the pace of technology advancement in the mobile space, financial services leaders should be rethinking how mobile device technologies may develop and be ready to quickly adjust to the emergence of technological enhancements that may not be currently envisioned.

One way to approach this planning is to consider how future enhancements may allow financial services companies to overcome some of the barriers highlighted in our survey, such as the difficulty of reading and entering information on smartphones, concerns about device security, and transaction complexity. These enhancements may center on three major attributes of mobile devices: their sensing capabilities (such as cameras and accelerometers), the ability to connect to a network for communications purposes (for example, cellular, Bluetooth, and Wi-Fi), and the human interface (the screen and intelligent personal assistants). It is difficult to predict how quickly these technologies will be commercially deployed, but the following discussion offers a theoretical example or two in each of these areas for industry leaders to contemplate.

## Developments in sensing will aid security and enhance user experience

Onboard sensors today can detect movement, light, sound, and position. Studies suggest that future developments could include the ability to detect temperature, pressure, eye movement, and gestures, as well as magnetic fields.<sup>22</sup>

In the future, device security may be improved by ongoing developments surrounding these sensors. As an example, biometric identification via the use of accelerometers is being investigated to determine whether a user's physical movements—their walking gait or the way they move their hands—could be used for identification and authentication.<sup>23</sup>

There are also potential value-added services that companies could contemplate based on the evolving sensing capabilities of mobile devices. We have already mentioned how beacons and other sensors are being embedded into billions of objects, bringing the real and digital worlds together. Respondents to our survey suggested that they would find it useful to be able to document the contents of their home using the camera in their mobile device, to provide evidence of loss in case of a theft, fire, or other disaster. Insurance carriers could potentially streamline this process, leveraging IoT technologies by developing an app that automatically uploads and maintains a database of household possessions to streamline the claims process.

## Future developments may therefore offer improved sensing of the world surrounding the user.

Mobile phone sensing data also may be used to drive an analysis of group and population movements and behaviors that could yield interesting and powerful insights. Mining these data could provide a wide range of benefits for financial services companies. For example, mass behavioral data could aid decisions on where to locate an investor center or how to enhance the insurance underwriting process.

### Communications and social networking combine to aid awareness

At their inception, mobile phones were designed to simply replicate landline voice communication through a cellular network. Adding data services for Internet and email access, and other antennae for point-to-point connection using near-field communications protocols like RFID and Bluetooth, proved valuable and popular as well.

Going forward, mobile ad hoc networks (MANETs) may enhance the traditional communications capabilities embedded in mobile devices. These technologies involve the establishment of local, identity-based networks among a group of mobile devices—a build-your-own network, if you will. Such networks are also evolving to allow for the development of location-based social networking to find others nearby who share an interest or who would benefit from a collaborative commerce opportunity (such as sharing a taxi).

The implications for financial services companies are interesting to consider. One potential challenge for these MANETs has to do with security concerns. But if an ad hoc network could be supported with technology that would foster mutual trust (in the same way that social networking platforms today allow users to control access to their information), the linkage between mobile and social networking may help address some of the awareness issues uncovered in our survey related to mobile financial offerings.

Company leaders may therefore need to think about how they could position their companies as a trusted partner to participate in these MANETs. For example, in a system arguably without central control, how could a bank support these kinds of “collaborative commerce” opportunities through the deployment of location-based payment services that may not be routed through traditional payment or carrier networks? Or how could an insurance carrier help policyholders recover in the immediate aftermath of a natural disaster when access to cellular and landline communications may be temporarily interrupted?

### Ways to address the struggles with interface usability

Our survey suggests that many consumers struggle with mobile interface readability and usability for financial services functions (figure 2). While the increasing variety of screen sizes and the customization of apps both hold some promise as a way to engage the

customer in the short term, wearable technologies become more interesting when one considers the ways that the functions of a user interface—manipulating and viewing—could more radically change. Two examples are the Fin and SixthSense.

The Fin, developed by a start-up in India, is a gesture-based technology that allows one to use hand gestures to control an array of connected devices such as televisions, computers, and mobile phones.<sup>24</sup> SixthSense, an MIT Media Lab project, combines gestural capabilities with a wearable connected projector that turns any physical surface into a screen. These two technologies may suggest ways that mobile devices could be untethered from the perceived limitations of the mobile phone-based interface by turning any person into a multidevice “clicker” and any flat surface into a screen.

Taking it one step further, another Media Lab project called Data Objects is examining how data could be untethered from devices and either moved from one device to another or carried.

Financial services companies could potentially improve the user experience if the boundaries of the interface were expanded. For example, how could a client’s meeting with his or her broker be improved if multiple devices could be connected, displayed, manipulated, and saved on a larger “screen” than that of either a desktop or a tablet?

While the potential developments explored above may be exciting to consider, there may also be limitations in the near term. Adding more computational power to these devices could stretch battery capacity to the theoretical limit. As a result, more computing power will likely need to be offloaded from the device to the cloud. This will likely impact mobile networks: Research on the telecommunications industry suggests that, with the expansion of device capability and object connectivity, carriers will continue to need to devote resources to bandwidth capacity and quality.<sup>25</sup>



# Where do companies go from here with mobile strategies?

**A**DVANCES in mobile capabilities proceeded slowly from the inception of the first cellular networks in the late 1970s to the development of multitouch smartphone technology around 2007. Since then, we have seen an explosion in device and network capabilities and demands. Financial services companies have deployed many mobile offerings to keep up with these changes and, based on our survey results, many consumers have found value in their efforts.

There appears to be much more to come. This creates an opportunity for financial services providers to get ahead of the curve on mobility, while avoiding the potential of being wiped out by the tidal wave in mobile applications.

As MIT Media Lab's Lippman notes, mobility will change the way people think about the space around them. "We anticipate a shift back to an interaction with actual spaces," Lippman says, contrasting this future trend with that of the past 15 years, during which the emphasis has been on "exploring and creating the virtual." Lippman predicts that mobile devices

will "evolve from being portable computers to become portable sensors and communicators." The challenge for companies is how to create their own world, virtual and actual, to connect better with their consumers.<sup>26</sup>

In the not-too-distant future, new technologies will likely be added to the mobile platform that take advantage of its ability to know where it is, see what is around it, communicate with other local devices, and connect with information sources that have yet to be deployed. Ultimately, it may require companies—and all of us along with them—to reimagine what mobility means.

Financial services companies may take the opportunity presented by the rapid, continuous rollout of mobile technologies to create deeper, real-world engagement with consumers. By developing and deploying more interactive applications that help banks, insurers, and investment companies become an integral part of a consumer's regular mobile routine, such companies can learn to use mobile apps as an increasingly important differentiator in attracting and retaining clients in the years to come.



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