

US Mobile Banking Forecast: 2007-2012

Analyst Author: Bob Egan
Chief Analyst

Analyst Author: George Tubin
Research Director, Delivery Channels and Financial Information Security

Analyst Author: Charul Vyas
Analyst, Emerging Technologies

Nov 2007

Reference # V53:14FN

TowerGroup Take-Aways

Two Charles River Place
63 Kendrick Street
Needham, MA 02494
United States

T +1.781.292.5200
F +1.781.449.6982
towergroup.com

- Mobile banking deployments today, unlike earlier mobile initiatives, are supported by strong market realities.
- Tier 1 US banks will establish mobile banking market precedents for deployment, feature/functions, and business strategy.
- The early market for mobile banking feeds off the existing US user base of the online banking channel.
- By 2012, 30% of online banking users in the United States will also use mobile banking.
- By 2012, 25% of all mobile banking users in the United States will come from outside the online channel.
- More than 40 million US consumers will be using mobile banking by 2012.

Report Coverage

Many US financial institutions are launching mobile banking applications or gearing up to do so. In this Research Note, TowerGroup combines research on the market for mobile banking with its earlier research on the online banking channel and mobile technology to forecast US consumer mobile banking usage from 2007 to 2012. Besides looking at the similarities and differences between the start of mobile banking and the evolution that has occurred in online banking, the report discusses today's mobile environment and the likely impact of mobile banking on other delivery channels. A companion Research Note is V53:15FN, *Mobile Banking Evolution: Issues and Considerations for 2008*.

Online Banking and Mobile Banking: Parallels and Divergences

The mobile banking and online banking channels share some cultural and technical obstacles to adoption. Several top US banks have announced or launched mobile banking services in 2007, and many others are evaluating their options or preparing for deployment. The period harkens back to the time of the initial online banking deployments. While many questioned the viability of the Internet banking channel back in the 1990s, few observers would now debate the explosive success of the online delivery channel for banks. For further information on this topic, see



TowerGroup Research Note V51:08NR, *Delivery Channel Volumes in the United States, 2006-2010: From "In Line" to Online.*

Some definite similarities are apparent between the launches of these two delivery channels. Mobile banking now faces the same questions that online banking faced: If it's built, will consumers come? What is the value of this new channel relationship to banks? And at what cost? Another similarity is that both types of service push the end users further from face-to-face contact with banking staff and more toward a self-service model.

The launch of online banking was hindered by several consumer-facing technical hurdles, including the then limited penetration of the Internet into households and the lack of widely available home broadband access, which meant the application interface was slow and frustrating to consumers. Finally, the very notion of online banking was a new concept for consumers.

Despite the challenges, online banking has emerged as a growing part of a bank's set of delivery channels. Today, more consumer service transactions are conducted online than via any other channel. TowerGroup estimates that some of the top banks have 60% of their retail customers using online banking. Even the laggards among the large banks see online banking penetration rates of 25%, a number that equals several million users per bank. Exhibit 1 shows the growth of usage of online banking among all US households from 1996 to 2007.

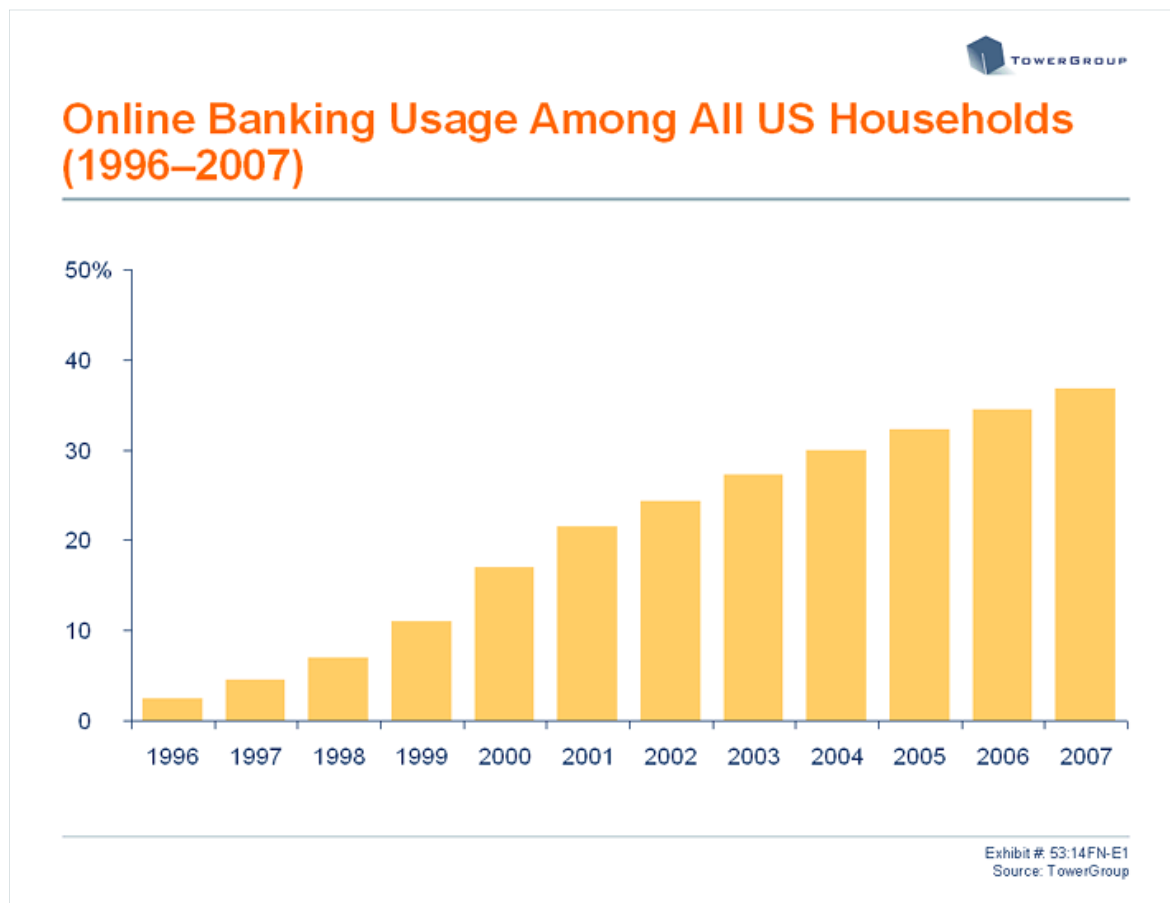


Exhibit 1
Online Banking Usage Among All US Households (1996-2007)
Source: TowerGroup



Unlike the difficulties banks faced when they marketed online banking services to a population that had limited Internet experience, with mobile banking they are starting from third base. That is to say, the usage of mobile telephones today is far greater than Internet usage was when online banking was launched in the mid-1990s. In fact, several large banks have reported that a "significant number" of their online banking clients have tried to access the bank's online banking application via the mobile Web. Yet mobile banking faces its own unique challenges, as described in the following paragraphs.

Pieces of the Puzzle

The first mobile banking initiatives in the United States during the early part of this decade crashed and burned. These early mobile offerings suffered from a lack of compelling feature/functionality and insufficient consumer friendliness. Compounding these drawbacks were limited device support, poor network availability, and slow data speeds. Finally, mobile operators were focused on other, more fundamental issues.

In just a few years, the market dynamics has changed, and TowerGroup believes the gears are greased for successful mobile banking deployments. Today's mobile banking launches come at a time when mobile device penetration in the United States is high: Approximately 240 million consumers subscribe to wireless communication services, which represent a mobile phone penetration rate of about 90% of the adult population aged 20 years or older. By contrast, Internet penetration is at only about 70% of US households.

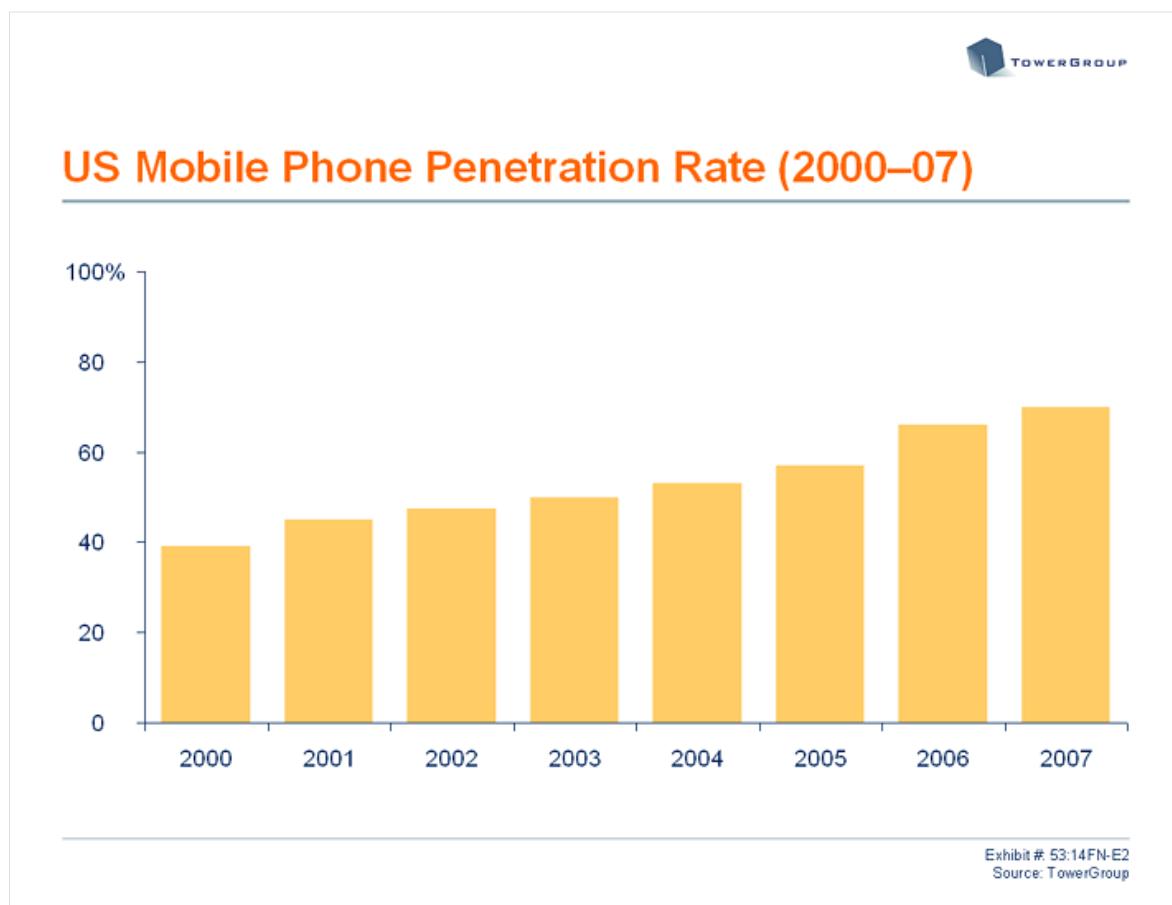


Exhibit 2
US Mobile Phone Penetration Rate (2000-07)
Source: TowerGroup



Third-generation (3G) wireless networks, which transmit data faster than the 2G networks, are available in most of the large, densely populated portions of the United States. Handset replacement cycles among consumers and business/consumer users continue to increase the number of 3G handsets in the installed base. TowerGroup estimates that 3G handsets will reach 50% for some wireless operators by year end 2007. But mobile banking services need not wait for universal adoption of 3G devices. Even though 2G phones are slower, they are sufficient for accessing basic account information such as checking balances or receiving Short Messaging Service (SMS) alerts.

Further increasing the appeal of data and application services, today's mobile devices are more feature rich, have faster processing power, more memory, richer and more colorful screens, and better resolution than early devices. Finally, handset manufacturers continue to evolve their platforms to support more standardized, if not open, application development environments. Among these environments are application-oriented operating systems, not unlike those seen on the desktop, including Microsoft Windows Mobile, Symbian, Linux (Google et al.), Qualcomm's BREW, and Java; RIM's development activities exemplify such evolution.

Technology suppliers have also responded to changing market conditions. Understanding that banks want various options when deploying mobile banking, vendors have responded with a variety of solutions, including text messaging and alerts (SMS), Web browsers based on Wireless Application Protocol (WAP), and downloadable applications. These methods are discussed in greater detail in the companion TowerGroup Research Note, V53:15FN, *Mobile Banking Evolution: Issues and Considerations for 2008*.

Finally, the consumer's banking preferences have evolved. Banking customers are now accustomed to and experienced in using the self-service model, largely due to online banking and to a lesser extent the ATM, both of which allow customers immediate access. Recent TowerGroup estimates indicate that "remote transactors," defined as customers who perform over 75% of their banking transactions at a self-service channel, represent almost half of all US banking customers.

Mobile banking still faces some cultural, technical, and business challenges. Chief among the technical challenges are information security and consumer privacy. Subtle but important differences also exist in network transport and performance across the various wireless operator domains.

The business challenges for financial institutions include cost of development, integration, deployment, support, and scalability. Business risks also exist with the large and growing ecosystem of technology suppliers, who remain largely untested and often underfunded. Finally, financial institutions must wrestle with the monopolistic control that mobile operators have over mobile devices that present varying degrees of both business and technical challenge.

Although consumer banking demand has evolved to increasing preference for a self-service model, a cultural divide exists. Consumers don't yet strongly associate their wireless service and mobile device capability with their financial institution and banking capability.

Mobile Banking Forecast and Assumptions

The adoption of mobile banking will be fueled by two primary factors: consumers' preference for real-time self-service and their growing adoption of mobile data services and applications. The Internet opened banks to 24X7, "any time" banking from the user's desktop, but mobility means immediate, "right now, right here" banking, wherever the user happens to be at any given moment.

In constructing the US consumer mobile banking forecast for this report, TowerGroup took into account numerous variables and market dynamics. These factors include early mobile banking launches and adoption rates in the United States, mobile phone features and expected handset evolution, mobile banking adoption experiences in other regions, and consumer adoption of the online banking channel by bank size. Although TowerGroup's forecast is based on realistic



assumptions, we believe that the many complex variables could impact adoption.

Our forecast methodology focuses on uptake of mobile banking solutions by individual consumers. This is in contrast to our forecasts for Internet banking, which are based on household adoption. We make this distinction because mobile phones are personal use devices, which are rarely shared by members of a family or other group, whereas home computers have been largely a shared household device. Even in the case on online banking, though, a demographic shift is in progress, away from shared-use devices to individual devices such as laptops.

Deliveries of outbound-only mobile alerts based on triggers preset in the online banking applications are not considered mobile transactions and are not reflected in TowerGroup's projections for mobile banking. However, alerts to the mobile device that require the consumer to react by initiating a mobile banking exchange via SMS, browser, or application-based solution are included. (Mobile payments are excluded from these projections but will be considered in future TowerGroup research.)

As the forecast in Exhibit 3 shows, mobile banking will experience strong growth in the coming years. The number of mobile banking customers will barely top 1 million by year end 2007 but can be expected to exceed 10 million by 2009. By 2012, we estimate that close to 41 million individuals will be using mobile banking services.

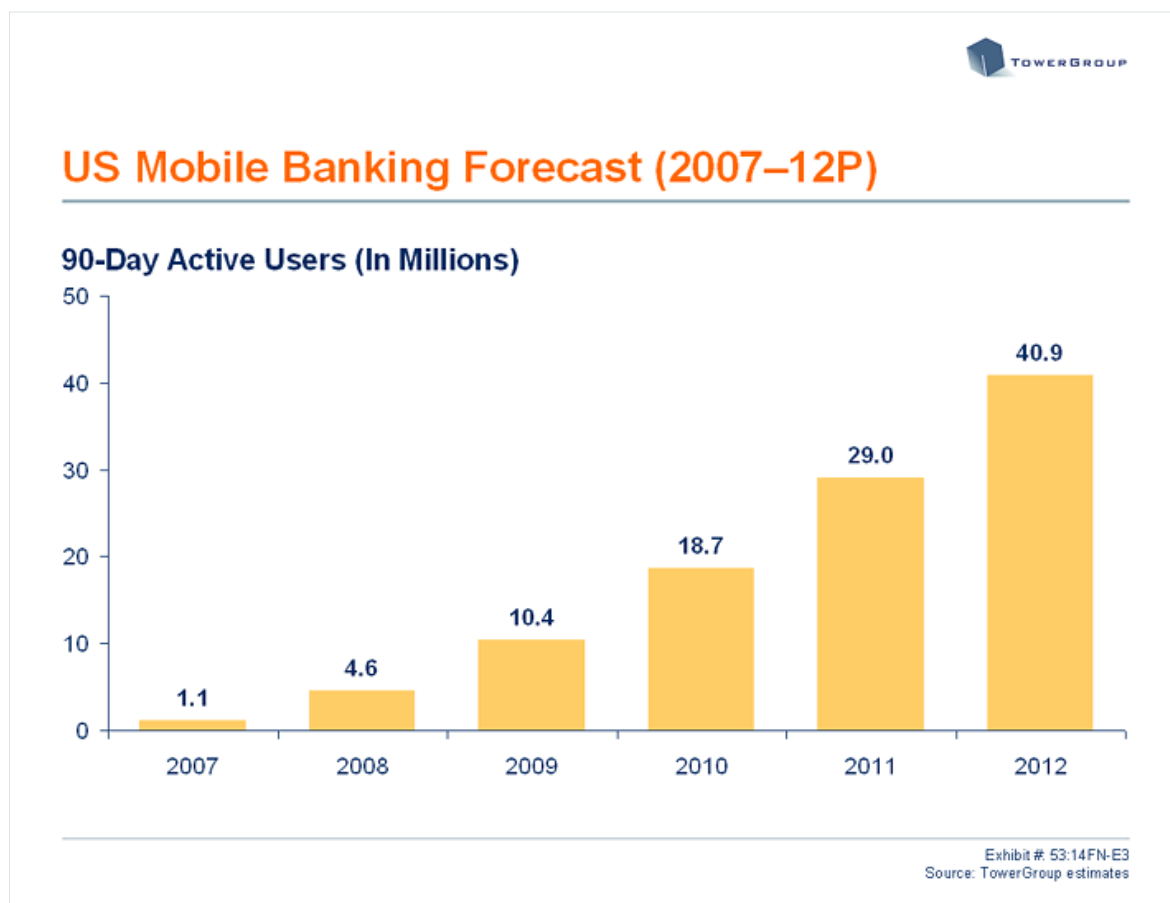


Exhibit 3
US Mobile Banking Forecast (2007-12P)
Source: TowerGroup estimates



The forecast assumes that some semblance of order will come to the chaotic ecosystem of wireless operators, mobile device manufacturers, mobile application providers, and financial institutions. TowerGroup remains worried about the effects of the strict control that operators have on mobile devices, which translates to control of content and applications. Although we are not aware of any specific blocks to date by a wireless operator to any mobile Web browser-based or on-phone application-based mobile banking solutions, we have been made aware of such threats. We are also aware of at least one wireless operator's application rejection and repeal of previously issued premium short codes that are used for some SMS-based solutions. Consumers require and deserve transparent access to their banks such as they have through broadband access from their homes. Wireless operators see the world differently. We remain reasonably confident that if wireless operators do not become more flexible, the Federal Communications Commission will force a more open environment.

Mobile banking is the first mainstream adult application other than e-mail to show up on mobile phones. TowerGroup believes that much of the initial growth in US mobile banking will be spawned by the large banks' aggressive marketing campaigns to technology-savvy younger consumers. The vast majority of early adopters will use the service to check balances and transfer funds between checking and savings accounts (e.g., to fund a debit card) and for bill pay.

Mobile banking adoption will broaden its reach over time, extending beyond the early adopter segments. Laying the foundation for this trend is advanced handset adoption across a wide swath of US consumers, coupled with the consumers' inclination to use their mobile phones for more purposes (to access news, music, e-mail, etc.). Today, more than 85% of wireless subscribers have handsets equipped with wireless Internet and data capabilities, but only about 25% of them have committed to paying for mobile data services on a monthly basis. Thus, mobile banking provides an opportunity for wireless operators to raise the average revenue per user (ARPU) charged to each subscriber by enticing more consumers to cross the chasm to data services, but this leap comes at a cost to the consumer, today between \$5 and \$49 per month. This cost reinforces our view that mobile banking solutions must be built with compelling, convenient, and secure feature/functionality.

Data service costs and compelling feature sets are not the only barriers to adoption. As suggested above, a significant gap exists between the consumers' technological capabilities and their actual usage of the capabilities, a gap represented by the 85% of consumers who are technology enabled for data applications but unwilling to adopt (and pay for) mobile operators for data service or, perhaps more important, not even aware of the emergence of applications like mobile banking. A gap of a different sort existed at the start of online banking in 1996, when only about 20% of individuals were online and therefore technologically enabled. The present gap will continue until consumer awareness and adoption of mobile banking catches up with the plethora of mobile banking offerings and the capabilities of handsets. The gap will eventually close as providers begin shipping mobile phones with preloaded mobile banking applications and consumers become aware of mobile banking services provided by their respective financial institutions, making the service more highly utilized by consumers.

We believe it is critical for banks to aggressively market this new channel capability to their consumers. Equally important and mutually beneficial will be cooperation between banks and wireless operators to produce application-based solutions that are preloaded in the phones before the phones reach the consumers.

Mobile banking will also move outside the shadow of Internet banking. Most banks today require users to sign up for online banking before they can access the bank's mobile banking service. This requirement will not hinder the early adopter stage of mobile banking, because most mobile banking users will come from the current pool of online banking users. However, TowerGroup predicts that, given the high penetration of both postpaid and prepay wireless subscribers, by 2009 banks will have significant opportunity to attract to the mobile solution set large numbers of



consumers who are not users of the online banking channel. We see mobile as a viable channel for customers who are not familiar with or do not have access to the online channel but who carry a mobile phone. We believe that mobile banking could appeal as well to a segment of the banking population who access bank services via automated teller machines (ATMs) but who are not willing to use online banking or comfortable with it. In fact, we estimate that by 2012, approximately one-fourth of all mobile banking users will come from outside the online banking channel.

Initial consumer usage of mobile banking will bifurcate between light and heavy mobile banking users. One segment of mobile banking users will access the service infrequently (perhaps once every two to three months) to perform last-minute bill payments or transfer needed funds. Another segment will rely more heavily on mobile banking, accessing the service several times per week simply to review account transactions, and will shift much of their regular online banking activity to the mobile channel. As the channel matures, consumer behavior will normalize, exhibiting less variance between heavy and light channel users.

Impacts on Current Channels

TowerGroup believes that mobile banking will result in increasing banks' total transaction volume. Urban planners point out that building more roads does not ease congestion but increases the volume of traffic. A similar phenomenon seems to work in banking, where offering more channels has historically had little effect in migrating transaction volume from other channels, but instead has typically served to add more transactions to an already growing total volume from the mix of channels. Exhibit 4 illustrates TowerGroup's projections of delivery channel transaction growth through 2010. Although growth of the branch and ATM channels is nearing a plateau, we have yet to see a decline in transactions in any delivery channel since the channel's inception.



US Banking Delivery Transactions by Channel (2006–10P)

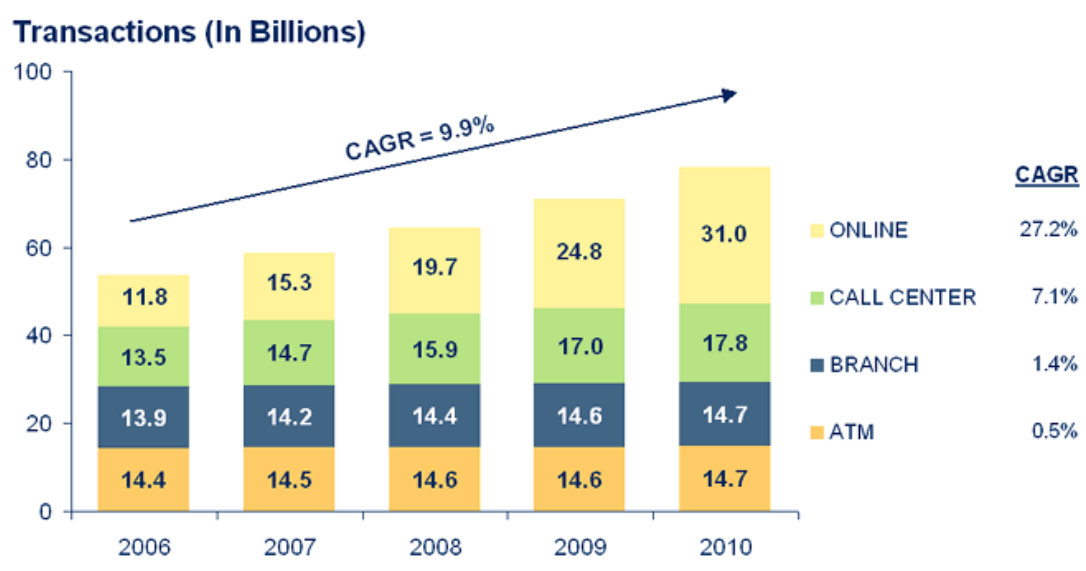


Exhibit # 53:14FN-E4
Source: TowerGroup estimates

Exhibit 4
US Banking Delivery Transactions by Channel (2006-10P)
Source: TowerGroup estimates

One area in which mobile banking may cause migration of transactions, however, is from interactive voice response (IVR) systems. Customers reach out to a bank's call center when they do not have access to a computer and need information immediately, but they may find text messaging quicker. Kiwi Bank in New Zealand, for example, saw a decrease in IVR transactions when it launched mobile banking because consumers discovered that SMS was an easier way to access data than any of the myriad choices provided via the financial institution's IVR system. US banks could experience similar shifts within their IVR channel as mobile banking adoption increases and consumers become more comfortable with SMS.

Summary

Stymied in the past by lack of adoption due to technical turbulence, mobile banking is now coming into its own. Mobile banking, especially when considered in the context of an evolution toward mobile payments, is a market mandate no less important than the dawn of Internet banking in the late 1990s.

TowerGroup predicts that upward of 40 million US consumers will adopt mobile banking by 2012. We believe that within five years, up to 30% of users of online banking channel in the United States will incrementally adopt the mobile channel. In addition, mobile banking is likely to appeal to a segment of the banking population who access bank services via the contact center or ATMs but who are not willing to use online banking or not comfortable with it. We estimate that by 2012, approximately one-fourth of all mobile banking users in the United States will come from outside the



online banking channel.

Top-tier banks will likely shoulder most of the burden of navigating the complexities of the mobile banking market toward mainstream consumer adoption. This includes spending large sums of marketing dollars to foster the necessary consumer awareness of this new channel. Smaller institutions and their consumers will clearly be the benefactors.

The mobile banking marketplace faces cultural, technical, and business challenges. Chief among the technical challenges are information security and consumer privacy. The business challenges for financial institutions range from the cost of development and the complexities of support to the business risks of the large and growing ecosystem of technology suppliers, which remain largely untested and often underfunded. Finally, financial institutions must wrestle with the monopolistic control that mobile operators have over mobile devices, which presents varying degrees of both business and technical challenges.