

SMS in Financial Services: Accessing Your Customers on Their Terms



Brian Riley

Senior Research Director, Bank Cards

Andy Schmidt

Research Director, Global Payments

George Tubin

Senior Research Director, Delivery Channels and Financial Information Security

January 2011

Executive Summary

Short Message Service (SMS) messaging, popularly known as text messaging, is a powerful mobile communication tool that allows financial services institutions to interact with their customers in a cost-effective, timely manner. Aggregate global volumes in the financial service industry will continue a strong pace of growth from an estimated 50 million transactions in 2000 to more than 1.6 trillion in 2015.

Financial services institutions, such as banks, credit card companies, brokerage firms, and money transfer and remittance companies, are experiencing high rates of customer adoption and usage of SMS-based mobile banking services as the services become available on all mobile telephone technologies. SMS messages are suitable for many purposes, such as facilitating small-value purchasing, payments, money transfers, donations, and digital content. Enhancements to the messaging process to provide richer content than the standard SMS offers today are unlikely to match the popularity of the original message form, designed to be short and simple, quick and accurate. Future developments most likely to be adopted will ensure data integrity.

Offering mobile banking is no longer optional for financial services institutions. Customers expect it, and financial institutions benefit from the high-touch/low-cost business model associated with communicating via a personal communications device.

This TowerGroup report provides an overview of the SMS delivery infrastructure, presents best practice uses of SMS messaging in the consumer banking market, and explores future capabilities of SMS in financial services more broadly. The best practices discussed include:

- Driving adoption of the mobile delivery channel
- Opening the mobile channel to all customers
- Utilizing SMS for cross-selling
- Leveraging SMS for fraud prevention

An Overview of SMS Messaging

Short Message Service (SMS) messaging, also known as text messaging, has become an important communications medium in the mobile age. Using SMS, consumers can send messages, make purchases, and obtain content ranging from news headlines to movie showtimes, all on a mobile device. This functionality is of increasing interest to the financial services industry because it enables customers to use their mobile phones to interact with their banks or other financial services institutions (FSIs) from any location at any time using 160 or fewer characters.

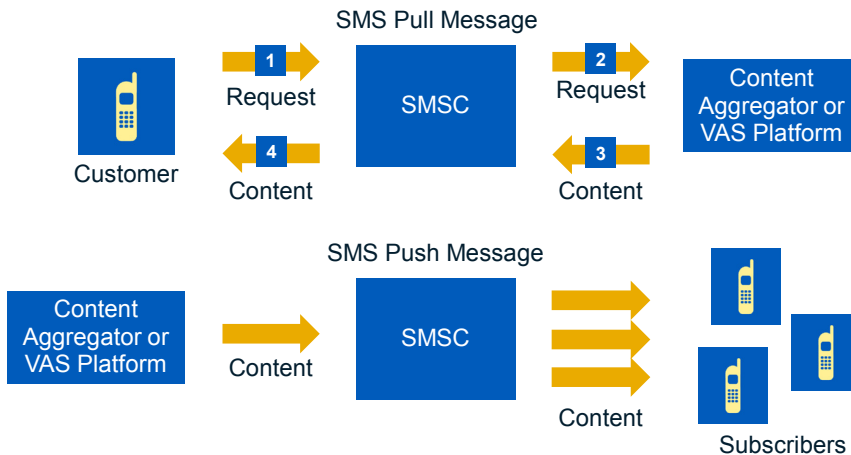
Message Flows: The Pull and Push of SMS

To appreciate the value of SMS in financial services, it is helpful to understand how SMS messages flow between a financial services institution and its customers. Exhibit 1 shows the two types of SMS message flow: pull and push.

Exhibit 1



SMS Message Flows: Pull vs. Push



Source: TowerGroup
Note: VAS = value-added service.

Customers initiate a pull, or mobile-originated (MO), message to take an action from a mobile device — for example, to make a balance inquiry. The message routes through an SMS center (SMSC) for delivery to the financial institution's content aggregator or value-added service (VAS) platform for fulfillment. SMS gateways can also fulfill requests by obtaining the desired content from the targeted systems and routing it back to the customer.

Push, or mobile-terminated (MT), messages are initiated by the financial institution and sent through a content aggregator or VAS platform to the SMSC for delivery. Such messages are either tied to a specific transaction or broadcast to multiple recipients. In the event a message cannot be delivered (e.g., because the intended recipient's mobile device has been switched off or is out of range), the SMSC stores the message and forwards it to the recipient when reception becomes available.

Benefits and Risks of SMS

The General Benefits of SMS

In addition to being a convenient way for consumers to send and receive messages from their mobile devices, SMS is supported by the technology of nearly every mobile phone in existence, providing a way to reach — and be reached by — approximately 90% of the US population, and nearly 66% of the world population.

The electronic nature of SMS makes it much faster than traditional written communication methods like mail or e-mail because the message is sent directly to the recipient's mobile device rather than a physical or virtual mailbox. This allows financial services institutions near-immediate access to their clients, making SMS an ideal medium for quickly distributing time-sensitive information to an individual or to a broad audience. This quality, as well as SMS's message length limitation (which also lowers bandwidth requirements and delivery expense), makes it more cost effective than other communication channels. The store-and-forward feature of SMS messaging ensures message delivery, which cannot be guaranteed using other communication channels.

The ability to send simple data as well as links to target Web sites makes SMS a flexible communication method because it allows the recipient to dictate the level of involvement preferred. Customers may be satisfied to simply read text messages if they contain the information required, or they can follow a link to open a Web browser on their smart phones if they want more interaction. The subscriber opt-in function affirms that the receiver selected the mobile channel as a communication line and has an active interest in the financial institution's business and products.

Risks in Using SMS in Financial Services

Although SMS messaging offers ubiquity and cost-effective solutions for financial institutions, it entails several layers of risk that can limit adoption or cause reputational risks. Effectively designed programs that deploy appropriate procedures can mitigate these risks. Therefore, TowerGroup recommends that established vendors play a role in delivery design.

The first risk is customer cost and annoyance. Wireless communications providers track the number of text messages sent to and received by each mobile number operating on their networks, and they charge accordingly. Given that the cost to consumers is 10 to 20 cents per message, customers with limited text allowances could find themselves with an expensive surprise on their monthly mobile bill if they bank with an institution that has a text-heavy mobile communications strategy. Financial institutions must be judicious in their use of SMS as an outbound communications medium to avoid shifting the relationship from high touch to high aggravation.

The second risk results from the limitation of SMS itself, which does not guarantee speedy delivery of SMS messages. Delays may occur due to high traffic, low bandwidth, or a handset-related event. Banks must be aware of the impact that delayed delivery can have on the customer experience whether the customer is making a balance inquiry or the bank is sending a fraud alert.

Adequate controls and service-level agreements (SLAs) mitigate the risk of nondelivery. Experience shows that well-run service providers can ensure that virtually all messages are delivered in less than 15 seconds from transmission.

The last and most serious risks in using SMS are tied to security vulnerabilities that are outside the bank's control despite having their potential direct impact on customer account balances. One risk is that SMS messages can be intercepted by third parties because they are typically unencrypted and reside on the customer's Subscriber Identity Module (or SIM card) until deleted, making them accessible to anyone with physical possession of the device. A more insidious vulnerability, which at this point is conceptual rather than actual, involves the potential use of malware to steal a user's credentials and subvert SMS-based authentication by forwarding the information to a device controlled by a fraudster.

TowerGroup suggests that practical controls developed by the FSI and service provider can mitigate the risk associated with SMS client communication. For example, SMS messages should be used only to transport nonconfidential information or to trigger another activity. That is, SMS messages should transport only information that cannot by itself be used for fraudulent purposes. Account numbers and other identifying information should not be included in the message but only data like account balances. If necessary, the message should direct the customer to continue the interaction on the FSI's secure site. FSIs can use SMS messages as effective fraud controls by integrating them into their business processes to notify customers of account activity, providing notifications when any account activity occurs and targeted alerts when balances reach specific level, out-of-area transactions post, or particular purchase types occur. Mobile allows customers to react quickly to suspect, possibly fraudulent activity on their accounts because they have their mobile devices with them at all times and are likely to be responsive when alerted of suspicious activity.

Business Applications for SMS in Financial Services

The speed, reach, and flexibility of SMS creates a wide variety of business applications across a wide range of industries. Applications of SMS in financial services are separated into pull and push services, many of which are listed in Exhibit 2.

Exhibit 2



Business Applications of Short Message Service in Financial Services

Pull Services	Push Services
Balance inquiries	Alerts
P2P payments	Authentication
Funds transfers	One-time passwords
Purchases and donations	Opt-in marketing and special promotions
Stop payment requests	High-value withdrawal notification
Card suspension or deactivation requests	High-value payment notification

Source: TowerGroup

Although pull services, such as balance inquiries and funds transfers, are convenient for customers and cost effective for FSIs, they represent the bare minimum of service capabilities a bank must include in its mobile offering. It is the push services that allow the bank to create ongoing customer value, foster engagement, and truly shape the mobile customer experience. A bank's push services can include alerts preset by the customer (e.g., to notify the account holder if an account balance dips below a chosen threshold), or they can tie into the bank's fraud prevention activities by sending a mobile alert when suspicious activity is detected in a customer's account.

It is through push services that consistently provide near-immediate delivery that the opt-in aspects of SMS achieve their potential for a unique customer experience. Banks with effective customer relationship management (CRM) programs are able to group their customers by ZIP code. Overlaying this geographic information on the bank's SMS subscriber list enables a bank to identify subsections of its customer base to target for special promotions. For example, an FSI can access targeted subsections of its base for location-based promotions from bank partners like national retailers or local merchants, treating these clients as an exclusive group by presenting them with special opportunities and offers not available to other customers. Merchant-based loyalty programs can link to push messages to provide win-win-win situation: Customers receive a special offer, the merchant can target a specific customer type, and the FSI can provide a service that carries minimal delivery cost.

SMS Messaging in the Banking Environment

SMS deployment in financial services closely aligns to the implementation of mobile banking. TowerGroup projects that the base of mobile banking customers will grow from 18 million globally in 2010 to more than 53 million in 2013. Mobile banking transactions will surge to more than 14 billion globally during the same period.

FSIs that deploy SMS strategies consistently reach three conclusions. First, opt-in customers, by their nature, are receptive to SMS communications. Second, FSIs can expect a reduction in call center contact once customers link balance alerts and event notifiers to their banking habits. Finally, empowering the customer to calibrate the velocity and type of communications enhances loyalty and retention.

Financial institutions continue to deploy mobile banking and payments capabilities to a consumer base that is increasingly reliant on mobile devices. Some financial institutions choose a particular mobile modality to deploy mobile banking (typically mobile Web, a downloadable mobile application, or SMS) to minimize their investment and downside exposure; more robust programs cover multiple modalities. Regardless of the modality they deploy initially, financial institutions eventually realize that no single mobile banking modality best supports all users across all transactions. TowerGroup continues to recommend that financial services institutions deploy mobile banking and payments across all available modalities, develop and deploy the mobile capabilities most aligned with each modality, and allow their customers to select their preferred modality based on their individual needs and preferences.

The SMS mobile banking modality has the unique advantage of reach. The vast majority of handsets support SMS, whereas less than half support mobile Web and even fewer support mobile applications. This mix may change over time as advanced handsets become more widely available, but text messaging is and will continue to be the most used feature of a smartphone. Further, performing mobile transactions is generally far quicker via SMS than via modalities that require multiple navigation steps for the consumer to find the correct Web page to execute a desired transaction. TowerGroup draws a clear distinction between simple

one-way SMS alerts, which are generally defined within the online banking application, and a true SMS-based mobile banking channel, which operates fully outside the online banking environment and allows customers to initiate transactions and queries from their mobile devices.

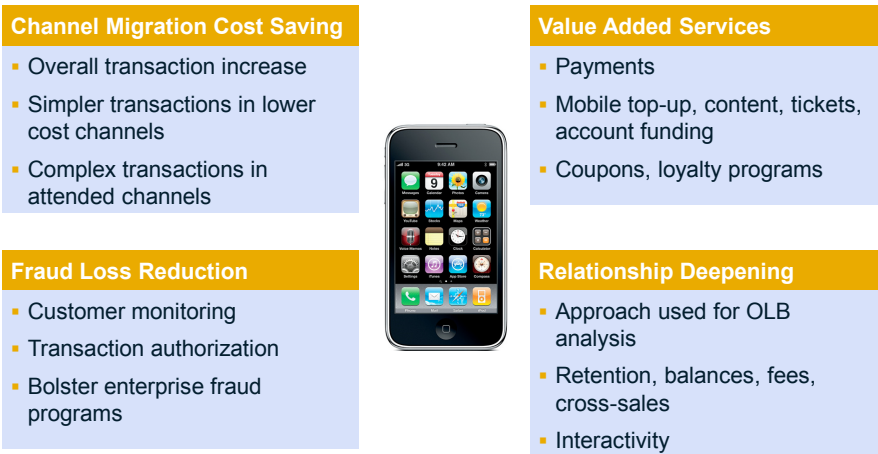
Banks that deploy multiple mobile banking modalities eventually find that SMS-based mobile banking drives much higher usage and transaction volumes than the other mobile banking modalities. Between 10% and 30% of the mobile banking user base tends to use more than one modality, but a bank is likely to find that transaction volumes are higher for the SMS protocol. The greater usage is no doubt attributable to the protocol's simplicity, availability, and transaction speed. After all, why would a customer log into a Web-based or application-based mobile banking offering and then navigate to the account balance screen when simply sending the SMS message "BAL" to the bank yields the information instantly?

TowerGroup classifies the economic value of mobility into the four categories depicted in Exhibit 3.

Exhibit 3



The Four Pillars of Economic Value for Mobility



Source: TowerGroup

These four pillars summarize the benefits that FSIs consistently receive when they implement well-designed SMS programs. Cost savings result from pushing high-volume, simple transactions into least-cost delivery channels. Value-added services, which easily integrate into core offerings, can expand with options like payments, adjacent sales, and linkages to loyalty programs. Fraud losses can be reduced by heightening customer involvement. And customer relationships can be expanded through cross-selling, deeper interactions, and linkages to online banking.

What Banks Can Expect from Adopting SMS

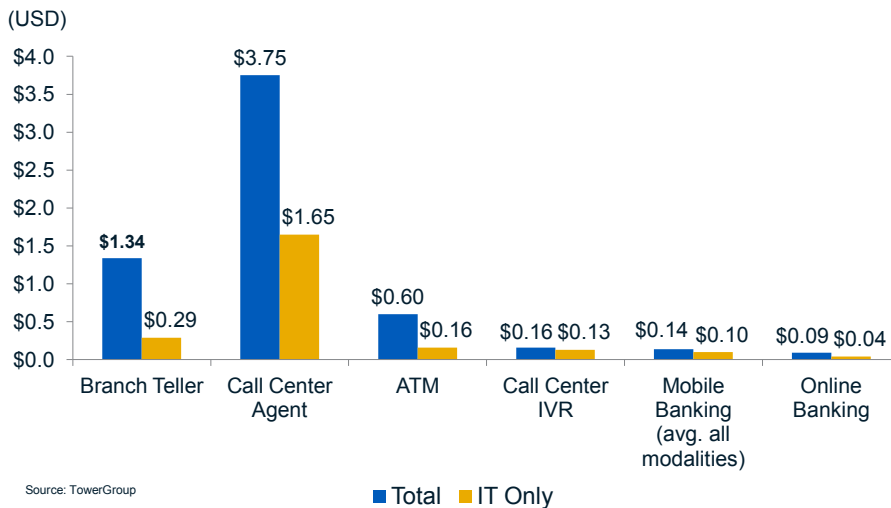
Financial services institutions report multiple benefits from the SMS-based mobile banking channel. Depending on their respective market position and priorities, individual institutions may value the benefits differently.

Cost Savings

Most banks find that at least some portion of SMS transactions replaces live agent interactions, thereby yielding tremendous cost savings. Although TowerGroup is not aware of formal bank analyses quantifying this result, many banks with mature SMS mobile banking technology report anecdotally that they are seeing a reduction in calls to their contact centers overall and more specifically from within their mobile banking customer base. As one executive explained, migrating even 1% of contact center calls to mobile banking would produce "wildly successful" results in terms of return on investment (ROI), given that the average cost to the bank for a contact center transaction is \$3.75 whereas the cost of an SMS mobile transaction is closer to \$0.05 (see Exhibit 4).

Exhibit 4

Cost per Transaction by Channel in US Banking: Total vs. Information Technology Cost Only (2010)



Customers utilizing SMS mobile banking tend to perform approximately 21 SMS transactions per month. This high level of usage results in high customer engagement, a behavior that financial institutions strive to achieve because of the benefits that result. Sophisticated financial institutions realize that engaged customers tend to be more profitable, carry more products, and be less likely to attrite than the average customer. Any opportunity to foster higher client engagement at relatively low cost is a very attractive business proposition.

Best Practices

Agent Endorsement

Driving adoption and usage of mobile banking is critical to realize the benefits illustrated above. Banks and other financial institutions that drive high adoption have sophisticated yet simple mobile banking platforms, and they gain the support and enthusiasm of their customer-facing agents, who have tremendous influence over customer adoption. An agent who enthusiastically praises the mobile channel's usefulness, providing anecdotes of personal usage, clearly drives more adoption than a disinterested nonuser.

The most successful programs align the financial institution with a best-in-class SMS service provider to accelerate implementation and optimize the effectiveness of SMS as a communications channel. The most important vendor selection criteria are experience, process integrity, and business stability.

Open Registration

Banks should open registration for mobile banking to all comers. The common practice of restricting registration to online banking users severely limits customer adoption of mobile banking in most cases. A bank that has 50% of its customers banking online and is able to attract 50% of these customers to mobile banking will achieve only 25% penetration of its entire customer base for mobile. Banks that have opened mobile banking to customers who are not online banking users eventually find that at least half of their mobile banking customer base is not online banking users. Given that over 70% of US adult cell phone users send and receive text messages, while only 44% of US households use online banking, the benefits of opening mobile banking registration up to all customers should be obvious.

Mobile Marketing

Many international banks are beginning to use the SMS mobile banking channel to deliver targeted cross-selling offers to their customers. The more successful efforts combine real-time transaction information with demographic, transaction, and profile data to make offers timely and pertinent to targeted subsections of the customer base. Institutions are beginning to experiment with location-based offers as well. The lack of reported definitive successes thus far probably reflects a learning curve rather than insufficient value. Eventually, institutions will find that mobile marketing based on needs-aware analytics (incorporating location, transaction, historical, demographic, propensity, and other pertinent data) produces superior results at far lower costs than any of the current marketing methods.

As the mobile channel evolves, FSIs will be able to match customer preference for additional contact with options that can enhance revenue. For example, one global institution offers customers who typically pay their credit card in full each month the option of revolving credit on big-ticket credit card purchases. This institution reported a 1.4% conversion rate on this offer with virtually no significant deployment costs.

To achieve positive results from an SMS-based mobile marketing program:

- The benefits must be clearly delineated to customers.
- Customers must be allowed to opt in to the service.
- Communication must be timed and spaced carefully so as not to inundate the customer with superfluous contact.

- Mobile offers must be consistent and coordinated with offers across the other channels.
- Mobile offers must be clear, concise, and perceived as pertinent to the targeted customer.

Fraud Management

Finally, real-time delivery of transaction information via SMS has made a positive impact on fraud prevention efforts because customers can react immediately to irregularities in their accounts. Although most institutions have not formally calculated the savings in terms of fraud averted, many report qualitatively that the incidence of fraud has diminished for mobile banking customers because of their diligence in monitoring their transaction accounts. TowerGroup has long recommended that FSIs encourage customers to be more involved in financial fraud prevention, and sending automatic SMS transaction alerts is likely the most effective way to foster this involvement. Ideally, transaction alerts should allow a two-way interaction so that bank customers can immediately reply to an alert and flag the transaction as fraudulent. The more quickly fraud is identified, the more likely it is to be prevented.

Recent online banking malware threats (e.g., "man-in-the-browser" Trojans) are designed to bypass traditional authentication methods, including one-time password tokens, by compromising an authenticated user session. Deflecting such threats requires FSIs to deploy advanced authentication approaches that are (for the moment) immune to these fraud methods. One such approach is out-of-band transaction authentication, which authenticates a transaction by requesting validation from the legitimate customer via another channel. The SMS mobile channel can be used to send a customer a message containing specific information about a transaction that must be validated in order for the transaction to be executed. If an online banking session has been compromised by a man-in-the-browser Trojan, the user will thus see information related to the transaction (such as the account used, the transaction amount, and the payee) and have a chance to reject the transaction if it is fraudulent.

Another fraud prevention approach under consideration incorporates location-based data to compare the location of a transaction origination to that of the user's mobile device. This location score is included in the transaction's risk calculation to determine the likelihood of fraud when these two locations do not match.

Loyalty Management

SMS messaging can be a powerful tool for managing customer loyalty. Financial services institutions find SMS messaging allows for routine low-cost interactions with messages and alerts as customers become reliant on timely information. SMS messages may also integrate into an FSI's loyalty management system to link customers to merchants that provide coupons, instant offers, and special offers.

One effective way to employ SMS messaging is to integrate enterprise and merchant rewards in a customer loyalty program. A well-designed program can use the instant and personalized features of SMA messaging as a touch point to bond the customer to the FSI.

SMS loyalty programs are still in a fledgling state, but the long-term perspective suggests they have the ability to be far more engaging than credit and debit card programs that depend on static paper statements and monthly billings. Developments tracking customer's current location and proximity to particular merchants can spawn programs that foster

coupons, special offers, and transaction stimulators using the customer's personal handset as the venue.

Mobile Prepaid Cards

A mobile phone linked to a bank account can extend the power of a plastic prepaid card to the mobile device. Industry tests are currently in process to allow account holders to send gifts via SMS message codes — for example, to enable a parent to send a student at a faraway college a SMS coupon or "gift certificate" for a pizza or ice cream from a nearby merchant.

The development of prepaid products that can draw from bank accounts and provide gifts via digital coupons has the long-term potential to shift volume from the plastic gift card industry, which will exceed \$100 billion in 2010. The challenge in financial institutions will be to ensure that traffic follows a bank-centric route rather than a carrier-billing route to avoid shifting the focus of customer management from the bank to the telephone carrier.

Mobile Payments/Mobile Remittances

Mobile payments services are emerging capabilities that will require the coordination and cooperation of several major participants across industries to create support infrastructure. As these capabilities develop, it is likely that financial services providers will initially leverage the SMS channel to enable clients to initiate payments and remittances to recipients that have been previously registered and vetted as valid payees. Depending on the assessed risk of the transaction, this type of service may include the fraud management capabilities discussed above.

The Future of SMS

TowerGroup anticipates that SMS messaging will continue a strong growth trajectory through the end of this decade for three primary reasons:

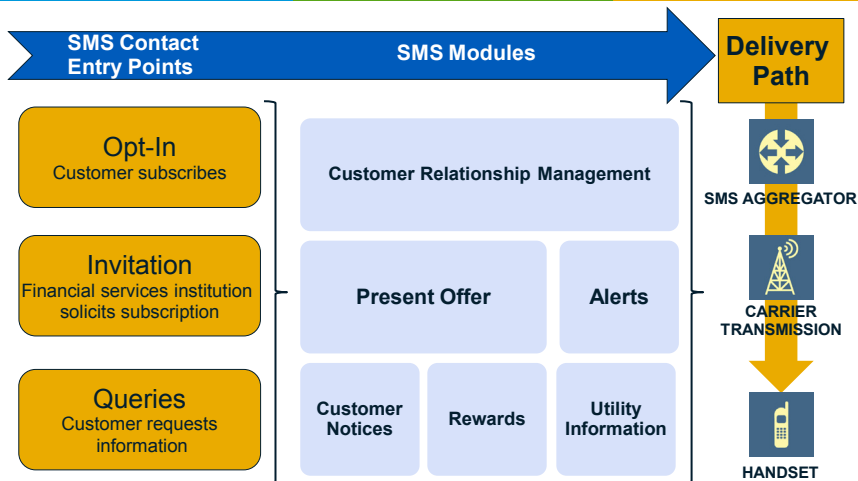
- The increasing socialization of messaging as a means to communicate
- The ability of this modality to span all types of mobile platforms devices
- The expansion of marketing communication strategies as companies develop expertise in mobile communications

Financial services institutions will continue to build their SMS constituencies from customers who opt in, respond to an invitation, or query the institution for information. To build a successful strategy that can adapt to the needs of their customers, FSIs will need to center strategies around the SMS modules shown in Exhibit 5.

Exhibit 5



Financial Service Institutions' SMS Entry Points and Customer Interaction Modules



Successful SMS strategies personalize information and present customized content. SMS messaging can interact with customer management systems and opt-in databases to better target messages to recipients. This practice ensures a stronger response rate and reduces unnecessary or unwelcome customer contact.

Messages in the alerts and utility information categories respond to recurrent customer requests, balance thresholds, or queries seeking a branch location within one mile of a certain ZIP code.

SMS messaging will continue to play an important part in progressive FSI customer interaction strategy because it is a means of inexpensive, ubiquitous communications. Although the natural development of technology will introduce additional customer interactions through mobile Web applications and mobile Web interactions, SMS will likely continue as a strong point of contact for interactions with customers who require high-impact, high-volume interactions.

Emerging Trends

The success of SMS messaging and ongoing developments in technology will provide additional options for using this high-touch but inexpensive method of customer interaction. Although several mobile communication variations will develop, none will match the simplicity or elegance of the SMS message as a tool for routine communication between the financial institution and the banking customer. Adjacent products, such as mobile payments, will certainly develop, but the SMS message will maintain its place as a low-cost tool for contact.

Messaging Protocols

TowerGroup envisions that richer features will play a role in customer messaging over the next five years as devices and bandwidth develop further. These developments will fall into four categories: Secure SMS, SMS/mobile Web hybrids, Enhanced Messaging Services (EMS), and Multimedia Messaging Services (MMS). Each of these technologies responds to the weaknesses of Spartan content and security of SMS, but it is unlikely that they will displace the base model of SMS messaging in the next decade.

Secure SMS messaging allows end-to-end message encryption, which encapsulates inbound and outbound data to mitigate data exposure risks. A data encryption key, usually resident on the SIM chip, translates the data into usable information. Delivery occurs along the SMS channel, so it is easily deployable and delivery/receipt confirmations can certify delivery.

SMS/mobile Web hybrids address a smaller audience than SMS mobile because they require a mobile Web interface. These applications allow SMS messages that are richer than plain text, and they can be integrated with applications resident on cell phones or mobile Web sites. They provide the same personalized experience as basic SMS messaging but force more data through the mobile pipelines and have a smaller potential audience.

Enhanced Messaging Service (EMS) is a natural progression from SMS because it permits better formatting, such as bold and italic fonts, and inclusion of small pictures and animated graphics in messages. If a device receiving a message is not equipped to handle EMS, the message defaults to the SMS format. FSIs considering adopting EMS should be sensitive to whether their customers will incur additional charges for data delivery.

Multimedia Messaging Services (MMS) allows SMS messages to add rich content such as logos, embedded pictures, and sound. The same concerns about bandwidth pertain to MMS as to EMS messaging, since MMS has the potential to consume a great deal of bandwidth. Therefore, FSIs must weigh the benefit of the additional content against the need for instantaneous and inexpensive data delivery.

Technology permits changing the standard SMS message to be more like a mobile Web experience. However, it is essential not to lose sight of the strong points of SMS — which are rapid delivery of communications, least-cost interaction, and the ability to handle a complex set of instructions — and risk adding the incremental benefit of enhanced form rather than substance. More likely developments in messaging will be new functions building on the strengths of SMS messaging between financial institution and customer. These developments will take the form of accessing mobile wallets and creating text-to-buy transactions.

Mobile Wallet

SMS messages, when linked to mobile wallets, can create a shielded way to facilitate mobile-based purchases for low-value, high-volume potential. Banks can blend MMS response messages to deliver ticket-type bar codes or instant media content. Billing can point directly to a mobile wallet or integrate into the telecommunications carrier's customer billing.

Text-to-Buy Messaging

Text-to-buy SMS messaging withstood volume testing in the aftermath of the 2010 earthquake in Haiti, when text messages from an estimated 4.8 million handsets generated more than \$31 million in donations. Although the functionality of texting to a short message code has been available for several years, the crisis brought the reality of texting to purchase

from anecdotal to proof of concept. Eventually, financial institutions will be able to integrate this functionality with their mobile offerings for loyalty, community service, and retention.

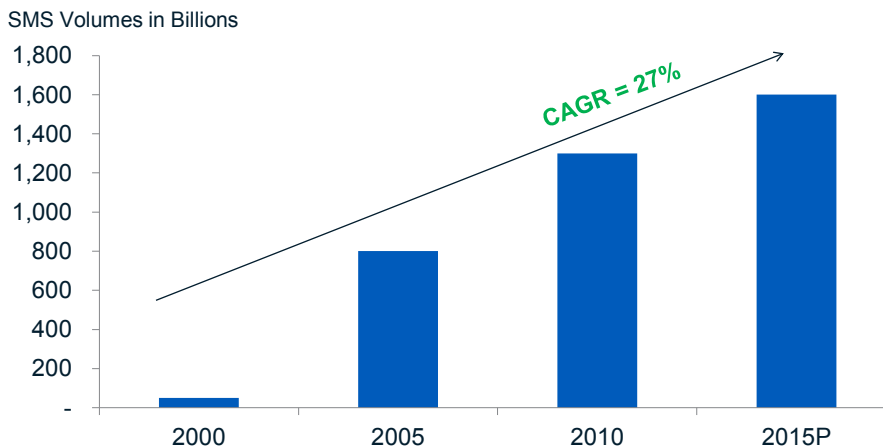
Outlook: 2010–15

TowerGroup estimates that SMS messages in the banking environment will continue a trajectory of growth from about 50 million transactions in 2000 to 1.6 trillion transactions in 2015. SMS messages will peak at that level and persist through the next decade, as illustrated in Exhibit 6.

Exhibit 6



Estimated Financial Service SMS Messaging (2000–15P)



Source: TowerGroup

Standard messages will continue to dominate the mix of SMS messages, though TowerGroup anticipates that Secure SMS messaging will play a more important role in the years to come. Multimedia messaging will experience growth, as will hybrids, but the dominant message type will continue to be SMS, the low-cost, high-volume message of choice for the financial services industry.

Conclusion

SMS messaging will remain an important component of financial services institutions' mobile banking strategies because of its ability to provide rapid and accurate communication. Its ability to push content to subscribers or deliver information is data efficient and ubiquitous. Mobile banking clients have already demonstrated an affinity for SMS-based mobile banking services instead of or in addition to the other mobile banking modalities. TowerGroup expects consumers to continue interacting with their financial services institutions via SMS because of their familiarity with and usage of this text messaging protocol in their normal daily communications.

Further enhancements to improve security will not only increase usage of SMS as a general communication channel in financial services but also allow for higher-risk transactions such as mobile payments and new account opening. TowerGroup believes that financial institutions must deploy SMS-based communication capabilities now to interact more effectively with and engage today's mobile consumer. As important, entering the fray now allows the institution to advance along the learning curve and be ready for enhancements that could propel the viability and usage of more evolved SMS-based services.



Syniverse Technologies commissioned TowerGroup to conduct independent research and analysis of the use of SMS messaging in financial services. The content of this report is the product of TowerGroup and is based on independent, unbiased research not tied to any vendor product or solution. Although every effort has been taken to verify the accuracy of this information, neither TowerGroup nor the sponsor of this report can accept any responsibility or liability for reliance by any person on this research or any of the information, opinions, or conclusions set out in the report.