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RIPERIAN
Leaders in Bank-Brokerage Integration

Extend Your Wealth Management Business With Online Brokerage

AN AITE GROUP AND RIPERIAN, INC. REPORT PREPARED FOR:

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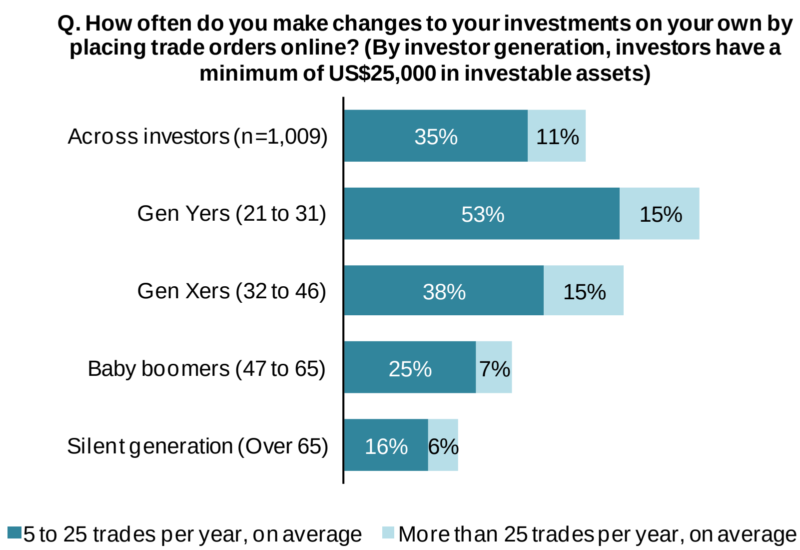
IMPACT POINTS

- This white paper guides financial institutions that have yet to establish an online brokerage presence through the development of a self-directed brokerage platform. The paper was developed in collaboration with Scivantage, a provider of online brokerage technology and Riperian, an online channel strategy and implementation services provider.
- An Aite Group survey conducted in December 2011 reveals that over 45% of a sample of U.S. 1,009 investors holding at least US$25,000 in investable assets trade online at least five times a year. Close to 70% of Generation Y (Gen Y) investors indicate that they trade online frequently, while just over 30% of baby boom investors say the same.
- Given online trading adoption among Generation X (Gen X) and Gen Y investors, banks and brokerages must seriously consider providing a self-directed trading platform to attract clients of these generations and counterbalance likely declines in assets and revenue due to retiring baby boomer clients.
- Financial institutions seeking to build a self-directed channel alongside their full-service channel should consider building a platform that includes a mix of standard configurations and customized features. This will ensure development costs remain manageable while giving firms the opportunity to provide clients with a unique experience in areas that will build and reinforce the institution's brand.
- Financial institutions should look to partner with a technology provider that can provide robust functionality out of the box as well as the ability to support customization of screens and functionality.
- When building out the back office, middle office, and call center, firms should attempt to:
  - Refrain from outsourcing back-office services that have the potential to impact the client's experience such as cashiering and account transfers
  - Invest in a robust online account application solution with automated data entry error detection to minimize lengthy account opening processes and maximize client satisfaction
  - Build the initial call center with a structure that will scale easily as the business grows
- To deliver the best client experience while staying within budget, firms should consider prioritizing investments on the main landing page, the research navigation flow, and the positions screen.
- Building seamless authentication from Online Banking (single sign-on) is essential to the success of an online brokerage platform. In addition, firms should work with partners that have experience implementing funds transfer mechanisms and account linkage functionality.

INTRODUCTION

A significant percentage of U.S. investors in the emerging affluent and mass-affluent wealth segments indicate that they trade online a minimum of five times per year. An Aite Group survey conducted in December 2011 reveals that over 45% of a sample of 1,014 U.S. investors holding at least US$25,000 in investable assets, at least some of these assets held at a firm that provides online trading, trade online at least this frequently. Gen Y investors are more than twice as likely to trade online at least five times per year relative to baby boomer clients; close to 70% of Gen Y investors indicate that they trade online at least five times per year, while just over 30% of baby boomer investors say the same (Figure 1). Banks and brokerage firms that do not offer a self-directed trading platform are leaving money on the table and exposing themselves to the risk of seeing their client assets depleted, particularly as baby boomer clients draw down on assets to fund their retirements and younger clients invest or bank with firms that offer online brokerage capabilities.

Figure 1: Percentage of Investors Who Trade Online by Generation, Investors With US$25,000+ in Assets with Some Assets Held with a Firm Offering Online Trading



Source: Aite Group survey of 1,014 U.S. investors, December 2011

The business benefits of building an online brokerage platform to complement and support a full-service brokerage offer are not hard to identify. Determining what to build and how to create a compelling self-directed platform is a more challenging exercise, one that will depend in large part on the strategic importance of the online brokerage platform to the firm. This white paper aims to help brokerage and registered investment advisor (RIA) executives navigate the important decisions involved with building an online brokerage business, from business planning through implementation and ongoing management.

This white paper is aimed at financial services firms with wealth management divisions (bank, insurance, and independent broker-dealers, RIAs, private banks, and trust companies) that have a limited online presence. Currently, fewer than 35% of the top 50 U.S. banks by deposit customers and less than 25% of the top 100 U.S. banks have stand-alone, self-directed platforms that can serve clients independently from the financial advisor channel. This is likely to change at a rapid pace over the next few years based on the strong sales pipeline of bank brokerage technology providers. In the brokerage industry, most firms do not support an independent self-directed channel. At best, clients can receive access to basic online trading capabilities through the clearing firm's client portal, but few advisors promote this capability. Banks and brokerages that currently do not address their clients' self-directed investing needs are missing opportunities to deepen client relationships and capture a larger share of clients' assets.

METHODOLOGY

The report is based on Riperian's online brokerage consulting and implementation methodologies. Riperian specializes in bank-brokerage integration - guiding financial services firms through the planning and implementation of online brokerage platforms, and integrating those platforms with retail banking channels.

The report also includes an Aite Group analysis of investors' online trading preferences based on a survey on Aite Group's December 2011 survey of more than 1,000 U.S. investors who hold a minimum of US$25,000 in investable assets and have access to online trading capabilities. The sample is representative of approximately half of the U.S. population.

PLATFORM PURPOSE AND SCOPE

The first decision wealth management firms need to make is whether they want to create a new online brokerage channel that can be independent from the full-service channel, or whether they seek to accommodate their financial advisor clients' needs for self-directed trading by giving them the ability to trade online. Ameriprise and Morgan Stanley have adopted the latter model. Clients of Morgan Stanley advisors can place equity and options trades online, though mutual fund and fixed income trades must go through an advisor.

Building an independent online brokerage channel is a more involved and costly undertaking than is adding online trading capabilities to the financial advisor channel, but the revenue potential is superior. Bank of America Merrill Lynch has built an independent online brokerage channel that competes with the leading online brokerage players across multiple facets (trading capabilities, price, research, decision tools, etc.). Bank of America's online brokerage channel is designed to meet several business objectives. In addition to attracting the assets of baby boomer clients held in online brokerage accounts, the firm also seeks to make it easy for younger clients to start their investing lives with Bank of America through the brokerage platform's integration with online banking. Wells Fargo, a top five U.S. bank that also owns a former wirehouse, Wells Fargo Advisors, also has a robust self-directed platform, called Wells Trade. While the firm has been much less aggressive than Bank of America Merrill Lynch with marketing its self-directed platform, the firm has recently developed a greater focus on promoting Wells Trade to advisors and clients due to the competition the firm faces from online brokerages such as Fidelity and Schwab.

The next sections describe the components of a self-directed channel and provide best practice development strategies to ensure the self-directed channel is well integrated with other channels and businesses, particularly the banking business.

THREE SELF-DIRECTED PLATFORM TYPES

The first decisions a financial institution should make with its self-directed platform should involve determining:

- The breadth of investment product availability (e.g., fixed income and options trading as well as equity and mutual funds) in the first version of the self-directed platform
- The level of customization to provide in order to stand out from competitors and build a platform that reflects the firm's brand and the needs of the core customer base

Online brokerage platforms typically fall into one of three profiles:

- Platforms with exceptional functionality and comprehensive capabilities that are highly differentiated (referred to in this report as HD platforms)
- Platforms with adequate functionality, a moderate level of capabilities, and moderate differentiation (referred to as MD platforms)
- Platforms with basic functionality—typically out-of-the-box platforms with low differentiation (referred to as LD platforms)

HD PLATFORMS

These platforms have comprehensive and exceptional research and trading functionality that approaches that of leading online brokerage firms such as Fidelity or Schwab. In addition, the platforms have unique and proprietary features:

- Comprehensive investment product availability
- Broad and deep decision support for general investing and each asset type
- Extraordinary multichannel access, with aligned experiences delivered by phone, branch, online, and mobile and tablet channels
- Trading capabilities and intelligence, including complex orders, alerts, order routing, and alternative execution paths
- Relationship pricing and recognition of key accounts
- Platform and product guidance
- Comprehensive service support and 24/7 agent availability

Also characteristic of these platforms is their distinct look and feel, reflective of the company's brand. Every aspect of these platforms has been carefully thought out to ensure the client experience aligns with the company's vision for this experience. In addition, these online platforms are well integrated to other channels, including phone and branch, delivering a common look and feel across channels.

HD platforms are the most expensive platforms to build and take the most time. Building advanced functionality alongside sophisticated product delivery can be very challenging. Delivering products in the simple manner expected by investors often requires disparate transactional and information systems to be connected, work flows to be created and modified, and end-to-end channel impacts to be aligned. Firms that can commit resources to this should be rewarded with a larger cross-sell ratio of online brokerage to existing clients. But for firms with a focus on the financial advisor-led value proposition, investing in an HD platform may not fit in with the firm's broader strategic plans. There are exceptions of course, namely Merrill Edge, affiliated with Merrill Lynch, which is set on meeting the online trading needs of Bank of America's diverse client base, including active traders and less frequent traders.

MD PLATFORMS

Platforms with moderate differentiation provide core investing capabilities along with incremental differentiating functionality in one or more areas. Investment product availability will include most available equities and exchange-traded funds (ETFs), options, and a relatively broad mutual fund offering. Fixed income is occasionally but not normally available in an MD platform. Differentiation is often found in exceptional decision support modules, usually for a specific asset class (particularly mutual funds). These tools could provide integrated research, embedded search functionality, or streamlined product delivery, and often highlight cost-advantaged products negotiated by the broker-dealer with one or more asset manager. Others emphasize economic or equity research, which is occasionally proprietary but usually well integrated into the site, accessible through positions pages, watch lists, news articles, and elsewhere. Finally, some products can be purchased while opening a new account through streamlined processes that cover account opening, funding, and initial investment purchases.

User experience and navigation are intuitive, consistent, and align with the firm's brand throughout the sales, platform utilization, and service experiences. Banks' brokerage offerings are increasingly accessed through online banking via a single sign-on. Service is sometimes highlighted, with prominent access to help through phone, chat, and call now features.

Less frequently, MD platforms offer relationship pricing, expanded mobile channels, and limited guidance.

LD PLATFORMS

Basic platforms are implemented out-of-the-box from clearing firms. Capabilities and features often lacking in these platforms include:

- Online account opening (often, clients must open an online brokerage account with an advisor)
- Access to quality independent equity research
- Financial planning tools
- Fixed income trading
- Site alignment to firm's other Web properties and corporate branding
- Customization and configuration flexibility

While clearing firm platforms have mostly standard functionality, National Financial Services, owned by Fidelity, has recently made investments in MyStreetScape to differentiate the platform in a few key areas. In particular, the platform includes advanced funds transfer capabilities, mobile and tablet tools, e-delivery of documents, and investor education tools (an ETF education center). NFS also offers a set of application programming interfaces (APIs) to firms that seek to build their own self-directed sites but need access to NFS data. In addition, the next evolution of the solution will be based on adaptive and responsive design methodologies, using HTML 5 to deliver the right content in the right format to the right device.

For financial institutions looking to leverage their clearing firm's self-directed investor tools out of the box, Aite Group and Riperian recommend that they also consider partnering with vendors to close gaps on these platforms' capabilities (particularly online account opening) and to differentiate the platform.

Beyond the online channel interface, firms using LD platforms should consider modifying other components of the end-to-end client experience, especially around correspondence, document delivery, brand delivery, and product availability.

In summary, financial institutions seeking to build an attractive self-directed channel alongside their full-service channel should consider developing an MD platform that has adequate functionality and moderate levels of customization. These platforms include a mix of standard and customized features that allow institutions to build a site that aligns with the client experience delivered in other channels while keeping development costs at a moderate level. The next sections guide the development of such a platform.

BUSINESS PLANNING

As for any startup business, developing a business plan that includes the business case and a preliminary financial model can help guide the appropriate level of investment and strategic focus. This section discusses the basic assumptions driving the revenue model.

Calculating the self-directed revenue opportunity requires identifying:

- The size of the population with sufficient investable assets (outside of retirement plans) to fund an online brokerage account; Aite Group's investor survey reveals that approximately 65% of U.S. households hold at least US$25,000 in investable assets, including deposits and investments in brokerage and IRA accounts
- The current population already trading online with a competing firm; 45% of households with a sufficient level of investable assets to invest trade at least five times per year, and almost 60% of these households indicate that they have traded online in the past
- The percentage of existing clients that would be likely to open an online brokerage account with the firm for the convenience of having multiple accounts at one firm, accessible through one website (this will probably be a second or third brokerage account for many investors as they likely have investment accounts with a competing institution)

Based on Aite Group investor surveys and Riperian's implementation experience, a firm with a loyal retail client base of 2 million clients should plan to build a business capable of supporting over 50,000 accounts by the fifth year of operation. Various implementation approaches, value propositions, and differentiated capabilities can increase the size of the opportunity, but platforms and operations must be capable of handling at least 50,000 accounts. Assuming an average balance per account of US$50,000, financial institutions that build to 50,000 accounts can expect to generate just under US$10 million in direct revenue from their self-directed platform investments (Figure 2). Actual revenue and net income will be a function of marketing approach, segments targeted, and products offered.

Figure 2: Direct Revenue Potential From Self-directed Online Brokerage Platform (US$)

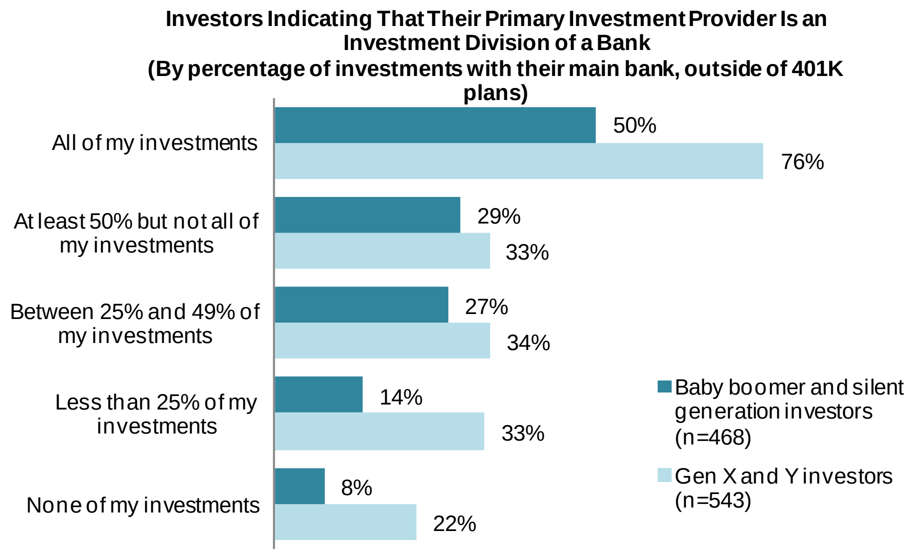
Estimated Annual Revenue by Year 5	
Total retail customers	**2,000,000**
% with investable assets of 25K+	*65%*
Customers eligible to invest	**1,300,000**
% currently trading online	*45%*
Available customers	**585,000**
% willing to try online brokerage by year 5	*9%*
Online brokerage accounts at year 5	**52,650**
Avg. assets per account	**US $50,000**
Cash balance revenue	*$100*
Transactional revenue	*$65*
Asset revenue (trails, margin)	*$30*
Revenue per account	**$195**
Direct Annual revenue potential by year five	**$10,266,750**

Source: Riperian and Aite Group

Multiline financial institutions must also attempt to quantify the indirect revenue from their self-directed platform. Indirect revenue may exceed direct revenue from the platform, as customers opening self-directed accounts view their financial institution more as a primary provider and central place where they can manage their financial lives. For example, banks have found that deposit account balances grow when clients open an online brokerage account because clients look to their bank for more than just basic banking products. Research conducted in 2012 by BISRA (Bank Insurance and Securities Research Associates) reveals that banks with online brokerage channels contribute 13% more in profit to the retail bank than do banks without online brokerage channels[1]. Aite Group research illustrates the positive correlation between investment wallet share growth and customers' perception of their financial institution as a primary investment provider. Aite Group's survey shows that baby boomers who hold at least half of their investments at their main bank are twice as likely to state that their primary investment provider is a bank compared to baby boomers with less than one-quarter of investments held at their main bank (Figure 3). In summary, offering a self-directed platform should generate meaningful revenue, particularly for banking institutions that already have a frequent presence in clients' lives.

1. BISRA, *The Value of the Self-Directed Investing Channel in the Bank Brokerage Industry*, April 2012.

Figure 3: Investors With Some Investments at Their Main Bank More Likely to Indicate Their Primary Investment Provider Is a Bank

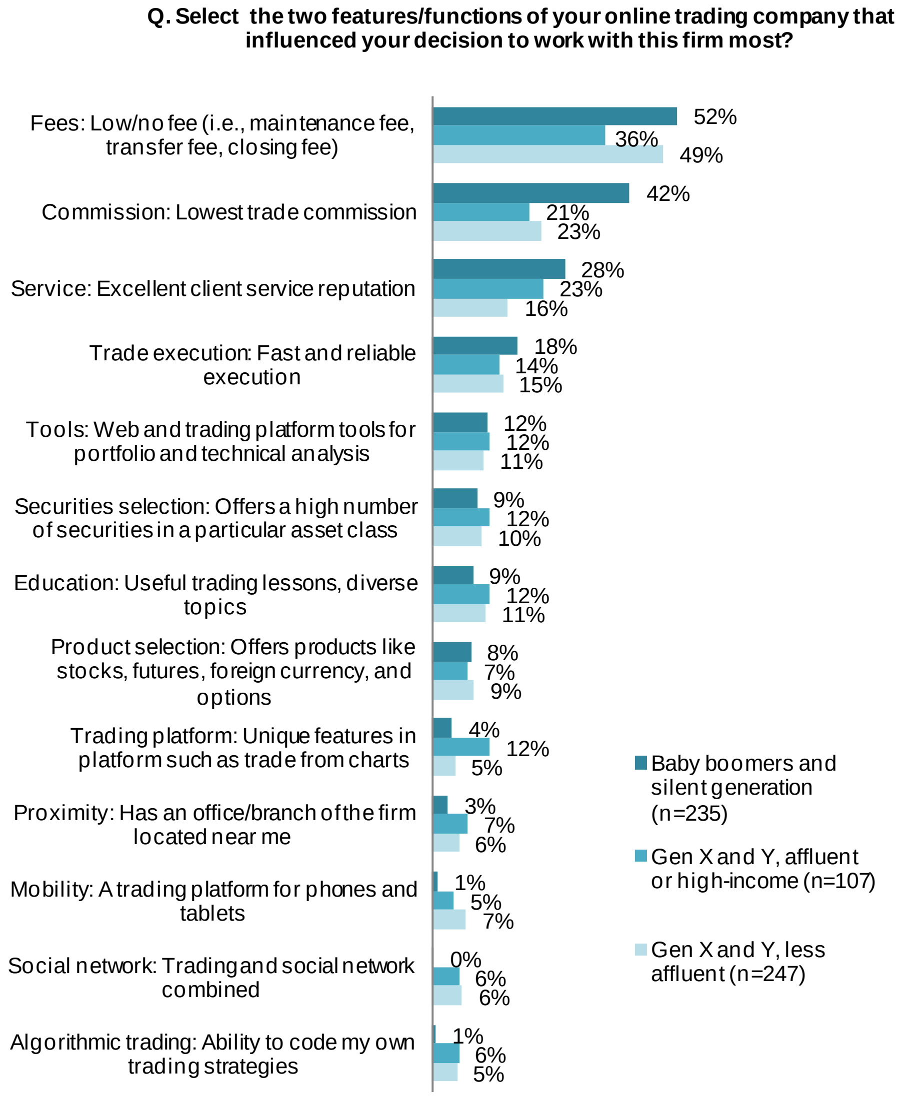


Source: Aite Group survey of 1,014 U.S. investors, December 2011

THE RELATIVE IMPORTANCE OF TRADE COMMISSIONS

Multiline financial services firms can afford to keep commissions in the low double-digits because the indirect revenue resulting from the new self-directed channel should compensate for moderate trade-based revenue. Offering a relatively competitive commission and fee structure will be important for meeting client acquisition goals. Aite Group's investor survey reveals that low account fees and commissions are the top two most important online brokerage features influencing investors' online brokerage firm decision. Interestingly, among young affluent investors (investors between the ages of 21 and 46 holding at least US$250,000 in investable assets or earning at least US$140,000 in household income), excellent client service is cited as frequently as low-trade commission as a top-two purchasing driver. Affluent young investors may be willing to pay more per trade for access to a platform that provides strong service and more advanced trading and decision support tools (Figure 4).

Figure 4: Top-two Features/Functions That Influenced Online Trading Platform Selection Decision



Source: Aite Group survey of 1,014 U.S. investors, December 2011

BUILDING THE INFRASTRUCTURE

This section and the following ones provide development considerations across the key components of a self-directed platform, including the:

- Operating infrastructure (back office, middle office, sales, online brokerage security)
- Brokerage platform (trading functionality, balances and positions, and decision support tools)
- Integration with banking infrastructure to enable automated money movement
- Integration with other line of business systems to enable account linkage and single sign-on

As with the traditional brokerage business, the online brokerage business requires back-office, middle-office, and service center staff. By the fifth year in business, each of these functional groups will require dedicated staff and technology to operate the business. Overall, once a business reaches 50,000 online brokerage accounts, the staff required to run the business should number around 40 to 50 people. A doubling of the business to 100,000 brokerage accounts would not require a doubling of firm staff, but incremental service and processing demands would require an additional 20 people.

THE BACK OFFICE: WHAT TO OUTSOURCE

Firms must determine what functionality to outsource to their back-office platforms. Many banks and small to midsize brokerage firms outsource the brokerage back office to a third-party clearing firm, such as National Financial or Pershing. As with their regular brokerage operations, firms will need to determine which online brokerage services to outsource to these external platforms. Many firms opt to outsource services, such as prospectus delivery, that have limited impact on the client experience. A best practice is to keep the services that have potential to impact the client experience in-house to ensure that any issues are quickly addressed and that the firm controls any opportunities to enhance this experience.

An example of a service that firms should consider managing in-house is cashiering. Cashiering groups process client checks and certificates, manage money movements through Automatic Clearing House (ACH) transfers, and handle distributions and contributions involving IRA accounts. While many firms opt to outsource cashiering services to an external provider, this decision can lead to a negative client experience in the event that payments are not received or IRA distribution requests are stalled. When this happens and the process moves into a status known as "not-in-good-order" (NIGO), firms should be able to spot and remedy these situations quickly to ensure clients do not experience confusion and frustration over delayed transactions. In addition, cashiering transactions require fraud risk controls, which internal security teams should be overseeing and managing. Outsourcing these transactions may limit the security group's ability to review flagged or high-risk transactions in a timely fashion.

Other operation functions close to the client experience include handling of corporate actions, money movement, legal and estate processing, and some specific securities processing.

Research actions and prioritized execution queues can also directly impact key client experiences. Firms should analyze their current and expected business mix and make insource/outsource decisions based on that analysis.

For operations executed by third-party platforms, ongoing reviews of detailed end-client experiences are critical to ensure that consistency is delivered and confusion, avoided.

Firms that choose to outsource some or all of the online brokerage platform's back-office operations must still hire internal staff to manage these outsourced services. A small operations team to handle all of the 90 or so back-office functions requires at least 15 people (by the fifth year for the 50,000 account example) to support the advised and self-directed businesses. Riperian recommends that financial institutions hire additional staff to support the back-office operations of the self-directed business, though leveraging back-office staff in the advised channel may also be possible.

THE MIDDLE OFFICE: FOCUS ON ACCOUNT OPENING

Firms that decide to keep some client-facing functions in-house will often place responsibility for these transactions with the middle office. Middle-office employees have both operations and contact center skills, and can reach out to clients when transactional and account issues arise. Other key roles of the middle office include handling account opening and maintenance. The middle office may also contain many more roles involving operations and client service.

To start out, firms should consider hiring a few employees in each of these three areas: cashiering, account opening, and account maintenance. Middle-office employees may also be called on to play a client service and/or sales role in the call center. In addition, firms may also leverage operations personnel to handle some of the middle-office work, particularly during the platform's startup phase.

This section on the middle office focuses on the online brokerage account opening process due to its large impact on the client's experience with the self-directed service.

ACCOUNT OPENING

Key to a client-friendly account opening process is giving clients the impression that they have opened an account quickly that is immediately available for online access. Providing clients with an account number immediately after filling out an online form and then asking them to electronically sign one or more paper documents (e.g., the account agreement, margin trading agreement if applicable, etc.) before they can begin trading is a best practice method of delivering a positive client experience while ensuring that firms manage client and regulatory risks.

Building an account opening process that is all or partly online should be an essential component of a self-directed platform. Firms that still require clients to open an online brokerage account through a call center or at a branch indicate that they are not able to fully support their clients' self-directed needs. This gap in online capabilities can limit account opening volume and will require firms to hire twice as many new account staff to handle paper-based account opening.

Multichannel sales models give clients the ability to open accounts where and how they want allows firms to improve process efficiency and maximize sales opportunities. Many online brokerages have introduced representative-assisted desktop applications that allow sales associates to initiate applications in-person or over the phone to capitalize on point-of-sale opportunities. Most firms create a hybrid version of their online application that allows sales representatives to start an application over the phone with the client and then send the partially completed application via email to the client for his or her review and electronic signature.

To ensure a successful account opening process, firms should consider building an intuitive and intelligent online account opening form and a flexible and modular work flow for the following reasons:

- The account opening form is one area where firms can have impact on the client's experience with the firm and where NIGOs can be minimized if forms can automatically detect data entry errors.
- The account opening work flow must be flexible and integrated with middle-office systems. Optimal account opening processes are not straightforward as they navigate multiple databases, applications, and people, sometimes in a circular fashion when process steps are incomplete.
- The website work flow and associated data should support the middle-office work flow to avoid manual data entry that can lead to NIGOs.
- Given the complexities of the account opening process, firms should consider investing in a workflow tool that can orchestrate and report on process steps. Work-flow tools should also be able to alert key process stakeholders when accounts are NIGO and should allow the middle office to track how NIGOs are being resolved. Work-flow tools that can track process steps give firms the ability to identify how long various processes take, which helps with staffing decisions and process improvements.

Firms have different levels of account opening functionality to choose from across at least six process areas: client data requirements, data acquisition approach, application modularity and flow, approval and fulfillment, agreements and disclosures, and account number and online credentials (Figure 5). Riperian gives examples of functionality from basic to advanced across these six areas. Firms may decide to mix and match functionality levels depending on the process areas they seek to excel in. The most advanced account opening process has the following capabilities:

- Forms with less than 30 fields for clients to fill out
- Intelligent pre-fill capabilities based on existing client data, including eligible bank accounts to expedite new account funding as part of the online application process
- Ability for customers to defer certain account opening modules until later (optional features such as margin trading, debit card, etc.)
- Approvals and fulfillment can take place in one online session
- Clients can sign and submit agreements and disclosures within two clicks

- Account numbers and online credentials are delivered instantly following application and agreement submission
- Accounts are immediately available for online viewing to initiate funding and begin trading

Figure 5: Online Account Opening Implementation Choices

	Basic functionality			Advanced functionality
Client data requirements	> 50 fields	34 to 38 fields		< 30 fields
Data acquisition approach	Print and mail	Fillable PDF	Standard forms	Intelligent prefill
Application modularity and flow	Linear rigid	Dynamic fields	Smart field tolerance	Deferred modules
Approval and fulfillment	E-submit with mail	E-sig manual review	E-sig auto-principal	Live status
Agreements and disclosures	Required review	Integrated review	Multi-click summary	1-click consent and submit
Account number delivery and online credentials	Back to you later	Credentials and tour	Real-time account number	Instant live access

Source: Riperian

When considering staffing for the new accounts team, firms should realize that no matter how automated their systems, a certain percentage of applications will require human intervention. A mature online account opening process, which includes front-end logic, auto-principal review and approval logic, and integrated identify verification, will see a NIGO rate of around 20%. This implies that 20% of accounts opened online will require manual, human review. Online account opening with basic functionality is likely to see a higher NIGO rate, and 100% of accounts will require human intervention since the process is heavily paper-based.

ACCOUNT MAINTENANCE

Account maintenance functionality includes most of the servicing functions for a firm's existing accounts, such as account plating and registration changes, customer profile updates, and the setup or changes to account features (i.e., margin, options, cash management functionality). Many of these functions have a negligible impact on the client experience; however, an increased focus should be placed on areas where there is a high probability that the experience will require client interaction to properly complete the request.

One of the key roles of the account maintenance team is to transfer funds to and from other brokerages (automated customer account transfers or ACATs). These transfer requests are more complex when they surround two life events: death and divorce. Because these cases may require legal expertise to ensure documents are completed correctly and to handle any client disputes, account maintenance groups should include a legal and estate team.

Another key role is the support of corporate actions such as voluntary reorganizations. The options available to a client for these events are often difficult to interpret for both the client and the service associates. Having a team that understands corporate actions can mitigate downstream issues from clients who may not have understood the choice they were making or who claim they were provided inaccurate information on which they based their decision. These teams should proactively review and understand the upcoming corporate actions impacting their clients. Furthermore, they should proactively reach out to clients who have not taken action on their own.

Additionally, firms should consider creating a dedicated escalation team that can take ownership of servicing issues that need additional attention, have fallen outside of the stated service level, or that may have not been originally processed correctly. These teams should be staffed to allow for an escalated item to be assigned to one individual who will work directly with the client and any necessary internal partners until the issue is resolved. Case owners should be empowered to resolve issues independently and should have a set of pre-authorized client accommodation and escalation options they can utilize to solve an issue.

SERVICE/CALL CENTER: BUILD TO SCALE

Online brokerage firms should have their own call centers to handle inbound and outbound calls. When planning call center staffing, firms should decide how aggressive they intend their call center to be with client and prospect outreach. Outbound calls will be important for resolving NIGO accounts, but they can also support proactive sales and service activities such as calling new online brokerage clients to answer questions, giving tours of the online site, or uncovering sales and service opportunities.

Riperian recommends that firms build their initial call center with a structure that will scale easily once the group reaches 50,000 to 100,000 accounts. An interactive voice response system (IVR) should be deployed with a menu that can manage workflow across a larger organization. If the firm thinks it might send calls regarding new accounts to a team different from those handling existing accounts, the initial IVR menu should enable this work flow separation when it is first implemented. Initially, the same person may handle both types of inquiries, but as volume grows, these requests will be directed to different teams. Financial institutions should also leverage their IVR systems to enhance client service. In particular, IVR systems should be able to suppress functions when there are no call queues to give clients the fastest possible service. IVRs that build in client authentication protocols allow clients to receive personable service faster when an agent picks up the phone and reduces call handling time. Finally IVRs that deliver quotes, balance information, and enable trades allow clients to receive faster phone service and reduce call volume.

Very good visibility over middle- and back-office processes empower call center representatives to answer client questions about the status of their account-related processes and transactions.

A best practice is to train each of these three groups (service, middle office, and back office) about the processes they are part of and how the other groups impact the process.

ONLINE BROKERAGE SECURITY

In this section, we discuss the security considerations of starting an online brokerage firm. Securities firms encounter less fraud risk compared to banks in large part due to the time delays required to move money in and out of a brokerage account. Before moving money out of a brokerage account, a firm needs to sell the security, which typically settles after three days and, at many firms, customers would need to follow a manual process of accessing those funds. In addition, brokerage account opening processes are more rigorous relative to deposit account opening processes because brokerage firms must not only undergo an analysis to meet Know-Your-Customer compliance rules, they must also assess the client's suitability for the account and individual investment instrument. In spite of these natural security advantages inherent in the brokerage business, firms must still ensure they have the controls in place to prevent and detect fraud such as online account takeovers.

As the brokerage business enters the online world, brokerage firms expose themselves to the traditional security risks all firms face in the online world. Online brokerage firms are particularly at risk of phishing, "man in the middle," and other types of attacks whereby fraudsters acquire customer logins and passwords. Firms with insufficient authentication and monitoring procedures in place will find themselves the targets of these attacks. When accounts are taken over, they have traditionally been used to buy illiquid securities at a high volume (penny stocks in particular) in order to increase the value of these securities, sell them, and earn a profit. This tactic, known as "pump and dump," was particularly prevalent in the mid- to late 2000s and required brokerage firms to collaborate with law enforcement agencies to establish tighter authentication and monitoring procedures for online brokerage accounts.

To mitigate securities risks, a new online brokerage platform must:

- Join brokerage community programs to become informed of security breaches and to share information if a breach occurs internally
- Ensure it has the capability to lock down accounts quickly
- Acquire the ability to detect anomalous transactions
- Establish processes for a manual (human) review of funds moving out of online brokerage accounts that have been opened less than six months ago
- Avoid automating transactions out of aged accounts with limits and require additional authentication when certain limits are exceeded
- Embed identity validation in the account opening process as well as when investors first link accounts to move money

BUILDING THE ONLINE BROKERAGE PLATFORM

This section discusses the components of an online brokerage site. An online brokerage platform will include:

- Trading functionality
- Positions and balances clients view when accessing accounts
- Decision support tools that direct investment selection and portfolio analysis
- Brokerage research
- Investor tools and education (investment calculators and educational articles)
- Integration with third-party providers, particularly market data and news providers
- Portfolio rebalancing
- Active trader platforms (for firms looking to attract this segment of traders)
- Online self-service tools such as online ACAT
- Online options applications
- Online margin applications

This section delves further into the functional design considerations associated with the first three components. In this section, Riperian suggests where firms should prioritize investments to give clients the most positive experience while managing online brokerage channel expenses.

TRADING FUNCTIONALITY

The process of finding and researching securities should be intuitive. Riperian finds significant variability between firms with regard to the security research navigation flow. Best practice security search functionality allows users to:

- Easily find commonly searched securities by ticker or name (e.g., IBM or Apple)
- Build screeners that provide alternative ways to search for securities based on sectors, company fundamentals, past performance, etc.
- Search for securities that are "gainers" or "losers" over several time intervals
- Access relative performance metrics to support momentum and value traders

The self-directed trading process involves filling out a trade ticket which then populates a trade preview page, asking the investor to confirm the trade before the trade turns into a marketable order. The basic process steps are similar across brokerage platforms, but functionality differs with respect to detection and reporting of order entry errors. Basic trading functionality will detect errors at the trade preview page, while more advanced sites will recognize errors right away as the investor is typing in the order. Trade review rules engines ensure trading systems prevent trades that are not acceptable to the back office or broker-dealer. Flexible rules engines allow firms to adjust the manual review process to better control client and firm risk. At launch, many firms will decide to send all orders for manual review until the financial institution is comfortable managing the trade review process. Thereafter, institutions will automate trade types in stages, thereby reducing the volume of trades subject to manual review.

Another area where firms differentiate on the order entry page is the type of security and market information displayed. Most brokerage firms would provide real-time quotes on the trade ticket page, historical trading volume and price, company news, and links to research reports. Financial institutions should keep in mind that investors care about the price they are likely to pay for the security; paying to deliver real-time quotes on this page is especially important.

Firms should consider adding unique capabilities to the following trading screens based on the importance of their content to clients.

- **The trade preview screen:** Firms have the opportunity to educate the investor about how the particular trade would impact the overall portfolio or the overall holdings in the security. Investors pay more attention to the trade preview screen than they do to any other part of the site because this is the last opportunity to modify or cancel an order.

- **The order status page:** The order status page should give investors information on the price at which their order was filled. If the order was filled through multiple lots, investors should know about the average price for the order.

- **The order entry screen:** Advanced ticket functionality will provide investors with the ability to select a specific tax lot or shares to sell when closing a position. J.P. Morgan Chase and Zions Direct, for example, offer strong tax-lot selection functionality.

Riperian recommends that firms with a modest technology budget consider prioritizing these three pages for enhancements and customization. Financial institutions could design and implement these customizations on their own, or they could engage their online brokerage platform vendor to make these changes.

BALANCES

Making sure that account balances meet client expectations has been a recurring challenge for clearing and brokerage platform professionals. Back offices can maintain up to 30 different balances for any given client, including a cash balance, balance for securities against which clients can place a margin order, concentrated balances, etc. Uncovering the relationship between the overall balance that clients access online and the balances maintained in the back office for various purposes can be a significant mapping exercise. Balances that are incorrect or difficult to interpret drive inbound calls and a negative client experience. When clients are shown the correct balance for their marketable securities and available cash, they are unlikely to appreciate the complexity required to deliver this accurate balance information. As such, the balances page need not be an area of significant customization. Building MD and HD platforms will require firms to ensure that a detailed balance mapping is complete, and that the resulting client experience is simple.

POSITIONS

The positions page is important for clients; here, they review the details of their security ownership, including cost basis, unrealized gains, and tax lots. Representations of NYSE- or Nasdaq-listed securities positions are standard across brokerage platforms (e.g., information on about 100 shares of IBM will be similar). With respect to other product types such as fixed income, the information displayed on position screens will vary.

DESIGNING FOR THE CORE CLIENT AND ALLOWING CUSTOMIZATION

During the initial platform development, firms should determine what information to display based on the investing preferences of their core client base. If a bank's core investor client base invests primarily in mutual funds, the bank broker-dealer should focus on differentiating its platform by giving clients a unique view into their mutual fund positions. These investors will be interested in fees and returns, including returns net of fees.

Firms will need to determine what information to display for each of the position types they support. For example, information on fixed income instruments could include accrued interest, tax liability, yield to maturity, callable information, and maturity date, etc. Firms are unlikely to deliver this breadth of fixed income information to all clients. Online brokerage platforms should be flexible to accommodate the position information needs of different clients. Clients with a focus on fixed income investments may request more information on their positions page than might other clients.

ACCESSING RESEARCH AND TAKING ACTION FROM THE POSITIONS PAGE

A positions page should also display action buttons to allow investors to trade or conduct research on the particular position from the page. Security research could include all or some of the following levels of information—a snap quote, an expanded quote, a company profile, and an expanded company profile. For mutual funds, profile sheets should be accessible from this page. Overall, firms should look to work with a vendor that allows some customization of the positions page, including usability and actions that can be triggered from the page.

INVESTOR DECISION SUPPORT

The most important decision support tools are screeners and detailed security profiles. Screeners allow investors to find securities based on specific criteria such as performance, fees and third-party provider ratings (Morningstar, S&P, Moody's, etc.). Detailed security profiles allow for quick analysis and easy comparison of one potential investment to another, and one-click access to additional information and tools. Also important for firms to provide are stock, mutual fund, and ETF research reports. Finally, sites should include visually appealing charts to display asset allocation, performance, and individual security performance, etc.

MUTUAL FUNDS

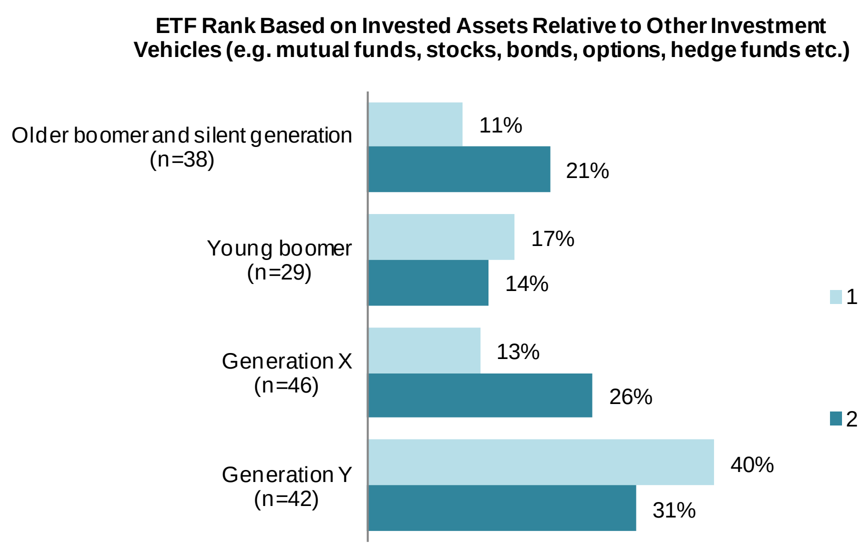
Given the continued dominance of mutual funds in investors' portfolios, mutual fund screeners remain an essential tool of an online brokerage site. Firms can purchase a mutual fund screener out of the box from providers such as Morningstar and Interactive Data Corp. (IDC), but few deploy the standard product. Most firms customize the screener to fit the needs of their core client base. Firms also need to optimize the screener for usability on their site. In addition to searching for the right mutual funds, investors should be able to access mutual fund fact sheets and the fund prospectus. Firms can look to third-party market data providers IDC, Lipper, Morningstar, and others to supply this content.

Firms that cater to a client base that invests primarily in mutual funds (baby boomers in particular) should consider adding additional analytical capabilities for mutual funds. For example, Morningstar has built an "X-ray" tool that gives customers an overview of the underlying securities they own across their mutual fund holdings, giving them insight into their portfolio concentration risk.

ETFS

ETFs have seen rapid growth in assets invested over the last two decades. These instruments are particularly important for young investors (Gen Yers). According to Aite Group's investor survey, Gen Y investors are more likely to allocate the largest share of their investment portfolio to ETFs compared with other generations of investors. When investors were asked to rank the investment vehicles they owned (such as mutual funds, ETFs, individual securities, and individual bonds) based on the amount of assets invested, 40% of Gen Y investors ranked ETFs number one, while less than 20% of investors from older generations did the same (Figure 6).

Figure 6: Importance of ETFs in Investor Portfolios by Generation



Source: Aite Group survey of 1,014 investors, December 2011

For firms that are looking to attract younger generations with an online brokerage platform, availability of ETFs and providing access to educational content and research on ETFs will be important. Firms may want to consider investing in an ETF education center. For example, IDC has created one that is currently being deployed to National Financial clearing clients.

EQUITIES

Outside of active trading platforms, equity screening tools are not as well developed and easy to use as mutual fund and ETF screening tools. To improve these screeners, firms may consider developing their own screening capabilities to differentiate their offers in this area. Examples of ways to add value to investors' equity search process is providing predefined screens such as "stocks near their 52-week low" and stocks based on Earnings per Share (EPS) and revenue growth. In addition to traditional reference data on stocks, firms may also want to explore adding new data sources such as sentiment data from PredictWallStreet or Wall Street analyst rankings from TipRanks to provide customers with unique stock analysis capabilities. For equity research reports, firms should consider sourcing reports produced by the established market data providers, particularly from Standard & Poor's.

OPTIONS

Options screeners and options educational content are not as widely available as they are for mutual funds and ETFs. As options are a lower priority investment solution for mainstream investors, firms may choose to postpone building options trading functionality. To support the average option investor, the most important element is an intuitive option chain that allows clients to quickly locate their target security.

FIXED INCOME

Similarly, direct investments in individual fixed income instruments are not as prevalent as investments in individual equities or mutual funds. To accommodate clients' needs for fixed investments, firms may consider integrating with BondDesk, a software and service provider with access to fixed income offerings from the major broker-dealers. Providing fixed income is also an initiative that firms may opt to delay until after the initial platform launch.

EDUCATIONAL CONTENT

Firms should consider arming their customers with personal finance content as well as educational content on each of the instruments offered. Content typically comes from firms such as Dow Jones, Reuters, and S&P. In addition to factoring content acquisition costs, firms must budget for content integration costs. Riperian recommends that firms consider purchasing a content management system and hiring an editorial team to manage the aggregation and distribution of educational content.

Overall, firms can expect to spend US$150,000 to US$250,000 per year on a standard set of decision support tools and content, and an additional 15% to 20% of this amount on content integration.

INTEGRATING THE ONLINE CHANNEL TO OTHER BUSINESSES AND CHANNELS

Clients expect authentication and system access to be easy and consistent across both banking and brokerage. Brokerage account balances should be prominently displayed in Online Banking. Clicking a brokerage balance should bring clients directly into the brokerage portal, which is ideally branded identically to Online Banking. Solid Account Linkage practices ensure that clients will see all accounts they own without manual intervention.

Building fluid bank-to-brokerage transfer processes is essential to the success of an online brokerage platform. Account funding rates will be superior when customers can initiate brokerage account funding with one click. Many firms introduce money movement processes during the account opening process for this reason. In addition to online transfers, firms should also support phone-based transfers through the online brokerage call center to accommodate clients' different preferences and technical abilities.

The leading online brokers enable online transfers from and to their own banks (e.g., Schwab Bank), but the majority of customers do not bank with their online broker and do not benefit from this integration. Banks that provide simple transfers are leveraging a competitive advantage over most online brokers. With this capability, banks have a chance of competing with leading platforms (HD platforms) in the area of convenience.

SINGLE SIGN-ON

Once online brokerage accounts are open, customers of a multiline financial institution will expect to see and access this account immediately after they log into the financial institution's site the first time.

Firms should look for a partner that can offer a structured process for implementing single sign-on capabilities. The most efficient processes leverage Security Assertion Markup Language (SAML) to deliver information on all of the products the client holds with the firm via a system that can validate the user's product ownership and rights to information. Delivering this holistic view to the client requires significant systems integration efforts. At a basic level, the online banking system must integrate with the client system of record (e.g., customer relationship management system) to understand what products the client holds. The online banking system then must access balance level information from the product systems. If the client clicks on a product link, for example the client's mortgage balance on the front holdings page, the mortgage system must recognize the client as a customer and display the detailed information to which the client is entitled.

These integration efforts can be costly if banks are working with older online banking systems; some online banking systems can only read information from a single data source. In addition to technical challenges, brokerage divisions often encounter resistance from online banking groups to prioritize funding of single sign-on initiatives relative to online banking-specific initiatives.

ACCOUNT LINKAGE

Linking accounts to one client and one login and password allows clients to access all of their accounts following one sign-on process. To offer account linkage, firms must establish a process in the call center to approve account linkages in an efficient yet secure manner. Ensuring that individuals requesting account linkages are allowed to access the account(s) online, firms must invest in a robust client authentication process. Financial institutions must attempt to protect customers from unwanted access to accounts, such as from a disgruntled ex-spouse, a dependent, an identity thief, or a fraudster who has intercepted the customer's login and password. When a client calls in to ask for account access, the identifying information the financial institution provides must match the information associated with the account.

Firms can match Social Security number as well as address, middle name, last name, or suffix. Regulators and risk managers will review these processes to ensure match rates meet the firm's risk tolerance level. Match rates must also be sufficiently high to address client needs in a timely manner. As a rule of thumb, financial institutions should build a process that yields a minimum match rate of 60%. In addition to the match rate, firms must also monitor the wait time for account linkage requests in the call center. Clients can tolerate a one-day wait time before their accounts are linked, but three days is too long.

Firms can invest in automated matching tools to give clients access to the accounts they expect to access more quickly than they could through a human-based process. Investing in automated matching may require investments in data cleansing if names are inconsistent across product systems.

SETTING UP A MONEY MOVEMENT SYSTEM?

While numbers are growing, fewer than 15 banks currently have integrated bank-brokerage transfers into online banking. Bank of America and Merrill Edge provide the most advanced transfer capabilities; money moves in real time between accounts and funds are immediately available. In addition, they support real-time transfers to and from IRAs—a significant undertaking due to the greater complexity surrounding IRA asset inflows and outflows (maximum contribution, penalty imposed on early withdrawals, etc.).

With a few exceptions, most firms integrate bank and brokerage accounts through the ACH electronic funds transfer system. Very few banks have invested in proprietary systems to move money. Investing in a proprietary system to enable real-time transfers is a significant financial undertaking (more than US$30 million). While providing real-time transfers is highly valuable to clients, most firms may not find it economical to invest in a proprietary capability. Useful alternatives include processing ACH requests several times a day and creating manual processes that allow immediate money movement within a firm—almost an internal wire transfer.

Clients expect that they will automatically have access to all the accounts they own and that they can move money between them through a firm's online money movement portal, usually part of online banking. Clients should not be required to perform any manual processes before they can move money between their own bank and brokerage accounts (wet signature on a form, voided check, etc.).

Some firms now use out-of-wallet identity validation and authentication during account opening, ACH setup, and ACH initiation. Various providers offer experiences varying from real-time approvals through sequential participation in work flows and one-off authentications that might be executed from various channels. These controls help meet Know-Your-Customer requirements and go a long way toward preventing fraud.

Firms that achieve 50,000 brokerage accounts will see 70 to 150 transfer requests per day, on average. At this volume, building ACH-based transfer processes makes sense. ACH requests can be initiated through online banking or through a dedicated bank-brokerage transfer page, usually hosted on the brokerage site. In either case, establishing these processes is not an easy undertaking, particularly for firms that must work with a third-party clearing firm. In this case, two firms must permission ACH transactions, and the third-party clearing firm may follow different approval rules from the financial institution, thereby creating the potential for process delays and miscommunication. Banks may also want to negotiate specific arrangements with their clearing partner when ACH requests involve the bank's own demand deposit accounts (DDA) accounts—clients expect the transactions to be simple and information to be straightforward to access.

BANK BROKERAGE TRANSFERS BEST PRACTICES

Financial institutions setting up an online brokerage channel should work with clearing firms to define a custom process for in-house transfers. Often clearing firms will apply the same transfer process for transfers of different types of complexity and risk (e.g., transfers to foreign entities and internal firm transfers will go through the same scrutiny). Firms that rely on clearing firms for internal transfers should ask clearing firms for transfer process flexibility.

Firms must also consider the internal controls needed for bank brokerage transfers. Ideally, the systems will have the flexibility to support unique transfer limits for both incoming and outgoing transfers. They will be able to set limits for both individual and cumulative transfer activity, and will provide the ability to reject a transfer or send it for manual review.

Online transfers are also required to support movement from an external brokerage account. Transferring from an external account requires firms to identify that the prospect is in fact the owner of the external account. To automate this process and avoid losing potential customers due to an onerous authentication process, firms should consider establishing microdeposits into the external account to validate account ownership. Several of the top 20 banks are currently able to automate this process using microdeposits.

SALES CONSIDERATIONS

After the first version of the online brokerage platform is built, it is time to market it to existing customers. In addition to advertising the new offering online, on public and authenticated financial institution sites, firms must spend considerable time and effort educating their traditional sales channel personnel—branch representatives, financial advisors, and call center agents—about the online brokerage offer.

To achieve acceptance of the self-directed channel from financial advisors, financial institutions must demonstrate to advisors how the online brokerage platform can help them provide more value to clients and work more efficiently. As online brokers encroach further on advisors' business, financial advisors are starting to recognize the importance of offering online brokerage to their clients to attract and retain assets. Aite Group's recent update on the wealth management industry shows that online brokers grew client assets 12% in 2012, whereas traditional wealth management providers grew assets by 8%, indicating that assets are continuing to shift from traditional wealth management providers to online brokerage providers as investors search for control, convenience, and low-cost offers.[2]

The branch is also a key channel for online brokerage sales. In addition to supplying branches with visible signage and brochures, online brokerage platform leaders must also work with branch leaders to build a referral program that ensures branch personnel are incented and educated to direct clients to an online brokerage representative or an in-branch financial advisor when clients ask about investments.

As discussed earlier in the report, the call center is an important source of referrals to the online brokerage site. In particular, financial institutions with retirement help desks designed to handle rollovers should be well trained to educate customers about the self-directed brokerage option.

1. See Aite Group's report, *New Realities in Wealth Management: Market on the Rebound?,* August 2013.

CONCLUSION

- Financial institutions that are serious about providing wealth management services to existing and next-generation customers should consider developing a self-directed brokerage platform. They will not only gain direct revenue from this new service but also benefit from increased revenue in their traditional business as more clients come to view their financial institution as their primary financial services provider.
- While research on client needs and existing habits indicates that financial services firms will generate meaningful revenue from a self-directed brokerage platform, these rewards will not come without effective marketing through incumbent channels, including online properties (e.g., online banking), financial advisors, and branch-based representatives.
- Financial institutions that see their self-directed channel as complementary to their full-service channel must manage development and improvement costs appropriately. Firms must think strategically about which of the site's areas and features should be advanced or unique to appeal to their target audience and which areas can be standard, requiring minimal implementation costs.
- Given the importance of integrating market data and decision support tools throughout the site, an optimal partner should already have established relationships and agreements with market data providers as well as experience integrating market data and education content with the self-directed platform.
- Financial institutions seeking to offer an online brokerage platform should look to partner with a provider that can provide robust functionality out of the box as well as the ability to support customization of screens and functionality that will matter to clients and reinforce the firm's value proposition.

ABOUT SCIVANTAGE

Scivantage is an independent financial technology provider with proven expertise in online brokerage, tax and portfolio reporting, and wealth management applications that automate and integrate key business practices for broker-dealers, mutual funds, custodians and prime brokers. From trade order processing and account management to comprehensive cost basis reporting and automated account opening, maintenance and funding, Scivantage's back-office independent solutions enable financial institutions and financial professionals to dramatically reduce operational costs, strengthen customer relationships and improve productivity.

Founded in 2000, Scivantage was built on the vision of delivering high performance technology solutions that redefine and streamline the way financial institutions, financial professionals and their clients transact business. Recently recognized by Inc. Magazine and the Deloitte Technology Fast 500, Scivantage has quickly become one of the fastest growing private companies in North America. Serving more than 50 leading financial institutions, Scivantage continues to drive innovation across critical areas of the front- and middle-office by automating and optimizing business critical processes to generate operational efficiencies and help drive sustainable competitive advantages for our clients.

For more information, please visit www.scivantage.com or contact us at +1.866.724.8268.

ABOUT AITE GROUP

Aite Group is an independent research and advisory firm focused on business, technology, and regulatory issues and their impact on the financial services industry. With expertise in banking, payments, securities & investments, and insurance, Aite Group's analysts deliver comprehensive, actionable advice to key market participants in financial services. Headquartered in Boston with a presence in Chicago, New York, San Francisco, London, and Milan, Aite Group works with its clients as a partner, advisor, and catalyst, challenging their basic assumptions and ensuring they remain at the forefront of industry trends.

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ABOUT RIPERIAN

Riperian is an advisory and consulting firm providing strategic, tactical and operating support to financial institutions. Riperian is focused on the intersection of Banking and Brokerage, with particular emphasis on Online Channel strategies and implementations. For more than 15 years, the Riperian team has built and managed successful online brokerage capabilities for leading banks at every stage of development. Riperian delivers strategic plans, product and channel assessments, and program implementation services, supported by proprietary research.

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