



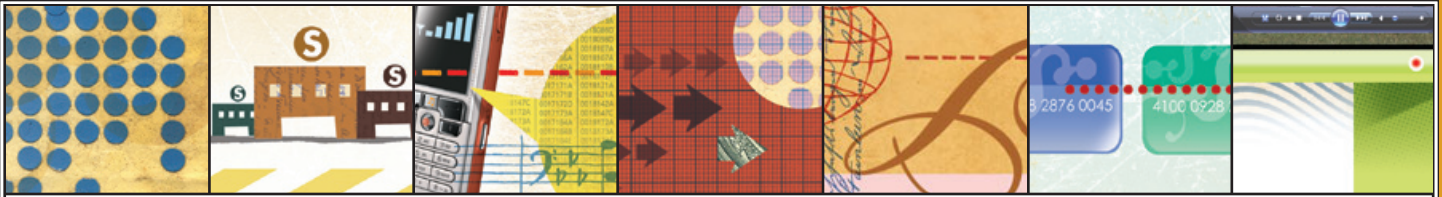
THE KEYNOTE

Benchmark

The Mobile & Internet Performance Review

PERFORMANCE AND USABILITY:
CONNECTING WITH CUSTOMERS ON THE
NEW INTERNET

VOLUME 1, ISSUE 1
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KEYNOTE®

The Mobile & Internet Performance Authority.

Dear Fellow Executive:

Welcome to the inaugural issue of *The Keynote Benchmark*, a high-level intelligence report for every executive and manager who is involved in online strategy and execution, or whose organization depends on a successful Web presence. That's just about all of us.

For years now, we've been testing, measuring and monitoring the online performance of some of the world's leading organizations. In this issue, we look at how Web and mobile performance and usability have become even more critical to overall customer satisfaction, and ultimately your success.

A lot of people are talking about "Web 2.0." Some dismiss the term as just a catchphrase. But by any name, everyone's business is and will be affected by this wave of new technology that includes rich Internet applications, broadband content including streaming media, social networking, user-generated content, and the continued growth of the mobile Internet. The overwhelming challenges these radical changes present for usability experts and Web operations teams are just beginning to be truly appreciated.

In this first issue of *Benchmark*, you'll meet usability and performance experts from Yahoo!, Fidelity Investments, MauroNewMedia, MobiTV, Akamai, PowerReviews, and others. You'll get a glimpse of how these organizations are adapting to and leveraging the latest technologies. And you'll see how consumers react to Web sites in the important brokerage and wireless industries.

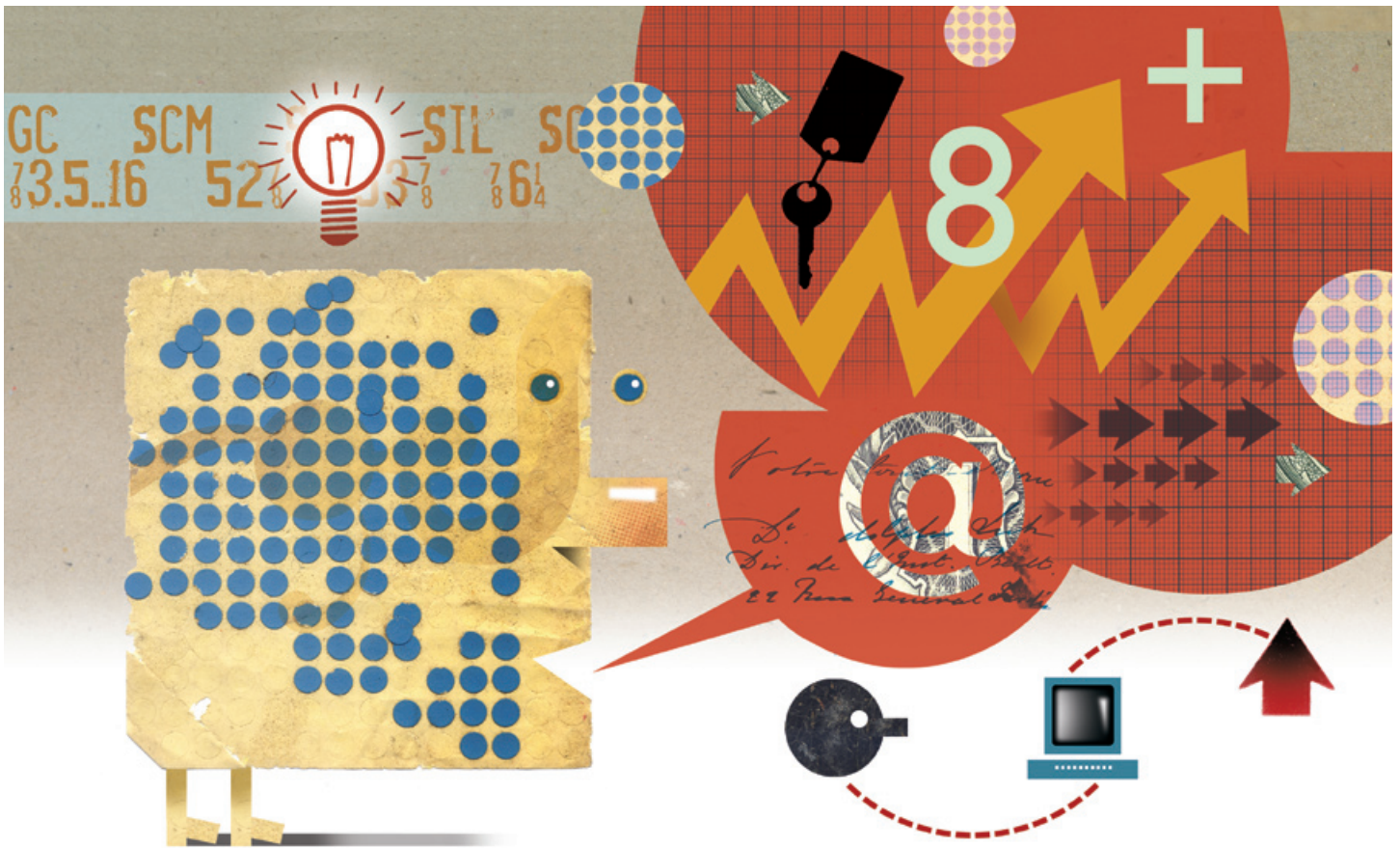
One comment in this issue that really says it all was made by Paul Graham, senior vice president, retail brokerage at Fidelity, who said, "Fidelity is a financial services firm, but we're also a technology firm." That really sums up the challenges faced by most successful companies operating today. Leading organizations realize that it is no longer good enough just to have a Web site or a mobile presence. Staying on top of the technological aspects of the evolving Web and mobile worlds is like running an entire business in and of itself.

Our goal for *Benchmark* is not to provide all the answers, but rather to highlight the rapidly evolving online world and the ways in which businesses are meeting its challenges.

We hope you enjoy this issue and we look forward to forging an ongoing relationship with you as the magazine evolves right alongside the online medium that is its focus.

Best Regards,

Umang Gupta
Chairman and CEO, Keynote Systems



A Demanding Marketplace Keeps Online Brokerages Fighting for the Lead

While brokerage Web site reliability ranks as the highest of any industry — and while the majority of investors use the Internet to research and manage their investments — online brokerages still face challenges in getting investors to actually trade online.

Despite some dips and turns, the stock market continues on a record-setting upward path, and consumers continue to invest in equities, whether “playing” for a quick profit or “parking” for long-term wealth building. Online brokerages, once the upstarts in a business with deep roots, have become an increasingly popular conduit for this money as it heads into the financial markets.

With access to competitive sites just a mouse click away, online brokerages are feeling pressure to meet ever-increasing customer expectations and rigorous performance standards. Attracting and keeping customers requires not just the right suite of products and services, but an efficient, intuitive online experience as well.



INVESTORS READILY RESEARCH AND MANAGE ONLINE, BUT TRADING LAGS

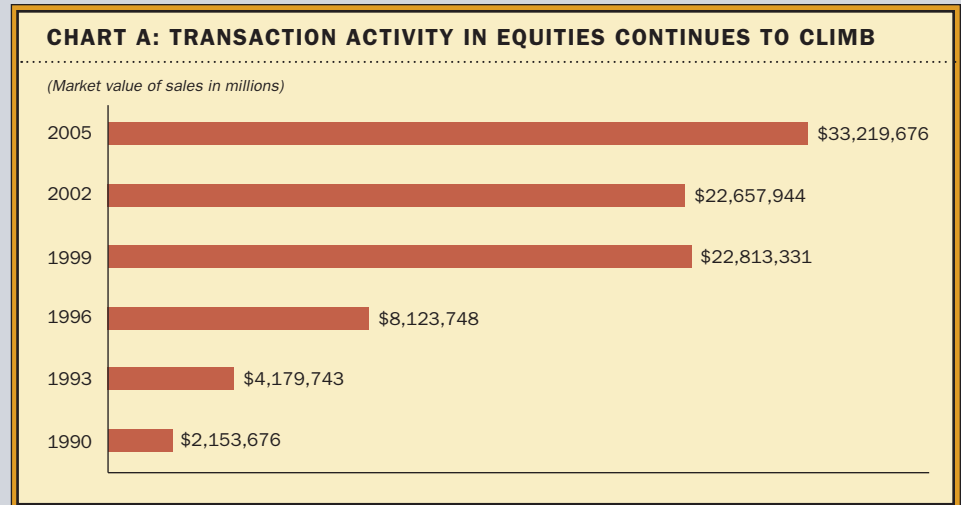
E-brokerages revolutionized the trading industry with a new cost structure model for transactions, information, and marketing. This model has brought transaction activity to an all-time high. (See Chart A) Today, the majority of equity investors — fully two-thirds — use the Internet to access their financial accounts or gather financial news. But few actually complete the process and execute an online trade. In 2005, just 14 percent of these investors executed online trades.¹

Online brokerages face direct competition from traditional brokerages and other discounters, and indirect competition from banks, life insurance companies, and other investment avenues. Today most online brokerages offer value-added services such as online research, portfolio valuation, investment recommendations, and enhanced trading execution speed. Others, including the established Wall Street firms, offer investors the traditional option of visiting a branch and meeting in person with a broker.

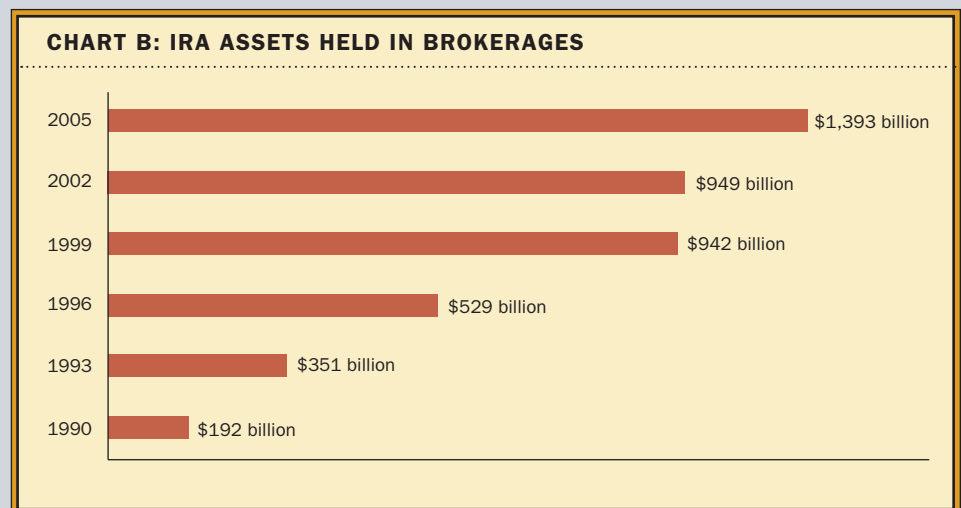
DEMOGRAPHICS OF THE AMERICAN INVESTOR

The Investment Company Institute reports that half of all U.S. households today own equities either directly or through mutual funds.² Most are saving for retirement, and about 40 percent of independent retirement assets are held in brokerage accounts. (See Chart B) In 2005, the median household assets invested in stocks were \$65,000 — a significant rise from \$50,000 just three years earlier.³ While investors of all ages own stock, two-thirds of stock investors are in their peak earning years, ages 35 to 64. (See Chart C)

Affluent investors are particularly attractive to financial services firms. The online activity of this demographic parallels the increasing volume and interest in the stock market overall.⁴ Affluent investors,



Source: Securities and Exchange Commission: Select SEC and Market Data for Fiscal 2005, Table 12.



Source: 2006 Investment Company Institute Fact Book.

Nearly \$4 of every \$10 in an individual retirement account (IRA) is held in a brokerage account. That figure doesn't include the mutual fund assets held with brokers.

who use their investment providers' Web sites at least several times a year, want to see account information, equity research tools, stock and mutual fund screeners, asset allocation tools, and online trading functionality.⁵ A study by Forrester Research shows that nearly two-thirds of affluent investors are interested in online money management, and they use both direct and full-service brokerages. This fact

underscores the competition in the industry and the need for full-service brokerage firms to provide high-quality online services to maintain their client base.⁶

RELIABILITY AND PERFORMANCE SHAPE CUSTOMER EXPERIENCE

Money issues are emotionally charged, and equity markets are notoriously volatile. Customers want stability, security, and a high



One of the most frequent complaints — expressed by 27 percent of the prospective customers — focused on the communication of fees and commissions on the sites.

BEST PRACTICES FOR ONLINE BROKERAGE SITES

- Detailed facts up front
- Accounts highlighted on main page
- Differences between accounts explained
- Extensive account information
- Customizable tools

level of service from their financial services providers. Online brokerages face the added challenges of Web site performance and service reliability in handling their customers' critical financial resources.

Customers do not remember the ten times an application worked perfectly, but they never forget the one time it failed. Online brokerages are challenged to constantly monitor customer experience to ensure performance standards are met. A site's ability to service its customers without errors or outages is reflected in its reliability ranking. The brokerage industry boasts an average Web site reliability rating of 99.5 percent, a figure higher than any other industry and slightly above the 99.0 percent threshold level for site reliability in the competitive financial services sector.

User research indicates that reliability and site speed are key considerations for prospective online investors. In fact, the speed and reliability of trade execution on a brokerage Web site is almost as important to prospective customers as the commissions and fees charged for trades, according to a 2005 customer experience study conducted

with 14 major online brokerage Web sites by Keynote Competitive Research, the industry analysis group of Keynote Systems. In the study, 83 percent of prospective online investors reported commissions and fees as an important consideration, and 82 percent reported speed and reliability of trade execution as an important consideration. In comparison, the selection of available products and services was a consideration for 60 percent, with investment advice and planning tools a consideration for 56 percent.

BROKERAGES SCORE WELL IN PAGE DOWNLOAD SPEED

In general, brokerage site performance levels continue to far exceed site performance in other industries. Responsiveness — the ability to provide consistent and highly responsive page loads — is critical in a business where investors expect real-time market quotes and the ability to place and execute trades before prices change.

On brokerage sites, pages rarely take more than 1.5 seconds to load, a time considered first-rate by other online industries — and it's improving all the time. A 2006 Keynote study of online brokerage sites found average page download times over broadband connections improved 6 percentage points from a year earlier.

However, designers need to carefully consider page weight and graphics load to maintain acceptable dial-up response rates, which in turn will virtually guarantee superior broadband performance. Because, as much as business professionals would like to believe we live in a broadband world, the reality is that more than half of consumers still access

the Internet over 56 kbps dial-up connections, according to a recent Internet survey.⁷

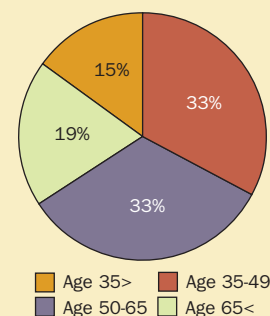
A WIDE VARIATION IN SATISFACTION AMONG PROSPECTIVE CUSTOMERS

While online brokerages as a whole are setting high standards, not all sites are leaping over the high hurdles set by the leaders of the pack. As many as one in seven prospective online brokerage customers expressed dissatisfaction with their online experience, according to a recent study of 1,500 panelists who viewed 10 Web sites in May 2006.

One of the most frequent complaints — expressed by 27 percent of the prospective customers — focused on the communication of fees and commissions on the sites. Panelists reported frustration over the lack of clear, easy-to-understand information about these costs. Brokerage sites that display fee

CHART C: INVESTORS OF ALL AGES OWN STOCKS

(Percentage of equity investors in each age group)



Source: Boston Research Group: Equity Ownership in America, 2005.

In 2005, median household stock investment was \$65,000, and fully two-thirds of those investors were in their prime earning years, age 35 to 64.



CHART D: BUSINESS IMPACT DRIVERS

TOP IMPACT DRIVERS	BRAND IMPACT	ACQUISITION IMPACT	ONLINE ADOPTION
	Relationship to Brand Impact	Relationship to Acquisition Impact	Relationship to Online Adoption
1. PRODUCT SATISFACTION	■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■
2. ONLINE FEATURES SATISFACTION	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■ ■ ■
3. VISUAL DESIGN	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
4. EASE OF FINDING ACCOUNT	■ ■ ■ ■	■ ■ ■ ■	□
5. EASE OF OPENING ACCOUNT	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
6. PRIVACY AND SECURITY	■ ■ ■ ■	■ ■ ■ ■	□
7. PERCEIVED PERFORMANCE	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
8. EASE OF LEARNING BENEFITS	■ ■ ■ ■	■ ■ ■ ■	□

■ ■ ■ ■ ■ ■ ■ ■ = THE HIGHEST PARTIAL CORRELATION OF DRIVER TO INDEX

Source: "Customer Experience Rankings Study for Brokerage Prospects," June 2006, Keynote Competitive Research.

Overall product offering and online features — including research and account tools — are the biggest drivers of brokerage Web site success.

information clearly and prominently earn prospects' confidence in the brand.

About 30 percent of customers in the study cited online trading demos as another problem area for several sites. The online trading demo is important because it can help investors new to the site set up an account and start trading. Users expressed dissatisfaction with demos that are unclear or hard to locate, which in turn can undermine brand credibility.

SATISFACTION WITH PRODUCTS AND ONLINE FEATURES DRIVE BUSINESS

Survey research indicates the drivers with the greatest impact on conversion and brand affinity are satisfaction with product offerings and online features. Prospective customers rated each site's product offerings based on satisfaction with its investment accounts and choices, competitive pricing, and whether it represents a good value. Panelists gave kudos to multiple investment options, low- or flat-rate trading commissions, investment research/screening tools, and advice/planning tools.

Prospects rated online features including investment research and

screening/selection tools, investment advice and planning tools, online trading, and account information. Features that scored well included comprehensive online tours, a FAQs page, account views/information, a visually well-organized and uncluttered layout, and third-party endorsements such as the J.D. Power Award. The effect of these drivers was measured for their relationship to the impact on brand, acquisition, and online adoption. (See Chart D)

FIDELITY, SCOTTRADE, SCHWAB SITES LEAD IN OVERALL CUSTOMER EXPERIENCE

High marks in product and customer service areas helped keep the site of mutual fund titan Fidelity Investments in first place for overall customer satisfaction. Panelists ranked the site first in product satisfaction, visual design, and ease of opening an account. Specific customer comments tell the story: "Most of my questions about account fees, trade costs, and online trades were answered by the graphic on the homepage." About the depth of account information, one customer said, "It explained what the

differences were and there were tools to help you assess which account would be best for you." Furthermore, prospects rated Fidelity's site as more reliable than other sites — an important indicator for an industry in which reliability is held in the highest esteem, and especially important for Fidelity, which has more than ten million active online accounts, the greatest number in the industry.⁸

E*TRADE, the top-rated site in 2005, didn't make the top three slots for best overall experience, but still ranked as one of the best sites at acquiring brokerage customers online. The site, which placed fourth in overall customer satisfaction in 2006, lost ground from the prior year in the areas of satisfaction with products and online features, visual design, and ease of finding an account.

Illustrating the competitive, shifting nature of the brokerage industry, Scottrade jumped to second place in overall customer satisfaction, a vast improvement from its eighth-rated position in 2005. Scottrade also made a huge leap to the top position for online adoption, up from ninth place in 2005. Customers saw Scottrade's site as "high value" and ranked it first for online features satisfaction. Customers especially liked the pricing and product offerings: "Low/flat rate commission fee for trading, no account maintenance fee, low minimum balance to open account (\$500)." "Lots and lots of options in every investment category." The messaging also grabbed their attention: "The site is very organized. You can't miss the '5 great reasons' to open an account." Finally, the third-party endorsement added trust to the brand: "The J.D. Power results give their claims credibility."

Customers rated Schwab's site first for finding an account, and gave it high marks for online feature satisfaction and ease of opening an account, putting it in third place overall — a significant boost from ninth place in 2005. Panelists perceived Schwab's site, more than any other, as "ethical" and "helpful."



HOW DO FULL-SERVICE BROKERAGES STACK UP?

The online arms of full-service brokerages offer many of the same services as the online-only discount brokerages, with the advantages of established credibility and the option of traditional service delivery. A recent Keynote Competitive Research study ranked nine full-service brokerage sites on a detailed report card using a 300-point system, evaluating sites for functionality, ease of use, privacy and security, and quality and availability. The scorecard ranked the sites in specific critical tasks such as monitoring accounts and portfolios, managing cash and positions, and researching investments.

Smith Barney placed first in performance in functionality, quality and availability, “use accounts,” and “learn and plan” tasks. The Wells Fargo site was the leader in ease of use, privacy and security, and research.⁹

The Scorecards for Financial Services are bi-annual report cards developed by Keynote Competitive Research and released in September 2006. Full Service Brokers Scorecard is one of three industry research offerings Keynote has created for this market segment.

“The Scorecards are designed to help companies stack themselves up against their competitors, to determine what specific aspects of their sites have the biggest impact on their business, and to identify what challenges and opportunities need to be addressed to gain the competitive edge,” said Chris Musto, general manager, financial services, for Keynote Systems.

SITE ORGANIZATION AND PERFORMANCE ARE KEY TO BROKERAGE SUCCESS

Online brokerages achieve some of the highest reliability ratings of any online industry. But the bar continues to be raised in this intensely competitive marketplace. Aggressive moves to enhance customer experience and deliver data efficiently and intuitively can dramatically impact perception and conversion rates, as evidenced by Scottrade’s jump in customer ratings. Clear, upfront fee information, simple demos, and customizable tools are critical to site success — assuming, of course, that the product offerings are relevant and competitive. ❏

The brokerage industry boasts an average Web site reliability rating of 99.5%, a figure higher than any other industry and slightly above the 99.0% threshold level for site reliability in the competitive financial services sector.

ENDNOTES

Unless otherwise noted, all user research cited is extracted from Keynote Competitive Research, “Customer Experience Rankings: Brokerage Prospects,” April 2006.

¹ “Equity Ownership in America, 2005,” a study conducted by Boston Research Group for the Investment Company Institute and the Securities Industry of Association, p. 26.

² Ibid, p. 1.

³ Ibid, p. 2.

⁴ “Full Service Brokerages: Stop Neglecting the Net,” a Forrester Research report dated September 9, 2006.

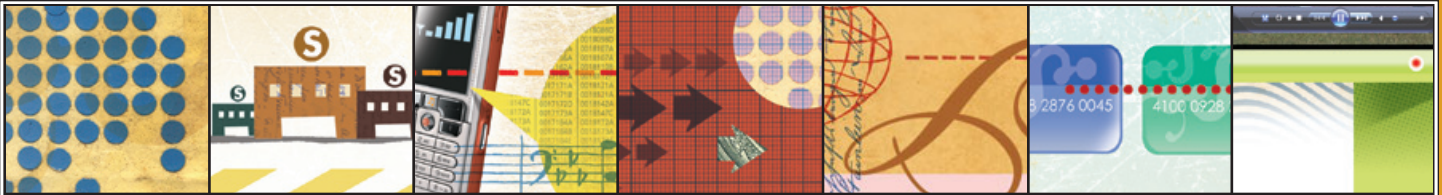
⁵ “What Affluent Investors Want From Web Sites,” a Forrester Research report dated January 6, 2006.

⁶ “Mission Impossible: Selling Checking Accounts to Brokerage Clients,” a Forrester Research report dated December 23, 2005.

⁷ “Broadband Penetration,” a survey by the Pew Internet & American Life Project, updated on May 28, 2006.

⁸ “Fidelity Investments Announces Third Quarter Results for Fidelity Brokerage Company,” a Fidelity press release dated October 18, 2006.

⁹ “Keynote Scorecards for Financial Services.



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