Online Trading: An Internet Revolution

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Abstract

This research note examines the trends in the online trading industry, as well as the competing business models of traditional and online brokerage firms. This report will help to identify the value proposition of different market and customer segments. Specifically, it compares and contrasts the business models for traditional and online brokers, as well as specific online brokers. Furthermore, it outlines new business opportunities for online research firms.

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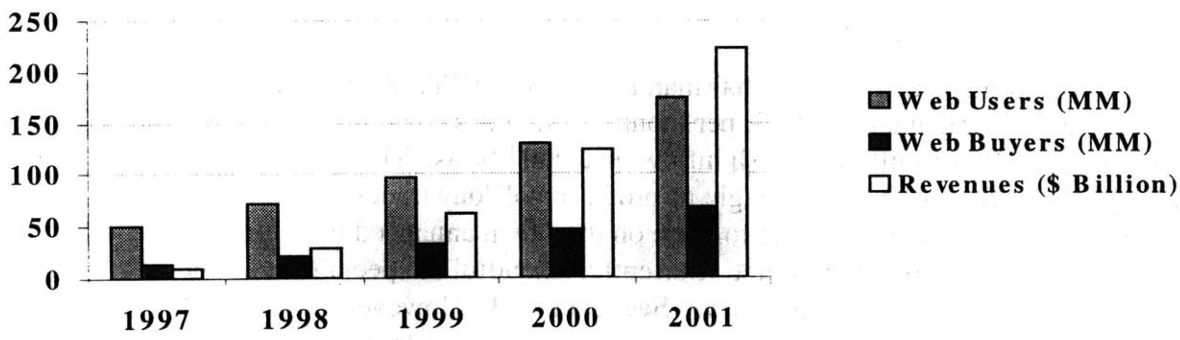
I. Introduction

The Internet: Changing the Ways We Do Business

There is little doubt that the online economy is booming. The Internet is creating a new paradigm in retailing, reinventing new business models, and forever changing the ways firms conduct their business. By making an immense amount of information and data readily available, the Internet has provided consumers with the ability to access and navigate in this smorgasbord. Since its inception, the Internet has transformed from merely an information space to a marketplace, adding online execution and transaction capabilities. **(See Exhibit 1)** Consequently, a handful of new industries have surfaced in response to these market opportunities. Notably, online trading, a popular notion among retail investors, is one of the most successful industries created by the Internet revolution.

Exhibit 1: Key Figures for Worldwide Electronic Commerce



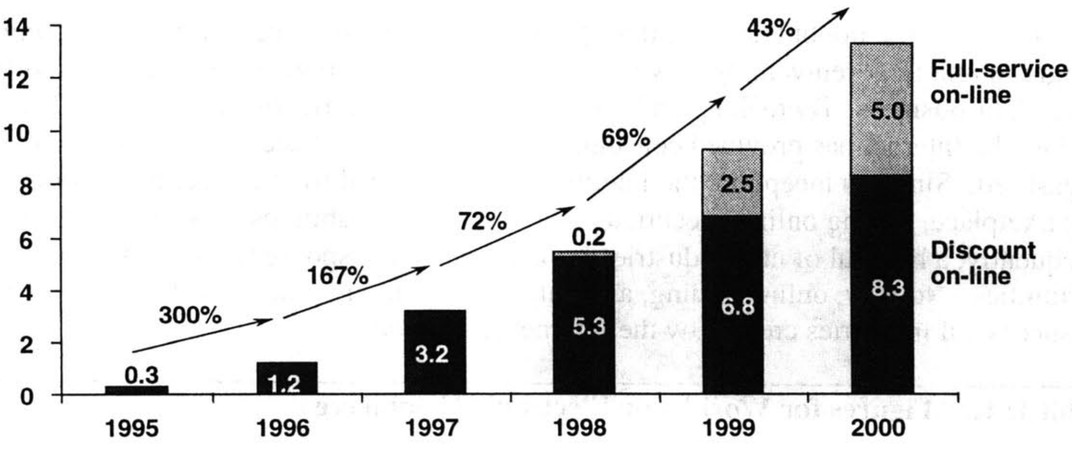
Source: International Data Corporation estimates

Industry Overview

Online trading has evolved as a direct consequence of technological advancements in the discount brokerage industry. In 1984, Charles Schwab introduced The Equalizer, the industry's first DOS-based portfolio management and trading tool. Subsequently, Schwab proceeded to implement TeleBroker, the first telephone-based phone keypad trading application in 1989, and StreetSmart, a window-based PC investment software package in 1993. However, Internet-based trading was first founded outside of the mainstream discount brokerage firms. E*Trade was launched in 1992 as a pioneering online brokerage service provider. The company that initially began as a provider of back-office online processing services to discount brokerage firms such as Quick & Reilly, Charles Schwab and Fidelity soon embarked upon an aggressive pursuit of "direct-to-consumer" strategy. In 1995, E*Trade derived over 80% of its revenues from trading commissions and became the first online brokerage firm. As other discount players quickly ensued after the success of E*Trade, and a new era of online trading dawned on the brokerage industry.

Since its advent five years ago, online trading exploded into growth and dramatically changed the dynamics of the brokerage industry. Today, there are an estimated 4 million Americans with active online stock trading accounts, representing 25% of all retail stock trades and approximately 15% of the volume on NYSE and NASDAQ. The number of online trading brokerages has also grown from 12 in 1995 to 100 or so firms, and multiplies as full-service firms, mutual fund companies and banks are turning to face the challenge and copying to catch up. **(See Exhibit 2)**

Exhibit 2: US-Based On-line Brokerage Accounts (MM), 1995–2000

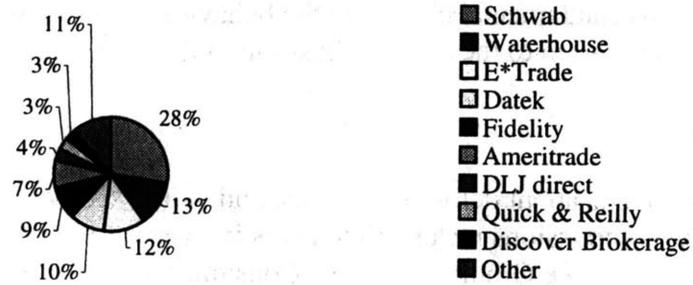


Source: The Tower Group Estimates

According to Bill Porter, Chairman Emeritus of E*Trade in May 1999, E*Trade is currently expanding at a rate of 9% per month, sometimes accumulating 5,000 to 10,000 new accounts and $10-15 million of cash inflow on a daily basis. This astonishing growth of online trading is large driven by an onslaught of professional "day traders", as well as other sophisticated investors who desire to trade on their own enhanced by the ease of access to research information on the Internet. Currently, a handful of specialized online or discount brokerage firms dominate the industry. **(See Exhibit 3)** However, the entry of full-service firms such as Merrill Lynch will certainly reshape the competitive landscape for these players.

Exhibit 3: Key Players in Online Trading, 4Q1998

Total Value of Daily Online Trades



Source: Credit Suisse First Boston

II. Business Model

The Traditional vs. Online Brokerage Model

In the traditional brokerage setting, retail brokers must actively seek to acquire a client base. After signing up a list of customers, brokers need to research about the financial market, in turn generating stock ideas. The brokers then communicate buy/sell recommendations to clients over the telephone. Depending on the clients' reactions, brokers will then proceed to execute trades pending the clients' approval. Since the timing of trade execution is critical, stock prices may have fluctuated after the delay of telephone calls, brokers may not be able to execute trades at a price that was promised to the customers. In addition, the quality of retail brokers may vary dramatically across individuals, making it hard for investors to "cherry-pick" among them. Furthermore, it is difficult for investors to discern whether or not the brokers have made a well-informed recommendation after only having had a brief telephone conversation.

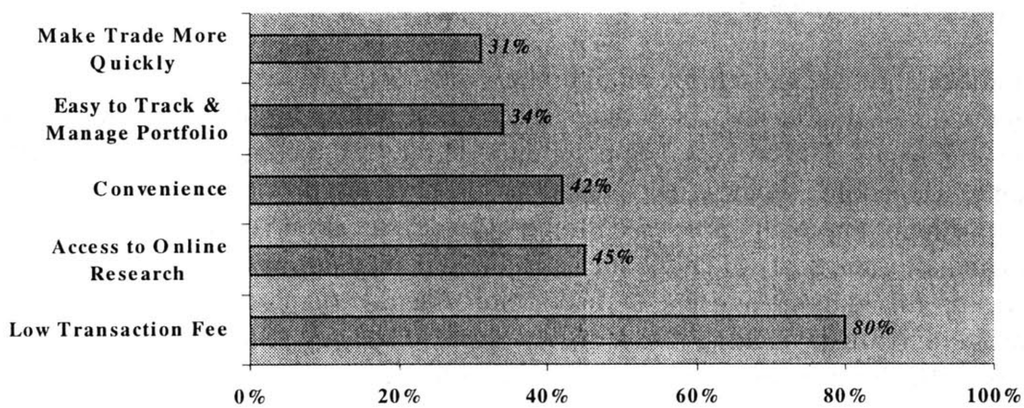
In contrast to the traditional model, the online universe is much more dynamic. While the Internet breaks down information barriers by making market data, company research, etc. available en masse at a touch of few buttons, online investors plays a much more active role as his own portfolio manager. With the Internet serving as an information gateway, the investor can do everything that the retail brokers used to do, such as market research and trade executions. Retail brokers no longer hold the keys to information gathering and individual investors can do away with high-pressure retail sales tactics. In addition, investors often complained about the "black box" inside retail brokerage. With online trading, they can make their own decisions, and trades are executed instantaneously, at essentially the same price. Aside from trade execution and research capabilities, online investors also gain convenience and save time with round-the-clock access to trading systems and account information. Moreover, online investors ultimately acquire decision-making power and access to enough information to feel confident with self-directed portfolio management.

As the investors are becoming increasingly sophisticated with respect to personal investing and Internet usage, we see that more and more people are joining the Internet revolution, propelling online brokers into phenomenal growth. Investors are going online because they now have the research tools that only the brokers once had, and can exercise more control over their own financial assets. Accordingly, advancement in transaction enabling and automated order processing technologies has also contributed to serving the needs of these self-directed investors. This fundamental change in the behavior of investors that has resulted from the Internet Revolution has led to the current shake-up in the brokerage industry.

Value Proposition

Online brokerage is about delivering service and value. Convenience, control, accessibility and low commissions make online investing very attractive to individual investors. According to the 1998 Yankee Group Interactive Consumer Survey ("IC Survey"), 80% of US online households cited low transaction fees as one of the top three reasons why they execute trades online. **(See Exhibit 4)** With online brokers offering commissions as low as $7 per trade, the inconvenience of switching to new brokers seems more than worthwhile. The major reason that commissions are so low is that there is a lot less staff required with online trading than otherwise at the retail branches. With technological innovations, online brokers have also automated back-office processing, thereby decreasing overall operating expenses.

Exhibit 4: US Online Households -- Top Three Reasons of Executing Trades Online



Source: The Yankee Group

Many investors can appreciate the benefit of information delivery over the Internet. Access to research information that was once unavailable is driving customers to online brokers. The Yankee Group IC Survey revealed that US online households still prefer newspapers and televisions as the method of receiving business news and information. However, there has been a growing trend that the online households prefer "Internet services" much higher for receiving financial news and stock information. In addition, access to real-time quotes, a luxury that has been made possible by the Internet, is now standard fare for online brokerage firms. With the information ready-at-hand, the question of personal investing remains for the individual's depth of experience, product knowledge, etc.

Competitive Landscape

In a young industry of merely five years, investors can sometimes get confused by the different prices and services offered by 100 or so online brokers. For many of them, price is no longer an issue, execution and services are important factors for selecting online brokers. As market segmentation has gradually becomes clearer, the segments can be classified as follows: full-service, service-oriented, fence riders, and no frills.

The full-service firms have traditionally been the full-service brokers, such behemoths as Merrill Lynch and Prudential Securities, who are expected to unveil their online sites before the end of the year. Most firms in this segment have lagged behind their online rivals, and are slow to embrace the Internet. These firms fear that online operations might lead to potential conflicts with retail sales operations, historically a very profitable franchise. However, as investors become more sophisticated and need less handholding from brokers, they are turning to online brokers for lower commissions. Facing by the reality of online trading, full-service firms are compelled to set up their own Internet operations to compete. However, their online strategy may be different, a higher fee structure matched for premium content and services. The online services will include extensive market and company research priced and are expected to be priced at over $35-40 per trade. In addition, these firms are expected to provide the services of personal account representatives, a role fulfilled by brokers, to reinforce the strong ties between brokerages and their clients, providing various products and knowledge within the firms. Full-service firms are specifically targeting those investors who are less sophisticated, time-sensitive, and would require a lot of handholding but want to trade online.

Like the full-service brokers, the service-oriented firms also offer extensive research, either for free or at a fee. These firms include Charles Schwab and E*Trade, who also provide investment and analytical tools at a cost of $20-35 per trade. These firms tend to stress 'delivering value' to their customers by providing respectable execution and portfolio monitoring capabilities. For example, most online brokers channel their trades to a third-party market maker such as Knight/Trimark Group, who then reimburses the brokers with order flow payments. As a result, this can create a lot of contention among investors when the brokers fail to execute trades at a reasonable price. To ensure investors that such failures will not occur, E*Trade regularly conduct audits on the market makers to guarantee that trades are properly executed. These firms tend to target serious investors by providing them with relevant research information at a fair price.

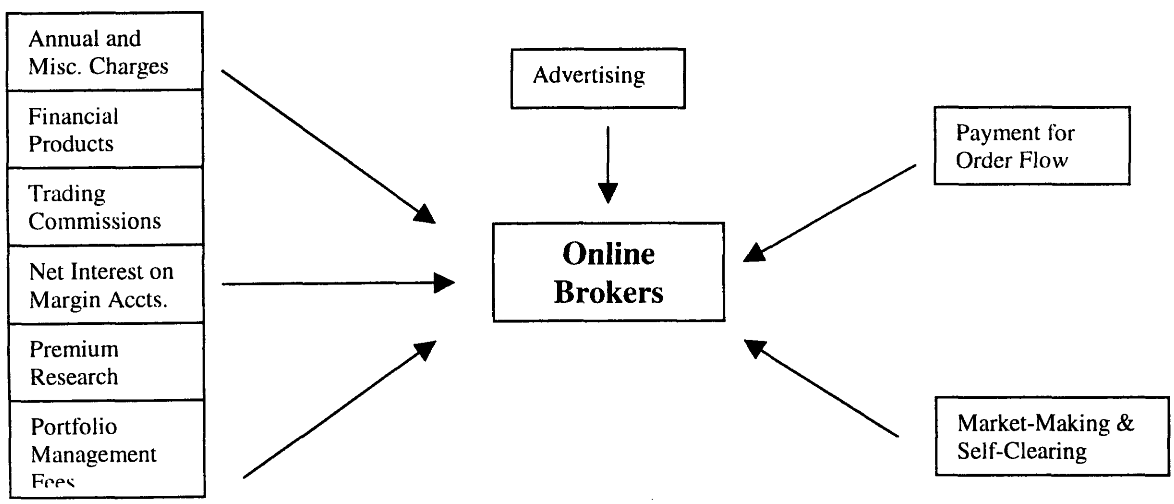
The no-frills brokers such as Datek and Ameritrade, offer a commission as low as $5-10 per trade, sometimes the price has been bid down to nothing. For example, Web Street Securities offer no commission charges for NASDAQ stock trades of over 1,000 shares. Instead, these companies rely on low commissions to attract high volumes generated by hyperactive traders. The bare-bones offerings often include the standard fare of real-time quotes, with little or no research information. The investors that use no-frills providers usually are highly sophisticated and trade frequently. Since these investors do not rely on the market research provided by the online brokers, the no-frills firms tend to concentrate on purely trade execution. The volume and frequency of trades are high enough to justify the rock-bottom prices. Later, we will carefully examine the comparison of Ameritrade and E*Trade.

In contrast to the service-oriented and no-frills providers, the fence-riders are somewhat less defined. While these firms such as Waterhouse Securities offer the standard real-time quotes and market news, they provide limited data and portfolio analytical tools for the investors at a reasonable price of $10-20 per trade. Given its ambiguous position in the marketplace, it may be interesting to see whether or not the fence-riders will survive in the long run. Meanwhile, these firms seem to be doing fine and there is no imminent momentum to push them to move either upstream or downstream, joining the ranks of others.

III. Revenue Flow Model

Online brokers generate revenues from various sources, including trading commissions, net interests from margin accounts, and payments for order flow if the broker does not have market-making or self-clearing capabilities. **(See Exhibit 5)** For different online trading segments, the sources of revenue flow may fluctuate. For full-service and service-oriented firms where providing value supercedes low trading commissions, revenues generated from premium research and other products are relatively more significant. In contrast, fence-riders and no-frills firms who concentrate more or less on trade execution, derive a substantially a higher proportion of revenues from payments for order flow and net interest on the margin accounts, and less from trading commissions.

Exhibit 5: Revenue Flows for Online Brokers



Source: Literature Searches; Josh Manion

Ameritrade vs. E*Trade

The comparison of Ameritrade and E*Trade brings many interesting points to light. **(See Exhibit 6)** For example, while the number of accounts at Ameritrade is approximately half of that of E*Trade, the number of transaction is 79% of E*Trade's figure. This clearly indicates that investors at Ameritrade trade more frequently, by a factor of 40% the average number of trades per account. It is also interesting to note that the average Ameritrade investor maintains $37,000 in his account, as compared to the $20,000 for E*Trade. It seems to me that what Ameritrade gives up in trading commissions, it consequently makes up by offering a higher rate of interest on margin accounts. The risk-taking nature of hyperactive traders may result in widespread usage of margin accounts, thereby Ameritrade investors have revenues per account that is 20% higher than E*Trade's $450.

Because the difference in commission structures, the composition of revenues also varies between the two companies. Interestingly enough, E*Trade draws in almost 18% more of its total revenues from trading commissions as compared to Ameritrade. Similarly, Ameritrade's higher net interest revenue mirrors the identical 18% difference found in trading commissions. Furthermore, Ameritrade's payments for order flow is more than twice as much as that of E*Trade in percentage, and more than $3 million in real terms for a much higher trading volume.

The conclusions drawn from the above analysis align with the same arguments that we have pointed out earlier regarding service-oriented versus 'no-frills' firms. No-frills firms are more focused on trading execution and lowering cost, therefore appealing to those who are professional day traders who trade more frequently. In comparison, service-oriented firms place their emphasis on 'delivering value', and broadening product offerings. For E*Trade, the percentage of revenues that it loses in order flow payment is made up for by selling other products, such as premium research, mutual funds, credit card, etc.

Exhibit 6: Ameritrade vs. E*Trade Comparison

	E*Trade	Ameritrade
Key Indicators		
Number of Accounts	544,000	306,000
Number of Transactions	7,930,000	6,240,000
Commissions per Trade	$14.95	$8.00
Total Revenues ($MM)	$245.10	$164.10
Revenues per Trade	$30.91	$26.30
Annual Revenues per Account	$450.55	$536.27
Daily Average Trade (3Q98)	30,500	24,000
Average Number of Trades per Account	15	20
Total Assets ($ billions)	$11.20	$11.40
Average Assets per Account	$20,588.24	$37,254.90
Revenues Breakdown (in % terms)		
Commissions	62.7%	45.0%
Net Interest Revenue	22.8%	40.0%
Payment for Order Flow	3.4%	7.1%
Other	11.1%	7.2%

Source: 1998 Annual Reports

Additional Revenues

As competition intensifies over online trading, companies are constantly searching for new revenue sources. In 1998, Charles Schwab launched a landmark deal with Credit Suisse First Boston, Hambrecht & Quist, and J.P. Morgan that allows its customers to invest directly in IPOs. In December, Schwab served as a co-manager of Select Comfort Corp., and sold 4 million IPO shares for the first time. Online rivals such as Fidelity and E*Trade also use the Internet to sell new issues to retail investors. In addition, Schwab is planning to use database-marketing techniques to pitch new issuance to likely investors, sifting through the profile of millions of online customers to aim certain IPOs at investors with particular types of stocks in their portfolios. Similarly, the upstart Wit Capital, a specialized online investment banking firm focused on the offering securities through the Internet, sells IPO shares to a community of online investors.

IV. Lessons from the Rise of Discount Brokers

Before we delve into market opportunities, it is critical that we gain a historical perspective on the rise of discount brokerages in the 1980s. This will serve as an important lesson to online brokers.

Discount Brokerage in the 1980s

On May 1, 1975 (also known as "May Day"), the SEC ordered brokers to cease fixing commission on all securities transactions. Prior to 1975, the New York Stock Exchange specified the minimum fees that members of the exchange must charge. Although large institutions account for a substantial portion of the trading volume, these commissions were applied to large as well as individual investors. To ease the contention among large institutions, sell-side firms rebated a portion of the commission in soft dollars to firms that provided research or other services to the buy-side firms. After this practice was banned by the SEC, institutions brought a portion of their trading volume to the " third market" (off the NYSE and AMEX), and eventually led to the ban of fixed commissions.

The most dramatic effect after the deregulation was the emergence of discount brokers as a new player that revolutionized the industry. Most notably, the idea that Charles Schwab had flourished into a new "discount" phenomenon: offering no research, limited advice and minimal services, but at a substantially lower transaction price to investors. Most discount brokers had few branch offices, and can be reached via telephone for trade executions. Increasingly, a growing number of individual investors who prefers doing their own research began to reap the benefits of low commissions offered by discount brokers. In addition, heavy investment in technology by the discount brokers was central to reducing back office overhead expenses, therefore allowing a much lower commission based on higher transaction volumes.

The most visible outcome from deregulation was lowered commission. Discount brokers' commissions are approximately less than half of what they used to be before May Day, at about $40-60 per trade. Full-service brokerage firms, in order to compete against the discounters, have also lowered their commissions by 20%. However, full-service brokers have also shifted their focus away from price to services. These brokers began to offer a wide range of products, such as tax shelter, municipal bonds, insurance, CD, etc. to differentiate themselves among their competitors.

In particular, deregulation displaced a specific group within the industry, the research firms. Traditionally, these firms were paid soft dollars by the members of the exchange for providing research services to large buy-side institutions. When commission rates become fully negotiable, fewer soft dollars remained. Thus buy-side firms began to develop their own in-house research capabilities, many research firms either forwardly integrated to develop trading capabilities or merged with full-service brokers.

Full-service retail brokers, of course, lost some of their businesses to discount brokers after deregulation. Although the full-service brokers have survived, many full-service brokers were quietly giving discounts away to their best customers. In general, full-service brokers and discount brokers competed for different segments of investors. While full-service brokers are competing for retail investors who are much in need of hand-holding and do not have the time to research and invest on their own, discount brokers are competing for high-volume, price-sensitive customers who can make informed investment decisions.

Online Brokerage in the 1990s

In contrast to the SEC deregulation that increased the competitiveness of the whole industry and inspired the rise of the discount brokerage firms, the fast-growing Internet usage and technological advancements led to the rise of online trading industry. In the information age of the nineties, the Internet has lowered the knowledge barrier by providing customer access to real-time quote and news, research reports, market and analysis tools, etc. In addition, investors are becoming more sophisticated and better-informed about their investment options, relying on the Internet for up-to-date information dissemination. Moreover, the advent of "day-traders," a new segment of active individual investors, also helped to popularize online trading among the investors. In addition, technology played a critical role for online trading by providing capabilities designed to serve the needs of self-directed investors.

The advent of online trading has reduced the commissions even further to $5-30 per trade. By providing 24 hours customer access to an efficient trading and customer interface platform, straight-through processing from multiple delivery channels with minimal manual intervention, and investment analysis and research tools distributed over the Internet, online trading firms are attracting customers who are able manage their own investment at lowered cost.

Full-service retail brokers are once again threatened by the emergence of a new player, only this time, the threat to disintermediate the retail sales with online trading is much more powerful than with discount brokerage. As online trading becomes a reality, full-service brokers realize that online trading is an essential element of their retail distribution. Will the full-service brokerage firms be successful at implementing online trading to complement their existing brokerage network? Will customers who were loyal to full-service brokers be able to grasp the concept of online trading and switch over to the cheaper way to manage their assets? Will full-service retail brokers be eventually disintermediated? A list of questions remains to be answered for the future.

Market Opportunities

In the 1980s, independent research firms have virtually disappeared as buy-side institutions have developed in-house capabilities due to the loss of soft dollars. With the advent of the Internet, the phenomenon may have been reversed, but in a slightly different format. Financial research information is now widely distributed over the Internet, as opposed to through brokerage firms. While many investors have the information ready-at-hand, many of them lack the knowledge or the tools to trade online. Consequently, under the fallacy of a bull market, novice investors self-managing their own accounts have much to learn, and most are investing ahead of their understanding of the market. Educating the online investor is a very real challenge for the online brokerage industry.

There are already numerous sites that aim to address the education issue, albeit targeted at different investors. For example, Motley Fool (www.fool.com) offers a variety of ways to educate the first-time investors. In addition to online communities, market commentaries and portfolio tracking, the site provides sample portfolio, daily stock ideas and the "fool school" for young investors. Moreover, the personal finance section gives tips on buying houses and cars, as well as taking out insurance policies and planning for retirement, etc. Motley Fool tends to attract investors who are technological able but lacks the knowledge to trade online.

In contrast, thestreet.com provides financial reporting and analysis, by bringing objective news that puts investors on the virtual trading floor. TheStreet.com publishes entirely online, which allows for their reporters and commentators to work at the speed of the financial markets. The site also features continuously updated stock news, market commentary and key indices. While the company has recently tries to imitate Motley Fool by offering the "schoolhouse" section, it clearly attracts more serious investors.

In addition, there is a medley of brokerage research reports available online through independent professional investment firms. These reports are usually priced at a premium of $100 per month, and they provide an excellent overview of end-of-day market sector summaries, a list of specific stocks that the firms keep track, as well as an online chat room where the serious traders congregate during trading hours. We see an increasing number of investors using these reports as a guide for managing their portfolios. New investors can also benefit from these reports by using them as a way to gain knowledge about the market and develop experience in trading. As more and more people are flocking to Internet trading, the market for online investment knowledge will soon start to grow.

V. Future Outlook

Exactly what will happen to online trading in the future? While recent service outages and subsequent irate investors make us wonder about the future of online trading, there is no doubt that the double-digit growth in the industry proves temporary pitfalls will not fundamentally hurt online trading in the short-run. We have seen a dramatic increase in the number of competitors over the past years, and there is no doubt that more banks and mutual funds will enter the online marketplace. The entry of traditional full-service brokers such as Merrill Lynch will form a new 'full-service' segment in the industry. In the short run, competition will intensify, as the recent impressive growth in new accounts will start to slow down, and firms will fight harder for new customers. Already, companies have launched aggressive advertising campaigns to build their online brand recognition. E*Trade, for example, spends on average $200 per new customer. Firms are starting to realize that customer acquisition will be the key for building a successful online franchise for the future. In the long run, this will be an industry consolidation, forming more distinct segments in the market. However, the shakeout may not happen for some time, meanwhile more firms will jump on the online trading bandwagon.

As competition gradually heats up and the industry as a whole matures, price will no longer be a differentiating factor. We have already seen that some firms are offering free commissions on trades. As consumers become increasingly sophisticated and demand more "value" in the products and services provided by brokerage firms, both full-service and online firms need to enhance their services. Customer interface, trade execution and service quality and reliability will become more important in customers' selection of online brokers. Whether or not certain online firms will pass the tests of a bear market, in the end, customers only stand to gain from the increased competition -- lower prices and better services.

Business opportunities for market research have also emerged. Firms such as TheStreet.com and Motley Fool will likely succeed as providers of news and information to online retail investors. In addition, daily brokerage reports are available for a slightly higher price for providing market insights.

Going forward, the revenue flow model will be critical to determining the future success of these online trading firms. Already, Merrill Lynch has revealed that it will offer unlimited trades for a fixed annual fee of $1,500, attempting to attract high-volume, sophisticated investors. As we saw in the case of E*Trade vs. Ameritrade, price and service will continue to act as a filter for customer segments. Which revenue model will prevail in the end? My guess is that there will be 'value' players, as well as 'cost' players.

Source:

The Tower Group
*Case Study on E*Trade by Graduate School of Business at Stanford University*
The Yankee Group
"Deregulation That Worked Aftereffects in the Brokerage Industry", Akron Business and Economic Review, fall 1986