

## **EFFECTS OF ONLINE TRADING ON THE INVESTMENT COMMUNITY**

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***ABSTRACT:** Online trading is one of the latest ways to invest that has gained popularity in recent years as investors become savvier. This study discusses online trading effects on investors and brokers. It also evaluates what characteristics most online investors share. It then examines how foreign investors are handling trading online in their own countries. Finally, it observes the future of online investing. Overall, with the convenience of online trading, it looks like it will increase in popularity. However, investors will have to weigh the benefits versus the costs and see if online trading is right for them. Also, brokers must change their services to accommodate this new breed of investors.*

### **INTRODUCTION**

With the increased use of the Internet around the globe, it is only natural that more and more products and services are being offered over the World Wide Web. Therefore, it is no surprise that financial services are being offered by many online companies. In fact, over the past ten years the Internet has become an important way to distribute financial products (Vakil & Lu, 2005). The facts regarding online brokerages show its amazing growth. The number of people investing online has increased dramatically since the first few discount brokerage firms went online in 1997. In fact, there were only 30 discount brokerage firms (DBFs) online in the United States in 1997 and in the span of three short years the number increased to 200 (Yap & Lin, 2001). Also, the research firm, NFO Worldwide, located in Greenwich, Connecticut estimates that around 6.3 million people have brokerage accounts online (Opiela, 1999).

This paper will discuss the reason for online trading's substantial growth by looking at the benefits and costs associated with online trading from the investor's point of view. Since investors are not the only ones affected by the adoption of online trading, this paper will also look at the positive and negative effects that this new trend has had on traditional brokerage firms and financial planners.

Online investing is creating a new breed of investors that share a certain number of characteristics. These characteristics will be discussed at length, as well as any changes in these characteristics that might appear in the future as the Internet becomes more accessible to all types of users. With the increase in online trading, geographic location has become irrelevant with the ability for foreign investors to trade

from overseas (Yap & Lin, 2001). This paper will also examine characteristics of foreign investors, as well as discuss what other countries are allowing online trading in their markets and its effects. After examining the future of online trading, how online trading has affected the financial industry will be analyzed. This paper will then be summarized and concluded with what we have learned regarding this type of investing.

## LITERATURE REVIEW

Barber and Odean (2001, 2002) studied the impact that the Internet is having on investors and financial markets. Their first study (2001) examined how the Internet, with its abundance of information, is affecting online investors' decisions because of an *illusion of knowledge* and an *illusion of control*. They further studied this phenomenon in a second study (2002) and they concluded that after deciding to trade via the Internet, investors make more frequent trades, more risky trades and make less profit than they did prior to switching to online trading.

An article by Hurley (2000) discussed how online stock trading created an urge to trade and a desire for the investor to have more control over what they are investing in. Opiela (2000) looked at whether online investing is an opportunity or a hindrance from the viewpoint of financial planners. In a second article, Opiela (1999) once again touched on the pros and cons of Internet trading from the viewpoint of professionals in the finance field. She stated that although the Internet may provide speed and convenience, it fails to provide the same advice as a professional for long term planning and diversification.

Fan, Stallaert, and Whinston (2000) studied two issues that are important to the efficiency of financial markets: order routing and order execution. They looked at how the Internet is affecting where orders for stocks are routed. They also discussed where the orders will be executed if they are originally placed on the Internet. Vakil and Lu (2005) evaluated how the Internet has affected the capacity and volatility of the stock market. According to their research, since online trading has started, new investors have emerged that trade more aggressively and in higher volume and this in turn has led to an increase in stock trading and volatility in the market.

Bhasin (2005) examined e-brokering and how e-brokerage firms can market financial services. He discussed the benefits of the lower transaction costs and the convenience of online trading for the investor. In a separate article by Phelan (2001), the difference between full service brokers and online brokers is presented and a discussion about the need for good online security is examined. Another study by Globberman, Roehl, and Standifird (2001) assessed how e-commerce has added to the retail brokerage business. Brokers are now online and thus can provide lower costs to their customers along with a larger variety of investment information. Finally, Yap and Lin (2001) examined how online trading systems are changing. They think that future online discount brokerage firms will evolve from systems that provide basic services like low transaction costs, speed, and boundary spanning to systems that will eventually be able to provide the one-on-one personal advice that online brokerage firms are now missing.

Lewis and Bernstein (1996) wrote an article when online investing was still in its infancy. They discussed how to match the investors' needs with the right online brokerage firm, how to avoid sales pitches, and how to think about security needs before one begins to invest. Hong (2000) studied the information-processing costs that can occur from online trading. He discussed how many online traders are new to the investing world and are therefore naïve about how to go about investing. Konana, Menon, and Abramowitz (1999) explored the observable and unobservable costs associated with online electronic brokerages. A second article by the authors in 2000 looked at verifiable versus unverifiable costs. Verifiable and observable costs are the direct costs associated with trading online, like commissions.

Unverifiable and unobservable costs are indirect costs that result from ways that electronic brokerages choose to complete their transactions and how the different locations could indirectly affect the investor.

Since online investing is not a phenomenon affecting only the United States but the world as well, articles discussing Internet trading in different countries were analyzed. Cocca (2002) studied the characteristics of online investors in Switzerland and the effects that online trading has had on the Swiss market. Teo, Tan, and Peck (2004) evaluated the attitudes of people who trade stocks online as well as the attitudes of those who do not trade online in the Singapore marketplace. Finally, Goswami (2003) examined the needs of investors that are trading online in India. He compared the needs of the investors to what online investing websites are offering and then tried to bridge the gap between the two.

### **BENEFITS OF ONLINE TRADING TO INVESTORS**

Some online brokerage firms reported 100+ per cent annual growth rates through the year 2000 (Vakil & Lu, 2005). The increase was because of the benefits investors can gain from online investing. These benefits include low transaction costs, speed, convenience, boundary spanning abilities, and immediate access to financial information. According to Opiela (2000), transaction costs have been driven down because of the increased number of online brokerage firms. In fact, the dramatic increase of online brokerage firms has led to increased competition and lowered commissions that an investor must pay per trade (Konana, Menon, & Balasubramanian, 2000).

Along with low transaction costs, the main strategy of online discount brokerages is the speed and delivery of almost instantaneous transactions (Yap & Lin, 2001). In today's world of fast food and 24-hour service, investors cannot help but want the same type of fast service applied to the financial industry. That is why many investors enjoy the conveniences e-brokerages offer by allowing them to go online and complete transactions at almost anytime during the day or night. Time is saved because investors do not have to phone their broker during normal business hours in order to complete their transactions.

Another benefit of online trading is its ability to span boundaries. Many investors are interested in buying foreign stocks and with online trading systems in place; these investors are drawn to its boundary spanning capabilities (Yap & Lin, 2001). This is also true for foreign investors who want to invest in the U.S. market. Now, with the Internet, they have easier access to make their overseas transactions.

A final benefit investors can derive from online trading is access to instantaneous information. Vakil and Lu (2005) stated that the Internet has given people access to immediate financial information whenever they want it. They felt that the availability of this financial information should lead investors to make better-informed choices. This thought is also shared by Bhasin (2005-2006), especially since the information that is now available to the average investor was once only available to people working in the business of finance.

### **COSTS OF ONLINE TRADING TO INVESTORS**

Even with all of the benefits e-brokerages offer to their clients, there are still costs associated with online investing. Some of these costs include unobservable costs, information-processing costs, information illusion, frequent trading behavior, and the lack of personal advice. Transaction costs have two components: observable costs and unobservable costs. According to Konana, Menon, and Abramowitz (1999), observable costs are the actual commissions that an investor is charged in order to complete a transaction, where unobservable costs are the costs that are related to the transaction being executed inefficiently and from information asymmetry. These unobservable costs are determined by where e-brokerages choose to complete their transactions. For example, they might not choose to complete the transactions at the actual exchanges, but instead they might choose to use third-parties and market-makers

in exchange for a percentage of the bid-ask spread. Obviously investors must be aware of these unobservable costs and the potential that they have to create opportunistic behavior by e-brokerages because of the commissions that they can receive from market-makers (Konana, Menon, & Balasubramanian, 2000). To cut down on this type of arbitrage, the Securities and Exchange Commission (SEC) could help create transparency by putting into effect new regulations that state what information must be provided to the investor.

A second cost created by online investing is the cost of processing information. Information-processing costs are the costs that online investors sustain before they actually make a transaction and it is defined by the time and energy that the investor expends trying to reach an investment decision (Hong, 2000). Hong also stated that because of the huge volume of information found on the Internet that it can take investors a lot of extra time to find, sort, and analyze all of the relevant information. This in turn can out-weigh the benefits of online trading for some investors because they might not be able to afford the opportunity costs associated with spending a lot of time doing research (Yap & Lin, 2001).

Another cost to be aware of in regards to online trading is information illusion. This illusion results when investors think that because they have access to so much information via the Internet that they have an advantage over the entire market and this can lead them to make bad investment decisions (Cocca, 2002). These investors then have an exaggerated sense of control over the outcomes of their investments (Barber & Odean, 2001).

Frequent trading is another cost associated with online investing. Low transaction costs can encourage frequent trading according to Konana, Menon and Balasubramanian (2000). In fact, in Singapore, 71.1 per cent of online investors say that they trade more frequently than they did prior to online trading (Teo, Tan, & Peck, 2004). This increase is troubling because people who trade the most generally have the worst performance (Barber & Odean, 2002).

Finally, the downside of investing online is the lack of personal advice from those in the financial field (Vakil & Lu, 2005). According to Phelan (2001), the Web will never be able to substitute for the judgment and expertise of financial planners, nor will it be able to protect investors from all of the scams that are abundant on the Internet. So the bottom line is that the investors must weigh these costs against the benefits and decide whether online trading is right for them.

## **BENEFITS OF ONLINE TRADING TO BROKERS/FINANCIAL PLANNERS**

The investors are just one group affected by the development of online investing; another group that has been influenced is the brokers/financial planners. With e-brokerages attracting twelve million investors from 1994 to 2000 (Konana, Menon, & Balasubramanian, 2000), it may seem like traditional financial planners will soon be extinct. However, this is not the case, as many people in the financial industry have witnessed that the growth of online trading has created benefits for them as well. This includes increased publicity, lower start-up costs, increased client base, ease of communication, and risk management. The attention that has been given to online brokerages in terms of advertising has encouraged more people to trade and thus, in the long run, this has created more business for the financial markets in general (Bhasin, 2005-2006). Financial planners feel that average people will be drawn into trading online because of its novelty and then they will eventually realize that they need a financial planner in order to help them get a comprehensive view of their finances (Opiela, 2000).

A second benefit, according to Barber and Odean (2001), is that the fixed start-up costs of opening an online brokerage are far lower than opening a traditional brokerage service. Therefore, many brokers might consider putting a part of their services online, thus reduce their staff costs. The staff costs can be

reduced because it does not take as many personnel to run an e-brokerage site as it does to manage a traditional brokerage firm (Bhasin, 2005-2006).

E-brokerages have also allowed brokers wider access to a variety of different people, therefore increasing their client base and allowing them to offer many different types of services to their customers. Ameritrade and E-Trade are examples of firms that have found new ways to deliver traditional services and new services (Barber & Odean, 2001).

Another benefit to brokers is ease of communication. Many financial planners see the greatest gift that the Internet has given them as allowing them to improve communication with their clients (Opiela, 1999). They appreciate the fact that the Internet has saved them money by reducing the costs of communication and by making it easier to get information to their customers (Globerman, Roehl, & Standifird, 2001).

One final benefit that online trading has for brokers is that it makes risk management much easier. When an investor places a trade online, the system first can check the investor's bank account to make sure that the individual has the funds available to make the trade and this lowers the credit and payment risk that traditional brokers have had to deal with in the past (Bhasin, 2005-2006).

### **COSTS OF ONLINE TRADING TO BROKERS/FINANCIAL PLANNERS**

The costs of online trading to brokers and financial planners are fairly obvious and straightforward. Lower transaction costs online have led many investors to e-brokerages and away from traditional brokers to place their trades. Yet, with the media talking constantly about how easy online trading is, one cannot really blame brokers' clients for wanting to try it (Opiela, 1999). Brokers might be concerned that the bid-ask spread, used to gauge trading costs, has dropped 30 per cent since Electronic Communication Networks (ECNs) have surfaced (Fan, Stallaert, & Whinston, 2000). While this is good for the investor, it leads to smaller commissions for the broker.

Another concern is that since investors feel that they can distinguish between the good and bad advice that they find on the Internet, they therefore might not be willing to continue to pay a financial planner solely for their expert opinion (Barber & Odean, 2001). This is in part due to the information illusion discussed previously where investors feel that since they have access to so much information that they can do it better on their own.

Finally, many investors, especially entrepreneurs, want to see if they can make better investments than what their financial advisors are already doing for them, so it becomes a game that they want to win (Hurley, 2000). To try to keep some of their clients from turning to online trading alone, many advisors have placated them by setting aside "play money" that they can invest on their own so that they will feel more in control of their investments (Hurley, 2000).

### **CHARACTERISTICS OF ONLINE TRADERS**

According to research by Barber and Odean (2002), many online shareholders share similar characteristics. The majority of them are young men without children and a high level of income. They found that active traders with a propensity for high investment risk and an unusually strong performance in the stock market are all characteristics shared by many investors who decide to trade online.

Opiela (2000) quotes a research firm as saying that the two types of investors that are trading online are by their definition the "Aggressive Affluent" and those who would like to "Get Rich Quick." On that note, Hurley (2000) states that online trading is spawning a younger type of client that is more aggressive and well informed. It has also been stated that investors who participate in online trading generally have

a higher education level, are at ease navigating the Internet for relevant information, and know how to apply it in order to make their transactions (Hong, 2000).

Konana, Menon, and Abramowitz (1999) break online investors into two categories: the early adopters and the late adopters. They state that the early adopters are aggressive ‘do-it-yourself’ types of investors whereas the late adopters rely more on a broker’s advice before going through with trades. But even if they rely on a broker for some forms of advice, most online investors have to be self-directed because online brokerages do not make a habit of giving advice on what or when to trade (Hong, 2000).

It is also interesting that once investors start trading, many of them become very overconfident according to a study by Barber and Odean (2002). This is due to an *illusion of knowledge* and an *illusion of control*. An *illusion of knowledge* is when investors believe that since they have access to additional information that they become better investors and they will not listen to information that states otherwise (Barber & Odean, 2001). In fact, usually because they have access to so much information, investors suffer from information overload and their actual predictive skills for picking stocks begin to decline. An *illusion of control* is when an investor believes that his involvement will change the outcomes. They will feel that since they are in control of their investments that they have control over their returns and can therefore beat the market. As a result of this *illusion of control*, these investors will have a tendency to trade too often and too speculatively.

## **ONLINE TRADING INTERNATIONALLY**

Online trading is not a phenomenon that is sweeping only the United States; it is being implemented in other countries as well. For the purpose of this study, articles regarding online trading that took place in Switzerland, India, and Singapore were analyzed. In Switzerland, 40 per cent of the shareholders search for their financial information via the Internet and more than 25 per cent of people between the ages of eighteen and twenty-nine also place their orders via the Internet (Cocca, 2002). The characteristics of online investors are very similar to those in the U.S. Swiss Internet investors are generally male professionals with a high level of education and income. They also are very self-directed individuals that make decisions regarding their finances on their own.

In India, trading via the Internet refers to giving your orders to brokers via a website and not directly on an exchange (Goswami, 2003). Goswami also explains how the Internet in India acts as an Order Routing System since all orders must be routed through the same exchange mechanisms – this helps to ensure transparency and security. India investors are professional self-directed people that are highly educated. Goswami rates convenience, low cost, and speed as the benefits of online trading that are most important to the Indian investors.

Finally in Singapore, the self-investing trend has led to many e-brokerages with lower fees than traditional brokerages (Teo, Tan, & Peck, 2004). The majority of investors in Singapore are young professional males with at least one college degree. However, since stock trading on the Internet has become so accepted in Singapore, it is not correct to say that investors are only the young and the educated. Instead, Internet trading is appealing to investors across different age levels and different educations. Nevertheless, according to Teo, Tan and Peck, the one characteristic that almost all online investors have is high-level incomes. They found that this was because most local online brokerages require a deposit of at least \$1000 (Singapore dollars) in order to start trading.

## **THE FUTURE OF TRADITIONAL BROKERS AND ONLINE TRADING**

Even though the Internet is being used more and more for investing purposes, it is highly unlikely that “virtual” brokerages will replace full service traditional brokerages over the long run (Globerman, Roehl,

& Standifird, 2001). In fact, many financial planners feel that online trading will not hurt their businesses since the greater part of them work with the wealthiest portion of the population who do not have time to do their own investing (Opiela, 1999).

It was interesting to discover that in the late nineties, when the market was going strong, many investors made large returns by trading individual stocks and wondered why they should even pay for financial advice from an advisor. These investors became overconfident and suffered from the illusion of control that Barber and Odean (2001) researched in their study. However, after the market drop in 2001, many online investors continued to trade online, but they went back to financial planners for advice (Vakil & Lu, 2005). According to Hurley (2000), for the first time in 2000 since the mid-nineties, the highly diversified low risk portfolios that financial planners created have produced better results than portfolios that their clients were managing by themselves online. This is because many online traders only focus on the here and now and do not look at the whole picture or at the future as financial advisors are trained to do.

Many brokers may have clients that want to try to invest on their own but do not have a large amount of “play money” to set aside to invest, as was mentioned in a previous section. One option for this type of client is for the broker to open an account online for the customer that the broker can oversee and step in if it looks like his client is heading for trouble (Opiela, 2000).

With regards to online investing, many e-brokerages are trying to expand to offer newer and better services to clients. One option is for e-brokerages to offer more knowledge and information support and in turn raise the commissions in order to cover the costs associated with offering this service (Yap & Lin, 2001). This can be done by adding knowledge-based transaction processing systems to e-brokerages that can give investors more personalized advice. By simply adding artificial intelligence systems to the original transaction processing systems that are already found on most online investing websites, e-brokers can create a knowledge-based system. Online investing firms might also consider adding educational web pages and other services that will teach beginning investors how to invest online (Hong, 2000).

## **DISCUSSION AND IMPLICATIONS FOR THE FUTURE**

Has online investing benefited or impaired the financial industry? The purpose of any efficient market is to bring all possible buyers and sellers together so that all the preferences are reflected in the market price. Online investing benefits the financial industry by helping the stock market to reach this goal. It allows more buyers and sellers to come together to carry out transactions.

Some fear that online investing will increase market fragmentation, which is when too many competitive suppliers enter an active or new market. Although that may happen over a short period of time, in the long run, the number of suppliers and consumers should even out as more people start using the Internet to trade.

Whether to switch to online trading is something that investors will have to decide for themselves. At this time, average Internet traders might fall into the category of young highly educated men with larger incomes, but this is sure to change. Women are now beginning to use the Internet more for online shopping and paying bills so using the Internet to invest should follow. Also a number of inexperienced investors have started trading online because of the amount of publicity touting its ease and convenience. These immature investors will need a lot of knowledge and advice from e-brokerages, and online investing firms must take a step up and be available for more personal advice. That may mean that transaction costs will go up for more naïve investors who request more personalized service, but it will be worth it for them in the long run.

It is also important to educate new investors that investing online tends to make them look to the short term instead of investing for the long term, and that this can cause them to trade more frequently, thereby lowering their returns. Buying individual stocks can be very risky and without the right advice on how to diversify investments, a naïve investor could end up losing a lot of money.

Since no online investing firms are the same, investors will value certain ones over others based on their needs. The new breed of investor that enjoys risk and likes to trade frequently will favor sites that gives them low transaction costs and lots of control. However, beginning investors will want sites that give them more advice and handholding tools. More value-added knowledge should be added to as many sites as possible.

As the Internet becomes available to more people all over the globe, foreign investors will increase their purchases of U.S. stock and U.S. investors will begin to diversify by including more foreign stocks in their portfolios. These foreign investors will appreciate the opportunity to invest in U.S. stocks more conveniently and at lower costs. Foreign investors will now be able to pay lower transaction fees and stop paying higher fees to their brokers for international trades. The same can be said about U.S. investors trading foreign stocks. Many advisors suggest holding foreign stocks in a portfolio as it actually reduces undiversifiable risk, so online investing will give investors an easier way to acquire these international stocks.

More traditional brokers will need to start offering services via the Internet if they have not already. However, they should not go completely online as a majority of the investors like the security of knowing that there is an actual physical location where they can go if they need expert advice. For investors that want to experiment with online investing but are already clients of traditional brokers, the idea of setting up “play money” for them to invest with is a suitable idea. Also, brokers could set up a mixture that allows both online trading and traditional trading. Traditional brokers should consider offering other services such as estate planning and tax planning, which will not be as easy to offer online.

However, there are indications that online trading has somewhat dampened since 2000. What began as an economic slowdown only got worst with the September 11<sup>th</sup> terrorists attacks. Investors have generally become less tolerant and more risk averse. When dramatic events such as September 11<sup>th</sup> happen, it directly affected the overall performance of the economy and investors have the tendency to stay with approaches that they are most comfortable with and not try anything new (like online trading) while at the same time investing less (since investments involve risk). If the market picks up speed, investors will change their minds. But, given the uncertainty in global oil prices and other issues, including ballooning U.S. trade deficits and the war on terrorism, investors are very unlikely to return to online trading in the near future. However, they will do so as soon as the market picks up and they once again become comfortable with this new approach to trading.

## **SUMMARY AND CONCLUSION**

The Internet is drastically changing how everyone does business, including the financial industry. Online investing has benefits to offer investors as well as brokers. These benefits include low transaction costs, convenience, speed, boundary spanning, improved communication, and risk management. However, these benefits do not come without costs. Some costs of online trading include information-processing costs, unobservable costs, information illusion, and smaller commissions for brokers.

The characteristics of online traders are somewhat different from traditional investors. Online traders tend to be males in their early twenties to mid-thirties, with high income and education levels. Yet this will be changing as more people gain access to the Internet and start doing more everyday things online.

Foreign investors will also increase trading in U.S. stocks, and U.S. investors will begin investing in foreign markets.

Although online investing is gaining prominence, it will not be for everyone. Some will not trust the security of trading online and others will not have the time to do the research required and will prefer to have traditional brokers invest for them. Overall, online investing will only encourage new investors to trade in the stock market, bringing together buyers and sellers to make the market more efficient. After some of the kinks are worked out of online trading, it will tend to be more beneficial to the financial industry in the long run without many negative effects.

Even though online trading has slowed down somewhat at the present time, it is our belief that it will pick up speed in the future. Once investors have become more comfortable with the current economic conditions and foresee brighter economic conditions they will return.

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