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An Exploratory Study of Critical Issues in Online Securities Trading: The Hong Kong Perspective

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Abstract

The advancement of technology enables more and more people to do their business activities online. This has threatened the businesses of the traditional intermediaries. Among the various form of electronic commerce, online securities trading is one that will stand a better chance for wide adoption and success. Online securities trading penetration rate has remained on a steady upward trend [39].

The development and adoption of online securities trading have been slow in Hong Kong as compared to other Asian counter parts such as South Korea, Japan and Singapore. Past research on online securities trading in Hong Kong has been lacking. The objectives of this study are to explore the critical issues, impacts, problems and barriers of online securities trading in Hong Kong, and what can be done to facilitate local online securities trading.

This paper will first provide the background of online securities trading in Hong Kong, followed by literature review on online securities trading, self-service technology, electronic commerce, and review of studies of online securities trading in other countries.

In-depth interviews were also conducted with senior personnel in local brokerage firms that offer online trading to gather their expert opinion and to explore the critical issues, attributes, benefits and barriers of online securities trading in Hong Kong.

Recommendations to managers and future research of an empirical study will be discussed in the last section.

1. Introduction

The term 'Online Securities Trading' is the same as 'Online Trading', 'Electronic Trading' or 'Internet Trading'. It refers to any use of electronic means of sending orders (bids and offers) to the market, electronic order routing, automated centralized execution and subsequent dissemination of price and volume information [13].

We will use the term 'Online Trading' as a short form of 'Online Securities Trading' through out this paper.

One of the fastest growing online businesses is Online Trading. It is inexpensive, convenient, and supported by a tremendous amount of financial and advisory information. Trading is very fast and efficient, almost fully automated, and it is moving towards 24 hours of global trading. Day trading is rising rapidly and the traditional brokers are

disappearing slowly [37].

In recent years many companies have adopted the Electronic Commerce model in their businesses, but many of them have failed. Online trading is one of the successful Business-to-Consumer models of Electronic Commerce. Putting a securities brokerage online is a very smart move, since the business itself is simply an information-based business, and there is no logistic problem related to physical delivery. There is no better way to pass information through other channels than the Internet [3]. Online securities trading will be one of the potential winners of the Internet. The arrival of wireless application protocol (WAP), third-generation mobile phones and WAP-enabled personal digital assistants will mean even more flexibility and access.

The aim of this research is to investigate the reasons behind such low penetration rate and to find out the barriers, benefits, issues and impacts arising from the adoption of online securities trading in Hong Kong. The management of this industry can make use of such studies to strengthen and improve their business. The government and regulatory bodies can make use of such studies for policy making and amendment to existing policies so as to provide a better environment for suppliers and consumers to participate in such business. The key factors that affect the Hong Kong consumer adoption and consumer barriers of online securities trading will be investigated. These factors could be used as variables for empirical studies of consumer behavior, adoption and diffusion of online securities trading in Hong Kong.

2. Literature Review

Literature on online trading is very limited; however we may review the literature in the following related areas to gather the attributes and issues that are associated with online securities trading.

2.1 Characteristics of Online Trading

Online trading has the following characteristics [6]:

- directly connect buyers and sellers;
- support fully digital information exchange between them;
- suppress time and place limits;
- support interactivity and therefore can dynamically adapt to customer behavior;
- can be updated in real-time, therefore always

up-to-date.

2.2 Self-service Technology and Online Trading

Traditionally, securities trading were done by broker, but the new online technology allows customers to perform securities by themselves. Therefore it is worthwhile to do a review of literature on self-service technology.

There are five attributes associated with the technology-based self-service option, namely, speed of delivery, ease of use, reliability, enjoyment and control [15].

Electronic Data Interchange (EDI) is an inter-organizational system, which transmits standard business documents electronically between trading partners. EDI is quite similar to online trading in nature. Ratnasingam [33] states that the driving factors to adopt EDI are:

- cost savings (increase productivity and profitability by reducing costs);
- simplification of business processes (via automation) that eliminated the use of paper;
- speed from savings in time;
- increase productivity.

2.3 Electronic Commerce and Online Trading

Some of the issues in Electronic Commerce may also be applied to Online Securities Trading since Online Securities Trading is a form of Business to Consumer Electronic Commerce. Turban et al. [37] have made a detailed study on issues in Electronic Commerce, and now we summarize those issues that are applicable to online securities trading:

Benefits to Organizations

- Globalize and borderless markets
- Reduced cycle time
- Reduced production cost
- Reduced number of employee
- Improved brand or corporate image
- Improved customer service

Benefits to Consumers

- Round the clock trading
- More choices offer
- Lower commission rate
- Quick delivery
- Attract lower income group customers

Limitations and Barriers

- Technical Limitations
- Developing cost
- Security and privacy
- Lack of trust and user resistance
- Legal issues: Many legal issues such as consumer

protection, content control, taxation, encryption policies, cross-border transactions, intellectual property enforcement, privacy and code of ethics are as yet unresolved, and government regulations and standards are not refined enough for many circumstances.

A survey conducted by Deloitte & Touche LLP [4] asked online trading executives on what they consider to be their biggest work-related worries, and the results are listed as follows:

- concerns about system outages and mistakes;
- inability to handle a rapidly growing transaction volume;
- possibility of a bear market;
- formation of alliances between discount brokers and larger institutions.

Among the listed worries, brokerage executives find outages a top worry.

The Critical Success Factors

A study by Jones et al. [26] states that there are eight 'C' for a successful online retail business: Community, Concern (trust and confidence), Connectivity, Content, Convenience, Customer care, Communication, and Customization:

- Community: Rheingold [34] and Turban et al. [37] believe that the Web is being transformed into a social Web of communities. They think that every Web site should incorporate a place for people to chat. With millions of members, such communities could have significant effects on markets. The community brings together consumers of specific demographics and interests. This presents opportunities for transacting business and communicating messages about products and services.
- Concern (trust and confidence): customers have a wide range of doubts, worries and reservations about online retailing. Trust and confidence are central to all business relationships. Fears about the security of credit card transactions and about releasing personal and financial details are regularly cited as major reasons why consumers are reluctant to trade online.
- Connectivity: Connectivity problem such as not enough bandwidth and system outage are limiting the growth of online businesses.
- Content: Content is concerned with providing consumers with rich & up-to-date information, expert insights, lots of products to choose from, and providing it with an entertaining, visually appealing, informative and easy to use interface.
- Convenience: Convenience focuses upon the critical importance of an easy to use, easy to navigate, and logically organized site and the ability to make quick transactions.
- Customer care: Customer care is seen to be about

providing online customer support at all stages of the retail relationship.

- Communication: Many communication channels such as chat room, e-mail, discussion forum, etc are provided by online businesses, to facilitate communication with their customers.
- Customization: Products are produced in a large quantity but are customized to fit the desires of each customer. Electronic Commerce is an ideal facilitator of mass customization.

Some of the above critical success factors seem to coincide with the studies by Ghosh [17] and Turban et al. [37], who have identified the critical success factors for starting an online business as follows:

- Specific products or services traded
- Top management support
- Project team reflecting various functional areas
- Technical infrastructure
- Customer acceptance
- User-friendly Web interface
- Integration with corporate legacy systems (combine traditional and online method)
- Security and control of the online business system
- Competition and market situation
- Pilot project and corporate knowledge
- Promotion and internal communication
- Cost of the online business project
- Level of trust between buyers and sellers

2.4 Comparative Online Trading Developments

Since Online Trading is still in its infancy in Hong Kong, so it is worthwhile to have a survey on this topic in other mature countries.

In general, the use of computers and mobile phones, and access to the Internet, is in line with income, and the online trading development follows a similar pattern. From Table 2.1 you can see that the adoption rate of online trading in countries with higher income such as United States, Sweden and Germany is higher than India, China and Brazil. Even among the high-income economies, differences are evident. High ownership of personal computers, and especially high usage of mobile phones, has meant that the Scandinavian countries lead in online banking and online trading. The long-standing stock-owning culture in the United States and wide computer ownership has seen online trading become particularly popular there [12].

In Asia Pacific Region, the adoption rate of Korea, Japan and Singapore is higher than Hong Kong. Korea is Asia's fastest-growing country in online trading, with 65 per cent of trades conducted online. A number of factors, such as government support, deregulation of commissions, the rise in Internet companies and creative entrepreneurs as well as the creation of a Korean "Silicon Valley"

contributed to the explosive growth in online trading in the country [23].

From Table 2.1 it can be seen that the adoption rate of online trading in Hong Kong is very slow, approximately 1 per cent of the total trading volume. This figure is close to the survey done by HKSFC [23] in April 2000, which found that only 1.3 per cent of total trading volume is online trading.

Table 2.1: Comparative online trading developments

Source from BIS estimates based on data from the World Bank, Central Banks and Claessens, Glaessner & Klingebiel [11][12].

	Real GNP per capita (US = 100)	Internet users as % of inhabitants	Mobile phones per 100 inhabitants	Bank customers using online banking (%)	Electronic brokerage transactions: % of total
Australia	75	32	34	4	22
Finland	71	41	65		
Germany	74	18	29	12	32
Japan	79	21	45		32
Sweden	69	41	58	31	55
United Kingdom	70	21	46	6	26
United States	100	27	31	6	56
Hong Kong	71	36	64	2	1
Korea	49	23	50		65
Singapore	70	24	42	5	10
Argentina	37	2	12		
Brazil	21	2	9	4	6
China	11	1	3		3
Czech Republic	40	7	19	3	
India	7	0	0		2
Malaysia	24	7	14	<1	
Mexico	25	2	8	4	41
Nigeria	2	0	0		
Poland	26	5	10	<1	
South Africa	27	4	12		
Thailand	19	1	4		

3. Research Methodology

Senior personnel from five well-known securities houses that offer online securities trading were selected for the in depth interviews. The objectives of these interviews were to identify the benefits and problems, the issues and impacts associated with online trading.

Each interview session started with an introduction which emphasized that the participants should give their honest opinions and discuss how they 'really feel'. The interviews were carried out in a relaxed atmosphere, and to enable an open and free exchange of ideas, detailed notes were taken during the interviews instead of tape.

4. Findings and Analysis

The results reported are based upon the synthesis of the interview transcripts. Common themes that emerged have been identified.

4.1 Limitations and Barriers in Online Trading

The statistics [23] show that the number of brokerages with current online operations is relatively small as a percentage of the industry (less than 4%). The use of online trading facilities is still in its infancy and there is plenty of room for development. Online trading constituted only 1.3% of the total market volume for Hong

Kong securities in April 2000. The interviewees pointed out that the key factors for such low adoption rate were:

- geographical environment;
- social habit;
- limitation from the work place;
- connection cost and problems;
- security and privacy;
- access to computer and computer illiteracy;
- broker and client relationship;
- increased risks;
- confidence and trust;
- account settlement flexibility and margin finance; and
- regulatory policies and account opening.

The limitation factors from these findings are quite different from the studies done by Williams [41] in USA markets; which are mainly execution and technical problems. USA is the first country to adopt online trading and it is therefore worthwhile to take a look at the problems of online trading in USA. In response to numerous complaints from online investors, USA congress asked the General Accounting Office (GAO) to launch an investigation into online trading practices. They talked with 12 online brokers, who, even though they represented less than 10% of the number of firms that offered online trading, accounted for about 90% of the online trading volume during early 1999. Below is the report from this investigation. The top 10 complaints from USA consumers in descending order were:

- difficulty accessing accounts;
- failures/delays in processing orders;
- errors in processing orders;
- best execution problems;
- errors/omissions in account records of documents;
- transfer-of-account problems;
- margin position sellouts;
- problems with opening accounts;
- problems with executing cancellation orders;
- inaccurate quotes/pricing information.

Most of our findings of key factors from the interviewees are consistent with our literature review except geographical environment, social habit, and limitation from the work place; these factors are peculiar to Hong Kong. Notice that system failure is not a problem in most online brokerages in Hong Kong as the interviewees expressed that their system has been developed for quite a while and it is stable, also good contingency plan and backup are installed. Let us discuss these limitation factors in detail as follows.

Geographical Environment

The interviewees pointed out that Hong Kong is a very densely populated city and the number of securities houses is very high as compared to other cities. People are

reluctant to use online trading since it is very easy to access a securities house in their neighborhood.

Social Habit

Hong Kong people like to go to the securities house where they can meet their friends and brokers to exchange the tips for stocks; also the crowd, the noise and the atmosphere are conducive to trade. This is a similar habit for Hong Kong people where they like to go to the noisy restaurant for 'dim sum', a Hong Kong style of lunch. In contrast to online trading, they are on their own and it is sometimes lonely.

Limitation from the Work Place

Many companies in Hong Kong restrict their employees from visiting certain Web sites using filtering software. In particular, they restrict their employees from online trading during office hours.

Connection Cost and Problems

The Broadband usage is relatively low in Hong Kong due to high connection cost and dispute between property developers and service providers in cable laying. According to the report in Hong Kong Economic Journal [25], currently there are seven hundred and ninety thousand broadband households, which is about 10% of Hong Kong population. The connection cost becomes the switching cost, which limits the adoption of online trading.

Security and Privacy

There is a great deal of concern regarding the security of financial information transmitted over the Internet. If brokers' systems did not have sufficient security measures, hackers would break in and steal clients' information or assets. The security measures used by local online trading brokerages are user IDs and passwords, SSL security standards, encryption and firewalls. Online brokerages in Hong Kong generally use 128 bits SSL encryption method to secure and protect all personal information contained in online transactions between the online brokerage and customers.

Thirty-four percent of those participating in the Dataquest surveys claimed that privacy and security concerns kept their trading down [28]. Security is a critical issue, which limits the mass adoption of the Web, especially since surveys of Web users indicate that vendor reliability and security of financial transactions are important to users [19].

Access to Computer and Computer Illiteracy

Senior citizens may not know how to use a computer to do the online trading. Low-income people may not afford to possess a computer to do the online trading. Interviewees revealed that, quite a number of local investors are housewives and retired people. They do not have computers at home.

Interviewees also revealed that the customer profiles

of online trader are mostly young and educated people. Although Hong Kong is considered a developed country, the Internet penetration rate is relatively low compared to other developed countries. This is partly due to the immigration of people from China who are mostly lower income and computer illiterate. Currently the quota for China immigration is 150 people per day. A report in Hong Kong Economic Journal [24] stated that from 1982 to 1997 there were many well-educated middle class families migrated out of Hong Kong because of losing confidence in handing over of Hong Kong sovereignty to China.

Online trading would encourage the participation of younger players, as they would generally be more IT savvy. However, they may lack the funds to trade in significant volumes as compared to more established and older business people who may be more 'IT illiterate' [27].

Broker and Client Relationship

No specific broker is assigned to online client, only general customer support and hotline is available. In the traditional stock broking world, much of the value offered by brokers has been in the quality of the working relationships they developed with their clients. Brokers won their business not only by executing orders, and earning a commission in the process, but also by helping guide clients to investments that were both profitable and within the client's so-called risk tolerance profile. Whereas it is impossible to maintain such a close relation in the online trading world. This observation is consistent with the study by Wheelwright [40].

Increase Risks

The interviewees expressed the same view as Yiu [43] in that online trading has enabled investors to invest directly in the market; it has also made it easier for fraudsters to make profits. One of the most common types of online trading fraud is "pump and dump". He might, perhaps, claim on a bulletin board that the company in question was about to release news of a new product, service or alliance. His hope would be that other readers would buy the stock and pump the price. New regulations should be issued to prevent fraud and manipulation in online trading.

Financial markets are becoming more volatile as investors act on impulse or are tempted by how easy it is now to execute trades [32]. Online trading certainly has enabled millions of punters to change their minds easily and several times a day [21].

Risk assessment is the duty of stockbrokers or financial planners, who question clients to gauge their comfort level for volatility and potential losses. But with the explosion of online trading, investors have taken control of their own finances [31].

Confidence and Trust

The interviewees revealed that the loss of confidence by customers in online trading were partially due to the

dot com crisis and the closing down of many online brokerages such as 2CUBE.com and Charles Schwab (Hong Kong). Also customers do not trust a faceless broker.

Account Settlement Flexibility and Margin Finance

Interviewees expressed that customers preferred traditional trading because of the flexibility in account settlement and the availability of margin finance whereas customers need to deposit enough money before trading online.

Regulatory Policies and Account Opening

Interviewees pointed out that the requirement of 'face-to-face' account opening policy by the regulator had hindered some customers from opening the online trading account. They also revealed that the regulator is going to tighten online trading policy even further such as the minimum capital size, margin finance and system integrity.

4.2 Benefits in Online Trading

It has been suggested in our literature review that the benefits for online retail business were lower commission rate, speed of delivery, round the clock trading, global and borderless markets, control, ease of use, enjoyment, more choices, attractive to cost conscious customers, reduced number of brokers, lower production cost, improved brand or corporate image, and improved customer service. The interviewees also mentioned availability of most of these benefits in the local market and these are described in detail below:

Lower Commission Rate

Hong Kong government is going to deregulate the minimum commission rate on April 1, 2003. Currently, Hong Kong regulator requires a minimum 0.25% commission rate charged by registered online brokers. With better competition, commission rate will be lowered after the deregulation. Some interviewees revealed that they will not compete on commission rates but they will aim at middle range of commission rates in the market and compete using value added services.

Speed of Delivery and Increased Trading Volume

The interviewees pointed out that AMS/3, an Internet-based trading system that eliminates the need for orders to be input manually, should allow online brokerages to offer faster service to its clients, and increase reliability, speed and trading volume.

Online trading is foreseen to encourage more trading volume, as the facility eases the ability to buy and sell [7] [27].

Convenience, Round the Clock Trading

With online trading, you can trade any time, anywhere or any place, when you can get hold of a PC or WAP phone with Internet connection.

Global and Borderless Markets

In the past, Asian investors who wished to buy securities in other regional countries had to do so through a broker. With Internet, online trading company can reach customers around the globe. At the moment cross-border trading is not easy, the Hong Kong Stock Exchange is planning to introduce the CCASS/3 system, which will allow cross-border trading, cross-market trading, and prolong settlement period [22]. Most interviewees revealed that they had facilities, which allowed their customers to do online trading in other markets such as USA and Europe.

More Client Control, Easier to Set a Price Limit for your Stock

The interviewees shared the following views with Burton [9] and Bien [5]. One reason why retail investors have adopted online trading is that it gives them more control over their stock portfolios. Traditional stockbrokers were often suspected to buy and sell a client's securities frequently without client permission, especially in order to increase their commissions. Online trading sites allow you to set a price limit at which you buy or sell the stock. This is useful if you have an exact price in mind but haven't got the time to monitor the stock all day. You can even place orders when the market is shut, so you can make decisions in the evening or at weekends.

No Mark Up by Middleman

Online trading is system automated and no manual manipulation is necessary and thus prevents mark up by middleman. Based on information provided by brokerages as well as from actual trades, online brokers aren't marking up the prices of stocks to investors as much as done by the offline brokers [18].

Ease of Use and Enjoyment

Ease of use will improve as more Internet access channels such as digital television, personal organizers and mobile phones, become available. User-friendly Web page design and software tools had made online trading both easy to use and enjoyable.

Attract Small Investors and More Customers

The interviewees, Schroeder [36] and Bien [5] agreed that the growth of online trading opened the markets to individual investors as never before, making markets fairer for small investors. Online trading enables small investors equal access with anybody else. They don't have to rely on being a client of the right broker to find out about an issue. Strong retail demand by small investors, in turn, attracts more institutional and overseas investors to a market. Online trading could allow them to access and maintain more customers than their current offline resources allow.

Lower Production Cost and Reduced Number of Broker

Online brokerages are able to charge less than traditional brokerages because of lower expenses in terms of staff, space and other resources [10]. As with most of the businesses that migrate online, the first benefit is to reach a broader market and reduce operating costs through the disintermediation process [3]. Lower costs have caused online trading to expand rapidly in countries like South Korea and USA. Interviewees revealed that they would not lay off their existing brokers but allow them to resign naturally.

Improved Customer Service, Improved Brand or Corporate Image

Online trading makes it easier to reach and educate investors. The online trading site is full of information to educate investors on how to invest and pick a stock. Online brokerages are now competing to attract customers with the quality of the information provided. Such competition has allowed online investors to obtain stock news and analyst briefings similar to the information traditional traders possess. Online trading site serves as a forum for discussion, with topics including tips on stocks to invest in, useful investment books and government economic policies.

Information Transparency

The interviewees agreed with Lee [27] that the information provided via online trading facilities helps trader make better judgment. Investors can view the volume of buyers and sellers of any counter. This gives investors an idea of current buying patterns, and to some extent, the amount of speculation or substance a certain stock would have. In short, online trading indirectly reduces investors' risk by allowing them to be better informed and the wealth of information helps investors make better judgment.

Distribute other Financial Products, More Choices Offered

The interviewees agreed with Lo [29] that online trading company has the advantage of using the Internet platform as an efficient way to complete transactions and distribute other products to customers. Besides stock broking, online trading firms can offer other financial products, such as mortgages, personal loans, investment funds, insurance and credit cards to their clients using their existing trading sites.

4.3 Issues and Impacts of Online Trading

The interviewees also revealed the following critical issues and impacts arising from online trading:

Greater Competition

The major impact of online trading is greater competition, resulting from deregulation of commission rate, lower product cost and increased transparency. Small and foreign brokerages, which previously competed in their local markets, are now operating globally. Some

brokerages even sell below cost. This intensifies competition even further. Brokerages need to offer larger differentiation and product customization. It becomes more difficult to sustain competitive advantage in many cases. Traditional securities houses will have a better chance to survive the competition if they have an established brand name, good resources and global reach.

Threats from Online Banking

The launching of online banking (e-banking) by the local banks will boost the growth of online trading even more. The interviewees are worried about the threats from online banking, banks have the advantage of attracting their existing customers to enroll in their online trading system with the convenience of settlement and funds transfer with the customers' existing bank account. Banks have advantage over securities houses when the new regulation regarding minimum capital base is imposed, since banks have a bigger capital base.

Market Consolidation and Strategic Alliance

The interviewees expressed that there are too many small to medium-sized brokerages in Hong Kong, and they predicted that after the deregulation of commission rates more small brokerages will either close down or merge with other bigger brokerages. This is consistent with the study by HKSFC [23] which stated that more local brokerages, in particular, the small to medium-sized firms, are planning to form strategic alliances in offering online trading facilities in securities to remain competitive in the market.

Those alliances may well have been forced upon brokerages by increased competition and, they are to be welcomed, as it will strengthen the industry. The exact shape of the alliances is yet to emerge and it is unclear whether the traditional concerns about sharing client details will be overcome. There may be some regulatory and supervisory issues that arise out of these alliances and the HKSFC will monitor the development.

Disintermediation and the Changing Roles of Traditional Brokers

Direct marketing will eliminate many types of intermediaries. Online trading enables customers to place their orders without the intermediation by the brokers. The survivors will basically be providers of value-added services ranging from acting as a trusted third-party intermediary to matching special customers' requirements with brokerages' capabilities. This is also consistent with the study conducted by Bailey, Bakos [2] and Turban et al. [37].

Customer Profiles

The interviewees revealed that most online traders are young, educated and adventurous males.

Lee [27] observed that online trading would encourage the participation of younger players, as they would generally be more IT savvies. However, they may lack the funds to trade in significant volumes as compared to more

established and older business people who may be more 'IT illiterate'. Online trading is most beneficial to analytical share players who can make their own judgment from the information online.

A study by Libbon [28] showed that fifty-seven percent of online traders were less than 45 years old and 30 percent were under 35. Just 14 percent were 55 or older. Men outnumber women in online trading by two to one.

Hoffman, Novak and Schlosser [20] stated that key demographic variables like income and education drive the policy questions surrounding the Internet because they are the most likely to differentially impact the consequences of interactive electronic media for different segments in our society.

Sanchez [35] observed that online trading attracts 'shy' investors. Customers do not always prefer personal intervention to technology. Information available on stock trading sites limits the necessity for interaction with brokers. In addition, online trading sites allow investors more independence in their decision-making, while the traditional manner of investing would involve lengthy discussions with brokers.

Day-Trading Increased

The interviewees revealed that day-trading activity had increased in online trading. This is consistent with Yiu [43] which stated that the introduction of online trading services is likely to lead to a surge in day-trading, and can increase market volatility, where regulators may need to consider establishing new day-trading rules.

Best Model -- Brick and Click

The interviewees pointed out that the main reason for the recent shut down of 2CUBE.com and Charles Schwab (Hong Kong) is due to competition and lack of branch support. Therefore they think that the best model for online trading is to combine the virtual trading with the physical branch support, the so-called 'brick and click' model. This is consistent with study conducted by Committee on the Global Financial System [13] and Turban et al [37].

Expand Customer Base to China

There is a great demand from people in China to trade Hong Kong stocks because of its good regulation and mature system. Online trading is very suitable for these people because they can trade remotely from China once they have opened their accounts. Interviewees expressed that there is great potential in expanding online trading customers from China and they had done many road shows in China.

Value Added Services

All interviewees agreed that the offering of value added services is the best way to fight against competition and to differentiate themselves from competitors. They have suggested many value added services such as the followings:

Discussion Forum for Investors: Online trading site

serves as a forum for discussion, with information on tips on stocks to invest in, useful investment books and government economic policies.

Track Share Price Movements: Most online trading sites will provide function to track share price movements.

24-Hours Help lines: If you are unsure about something, you can call a 24-hour help lines without having to approach a broker.

Personalize Web: New online trading system enables customers to personalize their Web start pages and control how they view their information.

Stock-Screening: There exists stock-screening system, which will sort and filter stocks according to a set of criteria the trader enters. For instance, the trader can ask the program to show only stocks that have a certain price, volume, or P/E ratio, among other factors, and the investor can then select stocks to trade based on the results. The system can filter stocks according to specifications in many categories [38].

Real-Time Prices, Breaking News, Performance Measurement and Charting: Most online trading sites these days offer real-time prices, breaking news, performance measurement and charting. More cutting-edge are services like financial-planning tools that allow you to assess your savings needs, and tailored news. For example, if you have a portfolio of ten stocks, the system will deliver only the news that affects those stocks [8].

Portfolio Analysis and Risk Tolerance: SmartMoney is a sophisticated online asset allocation and portfolio management tool. It will ask you questions about your risk tolerance, view of the economy and the income you want at retirement. It then produces a chart that shows, in percentage terms, the categories of stocks you should consider investing in: foreign, large cap, small cap, bonds and so on [1].

Advisory Broker: Some online brokerages provide an advisory broker to give you professional advice before you place your order online.

Other Value Added Services: Free education seminars, research analysis and free use of computer facilities in the branch.

Communicating Media

The commonly used media to receive client orders are Internet and phones. Interviewees indicated that they are planning to allow customers to place their orders through wireless phone and Personal Data Assistant (PDA).

Regulatory Issues

For better customer protection and stable online trading market, government is going to tighten control for online brokerages in margin finance business, minimum capital size, system integrity and contingency plan, but it may relax the account opening policy.

System Integrity and Contingency Plans: Most of the interviewees reported that they had emergency back up for systems, power source, staffing, monitoring and technical support. Also customers may use phone to place their

orders in case of system failure. They encountered some system failures when they first offered their online trading service. However, they claimed that the problems were fixed within a short period of time. These questions of the robustness of systems, the capacity to meet demand generated by very aggressive marketing and the adequacy of contingency plans are being reviewed in the special round of Hong Kong Securities and Futures Commission (HKSFC) inspections and it indicates that the industry will need to do more to address risks in these areas.

Account Opening: The interviewees pointed out that the requirement of 'face-to-face' account opening policy had limited the number of online trading customers, but they also pointed out the government is going to relax this policy. Yeung [42] stated on 29th June 2002 (South China Morning Post Hong Kong) that the Hong Kong Securities and Futures Commission (HKSFC) had amended its code of conduct with immediate effect to allow investors to open online trading accounts without a face-to-face meeting. Those online brokerages that allow clients to open accounts without attending in person generally require clients to provide proof of identity, address and bank account details. For better control, some brokerages require their clients to have account opening documents endorsed by lawyers, accountants or a notary public or contact the clients by phone to confirm the details. However, we noted that some brokerages merely require clients to submit a copy of proof of identity without third party endorsement.

Suitability of financial products offered to clients: Almost all online brokerages rely on prior disclosure in the client agreement in relation to the risk of dealing in the products involved. HKSFC is looking into this issue by requiring clients to pass a qualification test before permitting clients to trade online in their selected products.

Impacts on Market

Online trading is more cost-efficient, accelerates trade execution and potentially expands the price information available to investors. As a result, online brokerages are finding their profit margins under pressure. Some of them may try to respond by chasing volume, others may concentrate on certain niches such as advice and research. The interviewees observed that two impacts on market are market fragmentation and market volatility. This is consistent with the study by Crockett [14]. Lower barriers to entry may mean that new online trading systems proliferate, and markets may therefore become more fragmented. Online trading leads to tighter pricing (i.e. lower bid-ask spreads) in securities markets by decreasing transaction costs. By reducing bid-ask spreads, online trading will tend to reduce the profit of active market, markets may become shallower, resulting in increased intra-day volatility. A study by research group Tempest Consultants [16] shows that 60 per cent of fund managers believed online trading had exaggerated price swings and market volatility in the UK stocks, despite having little net impact on market liquidity or company valuations.

5. Recommendations

5.1 Recommendations to Regulatory Authorities

The interviewees have recommended the following policies so as to make the online trading more conducive and healthier:

- fraud & manipulation policies;
- day-trading rules;
- systems failure and contingency policies;
- alliances, mergers and acquisitions policies;
- account opening and digital signature;
- establishment of the true and full identity of a client; and
- suitability of financial products offered to clients.

Williams [41] suggested that the regulatory authority should ensure that online trading systems include accurate and complete information on their websites in the key investor protection areas of risk disclosure, margin requirements, privacy considerations, and trade executions. This is to protect investors who are unfamiliar with online trading.

There is a trend where residents in Mainland China are using the online trading system to trade the China stocks listed in Hong Kong Stock Exchange, because of their relatively low P/E ratio. The problem for them is that they need to open a trading account personally in the local banks; they also need to deposit money into this account before they can start trading. At the moment China has strict regulation in foreign exchange and it is difficult for China residents to bring large sum of Chinese currency to Hong Kong. The large transaction volume certainly worth the regulators in Hong Kong and China to take a closer look to facilitate such trading.

5.2 Recommendations to Organizations

Interviewees have also made the following recommendations to organizations so as to promote online trading in Hong Kong. Some of these recommendations are consistent with the critical success factors in the literature review, such as methods to increase confidence & trust, communication, user-friendly Web interface, customization, customer care, etc.

Insurance for Online Trading: This is a good way to increase the consumer's confidence to trade online. Charles Schwab has introduced an insurance scheme to protect investors in case of system collapse; each client with a US stock-trading account with it would get compensation for their assets held by the broker of up to US\$100 million [44].

Celebrity Brokers in Charge: This is an effective way to attract customers as they have more confidence and trust in the well-known analysts or brokers.

Distribute other Financial Products: Online trading company has the advantage of using the Internet platform

as an efficient way to complete transactions and distribute other products to customers. Besides stock broking, online trading firms can offer other financial products, such as mortgages, personal loans, investment funds, insurance and credit cards to their clients using their existing trading sites [29].

Alliance of Online Brokerage with Online Banking: Since the biggest threat of online trading comes from online banking, the merging of online brokerage and online banking firm provides consumers the convenience of switching between the two services and freely transfer funds between the bank account and trading account. The Merger of E*Trade and Telebank is an example of such strategy [30].

Best Model -- Brick and Click (Multi-Channel Distribution): As mentioned earlier, the failure of 2CUBE.com and Charles Schwab (Hong Kong) indicated that pure online trading without physical branch support has not been successful in Hong Kong. Physical branches serve the function as 'relationship enhancers' and public trust. Combine the virtual trading with the physical branch support; the so-called 'brick and click' model will have the ultimate advantage.

6. Conclusions

In Hong Kong the population density is very high and in just about any street corner or shopping mall you can find a branch office of bank, securities agency, travel agency or property agency. The current penetration of online trading in Hong Kong is low. Due to the convenience, efficiency and cost saving of online trading, there is room for growth in Hong Kong. This paper has identified the variables and factors related to the issues, impacts, barriers and benefits of online trading in Hong Kong. These variables can be used for further empirical studies of why Hong Kong people refuse to trade online and what can be done to facilitate online trading in Hong Kong. This may also help future researchers to build an online trading consumer behavior model.

Greater competition that leads to consolidation and alliance is expected when the government deregulates the commission rate this year. The offering of value added services is the best way to counteract the competition. Other recommendations to online trading organizations have also been suggested in this paper.

In view of the developments in online services, more guidance to brokerages and increased investor education on using online trading facilities will be necessary; this paper has also made some recommendations to the regulatory authorities.

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