

Assessment on the Use of Online Trading Portal of Some Investors in the Philippines

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Abstract—Online stocks trading in the Philippines captures great attention among investors and traders. Several trading firms have established online portals which facilitate online trading. This paper evaluates the use of online trading portals. A developed questionnaire was utilized as an instrument to assess the use of the portals. A total of 62 valid responses are collected and subjected to statistical analyses. The study reveals that portal users are mostly male, young professionals, Citiseconline (COL) financial clients and have limited experience in online trading. The portals are recognized to be useful, easy to use, beneficial, secured and within the control of users. The five variables namely perceived usefulness, ease of use, risk, benefit and behavioral control show slight to substantial positive correlations to each other. Users encountered minor problems which seldom occur while using the portal.

Index Terms—online trading, technology assessment, stock market, IT usage, problems encountered, Internet trading

I. INTRODUCTION

Information Technology (IT) has transformed the way financial transactions are conducted. One can make purchases of goods or services via Internet using a credit card. Online banking which allows individual to do real-time transactions (i.e. money transfer, pay bills, subscribe to an investment) is gaining popularity. An e-commerce website of an organization simplifies these online transactions between clients and businesses. Website consisting of services capable of processing financial transactions is now vital in every organization.

The rise of online trading triggers great interest among investors and traders. Online trading is defined as a process of trading financial products especially stocks over the Internet [1]. Before, one needs to be on a trading floor to post a buy or sell order of a certain stock. Hiring a broker is another option in which an order can be placed using a call from telephone or through fax. This type of trading is popularly known as the traditional broker-assisted service.

Nowadays, an investor or trader has an option to subscribe to a retail online trading account to gain access to an online trading portal provided by a broker. Investors and traders can perform transactions in an online trading portal by entering the specific trade in their internet-enabled computer, which in turn, transmits the trade to

the broker. This is matched to the lowest bid and ask quotes. If a matched is found, the trade will be executed and confirmed immediately. Otherwise, the trade will be post as an order until it is matched.

In the Philippines, stock market is regulated by the Philippine Stock Exchange, Inc. (PSE). Its main function is to facilitate the buying and selling of stocks and other securities through its accredited stockbrokers or trading participants. There are 135 trading participants accredited by the PSE in which 10 of them are identified as online brokers that offer a retail online trading account [2]. Most of these online brokers offer a free-trial period which usually last for 7 days. If found feasible, one can open a retail online trading account by submitting valid identifications and depositing the minimum required currency as set by the broker. Aside from their main service which is allowing trading of stocks online, these firms have distinguished features to make trading experience simple and convenient. Some of these features are market research, one screen do-it-all trading console and learning tools, to name a few.

Based on the PSE Stock Market Investor Profile 2012 report, there was a total of 78,216 online accounts in 2012, a notable increase of 48.3% from the previous year's total of 52,750 online accounts, and double 2010's 35,559 online accounts. Online investors remain robust as the total number of active online accounts amounted to 67,265 accounts or 86.0% of the total online accounts. This is much higher than the ratio of active non-online accounts to total non-online accounts of just 23.1%. Retail investors remained the key market for online accounts as they accounted for 99.8% of total online accounts. Of the total online accounts, 97.9% were local whereas 2.1% were foreign [3].

Balasubramanian *et al.* [4] found out that there are seven basic reasons for adopting online trading, namely, feeling of empowerment; cost; speed and availability; convenience; easy access to reliable information; lack of trust in and unsatisfactory experiences with traditional brokers; and investors' discomfort when communicating directly with traditional brokers.

However, the considerable increased of adaptation of online trading needs further investigation. Organizations that established an online trading portal aim for a high quality of service. Similarly, existing online traders and prospective investors require a reliable and efficient online trading portal to achieve this goal.

There are several studies conducted in line with online trading in the different parts of the world. However, not one of them directly addresses the usage of online trading portal in the Philippines. In this view, the author finds the necessity to conduct an assessment on the use of online trading portal.

This study is important as it will give information on the utilization of this kind of technology. Likewise, the result of this study could serve as a guide to business entities offering online portal. The insights that may come up with this study could be used by online brokers as a basis to formulate strategies to increase the usage of internet stock trading. Moreover, the study is valuable to online brokers because it will determine the areas which require attention for them to focus in improving the trading experience of current and prospective clients. Furthermore, this will also serve as an eye opener to potential investors.

II. LITERATURE REVIEW

Since an online trading portal is a web system, it is necessary to discuss some models and theories regarding IT usage. Davis [5] the proponent of the Technology Acceptance Model (TAM) pointed out that user's decision whether to continue using a system or not is influenced by a personal judgment on two factors, namely, usefulness and ease of use. Usefulness pertains to the capability of the system to enhance the performance of the user whereas, ease of use concerns to minimal efforts required to operate the system.

In the same context, Cox and Dale [6] found out and statistically validated 'ease of use' as one of the four quality factors of a website. It has been said that a system found to be useful and easy to use, will have an impact of continuous patronization among users. Furthermore, users could share their experiences on the use of a particular system to their colleagues thus, benefitting the business firm.

The primary benefits of using online trading are speedy and low cost transactions as mentioned in the studies conducted by Srijumpa, Speece and Himangshu [7], Ong [8], Lee and Ho [9]. Other benefits include 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 [8].

BPI Trade [10], a known online trading portal in the Philippines has enumerated in their website the fees to be incurred when doing transactions. When performing a 'buy' transaction, commission is computed as 0.25% on the gross value or a minimum of Php 20.00, a value added tax of 12% levied on the commission charge, a PSE fee of Php 0.00012 for every Php 1.00 gross value traded and a Securities Clearing Corporation of the Philippines (SCCP) fee of Php 0.00011 for every Php 1.00 gross value traded. The same fees are collected in addition to a sales tax of 0.50% on the gross value for a 'sell' transaction. Other portals charge almost the same transaction cost.

Meanwhile, Ajzen [11] who proposed the Theory of Planned Behavior (TPB) mentioned that the control belief of the said theory is represented by Perceived Behavioral Control (PBC). PBC means the performance of a particular behavior is correlated to the confidence of the individual in his/her ability of performing the behavior. In the study of Gopi and Ramayah [12], PBC is proven to be an antecedent of behavioral intention to use internet stock trading.

On the other hand, researchers [13] identified security as one of the six factors on online service quality. The study of Shapiro [14] mentioned that online traders were very concerned or somewhat concerned about the issues relating to online investor's privacy.

Poor implementation of security in a website is very risky on the part of transacting customers. Hackers often target these websites and this may lead to identity theft and financial damage on the part of both clients and owners of the website. Online trading portals are seen adapting security measures such as user IDs and passwords, Secure Socket Layer (SSL) security standards, encryption and firewall. However, there is still always a risk on the use of an online trading portal. As used in this paper, perceived risk pertains to the feeling of individual on the level of security employed by a company.

After synthesizing the mentioned literatures, use of online trading portal is measured by perceived usefulness, ease of use, risk, benefit, behavioral control. Correlation coefficients among the mentioned variables are calculated. Problems encountered by portal users are also documented in this paper. Fig. 1 shows the paradigm of the study.

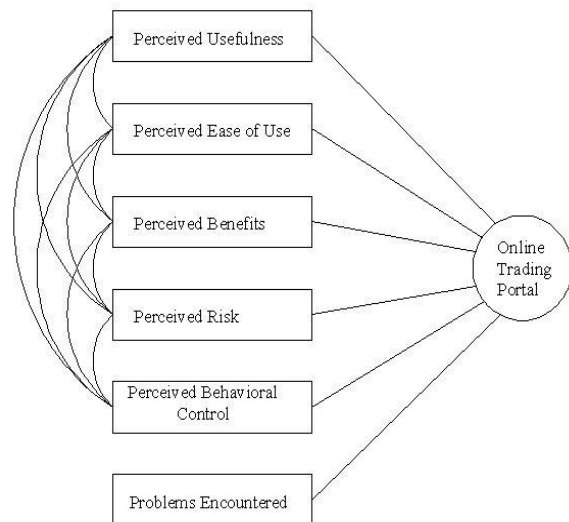


Figure 1. Research paradigm

III. METHODOLOGY

This paper is based on primary data generated by using a questionnaire distributed to the online trading portal users. The initial draft of the questionnaire is a product of readings of several studies [12], [13], [15]–[18]. This was presented to three faculty members who are expert in

the area for comments and suggestions. After revision, the second draft was fielded to 15 graduate school students who have experience on using an online trading portal as try-out to validate its reliability. Data collected from the try-out was analyzed using Statistical Package for Social Sciences (SPSS). Using the recommended value of 0.7 or higher [19] in the computed Cronbach's alpha, all dimensions of the questionnaire are found to be reliable as shown in Table I. The finalized questionnaire was posted online.

TABLE I. TEST OF QUESTIONNAIRE'S RELIABILITY

Dimensions	Cronbach's Alpha	No. of Items
Perceived usefulness	0.798	3
Perceived ease of use	0.855	3
Perceived benefit	0.905	2
Perceived risk	0.746	3
Perceived behavioral control	0.757	3
Problems Encountered	0.729	12

The questionnaire has three parts. The first part deals with the profile of the respondents. It determines the age, gender, educational attainment, work/job classification, primary trading portal used and the number of years using the portal.

The second part determines the users' perception on the use of the online trading portal based on its usefulness, ease of use, benefit, risk and behavioral control. The degree of perception is assessed using a four-point scale ranging from 'Strongly Agree' (4) to 'Strongly Disagree' (1).

The third part deals with the problems encountered by the respondents in using their portal site. They were asked to provide feedback regarding the occurrence of given problems. Choices are 'Never' (error never occur), 'Seldom' (error occurs 1 to 7 times) and 'Always' (error occurs more than seven times).

The survey was conducted between April 2013 to August 2013. The questionnaire is uploaded at QuestionPro, a known online survey software. Users of an online trading portal are traders and investors who are busy individuals. Many people especially tycoons believe stock trading activities are very personal and they opt not to be identified as holders of a certain stock due to security reason. Moreover, stock brokerage firms have a legal practice not to divulge any information of their clients. Due to the difficulty of identifying and convincing these individuals to participate in the study, a non-probabilistic sampling approach was used.

The first group of 35 individuals who are personally known to the author having an online trading account was chosen purposively to serve as respondents. Another group of 45 individuals, mostly known personalities in Facebook groups dealing with stock market are referred by the first group of respondents. A total of 80 respondents are invited through email to participate in the study.

In analyzing the responses, duplicate IP addresses, unknown email addresses and incomplete replies on the questionnaire were deleted in the system. Of the 80

targeted respondents, a total of 62 completed responses were obtained and subjected to analyses.

IV. RESULTS AND DISCUSSIONS

Table II shows the demographics of the respondents of the study. As can be gleaned in Table I, majority of the respondents are ages 25 to 34, male, college graduates, working in private organizations, COL Financial online trading portal users and have less than a year experience on online trading. Similarities of the findings in terms of age and gender can be found in the PSE Stock Market Investor Profile 2012. Likewise, this confirmed the finding of Crisostomo, Padilla and Visda [20] that more than half of the online retail investor population in the Philippines consists of young professionals. Even in Hong Kong, the study [8] as per age, gender and educational attainment yields the same results. Possible reason for this finding is that the marketing efforts of PSE and its online brokers reached younger breed of investors during their college days through a seminar or online advertisement. In terms of primary trading portal used, most of the respondents are clients of COL Financial. This has relevance with what is published in the COL website in which they claim that they maintain their position as the online leader in terms of providing online trading services in the Philippines [21]. On the other hand, most of the respondents are found having less than a year of experience in online trading which is somewhat closer to the study [7] who mentioned that online traders in Thailand had only one year experience.

TABLE II. DEMOGRAPHICS OF RESPONDENTS

Variables	Frequency	Percentage
Age		
24 & below	7	11.29
25 to 34	34	54.84
35 to 49	20	32.26
50 & above	1	1.61
Gender		
Male	47	75.81
Female	15	24.19
Educational Attainment		
College	51	82.26
Master	9	14.52
Doctorate	2	3.22
Work Job Classification		
Government	6	9.68
Private	41	66.13
Self-employed	14	22.58
None	1	1.61
Primary Trading Portal Used		
COL Financial	44	70.97
BPI Trade	8	12.91
First Metro Sec	5	8.06
Philstocks.ph	5	8.06
No. Years using the Portal		
Less than a year	38	61.29
1-3 years and 11 months	19	30.65
4-6 years and 11 months	3	4.84
More than 6 years	2	3.22

Table III presents the assessment on the use of online trading portal in terms of perceived usefulness, ease of use, benefit, risk and behavioral control. It can be seen that all statements are agreed by the respondents. As per Perceived Usefulness (PU), respondents believe that this

kind of technology is useful in searching stocks' information, generating more profits and enhancing effectiveness in stock trading. Clearly, the value-added services (market research, company reports, etc.) found in the online trading portals greatly helps in making informed trading decisions. This is significant to the findings obtained in the study [9] wherein a positive and significant relationship was found between information quality and attitude towards adopting Internet stock trading. Undeniably, the ultimate aim of every investor in putting their money in the stock market is to gain profit. Therefore, investors will favor a system that provides them with a real-time and accurate market information to trade more effectively and profitably.

TABLE III. PERCEPTIONS ON THE USE OF ONLINE TRADING PORTAL

Statements	Weighted Mean	Verbal Interpretation
Perceived usefulness		
1. The online trading portal is useful for searching stocks' information.	3.39	Agree
2. The online trading portal can generate more profits than phone-based or other stock trading methods.	3.26	Agree
3. Using the online trading portal will enhance my effectiveness in stock trading.	3.37	Agree
Perceived ease of use		
4. The online trading portal is easy to use.	3.44	Agree
5. Navigating the menus, buttons, links and features of the online trading portal do not require a lot of mental effort.	3.27	Agree
6. Operating the portal can be learned without assistance from other experienced users.	3.19	Agree
Perceived benefit		
7. The costs for online trading transaction are very low.	3.10	Agree
8. The speed of online trading transaction is very fast.	3.02	Agree
Perceived risk		
9. Private personal information sent via Internet with regard to online stock trading is secured.	3.03	Agree
10. If online trading errors occurred, I am confident that compensation will be given to the right party.	2.85	Agree
11. The measures to prevent the occurrence of fraud and hacker intrusion while trading online are adequate.	3.05	Agree
Perceived behavioral control		
12. I am familiar with all the features of my online stock trading account.	3.08	Agree
13. Using online trading is entirely within my control.	3.15	Agree
14. I have the resources, knowledge and ability to use an online trading portal.	3.21	Agree
Overall Weighted Mean	3.15	Agree

Under the dimension Perceived Ease of Use (PEU), it can be seen that the respondents appreciate the interface

of an online trading portal as revealed by the weighted means obtained. Online trading portals are found to have good designs, user-friendly and can be used with minimal assistance from other experienced user. This shows that online portal owners invested heavily on the aesthetic design of their portal and continue finding ways on how to improve it. The result is different from the study [7] who revealed that respondents were dissatisfied with unfamiliar web designs particularly the stock exchange of Thailand and complex confusing designs of stock brokerage firms. Since online trading is similar to online shopping in the way that there is an exchange of goods being done online, Canarslan [22] mentioned that incorrect website layout is one of the factors that cause most problems in online shopping. Moreover, website quality positively affects the user's online experience [23]. Thus, firms need to periodically assess the impact of their portal in terms of ease of use in order to be competitive in this field of business.

In terms of Perceived Benefit (PB), respondents consider that online trading entails low cost and still, the processing of transactions is fast. The study [7] came up with reasons on why online trading saves money on the part of investor. The commission online is usually lower compared to traditional broker-assisted trading due to the absence of middle man who facilitates the trading. Investors do not need to travel to the trading room thus, saving transportation cost. Even while abroad, doing online trading is preferable because Internet costs less than international call. Similarly, the study [7] cited lower commission rate and speed of delivery as benefits of online trading. Likewise, in Singapore, investors who conduct online trading will pay 20% commission lower than if they were to trade through the brokers [9]. Thus, the perceived benefits of online trading contribute to the increasing number of traders and investor wanting this kind of technology.

As per Perceived Risk (PR), respondents are seen trusting the integrity of the online trading system. One plausible explanation for the observed finding is that online portals use 128-bit SSL encryption technology to ensure privacy and confidentiality of all sensitive data that passes through the website. Most of the online portals have acquired SSL certificate from known online security expert organizations. The finding is different to the study [24] who revealed that websites of state universities and colleges in the Philippines were very weak in terms of privacy and security features. The importance and satisfaction of personal and private information, the security of trading and the accuracy of information are worthy of securities operators paying attention to [25]. It is deemed that online broker in the Philippines have installed strong physical security features in order to avoid hacking incidents.

In terms of Perceived Behavioral Control (PBC), respondents are confident on using the online trading portal. They are familiar with the features of the portal and exhibit assurance that they can use this technology to its fullest capacity. The result implies that investors feel

that online trading is a matter that is within their control. Moreover, the respondents are believed to be Internet savvy because they feel that they had good control when they trade online which is similar to the findings of Lee and Ho [9].

Table IV shows the basic statistics and correlation coefficients regarding the assessment on the use of online trading portal. Respondents exhibit technology readiness and show positive attitude towards online trading. They consider this kind of technology useful. Moreover, they are satisfied in the way the platform is designed and the speed in the processing transactions. Furthermore, security measures are believed to be intact, that is why respondents are confident and have strong sense of control regarding the functionality and effectiveness of the portal.

TABLE IV. CORRELATION ANALYSES

Variable	Mean	SD	PU	PEU	PB	PR	PBC
PU	3.34	0.33	1	0.59	0.44	0.55	0.54
PEU	3.30	0.30		1	0.55	0.39	0.29
PB	3.06	0.37			1	0.57	0.34
PR	2.98	0.32				1	0.60
PBC	3.15	0.34					1

Legend:

- ±0.00 to ±0.20 – negligible relationship
- ±0.21 to ±0.40 – slight relationship
- ±0.41 to ±0.70 – substantial relationship
- ±0.71 to ±0.90 – high relationship
- ±0.91 to ±1.00 – very high relationship

As shown in the last four columns of Table 4, all five variables of the portal usage have slight to substantial positive correlations to each other. This implies that all dimensions are important to customers and are essential for long-term growth and profitability of the portal.

TABLE V. PROBLEMS ENCOUNTERED

Problems	Weighted Mean	Verbal Interpretation
1. Unable to login	1.37	Never
2. Unable to trade (can log-in in the system but unable to trade)	1.47	Never
3. Unable to access the portal (the website is totally not accessible)	1.55	Seldom
4. Unable to use some features. (charting, links, menus, etc.)	1.58	Seldom
5. Encountering unexpected/unusual error/s	1.60	Seldom
6. Portal runs very slow	1.68	Seldom
7. Delayed posting of transactions/confirmation of order	1.53	Seldom
8. Unexpected or unannounced maintenance	1.34	Never
9. No response or the system hangs while in the middle of operation/transaction	1.47	Never
10. Text, images, buttons and links incorrectly displayed.	1.15	Never
11. Balance not updated or incorrectly displayed.	1.24	Never
12. Presence of unusual components/objects/messages in the portal.	1.13	Never
Overall Weighted Mean	1.42	

Table V shows the severity of the encountered problems of online trading portal users. It can be seen that only five problems are rated ‘Seldom’ occur and on top of these is the problem ‘Portal runs very slow.’ One explanation why a portal runs very slow is the internet connection. Internet traffic contains different routes which can be congested especially if many users are accessing the same route. Other possible causes of portal slowness may be attributed to server maintenance and server issues. Problems regarded as ‘Seldom’ occurred are related to the top 3 complaints of US consumers, namely, difficulty accessing accounts; failures/delays in processing orders; and errors in processing orders [18].

Parallel findings can also be found in the studies [7] who reported online traders in Thailand encounter log-on problems, broker’s server down, very slow confirmation of orders and [14] who found out that American traders encounter difficulty in placing orders, inability to access the broker’s website and excessive delay in processing orders. It is recommended in the study [22] that there is a need to immediately address a problem by finding the root cause and prevent it from happening again in order not to lose current customers.

It could be said that the result denotes that the online trading portals are fully operational, with minimal problems appearing occasionally.

V. CONCLUSION AND SUGGESTIONS FOR FUTURE RESEARCH

This paper provides information on the use of online trading portal as perceived by some investors in the Philippines. Majority of portal users are male, young professionals, COL financial clients and have minimal experience in online trading. The portals are perceived to be useful, easy to use, beneficial, secured and within the control of users. Slight to substantial positive correlations have been found among the variables namely usefulness, ease of use, risk, benefit, behavioral control. Minor problems which seldom occur are encountered by users while using the portal.

The current study offers several interesting insights to online stock trading in the Philippines. However, it also has some limitations which may serve as basis for future research. Firstly, the number of respondents is not sufficient to generalize the whole picture of online portal users. It is suggested that a probability sampling approach may be done to determine the appropriate sample size from the given population. Traders and investors should have equal chances to be picked as respondents so as to have better views of online portal usage. Secondly, the findings in this paper may need to be tested and extended to generate more remarkable assumptions. A future work can be pursued focusing on determining significant differences and relationships between the variables of the study. Moreover, a comparative study between two or more countries is encouraged. Lastly, the problems identified in this study should be given attention by online trading firms in order not to lose clients. They should continue to find ways how to make their portal

more reliable and innovative to attract more investors and traders.

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