

# **Evaluation of Online Stock Trading Platforms for Filipino Investors/Traders in the Philippine Market amidst the COVID-19 Pandemic**

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## **Abstract**

Online stock trading platforms in the Philippines are widely used across the country which made investing convenient and available for most of all Filipinos. From these various platforms which were readily available and offered by some stock brokerage company in the Philippines, it became the new trend under the new normal, where it facilitated the fast growth of online trading be it in mobile or web-based platform. Throughout this global pandemic crisis/covid-19, many Filipinos are inclined to look for more opportunities to trade and invest in the stock market industry. This study aims to evaluate some online trading platforms based on the following qualitative criteria: costs, reliability, and security, account features, ease of use and customer service based on Satisfaction and Importance level. Future works of this study recommends the application of artificial intelligence that would include all the aforementioned criteria in a larger data.

## **Keywords**

Online trading, Online trading platforms, artificial intelligence, online trader.

## **1. Introduction**

Online stock brokers have become a significant part of the self-money investment. Still, convenience in cost savings. More people become convinced that placing in and out of stocks is a sure route to easy riches. However, the more popular online trading becomes, the more companies begin to introduce a high-tech trading platform, but in others, using an online stock broker is not for everyone. Investors who don't have the time to check out potential investments may need some additional help not available from an online stock broker.

In today's rapid technological change, technology advancement gives investors a myriad of alternatives, including online trading. Online trading can benefit many types of investors/traders. From an investor who needs assistance getting an investment plan and a knowledgeable investor who can use the online trading platform to pursue an investment strategy.

The COVID-19 pandemic has caused a major turmoil in the global financial marketplace, and the stock market is among the most affected sections in the financial industry. Many people do not have much of a strong financial background to start. Yet there were few stock brokerages who offered free seminars for beginners. Among of these stock brokerages had an online presence. Stock market can be a powerful tool for society. It provides a unique view of the expected future of a company and the economy.

There is a stiff competition among the various players of the online stock brokers industry in the Philippines and customer demands are more distinctive especially now that Covid 19 is still present. Throughout this global

pandemic crisis/covid-19, many Filipinos are inclined to look for more opportunities to trade and invest in the stock market industry.

Online stock trading platforms in the Philippines are widely used across the country which made investing very convenient and available for most of all Filipinos. From these various platforms which were readily available and offered by some stock brokerage companies in the Philippines, it became the new trend under the new normal, where it facilitated the fast growth of online trading, be it in mobile or web-based platforms. This study aims to evaluate some online trading platforms based on the following qualitative criteria: costs, reliability, security, account features, ease of use and customer service.

## **2. Literature Review**

In the U.S, the study of Feng et al. (2014) found that when a securities broker's online trading system has suitable website quality, customer's perceived usefulness increases. When website quality meets the customer's needs, they feel at ease while operating the system. When customers attain perceptions of usefulness about a system, they will have a positive attitude towards using it. They will accept an online trading system if they feel the system is easy to operate. The paradigm shifts in the securities market brought by technological advancements were adapted by investors. Because of online trading efficiency, it is estimated that around 40 million people in the United States utilize computers in trading stocks and other financial instruments

In Italy, According to Rossignoli et al. (2013) the Italian market has experienced the development of online trading, and bank branches are not preferred by the customers to perform transactions. They can distinguish which business models are emerging and adapting, the role of technology, and a classification of outsourcing models that suit the emerging needs of banks.

The studies presented by Iona Ancuta and Veronica Maier (2016), discover motivations and factors that influence the Romanian investors to trade online even if they initially traded through a broker. They find that investors decided to trade online especially because of spending less time and an easier access to information, such online trading platforms have notifications and alarms for news, stock reports, etc. that can affect the stock market. This paper discovered that only a few investors are influenced by advertising to trade online.

In Singapore, based on the study of Teo et al. (2004), he concludes that nearly 80% of the Internet stock trading respondents in Singapore preferred using the Internet to trade over conventional means of trading. Stock brokerages could offer security and a premium service guarantee to encourage adoption where the security breach is not the fault of clients, these brokerages could reimburse clients for losses incurred, or the amount that clients are liable for. This has been practiced by brokerages because trust and image are of significant importance to stock trading and online stock trading.

To strengthen competitiveness in the extremely competitive market, according to Jafarpour et al (2006), he concludes that service quality is one of the key elements which offer an added-value to companies. Furthermore, according to his research, online trading has an impact on customer satisfaction. This impact is positive and enhances service quality and in return increases the customer satisfaction level.

## **3. Research Methodology**

### **3.1 Data collection**

The target population of this study and administration of questionnaires were individuals who invest in different online brokers or have prior stock market investing experience. The survey questionnaire was sent via google survey. This survey also invited participants to distribute randomly to their coworkers who also invest in the stock market. Their participation in answering the questionnaire was voluntary and treated confidentially and anonymously. The survey was distributed to 296 respondents in which 170 questionnaires were collected with 0 incomplete responses. Finally, 170 valid responses were obtained reaching an effective response rate of 57.4%.

**3.1.1** Whereas  $n$  is sample size and  $N$  is population size, using 0.05 margin of error,  
 $n = N / (1 + Ne^2)$      $e = 0.05$  (margin of error) (1)

### **3.2 Research Instruments**

The first part of the research survey addressed the purpose of the research and instructions for filling out the questionnaires were presented. The research instrument with items using a five-point (1-5) Likert scale, in which 5 indicated “strongly agree” and 1 indicated “strongly disagree.” The second part of the research instrument is to rate the level of importance based on its criteria.

From Investor’s point of view, we categorized our analysis based from the criteria on the services and technology provided by the online brokers, evaluating the quality of performance in each category stated below.

#### **3.2.1 Cost**

The first qualitative criterion is the minimum cost which is one of the requirements in order to open an online account.

#### **3.2.2 Reliability**

This category measures the reliability and stability of the platform during high frequency of trades be it mobile or on a web-based platform.

#### **3.2.3 Security**

This criterion measures the level of commitment of the online broker’s platform in keeping its client’s sensitive data. Among of these features are two-factor authentication, high password strength requirements, signing-in via biometric identification (fingerprint, face id, etc.) specifically using mobile application.

#### **3.2.4 Account Features**

This can be measured by looking at the services and amenities offered by the online broker using its online trading platform which includes, portfolio margining for eligible customers, stock loan programs, auto cut-loss and buy-on-breakout.

#### **3.2.5 Ease of Use**

This category specifically evaluates the overall site navigation and ease of use of the online trading platform.

#### **3.2.6 Customer Service**

The availability of online help is one of the top categories from these criteria. which includes live chat, user-guides and frequently asked questions

## **4. Results**

### **4.1 Online Broker Investors**

On the gathered data, Online Broker B has the highest percentage rate which resulted to 37.5 % in terms of Online Individual Traders , while Others has 25% rate, Online Broker D and E has 12.5% and the least percentage rate is from online broker C and online broker A.

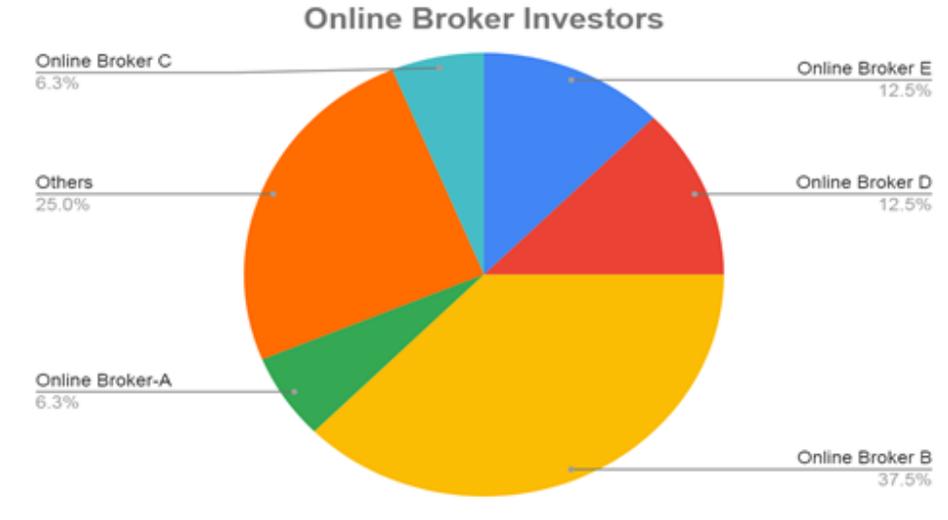


Figure 1. Online Broker Investors

#### 4.2 Satisfaction Survey

On the satisfaction survey the highest percentage is the Cost criteria which is 58.82 % strongly agree and 35.29 % agree, which means 94.11 a positive response for the cost using an online trading platform. However, there is a negative response for security which is 7.84 % for strongly disagree and 27.45% for disagree, a total of 35.29 % negative response for the security criteria which means that they are not satisfied with the level of the security of their current online trading platform.

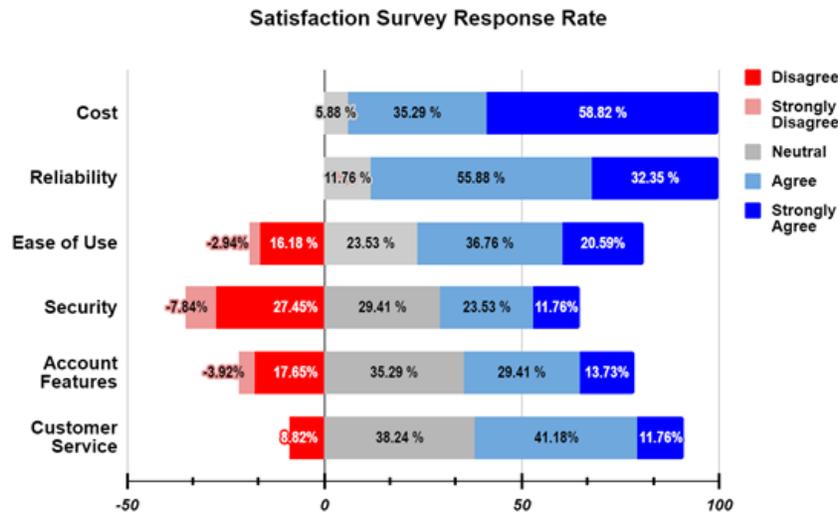


Figure 2. Satisfaction Survey Response Rate

#### 4.3 Level of Importance

The level of importance per criteria is based on the response of Online Traders. The results show that the most important criteria from them is Reliability which resulted to 76.47% next is the Cost, and third most important is Security.

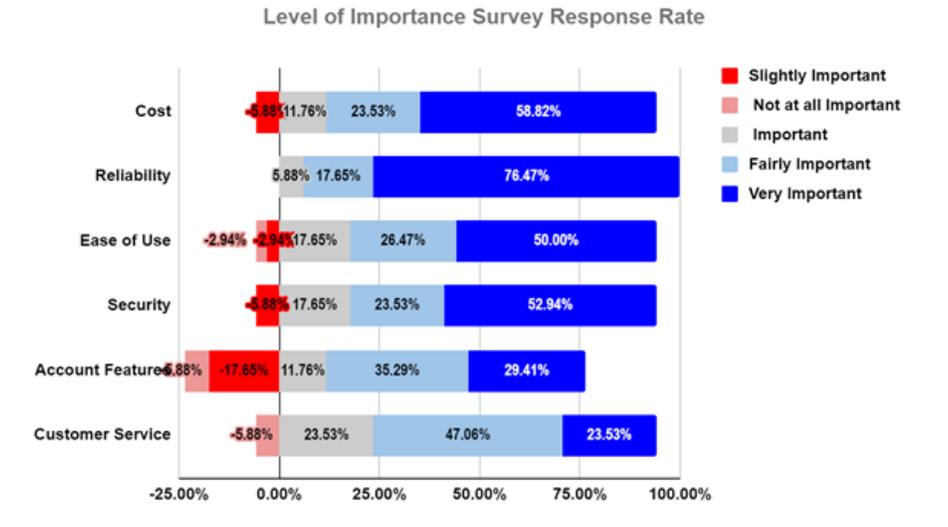


Figure 3. Level of Importance Survey Response Rate

#### 4.4 Satisfaction vs. Level of Importance

The figure below shows the satisfaction vs level of importance. To determine if the response rate of the traders for satisfaction on their current platform is significant to the response rate in the level of importance on each criterion.

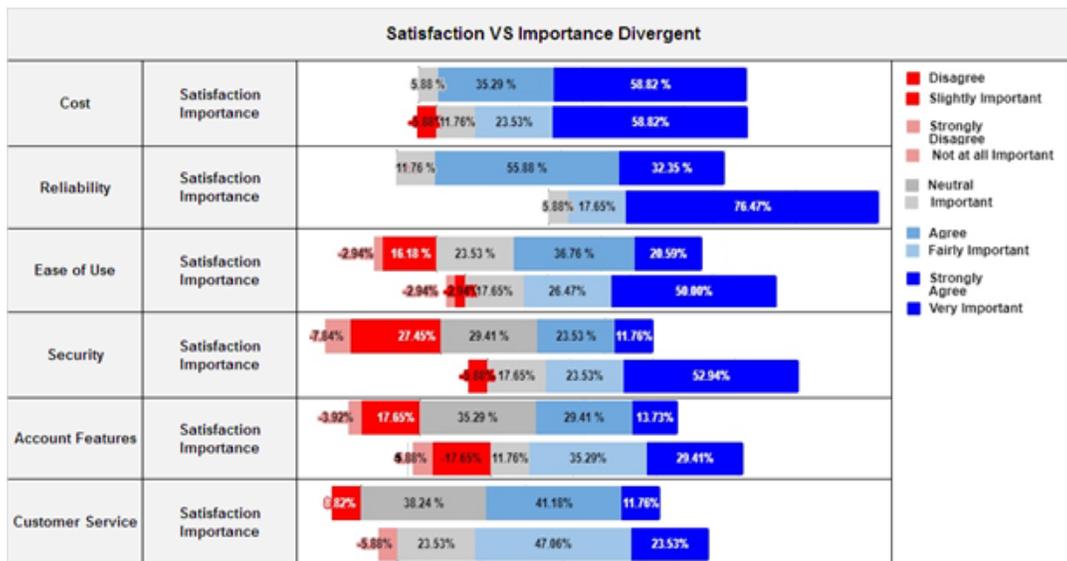


Figure 4. Satisfaction VS Importance Divergent

#### 4.5 Correlation between Satisfaction and Level of Importance

The summary below denotes the correlation of each criteria in satisfaction vs. Level of Importance. In Cost Criteria, there is 0.07 Positive Correlation, 0.51 Positive Moderate Correlation for both Reliability and Security, In Ease of Use there is 0.50 Positive Moderate Correlation, and in the Account features there is 0.31 positive correlation. On the final note, the Customer Service has a positive strong correlation.

Summary of Correlation between Satisfaction Survey Vs. Level of Importance		
Criteria	Correlation Results	Interpretation
Cost	0.07	Positive Weak Correlation
Reliability	0.51	Positive Moderate Correlation
Ease of Use	0.50	Positive Moderate Correlation
Security	0.51	Positive Moderate Correlation
Account Features	0.31	Positive Weak Correlation
Customer Service	0.71	Positive Strong Correlation

Table 1. Summary of correlation between satisfaction surveys vs. level of importance

Using table of pearson R critical values to make a decision, the critical values for this data is 0.632. Based on the results, the customer service is the only correlated criteria between satisfaction and level of importance for online traders with their current online trading platform.

#### 5. Conclusions and Future Works

From Figure 4, the highest satisfaction rate is in cost criteria while the level of importance from reliability criteria has the highest percentage. This concludes that the online trader is highly satisfied in their current online trading platform in terms of cost criteria while on the level of importance, reliability is the utmost priority. In addition, the customer service criteria have the highest positive correlation which means that the online trader's response from satisfaction is significantly correlated to their response on level of importance.

Future works of this study recommends the application of artificial intelligence that would include all the aforementioned criteria in a larger data.

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#### Biographies

**Maricar M. Navarro** is Professional Industrial Engineer (PIE) awarded by the Philippine Institute of Industrial Engineers (PIIE) and an ASEAN Engineer (AE) awarded by the ASEAN Federation of Engineering Organizations. She is an Assistant Professor IV in the Department of Industrial Engineering and a Professor of the Graduate School Program in the Technological Institute of the Philippines-Quezon City. She finished her degree in

Master of Engineering major in Industrial Engineering from Mapua Institute of Technology, Manila Philippines. She has published journal and conference papers. Engr. Navarro has done research projects that deals on optimization of production, warehouse operations and service operations. Her research interests are production engineering that includes manufacturing, simulation, optimization, facility layout and design. She is an active member of the Philippine Institute of Industrial Engineers (PIIE).

**Mary Grace M. Benignos** is a student currently enrolled for an MBA program from AMA Computer University. She recently completed a short-course on Entrepreneurship in Emerging Economies at Harvard X, an online learning platform initiative of Harvard University. She was a former IT Professional with solid hands-on experience in the area of System/Network, Application development, System Integration and Support Role. She holds a Bachelor of Science in Computer Engineering degree from AMA Computer University-East Rizal Campus. After receiving her education, she later worked as a software developer/programmer from a multinational IT company and then worked as Information Technology Support at Maybank ATR KimEng, one of the leading trading participants of the Philippine Stock Exchange. Her former professional achievements include implementation of various application system that enhances both the Front-End and Back-End trading, network rehabilitation structure and OMS/EMS Integration. She was proficient in project implementation and execution and has an in-depth experience in systems, database administration, network infrastructure and IT Operations. She became a member of I.T Interaction Philippines, an IBM User Organization. She is an Independent Consultant related to IT Services.