CHAPTER SIX

Factors Affecting for Adoption of Mobile Applications in Stock Trading: Evidence from Bartleet Religare Securities, Sri Lanka

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Abstract

The stock market plays a crucial role in the growth and development of a robust and competitive economy. The ability to trade securities effectively and efficiently will facilitate investments, promote the efficient allocation of capital, and stimulate long-term economic growth in an economy. Therefore, Sri Lanka needs effective strategies for attracting investors into the stock market, facilitating effective and efficient ways of doing stock transactions other than the traditional modes of stock trade. Therefore, this study investigates the factors affecting for the adoption of mobile applications for stock trading in Sri Lanka with special reference to Bartleet Religare Securities. The relevant primary data for the study were gathered through a questionnaire from 303 investors doing stock trading via mobile applications under Bartleet Religare Securities. The findings elaborate that the perceived usefulness, social influence and trust of the investors have positively impacted the adoption of mobile applications for stock trading. However, perceived risk of the investors has negatively impacted the adoption of mobile applications for stock trading. Further, the trust has become the most positively influential factor. Moreover, the finding of the study will be benefited to Colombo Stock Exchange (CSE), Security Exchange Commission (SEC), and Stock Brokerage Firms in different ways.

Keywords: *Adoption of Mobile applications, Perceived Risk, Perceived Usefulness, Social Influence, Trust.*

1. Introduction

Stock trading is the exchange of a stock or security for money from a seller to a buyer. Equities (stocks or shares) represent ownership in a specific company. In the traditional method, the investor has to do the stock market transactions via a physical platform with the help of the agent of the broker of the brokerage firm or the investor has to connect with the

stockbroker over the phone for advice and to place orders. At present, with the development of advanced technology, investors can do their stock transactions using mobile applications on their mobile phones.

This new type of investment transformed into online stock market trading when online brokerage accounts were introduced. Early days people had no free access to stock market trading other than by going through the brokerage stations, but substantially lower fees and commissions have opened up an increased opportunity for every potential investor. An individual can now browse the Internet and look for stock market information on a webpage in order to make an instant informed decision about an investment. Also, there are various social media platforms such as Facebook, WhatsApp, and Telegram groups which consist of investors in order to share stock market information. These factors helped in the growth of the stock exchange market during the near past. Online stock trading has several advantages, including faster trading speed, improved information transparency, trend prediction based on historical data, and lower operating costs (Wu et al., 2012). It is critical to building a strong and secure infrastructure for users to conduct their online stock trading activity via an online or mobile gateway, and a fast internet connection, if available at a lower cost, can help to boost the digital commerce regime (Srivastava, 2011). However, creating a risk-free and trustworthy trading environment is more important than providing benefits to traders because the stock market is a complex and non-stationary system with uncertainty and noise that is heavily influenced by a variety of factors such as company financial reports, government policies, changes in financial rules, real-time stock price trend, global macroeconomics, fluctuation of foreign stock markets, oil price, and so on (Lee, 2009).

The COVID-19 pandemic has caused significant disruption in the global financial marketplace, with the stock market being one of the most affected sectors (Benignos & Navarro, 2020). Moreover, it was difficult and prohibited to do stock transactions on physical platforms under the health guidelines and government regulations. Therefore, the most suitable, safe and efficient way of doing a stock transaction is using online stock trading mobile applications in such a pandemic period where human interaction and travelling are prohibited. Investors can handle their stock portfolio using their own thumbs.

In Sri Lanka, there are 22 stockbroker firms that gives internet and mobile trading facilities to investors (Cohen et al., 2006). Further, Central Depository System made a program following the CSE digitization strategy to open accounts online in 2020, and more than 4000 online accounts have been opened with a turnover of 10 million (Annual Report CSE, 2020).

According to the annual report of CSE, it is obvious that as an organization, CSE has focused on bringing innovation to its strategy with digitalization as a key focus in strengthening its functions. During the year, they expanded their reach in social media platforms, the Mobile App and CSE website. In 2020, there was a 92% increase in followship compared to 2019. On the other hand, there were 27,179 mobile users in 2020 (Annual Report CSE, 2020). However, in 2019 there were only 11,945 mobile users (Annual Report CSE, 2019). As a percentage, it is a 127.5% increase, and the researcher needs to investigate why the individual investors adopted mobile applications in such a higher percentage and what factors affected to the adoption of mobile applications. Technology has enabled secure and rural users to access services and data efficiently and effectively in stock trading according to the Indian context (Srivastava, 2011).

Therefore, the researcher intends to investigate what factors affect on the adoption of stock trading mobile applications and what sort of relationship and how those factors affect on the adoption of mobile stock trading applications in the Sri Lankan context.

2. Previous Literature

The rapid advancement of technology has altered many aspects. It also impacts economics, such as the development of new business activities (software, hardware, and other electronic systems) that support business, for an online trading system. These developments will positively impact on a country's economy (Aldyan et al., 2019).The development of advanced technology has caused a change in the stock brokerage industry to a greater extent. Similarly, there are many theories related to studying mobile stock trading such as the Technology Acceptance Model (TAM), Theory of Planned Behavior (TPB), Theory of Reasoned Action (TRA), Diffusion of Innovation Theory (DOI), etc.

Perceived Usefulness (PU)

Perceived Usefulness (PU) is the extent to which a person believes using a specific system will improve their job performance (Davis, 1989). PU is an important factor of TAM. TAM was validated in terms of using virtual stock trading as a tool for financial management education (Wu et al., 2012). In the Singapore context, it was found that perceived usefulness added real value to a new system, as well as their trading behavior, are critical determinants of Internet stock trading adoption (Loh & Ong, 1998). When considered mobile stock trading, PU has been found positively impact on attitudes toward mobile stock trading in the Malaysia context (Chong et al., 2021). However, in the Sri Lankan context, since there is no evidence specifically for mobile stock trading, it can be relayed on consumer adoption of mobile banking, and electronic payment systems in Sri Lanka. Since the researcher needs to

investigate the investors' adoption of mobile stock trading, the core objective is to find the factors that affect the adoption of mobile applications specifically for stock trading. Therefore, in the Sri Lankan context, perceived ease of use and PU have been identified as motivators to use online banking (Kumari, 2016). PU had a significant positive influence on mobile banking adoption, consistent with previous research conducted in other countries such as South Africa and Malaysia (Ravichandran et al., 2016). In this research, the researcher will investigate the impact of PU to adopt mobile applications on stock trading.

Social Influence (SI)

Social Influence (SI) is the perceived expectation of others that influences one to perform a specific behavior (Ajzen, 1991). SI has been derived from both the TRA model and the TPB model. Social Influence plays a positive role in explaining entrepreneurs' behavioral intentions to use a computerized accounting system. Also, this suggests that when people have limited experience with information technology, social influence becomes more significant and important (Ravichandran et al., 2016).

Moreover, social factors significantly impact on investors' willingness to use Internet stock trading in the Singapore context (Lee-Partridge & Ho, 2003). Moreover, on the other hand, Investment activities are very personal and individual in the context of Internet stock trading. Although investors may seek advice from their social circles regarding the mode of trading, their decision to trade online appeared to be significantly influenced by social pressure, as evidenced by an insignificant path linking social norms to behavioral intention (Lee-Partridge & Ho, 2003). In mobile stock trading, social influence has positively influenced the adoption of mobile stock trading (Chong et al., 2021). However in Taiwan, subjective norms did not appear to have any effect on the intention to use mobile applications for stock trading (Lee, 2009). Further, it was revealed that although investors may seek opinions on the mode of online trading from their social groups, their decision to trade online appeared insignificantly influenced by social pressure, as indicated by an insignificant path linking social norms to behavioral intention (Lee, 2009).

However, in the Sri Lankan context, since the adoption of mobile stock trading is not yet tested, it can be considered with the adoption of mobile banking and electronic card payment methods since that will make sense about the adoption of new technologies by the individuals. Therefore, in the Sri Lankan context, the perceived social aspect of Internet banking has been found to be the most influential factor explaining the adoption of Internet banking services (Jayasiri & Dharmadasa, 2016). In this research, the researcher aims to investigate the impact

of SI to adopt in mobile applications for stock trading, specifically in the Sri Lankan context, by filling the pertaining literature gap.

Perceived Risk (PR)

Perceived Risk (PR) is the perceptions of a consumer regarding the uncertainty and negative consequences of participating in an activity (Dowling & Staelin, 1994). It is proposed that PR and attitude have a negative relationship (Wessels & Drennan, 2010). Customers who are unsure about the product quality, brand, or online services may be concerned about an unjustified delay in product delivery, providing payment without receiving the product, and other illegal activities and fraud (Ravichandran et al., 2016). Online stock trading implies that to facilitate stock investors' intentions to use online stock trading, securities firms must consider stock investors' technological perceptions and risk perceptions to motivate stock traders to use the online trading service (Susana, 2020). Further, individuals who believe the Internet is safe and trustworthy will have a favorable attitude toward Internet stock trading. The finding of the study concluded in the Taiwan context demonstrates that PR has a more decisive influence on customer decision-making than the other factors. The emergence of PR as a key inhibitor highlights that risk is at the forefront of online stock investors' minds. Many Taiwanese stock investors believe that when they use online trading services, they are vulnerable to identity theft and fraud (Lee, 2009). Therefore, online stock trading brokerage firms should prioritize reducing online stock investors' risk concerns (Lee, 2009). However, surprisingly in the Malaysian context, PR has no significant relationship with the adoption of mobile stock trading and that finding suggests that young Malaysian investors are willing to take risks as risk lovers and are enthusiastic about new technology applications (Chong et al., 2021). Therefore, in the global context, there are different relationship in different contexts.

In the Sri Lankan context, due to the unavailability of articles on mobile stock trading, it can be relied on the adoption of mobile banking and electronic card payment methods because PR is affecting the adoption of mobile applications, whether that is specifically for online trading, online banking or online stock trading. Therefore, security and financial risk have been identified as the most vital factors influencing online banking usage, while PR has been identified as the most important factor influencing online banking usage (Kumari, 2016). In this study, the researcher will investigate the impact of perceived risk on the adoption of mobile applications for stock trading, specifically in the Sri Lankan context, while filling a gap in the literature.

Trust

Trust can be recognized as an essential component of social behavior, particularly when making important decisions (Gefen, 2000). Trust has been widely tested in e-commerce studies to assess consumer behavior and mobile payments. In addition, trust has become an important factor in determining behavioral intention to use online shopping (Hajli et al., 2017). Further, trust has shown a significant relationship to participate in online group buying (Sharma & Klein, 2020).

Regarding the adoption of mobile applications for stock trading, in the Taiwan context, it was discovered that trust is an important cue that influences customers' intentions to trade online (Lee, 2009). Further, the finding is significant for new users particularly who lack confidence in online trading. According to the findings of this study, online trading companies could develop trust-building mechanisms to entice investors to engage in online stock trading (Lee, 2009). Further, in explaining investors' adoption intentions towards mobile applications for stock trading, trust has added significant explanatory power to perceived behavioral control, attitude, and social influence according to the Malaysia context (Chong et al., 2021).

Since there are not enough research studies investigating the adoption of mobile applications for stock trading in Sri Lanka, it can be relied on the studies that investigate the adoption of mobile banking and electronic card payment methods. Therefore, it was found that consumer perception of e-payment systems is found to be significantly influenced by trust in Sri Lanka (Kulathunga & Ekanayake, 2019). The researcher will conduct this study to investigate the impact of trust on the adoption of mobile applications for stock trading in Sri Lanka

3. Methodology

Conceptual Framework

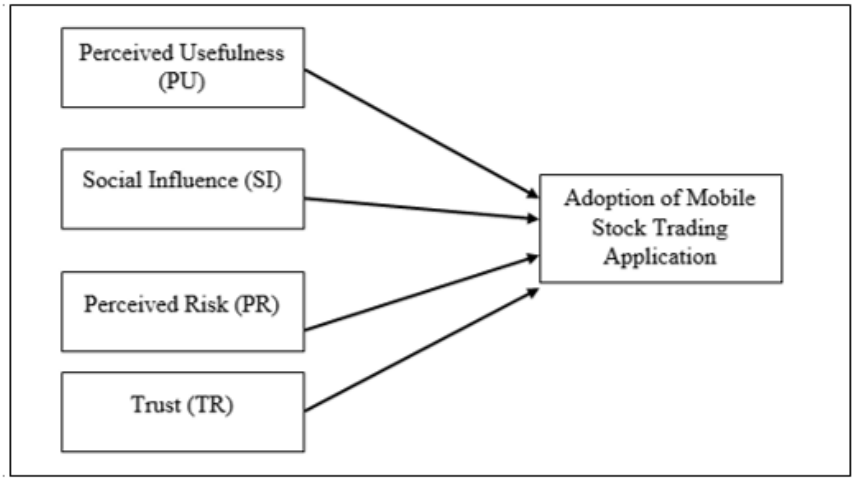

Figure 1 Conceptual framework

Data and Sample

The target population of this study was all the individual investors who invest in Colombo Stock Exchange through Bartleet Religare Securities (BRS). According to the data provided by BRS, there were 3000-4000 individual investors doing mobile stock trading with BRS. The sample size was calculated as 351 according to the Morgan table. The data was gathered via online questionnaires through 351 individual investors doing mobile stock trading under BRS. Three hundred five respondents have accepted the questionnaire out of 351 respondents and 86.32% was the response rate. The researcher continued with the analysis based on 303 respondents. Further, SPSS software was utilized to analyze the research data.

4. Results and Discussion

The current research study has been conducted to investigate the impact of perceived usefulness, social influence, perceived risk and the trust on the adoption of mobile applications for stock trading in Sri Lanka, with special reference to Bartleet Religare Securities.

H1: There is a significant impact of Perceived Usefulness (PU) on the adoption of mobile applications for stock trading in Sri Lanka

Chong et al. (2021) found that perceived usefulness has positively impacted (0.2080) on the intention to use mobile applications for stock trading in the Malaysian context and has been concluded that promoting the resourcefulness of the system will promote the positive intention of the adoption of mobile applications for stock trading. Further, it was discovered that perceived usefulness, and trading behavior, are important determinants of internet stock trading adoption in the Singapore context (Loh & Ong, 1998). In the Sri Lankan context, both the perceived ease of use and perceived usefulness were the most important factors in the TAM model and have been identified as positive motivation factors for user adoption of online banking (Kumari, 2016).

According to the results, the beta value of perceived usefulness is 0.245, which is not equal to zero, and indicated a positive impact in the sample context. The significance value of perceived usefulness is less than 0.05 and indicated a positive impact of perceived usefulness both in the sample and population context as well. Therefore, the hypothesis (H1) has been accepted at a 95% confidence level. Thus, the researcher was confident in concluding that Sri Lankan investors significantly consider the perceived usefulness when adopting mobile applications for stock trading.

H2: There is a significant impact of Social Influence (SI) on the adoption of mobile applications for stock trading in Sri Lanka

Social factors significantly impacted investors' preparedness to use Internet stock trading in the Singapore context (Lee-Partridge & Ho, 2003). Further, that research study explains that investors may consult their social networks for advice on the best trading mode, but an insignificant path connecting social norms to behavioral intention suggests that social pressure greatly influences investors' decisions to trade online (Lee-Partridge & Ho, 2003). In the Malaysian context, social influence has positively impacted on the adoption of mobile stock trading (Chong et al., 2021).

In the study, the Beta value of social influence is 0.171, which is not equal to zero, and that indicated a positive impact in the sample context. The significance value of social influence is less than 0.05 and indicated a positive impact of social influence and can be generalized that there is a positive impact of social influence on the adoption of the mobile applications for stock trading in Sri Lanka at a 95% confidence level.

H3: There is a significant impact of Perceived Risk (PR) on the adoption of mobile applications for stock trading in Sri Lanka

According to Susana (2020), securities firms must take stock investors' perceptions of technology and risk into account to support stock investors' plans to utilize online stock trading. According to the results from Taiwan, perceived risk has a greater impact on customers' decisions than any other element and the fact that the risk is on online stock investors' thoughts at all times is shown by the rise of perceived risk as a significant obstacle (Lee, 2009). According to the findings, the Beta value of perceived risk is -0.165, and the significance value is 0.000, less than 0.05 which indicated a negative impact of perceived risk. Therefore, the hypothesis (H3) has been accepted at a 95% confidence level and can be generalized that perceived risk has a negative impact on the adoption of the mobile applications for stock trading in Sri Lanka.

H4: There is a significant impact of Trust (TR) on the adoption of mobile applications for stock trading in Sri Lanka

In Malaysia, trust has a significant role in promoting the adoption of mobile stock trading, and it also has shown a strong influence on the adoption of mobile applications for stock trading (Chong et al., 2021). Similarly, investors are encouraged by trusted mobile applications to use the mobile applications for stock trading. According to the coefficient table, the Beta value of trust is 0.711 which is not equal to zero, and indicated a positive impact in the sample context. In addition, the significance value of trust is less than 0.05, which indicated a positive impact

of trust both in the sample and population context. Therefore, the hypothesis (H4) has been accepted and can be generalized that trust has a positive impact on the adoption of the mobile applications for stock trading in Sri Lanka.

Therefore, the findings revealed that all the hypotheses were accepted, and the best fitting model for predicting the adoption of mobile applications for stock trading in Sri Lanka can be written as follows based on the multiple linear regression results.

$$AD = 0.415 + 0.245PU + 0.711TR + 0.171SI - 0.165PR + \varepsilon$$

5. Conclusion

The current research study was conducted to investigate the impact of perceived usefulness, social influence, perceived risk and the trust on the adoption of mobile applications for stock trading in Sri Lanka, with special reference to Bartleet Religare Securities. According to the findings, it can be concluded that the perceived usefulness, social influence, perceived risk and the trust impact the adoption of mobile applications for stock trading in Sri Lanka as hypothesized. Therefore, it can be concluded that all the hypothesis were acceptable. Further, the findings explained that perceived usefulness, social influence, and trust has a positive impact on the adoption of mobile applications for stock trading in Sri Lanka, while perceived risk has a negative impact on the adoption of mobile applications for stock trading in Sri Lanka.

The outcome of this research can be used for developing the stock market in Sri Lanka by engaging individual investors in a mobile stock trading platform. Further, CSE, SEC, and stock brokerage firms have the ability to use the finding as their key strategies and core competencies of attracting investors into the stock market as well as policy-making process.

References

Ajzen, I. (1991). The Theory of Planned Behavior. Organizational Behavior and Human Decision Processes, *50*, 179–211.

Annual Report of Colombo Stock Exchange (2019)

Annual Report of Colombo Stock Exchange (2020)

Aldyan, A., Sulistiyono, A., & Pujiyono. (2019). The Implication of Technological Development on Stock Trading in the Stock Markets of Indonesia Stock Exchange. *Proceedings of the International Conference on Globalization of Law and Local Wisdom.* 123–126. https://doi.org/10.2991/icglow-19.2019.31

Benignos, M. G. M., & Navarro, M. M. (2020). Evaluation of online stock trading platforms

for filipino investors/traders in the philippine market amidst the covid-19 pandemic. *Proceedings of the International Conference on Industrial Engineering and Operations Management*, *August*, 2988–2994.

Cohen, J. A., Mannarino, A. P., Murray, L. K., & Igelman, R. (2006). Psychosocial interventions for maltreated and violence-exposed children. *Journal of Social Issues*, 62(4), 737-766.

Chong, L. L., Ong, H. B., & Tan, S. H. (2021). Acceptability of mobile stock trading application: A study of young investors in Malaysia. *Technology in Society*, *64*(September 2020), 101497. https://doi.org/10.1016/j.techsoc.2020.101497

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *Management Information Systems Research Center, University of Minnesota*, *13*(3), 319–340.

Dowling, G. R., & Staelin, R. (1994). A Model of Perceived Risk and Intended Risk-Handling Activity. *Journal of Consumer Research*, *21*(1), 119. https://doi.org/10.1086/209386

Gefen, D. (2000). E-commerce: The role of familiarity and trust. *Omega*, *28*(6), 725–737. https://doi.org/10.1016/S0305-0483(00)00021-9

Hajli, N., Sims, J., Zadeh, A. H., & Richard, M. O. (2017). A social commercinvestigation of the role of trust in a social networking site on purchase intentions. *Journal of Business Research*, *71*, 133–141. https://doi.org/10.1016/j.jbusres.2016.10.004

Jayasiri, N., & Dharmadasa, P. (2016). Adoption of Internet Banking in Sri Lanka: an Extension To Technology Acceptance Model. *Asia Pacific Journal of Contemporary Education and Communication Technology*, *2*(1), 1-11.

Kulathunga, D., & Ekanayake, K. W. (2019). Antecedents to Adoption of Electronic Payment Systems in Sri Lanka. *Scientific Research Journal*, *VII*(IX), 30–37. https://doi.org/10.31364/scirj/v7.i9.2019.p0919695

Kumari, J.P. (2016). Conceptual Framework: Factors Affecting for usage of Online Banking in Sri Lanka. *International Journal of Research in Humanities and Social Studies*, *3*(9), 25–28.

Lee-Partridge, J. E., & Ho, P. S. (2003). A retail investor's perspective on the acceptance of Internet stock trading. *Proceedings of the 36th Annual Hawaii International Conference on System Sciences, HICSS 2003*. https://doi.org/10.1109/HICSS.2003.1174437

Lee, M. C. (2009). Predicting and explaining the adoption of online trading: An empirical study in Taiwan. *Decision Support Systems*, *47*(2), 133–142. https://doi.org/10.1016/j.dss.2009.02.003

Loh, L., & Ong, Y. S. (1998). The adoption of Internet-based stock trading: A conceptual framework and empirical results. *Journal of Information Technology*, *13*(2), 81–94. https://doi.org/10.1080/026839698344873

Ravichandran, D., Hiti, M., Ayesha, B., & Madana, H. (2016). Factors Influencing Mobile Banking Adoption in Kurunegala District. *Journal of Information Systems & Information Technology (JISIT)*, *1*(1), 2478–2677.

Sharma, V. M., & Klein, A. (2020). Consumer perceived value, involvement, trust, susceptibility to interpersonal influence, and intention to participate in online group buying. *Journal of Retailing and Consumer Services*, *52*(August 2019), 101946. https://doi.org/10.1016/j.jretconser.2019.101946.

Srivastava, S. (2011). Impact of internet growth on the online stock trading in India. *Journal of Internet Banking and Commerce*, *16*(3). https://doi.org/10.2139/ssrn.1964838.

Susana, D. (2020). A Study on Adoption of Online Stock Trading With Special Reference To Coimbatore City Based on Utaut Model. *International Journal of Advanced Research in Commerce, Management & Social Science*, *03*(03), 355–364.

Wessels, L., & Drennan, J. (2010). An investigation of consumer acceptance of M-banking. *International Journal of Bank Marketing*, *28*(7), 547–568.

Wu, H. C., Tseng, C. M., Chan, P. C., Huang, S. F., Chu, W. W., & Chen, Y. F. (2012). Evaluation of stock trading performance of students using a web-based virtual stock trading system. *Computers and Mathematics with Applications*, *64*(5), 1495–1505. https://doi.org/10.1016/j.camwa.2012.03.097