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Characteristics and Profile of Millennial Retail Investors in the Malaysian Stock Market

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Abstract

The Malaysian stock market's participant from the retail investors' segment has changed, with newcomer participation from the millennial generation replacing baby boomer. Theoretically, retail investors' demographic profile and characteristics influence their behaviour and investment decision-making process. Therefore, this study investigates millennial retail investors' characteristics as they are relatively new in the Malaysian stock market. The data were obtained via a personally administered survey in the Klang Valley and gathered 258 useable questionnaires. The descriptive and cross-tab were analysed using the SPSS software that provides the information of the Malaysian millennial retail investors. The findings indicate that millennial investors lack market knowledge and have inadequate investment skills. Nevertheless, they are optimistic about the market potentials and use technical analysis to assist their decision-making process. They are relatively educated and are in a middle-income group. Also, males exhibit both risk-averse and risk-seeker attitudes. The study implies that the Securities Commission, Bursa Malaysia and investment institutions should actively educate this group of investors to equip them with the relevant stock knowledge and investment skills.

Keywords: Stock Market, Retail Investors, Millennial Characteristics, Stock Investments, Securities Commission

Introduction

Series of market uncertainty has changed the landscape of the Malaysian stock markets' participants. Historically, the Malaysian stock market has been dominated by local retail investors. About 37.84 per cent of the market players were made up of local retail investors from 1993 to 1999 (refer to Figure 1). However, retail investors' participation was significantly affected by the Asian Financial Crisis 1997, as the numbers declined exponentially. The numbers were further declined after the Global Financial Crisis 2008. In contrast, the local institutional investors' participation in the Malaysian stock market has begun to increase as the Malaysian Government promoted institutional investors' participation to stabilise the Malaysian stock market. This led to the reshaping of the Malaysian stock market participants

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as they saw the local institutional investors be actively involved while the retail investors become less interested to be involved in the stock market.

At the same time, there seems to be a generational transition occurring in Malaysia, where the millennial generation is gradually replacing the baby boomers generation in the workplace. Queiri et al (2015) reported that the portion of millennials in the workforce in 2011 is approximately 51 per cent of the total labour force. Furthermore, job professions in Malaysia undergo restructuring after Independence Day, in which the job profession is no longer defined based on ethnic differences (O'Brien, 1979). Therefore, Malaysian millennials, with a lack of ethnic differences, have an equal chance of accessing high-income job opportunities, particularly in the manufacturing and services sectors. Many millennials also return to higher education to improve qualifications to get a higher salary (Bamforth and Geursen, 2017). Thus, the Malaysian Bourse notes that millennials have accumulated a higher amount of income, and for that reason, millennials have been enticed to allocate their money in stock investment.

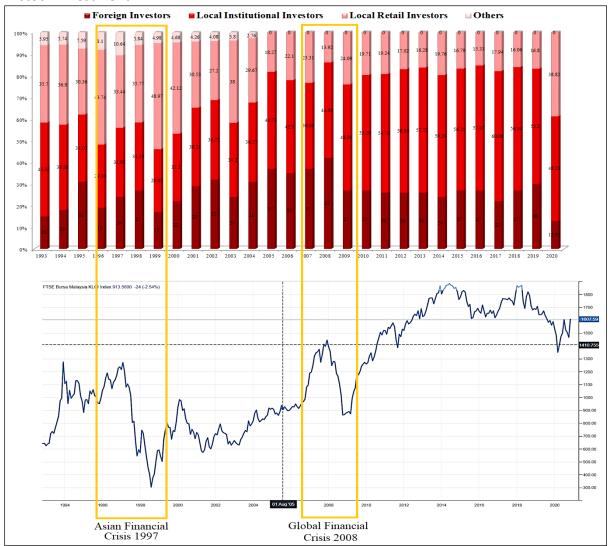


Figure 1: Securities Market Trading Participation in Malaysian Bourse Source: The Authors Adapted from Bursa Malaysia (2019); Wen (2018) and tradingeconomics.com (https://tradingeconomics.com. Copyright 2020 by Trading Economics)

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Therefore, the Securities Commission, Malaysia's securities regulator, has tapped this new market segment intensely to invest directly in the Malaysian Bourse. Several incentives have been offered to entice the new participation from the millennial generation since 2016. In lieu of this, the InvestSmart programme was created to promote stock investments among millennials. In addition, social media have been leveraged through the use of Instagram and Facebook to disseminate information to millennials. Subsequently, these moves have begun to bring results when the local retail investors' structure in the Malaysian Bourse has started to improve with newcomer participation, mainly the millennial generation. As shown in Figure 2, the participation of millennials in the stock market had increased by 31,064 from 2016 to 2017, while the number of active central depository system (CDS) accounts of the generation Xers and baby boomers had decreased. These statistics exhibit that millennial investors have contributed to the participation of the retail investors' segment in Malaysia Bourse.

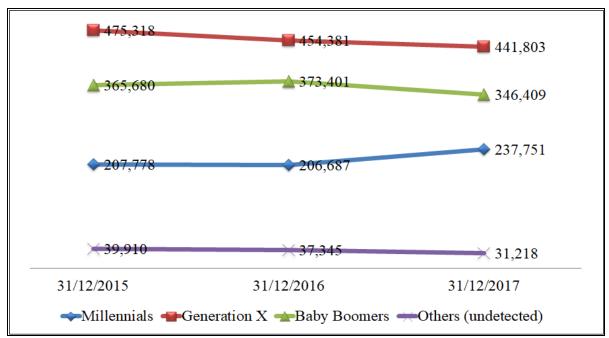


Figure 2: Retail Investors Participation in Malaysian Bourse Source: The Authors Adapted from The Edge Markets (2018)

Moreover, technological advancement has also influenced the finance industry to a certain degree. As the medium to trades stocks are being innovated, stock transactions over-the-counter services have started to be diminished while the acceptance for online trading platforms has increased rapidly (Ramayah et al., 2014). The United Nations highlighted millennials are a digital-savvy cohort, as they are the first generation that lives with the technological progression of the internet and its networks. Indeed, the advancement of technology has transformed retail investors' ways of trading in Malaysian Bourse, in which the transaction is done electronically. For that reason, technology has promoted the direct participation of millennial in stock investment.

Thus this study is motivated by the newcomer in the retail investors market segment in the Malaysian stock market since they are found to have unique characteristics from the previous investors. The unique characteristics could provide useful information for relevant authorities to structure appropriate strategies to cater for these retail investors stock investment needs.

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Besides, Saxena and Ahuja (2018) stated that their demographical profile and the financial information influences the retail investors' cognitive traits obtained from various sources. The traits will subsequently affect the retail investor's decisions to stay or exit from the market (Albaity and Rahman, 2012). Examining the millennial retail investors' behaviours is fundamental, as they have been targeted by the Securities Commission and Malaysian Bourse to be involved in stock markets. The uncertain market condition has increased the need to lure local investors to strengthen the market. Hence, this study wants to know millennials' investing characteristics, as millennials have replaced the baby boomers in the Malaysian Bourse. This study facilitates essential information for investment management and policymakers to structure appropriate investment strategies to attract millennial retail investors to be in the stock market.

The paper is arranged as follows; first, introducing the Malaysian millennial retail investors is explained, followed by the review of the previous studies related to this study. Next, the method used to achieve the aim of this study is discussed. The fourth and fifth sections analyse as well as discuss the empirical results, respectively. The last section concludes and provides a recommendation for future study.

Review of Previous Literature

The Malaysian stock exchange was established in 1960 and started its stock's public trading in the same year. Following this historic moment, many studies related to the stock market have been carried out. Among the studies conducted are to understand the Malaysian retail investors' investment decisions, particularly the profiling of the retail investors (e.g. Mansor & Lim, 1995), the investment style of the retail investors (Muhammad & Abdullah, 2009), the embracement of the use of the technology in performing stock transactions (Ramayah et al., 2014), and financial behaviours of millennials (e.g. Azmi and Madden, 2015).

As the Malaysian stock market progresses, the Malaysian local retail investors' market segment composition has also undergone transitions. In 1986, most Malaysian local retail investors were made up of veteran investors aged above 55 years old (Mansor and Lim, 1995). However, the veteran or baby boomers investors' composition had declined in 2018, while the millennials have shown an interest in the stock investment in an attempt to increase their wealth (The Edge, 2018). A study by Saxena and Ahjua (2018) revealed that the demographics and characteristics affect the retail investors' investment decisions (Saxena & Ahuja, 2018). Therefore, this study tries to expand the study of Mansor and Lim (1995) by examining the newcomer's profiling in Malaysian Bourse, the millennial retail investors.

Mansor and Lim (1995) surveyed the Malaysian retail investors' demographics and characteristics in the Klang Valley area in 1992 for eight weeks. Based on the 192 respondents, the results indicated that males are the majority of the respondent with a ratio of 3:1 over females. The authors also found that most of the investors are in middle-and upper-income groups and these respondents are educated and work as managerial or executive and professional. Furthermore, they also discovered that the respondents are involved in a speculative market. The respondents to the questionnaire were made up of Chinese (75 per cent), followed by Malay (19.3 per cent) and Indian and others (5.7 per cent). Interestingly, the researchers also highlighted a noticeable shift towards having younger investors in the Malaysian Bourse.

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A decade later, Muhammad and Abdullah (2009) revisited this study by studying the Malaysian retail investors in the Klang Valley area. There were 147 structured questionnaires collected and valid for analysis. Once again, they found that the male respondents made up the majority of the respondents with a ratio of 3:1 over females. The findings also indicated that the respondents are educated, and the majority are self-employed (54.4 per cent) and work in the private sector (29.3 per cent). Most of these retail investors were made up of an upper-middle-income group (monthly income ranges from RM4,000 to RM6,000) and exhibit moderate risk behaviour. The researchers also revealed that in most instances, the Malaysian retail investors relied on fundamental analysis, although at the time they also exhibited herd behaviours by relying on others' opinions, such as brokers, dealers, family and friends.

In other parts of Malaysia, Jamal et al. (2014) had surveyed the decision-making style among retail investors in the Sabah region for four days. The survey used a stratified and convenient sampling technique and collected valid 217 questionnaires. The results indicate that males are the majority of the respondent with a ratio of about 2:1 over females. In term of ethnicity group, most respondents are Chinese (42.9 per cent), followed by Malay (30 per cent) and other local Sabahan Bumiputera (18 per cent). The respondents are educated, and most of them work in the private sector. The findings also highlight that Sabahan retail investors are preferred a mixture of high and low risks investment vehicles: most respondents invest in a unit trust (57.6 per cent) and were followed by stocks (30 per cent), short-term instruments (9.7 per cent) and bond (2.8 per cent).

In 2015, the industry (see Azmi & Madden, 2015) interested in studying Malaysian millennials to understand their financial behaviours. The findings indicate that the Asian Financial Crisis psychologically affected the Malaysian millennials in 1997. The researchers also highlight that respondents opt to make their investment instead of seeking professional advisors. They also inferred that the advice from a family is considered reliable information for their investment decisions. The results reveal that millennials are educated but having a massive amount of debt to maintain their lifestyle, in which 75 per cent indicates that they have at least one long term debt, and 37 per cent indicate having more than one long term debt.

As the world moves towards digitalisation, the financial markets were seen to embrace these changes. In 1995, the Malaysian financial market initiated internet stock trading, but it was not well accepted by the previous Malaysian retail investors (Ramayah et al., 2014). However, the emerging of the millennial generation portrays a different breed of investors. United Nations observe that millennials are born in the millennium era are more IT savvy than the previous investors. They discover that this cohort prefers to use technology to access information via wide-ranging devices. In response to this development, the financial industry has also applied technology in innovative ways to reach out to these technology-savvy clients. For instance, the stock market platform has been innovated to enable these investors to conduct their stock transaction using internet-based order submission protocol (Ramayah et al., 2014). Essentially, this cohort prefers to do their finance and investing activities with minimal interference from the professional finance advisors (Azmi and Madden, 2015).

However, Baker and Nofsinger (2002) discover that online investors are prone to behavioural biases in their investing activities. They pointed out such behavioural biases are because of trading procedures and result from trading either positive or negative returns. This led to

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developing familiarity in stock investment. Perren et al (2015) added that short-term successes in trading also influence the investors to have faith in their outstanding skills, leading to excessive trading.

A study by Zhang et. al (2017) also revealed that the millennials generation is the cohort that engaged most vigorously in electronic word of mouth (eWOM) initiative and shows significant influences on other people. Hence, social media such as Twitter, Facebook and Instagram became important platforms for retail investors to spread market sentiment (Chatterjee, 2017). Market sentiment refers to an individual's attitude toward a situation or event. It portrays a perception, feeling and emotion on the subject; thus, it is essential to understand relevant information and upcoming trends in the market (Chatterjee, 2017).

Research Method

The data was collected through a personally administered survey, especially during the stock investment seminars and workshops in Klang Valley from August until November 2019. The unit of analysis is individual, and data collected by purposive and convenience sampling techniques. The respondents of the study are comprised of existing retail investors in Malaysian Bourse by having a trading account in any registered brokerage companies in Malaysia, every Malaysian millennial retail investor identified by the age range from 19 to 39 years old, and are residing in Klang Valley area. Once the criteria are met, the questionnaire was distributed to the selected respondents conveniently available to record their responses. The respondent answered the questionnaire either by hard copy or soft copy via shared URL link and QR code.

There were 300 questionnaires distributed in the stock investment events; however, only 258 sets were returned and valid for data analysis. The Statistical Package for Social Sciences (SPSS) software was used to perform the analyses: descriptive analysis and cross-tabulation analysis. The descriptive statistics have examined the respondents' demographic profile and characteristics, and cross-tabulation statistics exhibit the comparison side-by-side of different groups of the respondents who answered the questionnaire. For cross-tabulation analysis, the Chi-square accessed to examine the significant (χ^2 significant at p < 0.05) association between the cross-tabulated variables. Therefore, the statistics offer a better overview of the respondents' characteristics.

Results Analysis

After the preliminary data analysis, there were only 258 sets of data qualified to be analysed. The descriptive statistics had performed, and the results as follow;

Demographic Profile

As illustrated in Figure 3, 76 per cent of the respondents were males while 24 per cent were females. The respondents were made up of different ethnicity, of which 95 per cent were Malay, followed by Chinese (3 per cent), Indian (1 per cent), and others (1 per cent). The majority of the respondents have possessed a bachelor's degree (48 per cent), followed by those who have STPM/matriculation/diploma (26 per cent), master's degree (15 per cent) and Malaysian certificate of education (SPM) (1 per cent). The majority of the respondents were married (60 per cent) and work in a private organisation (57 per cent) with an estimated average monthly income of between RM3,861 and RM8,319 (44 per cent).

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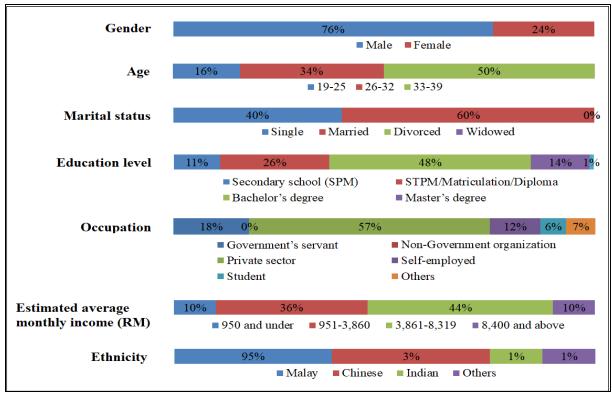


Figure 3: Demographic profile of Malaysian millennial retail investors

Characteristics of the Malaysian Millennial Retail Investors

Figure 4 depicts the characteristics of Malaysian millennial retail investors. Most of them have less than three years of involvement in the Malaysian stock market, implying that they are relatively new in stock investment. The total capital injected into the Exchange was less than RM20,000. The millennial cohort in this study claims that they have insufficient knowledge and skill about stock analysis. Apart from that, 44.57 per cent of the respondents show that they have experienced the most significant losses in their stock portfolio of less than 5 per cent followed by 21.32 per cent experienced losses of 5 to 10 per cent, 20.16 per cent faced losses more than 20 per cent (20.16 per cent) and 13.95 per cent has 11 to 20 per cent losses. The majority of the millennials in this survey use technical analysis to assist in their stock investment decision-making process. The results also indicate that 83.72 per cent of the respondents are optimistic about the Malaysian stock market and about 91.47 per cent of respondents intend to increase their stock investment portfolio by 2020.

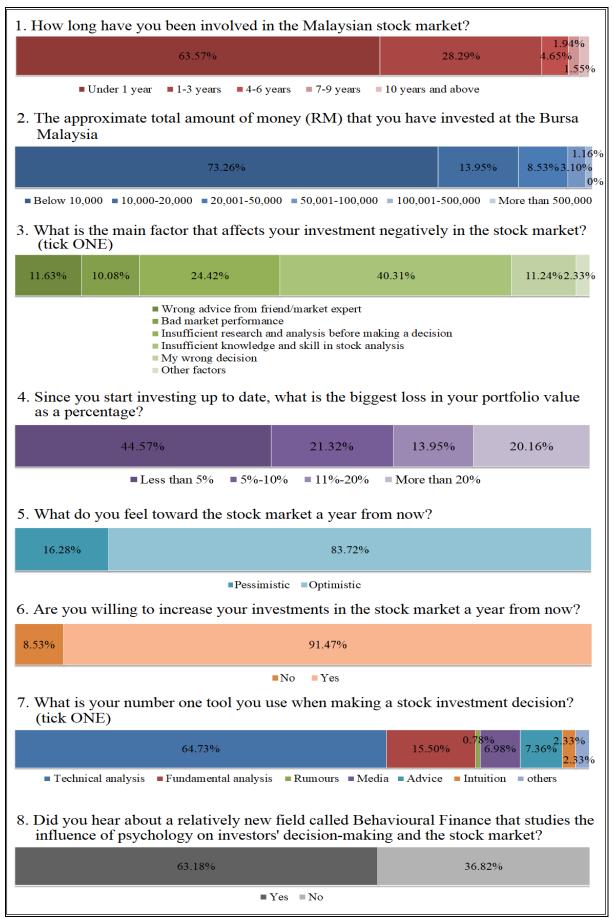


Figure 4: Characteristics of Malaysian millennial retail investors

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Cross-tabulation between gender and the most significant losses in a portfolio

A cross-tabulation was carried out to determine the relationship between two categorical variables in which the relationship between gender and the most significant losses in the investors' portfolio (as a percentage).

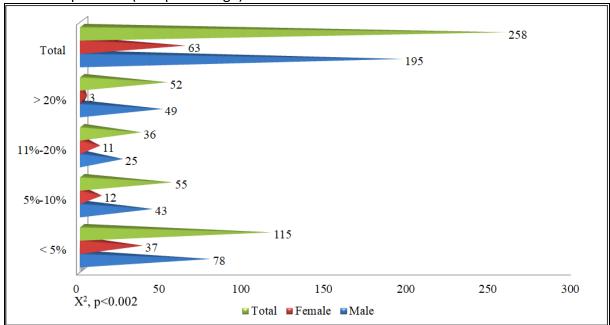


Figure 5: Cross-tabulation between gender and the most significant losses (%) in the portfolio

As depicted in Figure 5, male millennial retail investors were the most respondents (195) from the survey conducted. They reported that the majority of them had experienced the most significant losses in the portfolio of less than 5 per cent (78) followed by the number of losses of more than 20 per cent (49), 5 per cent to 10 per cent (43) and 11 per cent to 20 per cent (25). For female millennial retail investors, it was reported that most of them experienced the most significant losses in the portfolio of less than 5 per cent (37) followed by the number of losses 5 per cent to 10 per cent (12) and 11 per cent to 20 per cent (11) and more than 20 per cent (3). The Chi-square indicates a significant (p-value of 0.002) association between the variables. Therefore, the cross-tabulated variables are meant to be considered in understanding the millennial retail investors' behaviour.

Discussions

The key findings of the study capture several characteristics of Malaysian millennial retail investors. Among them are investors' risk tolerance, their investment analysis approaches, stock investment's knowledge and skills, level of education and income level.

First, the findings indicate males are the most respondents of the survey relative to the female respondents. In addition, the cross-tabulation results show that males present risk-averse and risk-seeker attitudes, while the female respondents exhibit a consistently risk-averse attitude. The results demonstrate males are more passionate about high-risk investment instruments than females. They are perceived as willing to accept more risk to achieve their investment goals. The findings are coherent with the previous studies that discovered that males are more interested in a high-risk instrument than females (e.g. Mahastanti and Hariady, 2014; Li, 2013; Albaity and Rahman, 2012). This provides pertinent information to the investment

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institutions for them to develop appropriate stock investment products that could meet the risk appetite of these millennial investors based on gender.

Second, the respondents use technical analysis to decide to invest in the stock, followed by fundamental analysis, media, advice, intuition, and rumour. Mansor and Lim (1995) categorised advice, intuition and rumour as speculative trading. Therefore, there is a shift of investment analysis approaches found by Mansor and Lim (1995) with the findings of this study. The study indicates that millennial investors rely more on technical analyses to invest rather than using on a speculative basis. Hence, this means that technological advancement has changed retail investors' investing style and, to a certain extent, assists them to make investment decision. In an attempt to attract millennial investors to be engaged in the stock market, the Securities Commission, Malaysia Bourse and investment institutions should consider installing technical analysis tools into the online trading platforms as well as providing technical analysis workshops to facilitate investors' decisions.

Additionally, the information derived from this study is signalling that Malaysian millennial retail investors' psychology and emotion could influence their investment decisions. Luong and Ha (2011) articulate that retail investors who use technical analysis to assist their decision-making process are prone to behavioural biases. Malaysian Bourse observes that financial products are increasingly complex because of the dynamic market environment. Tversky and Kahneman (1974) assure that heuristic provides modest judgment in calculating probabilities and valuing events that reduce complexities.

Third, findings from this study suggest that most respondents believe that insufficient knowledge and skills in the stock analysis were the major factors that led to their stock investment being negatively valued. This is similar to the findings of Li (2013), who also highlights that new investors have insufficient knowledge and inadequate stock investment skills. Despite the Malaysian economic being affected by the trade war between the United States and China in 2019, the millennials feel optimistic about the stock market. Most of them indicate their willingness to increase their investment in the stock market in 2020. Once again, there is a need for the Securities Commission, Bourse Malaysia and investment institutions to focus on providing appropriate workshops to equip this generation of investors with appropriate stock investment knowledge and skills. The knowledge and skills provided will enable them to be prepared to take part in the stock market. The results showing that Malaysian retail investors are mining information to assist their investment decisions to require future research to be carried out.

Fourth, the respondents are educated, in which most of them have a bachelor degree. Therefore, majority of the respondent indicates that they were aware of the behavioural finance field that studies the influence of psychology on investors' decision-making process. However, previous researcher (e.g. Killins, 2017) warns that even though millennials are well educated and digital-savvy, financial decision-making becomes more complicated due to dynamic economics in the modern world. Hence, retail investors' decisions are based on real-life choices rather than on optimal choices (Kahneman and Tversky, 1979).

Fifth, most respondents were in the upper-middle-income (RM3,861 and RM8,319) and lower-middle-income (RM951 and RM3, 860) groups. The findings are consistent with Mansor

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and Lim (1995) and Muhammad and Abdullah (2009), showing that stock investment is mainly made up of middle-income groups. However, participation from lower-income groups has increased for the past three decades. A study by Mansor and Lim (1995) reported that Malaysian retail investors' participation from the lower-income group (less than RM1,000) is 4.2 per cent. In comparison, this study's results exhibit 10 per cent participation from the lower-income group among millennial retail investors. This implies that the awareness about investing in the stock markets from this income group category has increased. Thus, investment managers should consider them when structuring new investment products to cater to their needs.

This study also discovers that millennials were a newbie in the Malaysian stock market since they are found to be involved in stock investment in stocks for less than three years. Hence it is also not surprising that the estimated capital invested into the exchange is also relatively small, less than RM20,000. Despite having high disposable income, Azmi and Madden (2015) found that millennials are the cohort with the highest debt accumulation rate than other generational cohorts in Malaysia. One reason is that this generation cohort is involved in over one long-term debt, such as hire-purchase, mortgage, and personal loan. Also, the National Higher Education Fund Corporation (PTPTN) information reported that RM48.6 billion was provided to 2.6 million students as students' loan from 1997 to 2016 (Malay Mail, 2017). The results from this study denote that millennials who want to be part of the stock market should have a good financial plan to avoid being in financial distress. Besides providing training and workshop on stock investments, investment institutions should also incorporate financial planning module to the potential and existing millennial retail investors.

Conclusion and Recommendations

This study is descriptive and intends to examine millennial retail investors' characteristics in the stock market. In essence, it revealed that the Malaysian millennial retail investors are a newbie in the Malaysian Bourse; hence, they were 1) exhibit risk-averse and risk-seeker attitudes, 2) preferred using technical analysis to assist their investment decisions, 3) lack of market knowledge and insufficient investing skills, 4) educated, and 5) mainly in the middle-income groups. Interestingly, the empirical results show they are optimistic about the stock market and will increase their stock investment in 2020.

Information gathered through this study provides essential indicators to the Securities Commission, Malaysian Bourse, as well as investment institutions. First, they must continuously provide training to them about buying stock since most indicate shallow knowledge and skills about the stock market analysis. Second, proper exposure must be given to applying technical analysis in making a stock investment, as millennial retail investors preferred to use technical analysis as the investing analysis approach. Last but not least, they should create an awareness of behavioural biases in performing technical analysis on internet platforms among millennial retail investors.

References

Albaity, M., & Rahman, M. (2012). Behavioural finance and Malaysian culture. International Business Research, 5(11), 65-76. https://doi.org/10.5539/ibr.v5n11p65.

Azmi, W. N. W., & MaddenAsian Institute of Finance, R. (2015). Bridging the knowledge gap of Malaysia's millennials. Asian Institute of Finance. http://www.aif.org.my.

- Baker, H. K., & Nofsinger, J. R. (2002). Psychological biases of investors. Financial Services Review, 11(2), 97-116.
- Bamforth, J., & Geursen, G. (2017). Categorising the money management behaviour of young consumers. Young Consumers, 18(3), 205-222.
- Bursa Malaysia. (2019). 9M2019 financial results. http://bursa.listedcompany.com/misc/presentation_slide_3Q_2019.pdf.
- Caparrelli, F.D., Arcangelis, A.M & Cassuto, A. (2004). Herding in the Italian stock market: a case of behavioural finance. Journal of Behavioral Finance, 5(4), 222-230.
- Chatterjee, A. (2018). Stock prediction analysing investor sentiments [Doctoral's dissertation, North Dakota State University]. North Dakota State University. https://library.ndsu.edu/ir/bitstream/handle/10365/26045/Stock%20Prediction%20A nalyzing%20Investor%20Sentiments.pdf?sequence=2&isAllowed=y.
- Jamal, A. A. A., Ramlan, W. K., Pazim, K. H., & Budin, D. S. A. (2014). Decision-making style and investment success of retail investors in Malaysian. International Journal of Business and Social Science, 5(9), 311-322.
- Killins, R. N. (2017). The financial literacy of generation Y and the influence that personality traits have on financial knowledge: Evidence from Canada. Financial Services Review, 26, 143–165.
- Klein, G., & Shtudiner, Z. (2016). Trust in others: Does it affect investment decisions? Quality and Quantity, 50(5), 1949-1967. https://doi.org/10.1007/s11135-015-0245-6.
- Li, L. K. (2013). Investment intentions: A consumer behaviour framework [Doctoral's thesis, The University of Western Australia]. UWA Profiles and Research Repository. https://researchrepository.uwa.edu.au/files/32357 41/Lim_Kang_Li_2013.pdf.
- Liu, J. G., Yang, Z. H., Li, S. N., & Yu, C. R. (2018). A generative model for the collective attention of the Chinese stock market investors, PhysicaA512, 1175-1182. https://doi.org/10.1016/j.physa.2018.08.036.
- Luong, L. P., & Ha, D. T. T. (2011). Behavioural factors influencing individual investors' decision-making and performance: A survey at the Ho Chi Minh stock exchange [Master's thesis, Umea School of Business]. Digitala Vetenskapliga Arkivet. https://www.divaportal.org/smash/get/diva2:423263/FULLTEXT02.pdf.
- Mahastanti, L. A., & Hariady, E. (2014). Determining the factors which affect the stock investment decisions of potential female investors in Indonesia. International Journal of Process Management and Benchmarking, 4(2), 186-197. https://doi.org/10.1504/IJPMB.2014.060407.
- Malay Mail. (2017). Minister: 2.6 million students received PTPTN loans between 1997-2016. https://www.malay mail.com.
- Mansor, M. I., & Lim, C. F. (1995). Profile of individual investors in the Kelang Valley area. Capital Markets Review, 3(1), 1-16.
- Muhammad, N. M. N., & Abdullah, M. (2009). Investment decision-making style is Malaysian investors rational decision-makers?. Interdisciplinary Journal of Contemporary Research Business, 1(3).
- Muhammad, N. M. N., & Abdullah, M. (2009). Investment decision-making style: are Malaysian investors rational decision-makers? Interdisciplinary Journal of Contemporary Research in Business, 1(3), pp. 96-108.
- O'Brien, L. N. (1979). Sex, ethnicity and the professions in West Malaysia: Some preliminary considerations. Akademika, 14, 31-42.

Vol. 11, No. 18, TiBECVII 2021, 2021, E-ISSN: 2222-6990 © 2021 HRMARS

- Perren, M., Faseruk, A., & Cooper, T. (2015). Making sense of behavioural finance. Journal of Business Diversity, 15(1), 14-23.
- Queiri, A., Dwaikat, N., & Yelwa, H. (2016). Generation Y's work values and fit assessment: A study in the Malaysian context. Journal of Southeast Asian Research, 1-10. https://doi.org/10.5171/2016.346903.
- Ramayah, T., Soto-Acosta, P., Colomo-Palacios, R., Gopi, M., & Popa, S. (2014). Explaining the adoption of Internet stock trading in Malaysia: Comparing models. Asian Journal of Technology Innovation, 22(1), 131-151. https://doi.org/10.1080/19761597.2013.873110.
- Sarwar, A., Afaf, G., & McMillan, D. (2016). A comparison between psychological and economic factors affecting individual investor's decision-making behaviour. Cogent Business & Management, 3(1), 1-18.
- Saxena, N., & Ahuja, A. (2018). Investors decisions in Indian stock market Effect of herd behaviour. International Journal of Trend in Scientific Research and Development (IJTSRD), 2(4), 2456-6470.
- The Edge Markets. (2018). Cover story: Attracting millennials to the stock market. http://www.theedgemarkets.com/article/cover-story-attracting-millennialsstock-market
- Tversky, A., & Kahneman, D. (1974). Judgement under uncertainty: Heuristics and biases. Science, New Series, 185(4157), 1124-1131.
- Virigineni, M., & Rao, M. B. (2017). Contemporary developments in behavioural finance. International Journal of Economics and Financial Issues, 7(1), 448-459.
- Wen, G. H. (2018). Malaysian Bourse. Hong Leong Investment Bank (HLIB) Research. http://www.bursamarketplace.com/mkt/tools/research/ch=research&pg=research&a c=547687&bb=559452.
- Zhang, T. (Christina), Abound Omran, B., & Cobanoglu, C. (2017). Generation Y's positive and negative eWOM: Use of social media and mobile technology. International Journal of Contemporary Hospitality Management, 29(2), 732-761. https://doi.org/10.1108/IJCHM-10-2015-0611.