Behavioral Modeling of Retail Investment Decisions in Malaysia: Toward an Ethically Integrated Knowledge Framework

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ABSTRACT

This study aimed to model the investment decision-making behavior of retail investors in Malaysia, addressing the increasingly important role these investors play in the financial market. To gather relevant data, a comprehensive questionnaire was administered, resulting in a sample size of 255 respondents, ensuring a robust representation of retail investor perspectives. The analysis utilized descriptive analysis to outline the characteristics of the respondents, followed by correlation analysis to explore the relationships among various influencing factors, and multiple regression analysis to determine the extent of their impact on investment decision-making. The findings revealed that several key factors significantly influence the investment behaviors of retail investors. Specifically, capital gains, cash dividends, and recommendations from trusted advocates were found to have a strong positive influence on the decision-making process. This underscores the importance of financial returns and social validation in the investment choices made by these individuals. Conversely, the study also indicated that the firm image does not have a considerable impact on the behavior of retail investors, suggesting that investors may prioritize immediate financial incentives and personal recommendations over corporate reputation.This research contributes valuable insights into the preferences and motivations of retail investors in Malaysia, providing essential information for financial advisors, policymakers, and firms aiming to engage effectively with this segment of the market. Understanding these behavioral factors can enhance practices within the investment community and foster a more supportive environment for retail investors.

KEYWORDS

Retail Investors; Investment Decision-Making; Capital Gains; Advocate Recommendations

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1. Introduction

Investment decision-making in stocks is a complex process since it is conducted under uncertain conditions (Jaiyeoba et al., 2018). The investor must analyze different types of stocks by using various kinds of methods and information before investing in a stock (Nofsinger, 2014). Traditional financial theories assume that all participants in the market are rational and the capital market itself is efficient and perfect (McMahon, 2006). However, the opposition claims that all participants are influenced by the physiological factor, in other words, are imperfectly rational (Nofsinger, 2014). This is true in real life; the investor does not always follow the traditional financial theory to decide. The investment decision-making behavior and investment strategy of a retail investor are unique (Jaiyeoba et al., 2018). Moreover, retail investors are investing their funds for various purposes; some may be eager to achieve capital gains, while others may pursue a stable income, such as a cash dividend (Pokharel, 2018). The scholar Statman (2011) has provided a similar opinion: the investment decision usually depends on the investor's social class, preferences, and wants. Furthermore, the decision-making of retail investors has been influenced by demographic factors such as age, gender, education level, income level, and others (Jain & Mandot, 2012).

Furthermore, retail investors are the backbone of the capital market; they channel their funds or savings into the financial market to fulfil the needs of corporations (Gour, 2013). As one of the major suppliers of funds, this indicates that retail investors in Malaysia have a certain level of influence on the stock market. Hence, the position of retail investors should be a concern for the public, government, firms, and researchers alike. However, the study on retail investors has been overlooked by most scholars. According to Imran and Tariq (2013), previous studies have mainly focused on institutional investors (such as Investment banks, mutual funds, and investment funds), while paying less attention to the retail investor side. Moreover, they note that most of these studies are conducted in the context of developed countries, while relatively little attention has been paid to developing countries. In Malaysia, there are very few studies on retail investor behavior. Muhammad and Abdullah's (2009) study on Malaysian retail investor decision-making style and behavior only scoped into the Klang Valley area, which does not represent the overall opinion of retail investors in Malaysia (Jamal et al., 2014).

Furthermore, the controversy in this research field stemmed from the differing findings that researchers obtained (Jagongo & Mutswenje, 2014). For instance, Baker and Haslem (1974) found that cash dividends, the firm's financial stability, and expected returns influence the process of retail investor choice. Then, Pokharel (2018) claims that retail investors prefer stocks that

provide high liquidity and a high rate of return, which suggests that investor behavior is influenced by liquidity and the potential return of the stock. Hence, different studies have different findings, that retail investor behaves in their own ways. The difference in socio-demographics, beliefs, values, and so forth will result in different outcomes. Therefore, the findings from other countries cannot represent the context of Malaysia. To overcome this issue, a study on retail investors throughout Malaysia is needed to provide insight into the Malaysian context.

2. Literature Review

Lall (2016) highlighted that financial theories, such as the Capital Asset Pricing Model (CAPM) and the Modern Portfolio Theory, have been implemented by scholars to analyze investment performance. The theory assumes that the investor acts rationally and takes into account all available information in the decision-making process, thereby ensuring the market is efficient. The price of the asset has fully reflected all available information. However, further study found massive evidence about investors' irrationality and repeated errors in judgment, and hence, behavioural finance has been introduced to understand investor behaviour and decision-making processes in the field of investment.

P.H. and Uchil (2020) confirm that investors rely on their sentiment when making investment decisions. Furthermore, their findings indicate that investor sentiment has been influenced by media factors, social interactions, and advocate recommendations, and hence, investment decision-making will be affected. In this regard, related studies reported in the literature suggest that investors' investment decisions are influenced by their investment behavior (S.S.N. & Menon, 2018). As illustrated in Figure 1 below.
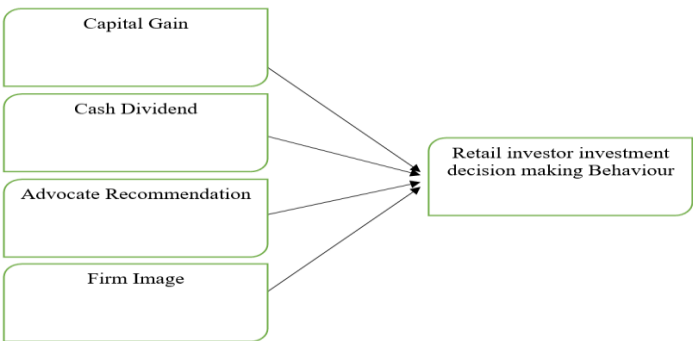

Figure 1. Research Framework

In other words, the capital gain, payment of dividends, advocacy recommendation, and firm image will affect retail investors' investment decision-making behavior (Qadri et al., 2020).

Capital gain

Capital gain can be classified as the gain generated from the price difference of the share. In a previous study, most findings indicate that retail investors have a strong preference for capital gain and capital appreciation (Haque et al., 2016). According to Porkharel (2018), one of the significant challenges faced by retail investors is the decision between a firm that offers high dividend income or a firm with high potential for future capital gains. The study identifies the preferences of Bangladesh's retail investors in the Nepalese stock market, using 50 samples, and concludes that capital gain is one of the most critical motivations for retail investors to trade stocks in Bangladesh. The results show that 23% of respondents indicated that capital gains are their primary objective for investing in NEPSE (the Bangladesh stock market), which was selected the most often. In the IPO market, capital gains are also a key factor in triggering the investment willingness of retail investors, as agreed by 44% of respondents in Bangladesh. The survey proved that most retail investor prefers the money coming in immediately, just like the income generated from capital gain, which is possible to realize at any time (Haque et al., 2016). There is considerable evidence that suggests capital gain/appreciation is one of the most important factors for retail investors when selecting a stock to invest in. The study conducted in India also shows that capital appreciation is one of the most important investment objectives for India's retail investors (Swamynathan, 2017).

Gour (2013) examines the retail investor behavior toward the securities market in Rohtak City by collecting data from 100 retail investors. The study concluded that most of the retail investors in Rohtak City invest in the share market for capital growth. From other points of view, they are risk-takers and seek shares with a high potential of capital appreciation and short-term capital gain. Furthermore, surveys conducted in Singapore show that the majority of Singaporeans invest in the stock market for capital growth purposes (Seetharaman et al., 2017). All of these phenomena can be explained by the findings of Lease et al. (1974). They claim that retail investors are mainly focused on shares that could offer long-term capital appreciation and have little interest in short-term gains (Lease et al., 1974). This is true for retail investors, who invest in shares in a long-term manner and look for long-term gains, which differs from the trader's approach, who prefer holding periods.

Furthermore, some demographic factors have also influenced the investment decision-making behavior of retail investors. According to Haque

et al. (2016), those with a high education level will have a greater tendency to capital gain share. However, age, income level, and investment amount will have a negative relationship with the preference for capital gain. Meaning that younger investors or those with a low income level and a low investment amount care more about capital gain. Research conducted in Malaysia shows that most Malaysian retail investors place the highest preference for stocks with a high profit margin (Khan et al., 2016). Bayrakdaroglu et al. (2017) identify the relationship between the share price and profitability ratio. They concluded that a 1% increase in net profit margin will result in a 1.32%-1.86% increase in share price, indicating a positive relationship between the share price and net profit margin. Moreover, Khan et al. (2016) also indicate that most retail investors prefer stocks with high earnings. It is an interesting finding since the earnings of the share have a significant impact on the stock price (Hunjra et al., 2014). In other words, the higher the earnings, the higher the share price. Hence, the finding indirectly suggests that retail investors have a strong preference for the capital gain share, making it a key factor influencing their investment decision-making behavior.

H1: The capital gain has a significant influence on the retail investor's investment decision-making behavior in the Malaysian stock market.

Cash Dividend

A dividend is a payment that the listed company distributes to the shareholder as a form of cash or other assets, which the investor has treated as the investment return (Livorek et al., 2014). According to Aroni et al. (2014), the dividend is one of the variables that will influence investor behavior while making an investment decision in stock. This variable, especially, has a significant influence on investors who are eager to receive periodic income from their investment, such as retirees. Their findings revealed a significant correlation between dividend payouts and retail investor investment behavior in the National Stock Exchange of India Ltd. (NSE) market. Thus, the retail investor in Kenya will choose the firm that guarantees the dividend payment. Apart from personal needs, a firm with stable dividend payments reflects profitability and a strong financial status, making it a worthwhile investment. Moreover, the information signaling theory suggests that to avoid reducing dividend payments, managers initially prefer a low payout ratio and subsequently increase it when the firm can afford to do so. Hence, the retail investor believes that the dividend payment can reduce the asymmetric information effectively. Hence, dividend payment is crucial for retail investors (Brealey et al., 2005).

According to Brav et al. (2005), some financial executives believe that most retail investor has a preference for cash dividends, and the preference for cash dividends could not be affected by the personal tax rate substantially. Furthermore, the finding also clarifies that the grey-hair set is one of the dividend lovers among retail investors. In other words, the preference for cash dividends varies due to the age difference. Miller and Modigliani (1961) also suggest that dividend preference is influenced by age and income level. The findings indicate that young investors prefer a low dividend share, whereas retired investors prefer a share with a high dividend payout ratio. According to Graham and Kumar (2006), if we treat retail investors as a group, they prefer a non-dividend stock rather than a dividend stock. However, there are different classes of retail investors within the group in terms of age or income. The older investor with a low income preferred a stock that paid dividends. Moreover, the preference for cash dividends varies due to the level of tax incentive and the extent to which it aligns with consumption preferences.

Maditinos et al. (2007) examined investors' perceptions of dividends in Greece. Their finding concludes that retail investors invest in shares and obtain the return for final consumption purposes. An investor in Greece treats the cash dividend as a salary or a single uniform amount and uses it for consumption purposes. Therefore, the cash dividend has influenced the decision-making behavior of the investor because the amount of the cash dividend has determined the purchasing power. In addition, the scholars conducted a test on signaling theory, which found that retail investors in Greece believe that variations in dividend payments provide a signal regarding the firm's prospects. Thus, dividend payments play a key role in the decision-making behavior of Greek retail investors.

Furthermore, the role of cash dividends among retail investors can be recognized by observing the trading activity on the salient dividend event. Graham and Kumar (2006) observe that retail investors engage in buy-and-sell transactions before and after dividend events. First, the finding shows that most retail investors are active before, on, and after the ex-dividend date. However, if we look at the different classes of investors, most old retail investors tend to buy shares before the ex-dividend date. In contrast, the young retail investor prefers to buy the shares after the dividend is paid. Second, low-income retail investors are aggressively pursuing dividend shares before and even after the ex-dividend date. Thirdly, the findings show that older and low-income retail investors tend to purchase high-dividend-yield stocks before the declaration of the cash dividend. In short, the cash dividend plays a crucial role in decision-making behavior, particularly for older and low-income retail investors.

According to Haque et al. (2016), the positive relationship between age and preference for dividend shares is because the investment objective of an older person is to construct a portfolio with safety and regular income. It indicates that older investors are more risk-averse, which is consistent with Graham and Kumar (2006). However, the finding suggests that retail investors with a high income level tend to prefer high-yield dividend shares because they are risk-averse. It could be because the high-income investor is unwilling to expose their wealth to risk, unlike the low-income investor, who has nothing to lose.

H2: The cash dividend has a significant influence on the retail investor's investment decision-making behavior in the Malaysian stock market.

Firm Image

The firm image can be defined as the value of the firm, the position in the related industry, business activity, company stability, and so forth (Ong et al., 2019). The reputation and ethical practices of a firm will have a significant influence on the decision-making behaviour of potential investors. According to Akhter and Ahmed (2013), the company's reputation, business performance, firm status, customer satisfaction with the firm's goods and services, and the company's involvement in addressing community issues have influenced investor decision-making behaviors. They also point out that retail investors are not willing to invest in a stock in which the corporation has been involved in unfavourable activities, such as immoral practices.

Ackert and Church (2006) highlighted that the decision-making behavior of retail investors has been influenced by news reports, magazine articles, and so forth. The content of these media has become the source of the formation of the mental image of the particular firms. The salient information or compelling information could induce an affective reaction in the investor, thereby affecting the investor's perception of the firm. If the salient information reflects a positive image of the firm, then investors tend to have a positive bias towards the firm during the evaluation process. The survey also shows that investors are more willing to invest in a stock with a positive firm image and strongly avoid investing in a stock with a negative firm image. Thus, the firm image has a significant impact on the retail investor's investment decision-making behavior.

For instance, a firm with a high reputation could sustain the high Beta as well as high risk. On the other hand, if reputation becomes one of the elements to value the perceived risk of a firm, a hihigh-reputationompany could be

chosen because it refhigh-reputationk image to the invelow-riskthe other hand, even though the performance of two or more firms is the same, the one with a high reputation will be perceived as having a lower risk so that it will be more preferred by the investor. Moreover, investors are more willing to undertake higher risks as long as the corporation's reputation is high. Retail investors have avoided the low-reputation firm because its low reputation could indicate that a disaster is imminent, and the firm is more likely to suffer a devastating blow once the disaster strikes (Srivastava et al., 1997).

A survey conducted locally by Ong et al. (2019) shows that the firm image has a significant relationship with the behavior of retail investors. A similar study of retail investors in the Bombay Stock Exchange found 81.25% of retail investors indicated that the firm's image plays a key role in their decision-making process. In comparison, only 18.75% of respondents said the firm's image would not influence their decision-making. (Agarwal, 2020).

H3: The firm image has a significant influence on the retail investor's investment decision-making behavior in the Malaysian stock market

Advocate Recommendation

An advocate recommendation can be defined as a recommendation from brokerage houses, individual brokers, or recommendations from family members or friends (Chong & Lai, 2011). In the financial market, there are typically two types of information: fundamental information (e.g., accounting information) and rumors. Most retail investors in Pakistan make investment decisions based on the recommendations of stock brokerage houses. For instance, the study in Pakistan and Sri Lanka found that stock brokerage house, family members, pals, co-workers, and so forth has much more influence on retail investors' investment decisions rather than the accounting information (Akbar et al., 2016; Somathilake, 2020). Thus, retail investors are not always rational when making investment decisions, as social, religious, personal, and advisor recommendations often influence them. It is noteworthy that the retail investor's investment decision-making behaviour has been influenced by advocate recommendations significantly.

As a customer of a stock brokerage house, retail investors expect to receive professional services, such as investment advice and portfolio management (Akbar et al., 2016). Generally, retail investors believe that the advice provided by brokerage houses is more accurate and reliable (Ahmad, 2017). This report aligns with the findings of Renu et al. (2020) in a study on equity traders in Chennai, which collected data by distributing questionnaires to members of the Tamil Nadu Investors Association and customers of a prominent financial services firm. The respondents were asked to rank the recommendations from

professionals, family members, friends, and co-workers. The professional's recommendation found a mean of 3.36, which is the highest, but the family members' suggestion, and friend/co-worker recommendation found a mean of 2.99 and 2.95, respectively. As a professional, a stockbroker could obtain some insider information, so it is not surprising that retail investors tend to rely on the brokerage house (Mohamad et al., 2017). Hence, retail investors have more confidence in brokerage houses or professionals than in the recommendations of family members or friends (Ahmad, 2017).

H4: The advocate recommendation has a significant influence on the retail investor's investment decision-making behaviour in the Malaysian stock market.

3. Methodology

This research is based on a quantitative study using primary data. The data were collected through a questionnaire aimed at Malaysian retail investors. The questionnaire was distributed to the investment discussion group in Messenger, Facebook, WhatsApp, and Telegram, which is the most convenient way for the researcher. In these discussion groups, there are more than a thousand retail investors who come from different states to discuss the investment strategy, perspectives, opinions, and all other investing-related topics. Prior to the official distribution of the questionnaire, a pilot test was carried out.

According to the Research Advisors (2006), if the population size exceeds 1 million, 384 samples are required. Nonetheless, Hair et al. (2014) claim that a large sample size can cause the statistical significance to be overly sensitive, which could result in Type 1 error. Therefore, the minimum sample size of this study was set at 200 responses. Finally, the number of responses received from retail investors was 255, with no missing values.

There are two sections in the questionnaire, which include Section A: Demographic, and Section B: The factor that influences the retail investor's investment decision-making behavior (Capital gain, Dividend, Advocate recommendation, and Firm image). Section A is designed to gather the demographic or general information of the sample, which is helpful for analysis. Then, section B was designed to gather the data on the factor that influences the retail investor's investment decision-making behavior and the data to measure the decision-making behavior. The question was designed in the form of a Likert scale (1= Strongly disagree, 2= Disagree, 3=Neutral, 4= Agree, 5= Strongly agree). Before distributing the questionnaire, a pilot test was conducted to ensure the validity of the questions. The context of the

questionnaire referred to past studies in the related field, which were summarized in Table 1.

Table 1: Source of the questionnaire

Subjective Measurement (Variables)	Reference (questionnaire)
Capital Gain	Question 1: Swamynathan, S. (2017) Questions 2 & 3: Khan et al. (2016) Question 4: Ikeobi et al. (2016) Question 4: Obamayi (2013)
Cash Dividend	Question 1: Khan et al. (2016) Question 2: Maditinos et al. (2007) Questions 3 & 5: Kemal and Kashif (2018) Question 4: Dong et al. (2005)
Firm Image	Questions 1, 2, 3, 4, and 5: Akhter and Ahmed (2013)
Advocate Recommendation	Question 1: Akhter and Ahmed (2013) Questions 2,3,4&5: Bashir et al. (2013)
Investment Decision-making Behavior	Questions 1,2,3,4&5: Gill et al. (2018)

Once the data had been collected, the software IBM SPSS was used to process the data. The statistical data was presented in the form of a graph or table. The normality test was first executed to measure the distribution of the data. To test the reliability of the collected data, Cronbach's Alpha was employed, the most widely used method for measuring internal reliability (Ahmad, 2017). Descriptive analysis, regression analysis, and correlation analysis were used to analyze the collected data. The descriptive analysis method was adopted by Bashir et al. (2013). Furthermore, the multiple linear regression analysis and Pearson correlation analysis methods were adopted by Ong et al. (2019). Finally, the hypothesis test was based on the result of regression analysis because this method considers the impact of other variables, which can provide a more reasonable result.

4. Discussion
Profile of Respondent

The profiles of the research respondents are shown in Table 2. The research involved a total of 255 respondents from the retail investor sector. Table 1 shows that 196 of the respondents were male, which represented 76.9%, whereas the female respondents were relatively fewer, which only contained 59 people (or 23.1%). This could indicate that the male is more interested in the stock market. Most of the respondents fall under the group of 21-30, which represents 42.4%. The second-highest group was 31-40 (27.1%), then the third-highest and fourth-highest are above 50 (15.3%) and 41-50 (11.4%), respectively. Lastly, the group with the fewest respondents was those below 21, representing only 3.9%. The result indicates the young generation is more interested in the field of stock investment. Nevertheless, it could also indicate that the young generation prefers to discuss investment-related topics online, as compared to middle-aged investors. In terms of marital status, 59.6% of the respondents are single, while 38.4% indicate their marital status. Only 2% of the respondents were under the divorced category.

Most respondents had 1-5 years or less than 1 year of investment experience in the stock market, which accounted for 35.3% and 32.9%, respectively. Then, 14.1% and 7.8% of the respondents have 6-10 years and more than 20 years of investment experience in the stock market. Lastly, the least number of respondents have 11-15 years or 16-20 years of investment experience in the stock market, which represents 5.5% and 4.3% respectively. Obviously, most of the respondents can consider themselves newbies in the Malaysian stock market. Based on the race proportion, it shows that 86.3% of the respondents were Chinese, which was the largest group in terms of the race category of the respondents. The Malays and Indians make up just 7.1% and 3.5% respectively. The least number of respondents fall under the group of others, which could be the "Orang Asli".

Table 2 also shows that most of the respondents were employed, which represents 45.5%. The students (25.1%) and self-employed individuals (15.7%) were the second and third-largest groups in terms of occupation among the respondents. The remaining categories do not differ significantly in terms of distribution. The retired, unemployed, other, and homemakers make up 5.5%, 3.5%, 2.7%, and 2.0% respectively. Most of the respondents come from Kuala Lumpur (22.7%), Selangor (22.4%), and Johor (22.0%). For the regions of Kelantan, Perlis, Terengganu, and Labuan, each has only one respondent (0.4%). Although there are only a few samples in some areas, it does not matter since the data already contains all Malaysians.

Table 2 Profiles of Respondents
n:255

Gender	%	Marital Status	%
Male	76.9	Single	59.6
Female	23.1	Married	38.4
Age		Divorced	2.0
Below 21	3.9	**Respondent's Stock Investment (Years)**	
21-30	42.4	Less than 1 year	32.9
31-40	27.1	1-5 years	35.3
41-50	11.4	6-10 years	14.1
Above 50	15.3	11-15 years	5.5
Race		16-20 years	4.3
Malay	7.1	More than 20 years	7.8
Chinese	86.3	**Occupation of the respondents**	
Indian	3.5	Student	25.1
Others	3.1	Employed	45.5
State		Self Employed	15.7
Johor	22.0	Housewife	2.0
Selangor	22.4	Unemployed	3.5
Kuala Lumpur	22.7	Retired	5.5
Kedah	1.2	Other	2.7
Kelantan	0.4	**Level of Education**	
Malacca	5.5	SPM/UEC and below	8.2
Negeri Sembilan	3.1	Diploma/Foundation	16.5
Pahang	1.6	Bachelor's degree	62.4
Pulau Pinang	7.5	Master and above	12.9
Perak	4.3	**Monthly Income**	
Perlis	0.4	No income	23.1
Sabah	2.0	Less than RM1000	8.6
Sarawak	3.9	RM1000 to RM3000	10.6
Terengganu	0.4	RM3000 to RM5000	14.5
Labuan	0.4	RM5000 to RM7000	12.9
Putrajaya	2.4	RM7000 and above	30.2

Besides that, the collected data shows that most of the respondents were highly educated. For instance, 62.4% of the respondents hold a bachelor's degree, 16.5% have completed a diploma or foundation course, and 12.9% have at least a master's degree. Additionally, only 8.2% of the respondents fall under the category of "SPM/UEC and below." Hence, it could indicate that most retail investors are highly educated individuals. The monthly income of 30.2% of respondents is at least RM7,000. Furthermore, 14.5% and 12.9% of the respondents fall under the groups of "RM3,000 to RM5,000" and "RM5,000 to RM7,000", respectively. Additionally, the low-income group also includes many respondents. 23.1% of the respondents reported having no income, while the monthly income of 8.6% of the respondents was less than RM1,000. Both the high-income and low-income groups contain many respondents, which could be due to the age and education level distribution of the respondents.

Normality Test

The analysis method employed throughout this study falls under the category of parametric tests. Hence, the normality test was conducted to find out the distribution of the data. The normality test was conducted on the collected samples (based on age) and on both independent and dependent variables. The box plot was used to observe the distribution of the respondents' ages. The box plot for the age of respondents (Figure 1) shows a symmetric form, which indicates the distribution is considered normal. Thus, the collected data is usually distributed in terms of age.
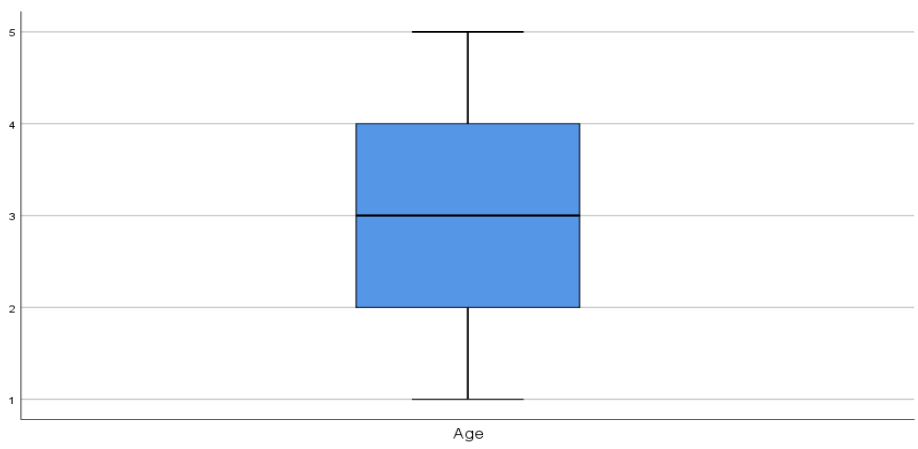

Figure 1: Box plot for the age of respondents

The normality test was also applied to the independent and dependent variables. Before running the test, the questions were combined to form a

variable (e.g., the five questions that fall under capital gain were combined to form a variable). Then, the Z-score of the sum variable was calculated to run the normality test. On average, the Q-Q plot shows that the normality rate of the variables is about 67%. Since all the questions were designed in the form of a Likert scale, the distribution of the overall data can be considered approximately normal. Thus, the parametric test can be applied.

Cronbach's Test (Reliability Test)

Table 3 shows that Cronbach's Alpha, used to measure the reliability of the data, indicates the reliability of capital gain, cash dividend, firm image, advocate recommendation, and investment decision-making behavior to be 0.673, 0.822, 0.833, 0.851, and 0.564, respectively. The overall reliability has been demonstrated by a Cronbach's Alpha of 0.900. According to Ahmad (2017), an Alpha greater than or equal to 0.5 is acceptable, which indicates the good reliability of the questions/data. Thus, Cronbach's Alpha indicates that these categories are reliable.

Table 3 Cronbach's Test (Reliability Test)

Variables	Cronbach's Alpha	Items
All variables	0.900	25
Capital Gain	0.673	5
Cash Dividend	0.822	5
Firm Image	0.833	5
Advocate Recommendation	0.851	5
Investment Decision-Making Behavior	0.564	5

Descriptive Statistics

Table 4 shows the descriptive statistics of the four categories of the independent variable (Sum capital gain, Sum cash dividend, Sum firm image, and Sum advocate recommendation). Each categorized variable consists of 5 Likert-scale questions, ensuring that the minimum and maximum scores are 5 and 25, respectively. The results show that the means of capital gain, cash dividend, firm image, and advocate recommendation are 20.2902, 17.5686, 19.6392, and 15.4118, respectively. Four of the mean factors are above the neutral level (15). Based on the findings, the capital gain has more influence on retail investor investment decision-making behavior, whereas the advocate recommendation has relatively the least influence as well. The order, according to the size of the mean, is as follows: capital gain, firm image, cash dividend, and advocate recommendation. However, the result only describes the data in an overall manner by combining the questions from each

categorized variable. Thus, descriptive statistics were conducted on each of the questions within the categorized variable to identify the influencing power individually.

Table 4: Descriptive statistics (The categorized group of independent variables)

Descriptive Statistics (Independent Variables)					
	N	Minimum	Maximum	Mean	Std. Deviation
Sum capital gain	255	5.00	25.00	20.2902	3.27994
Sum cash dividend	255	5.00	25.00	17.5686	4.40497
Sum firm image	255	5.00	25.00	19.6392	4.13017
Sum advocate recommendation	255	5.00	25.00	15.4118	4.77517
Valid N (listwise)	255				

Table 5 shows that most of the respondents agree that capital gain (2.1) is the factor that influences their investment decision-making behavior, with a mean of around 4.55. The rest of the questions concern preferences for a high profit margin ratio (2.2), high earnings per share stock (2.3), growth stock (2.4), and whether getting rich quickly is one of the significant investment objectives (2.5). Unsurprisingly, most of the respondents agree with these. The findings are consistent with past studies. Swamynathan (2017) finds that capital gain is a fundamental investment objective for retail investors. Khan et al. (2016) also found that retail investors have a high preference for firms with a high profit margin ratio and earnings per share, indicating that both profit margin and earnings per share influence the investment decision-making of retail investors. According to Mirgen and Kuyu (2017) and Hunjra et al. (2014), these two factors have a positive relationship with capital gain. Therefore, the preference for a high profit margin or earnings per share is a preference for capital gain stocks. Moreover, Ikeobi et al. (2016) also found that the growth potential of a firm influences the investment decision-making of retail investors. Lastly, Obamayi (2013) found that getting rich quickly is also a factor that influences the investors' investment decision-making.

Table 5: Descriptive statistics for capital gain

		2.1	2.2	2.3	2.4	2.5
Capital Gain						
N	Valid	255	255	255	255	255
	Missing	0	0	0	0	0
Mean		4.55	4.14	3.87	4.40	3.34
Median		5.00	4.00	4.00	5.00	3.00
Mode		5	4ª	4	5	3
Std. Deviation		.802	.883	1.051	.858	1.303
Minimum		1	1	1	1	1
Maximum		5	5	5	5	5
Sum		1159	1055	987	1122	851
a. Multiple modes exist. The smallest value is shown						

*The questions have been attached to the appendix

Table 6 shows that many respondents agree that cash dividend (3.1) is the factor influencing their investment decision-making behavior, with a mean of 65. Kofn et al. (2016) also found that retail investors prefer stocks with cash dividends. The questions also ask whether the firm that declares the cash dividend payment reflects the future performance (3.2), is less likely to cook the books (3.3), and is less risky (3.5); if they agree with these statements, will it influence their investment decision-making? The respondents agreed on all the questions because the mean is above 3. The result of question 3.2 is consistent with the finding of Maditinos et al. (2017).

Furthermore, the results of questions 3.3 and 3.5 are also consistent with the findings of Kemal and Kashif (2018). The importance of cash dividends for consumption purposes (3.4) was also tested. More than half of the respondents indicated that they would sell the stock if the firm decided not to pay the dividend in the future, which is inconsistent with the finding of Dong et al. (2005). According to Jagongo and Mutswenje (2014), the controversy in this research field is the different findings made by researchers. This could be because retail investors behave differently in different countries.

Table 6: Descriptive statistics for the cash dividend

		Cash Dividend				
		3.1	3.2	3.3	3.4	3.5
N	Valid	255	255	255	255	255
	Missing	0	0	0	0	0
Mean		3.65	3.62	3.62	3.44	3.24
Median		4.00	4.00	4.00	3.00	3.00
Mode		4	4	4	3	3
Std. Deviation		1.118	1.119	1.137	1.141	1.245
Minimum		1	1	1	1	1
Maximum		5	5	5	5	5
Sum		932	924	923	876	825

*The questions have been attached to the appendix

Table 7 shows the descriptive statistics on the firm image. The respondents were asked whether their feelings about the firm's products and services (4.1), reputation in terms of business performance (4.2), status/position in the industry (4.3), ethical practices (4.4), and corporate social responsibility (4.5) influence their investment decision-making. The finding indicates that all these variables have influenced investor investment decision-making since the means are above the neutral level. The results of questions 4.2, 4.3, and 4.4 are in line with the findings of Akhter and Ahmed (2013), whereas the rest of the questions, which are questions 4.1 and 4.5, are inconsistent with them. Again, this could be because retail investors behave differently in different countries.

Table 7: Descriptive statistics for firm image

		Firm Image				
		4.1	4.2	4.3	4.4	4.5
N	Valid	255	255	255	255	255
	Missing	0	0	0	0	0
Mean		3.96	4.21	4.13	3.82	3.52
Median		4.00	4.00	4.00	4.00	4.00
Mode		4	5	5	4	4
Std. Deviation		1.058	.949	1.001	1.108	1.200
Minimum		1	1	1	1	1
Maximum		5	5	5	5	5
Sum		1009	1074	1053	974	898

*The questions have been attached to the appendix

Table 8 shows the descriptive statistics on advocate recommendations. The respondents were asked whether the market trend/rumors (5.1), broker recommendations (5.2), family member opinions (5.3), friend/co-worker recommendations (5.4), and the opinions of the firm's majority shareholders (5.5) influence their investment decision-making. The findings show that market trends/rumors (5.1) have influenced retail investor investment decision-making behavior, which is inconsistent with the findings of Akhter and Ahmed (2013). Chhapra et al. (2018) explained that some retail investors invest in rumors because they are irrational. The finding also shows that the opinion of the majority shareholders of firms (5.5) has influenced the investment decision-making of the investor; this finding is consistent with Arslanturk Collu (2018).

Furthermore, the broker recommendation (5.2), family member opinion (5.3), and friend/co-worker (5.4) recommendations have not influenced the power of the retail investor's investment decision-making process. The findings of questions 5.3 and 5.4 are consistent with Hassan Al-Tamimi and Anood Bin Kalli (2009). However, question 5.2 is inconsistent with most of the past findings, which indicate that Malaysian retail investors have little faith in broker advice.

Table 8: Descriptive statistics for advocate recommendation

Advocate Recommendation						
		5.1	5.2	5.3	5.4	5.5
N	Valid	255	255	255	255	255
	Missing	0	0	0	0	0
Mean		3.44	2.87	2.71	2.97	3.43
Median		4.00	3.00	3.00	3.00	4.00
Mode		4	3	3	3	4
Std. Deviation		1.212	1.219	1.234	1.203	1.164
Minimum		1	1	1	1	1
Maximum		5	5	5	5	5
Sum		877	731	691	757	874

*The questions have been attached to the appendix

Table 9 shows the descriptive statistics for the retail investor's investment decision-making behavior by summing up the scores obtained from the related questions. The mean is found as 17.5098, which is above the neutral level (15). Thus, the result is consistent with the findings of Gill et al. (2018). To examine the effect of individual questions, descriptive statistics were conducted on each of the questions.

Table 9: Descriptive statistics (Categorized group of the dependent variable)

Descriptive Statistics (Dependent Variable)					
	N	Minimum	Maximum	Mean	Std. Deviation
Sum investor investment decision-making behavior	255	5.00	25.00	17.5098	3.45256
Valid N (listwise)	255				

Table 10 shows the descriptive statistics on the dependent variable. The question was adopted by Gill et al. (2018), whose purpose is to measure the retail investor's investment decision-making behavior. The results show that more than half of the respondents will examine the risk associated with the stock before investing in it (6.1). Moreover, most respondents will ensure their investment has a high degree of safety (6.2), which indicates that most retail investors are risk-averse. To further understand retail investor behavior, the questions also examine the trading patterns and behaviors of retail investors. The results indicate that most respondents are eager to realize the gain as soon as possible (6.4, 6.5). In other words, most retail investors prefer to realize short-term gains by foregoing long-term gains, as they are unwilling to bear the risk of loss. The researcher also examines the perspective of retail investors toward the risk of local stock and foreign stock. The result shows that most of the respondents disagreed that investment in foreign stocks is riskier than local stocks. Thus, Malaysian retail investors tend to accept both foreign and local stocks if there are some gaining opportunities.

Table 10: Descriptive statistics for investor investment decision-making behavior

Investor investment decision-making behavior		6.1	6.2	6.3	6.4	6.5
N	Valid	255	255	255	255	255
	Missing	0	0	0	0	0
Mean		4.17	3.96	3.29	2.93	3.15
Median		4.00	4.00	3.00	3.00	3.00
Mode		4	4	3	3	3
Std. Deviation		.910	.963	1.218	1.331	1.236
Minimum		1	1	1	1	1
Maximum		5	5	5	5	5
Sum		1064	1010	840	748	803

*The questions have been attached to the appendix

Pearson Correlation Analysis

Table 11 shows the association between the independent variables (Capital Gain, Cash Dividend, Firm Image, and Advocate Recommendation) and the dependent variable (Investment Decision Making Behavior). The result shows that capital gain is significantly positively correlated with investment decision-making behavior ($r=0.519$, $p<0.05$). Second, the cash dividend has a significantly positive correlation with investment decision-making behavior ($r = 0.519$, $p < 0.05$). Third, the firm image has a significantly positive correlation with investment decision-making behavior ($r=0.401$, $p<0.05$). Lastly, the advocate recommendation has a significantly positive correlation with investment decision-making behavior ($r=0.543$, $p<0.05$). Thus, all independent variables have a positive correlation with the dependent variable.

Table 11 Pearson Correlation Analysis

Correlations		Capital Gain	Cash Dividend	Firm Image	Advocate Recommendation	Investment Decision-Making Behavior
Capital Gain	Pearson Correlation	1	.449**	.547**	.437**	.519**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	255	255	255	255	255
Cash Dividend	Pearson Correlation	.449**	1	.518**	.411**	.519**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	255	255	255	255	255
Firm Image	Pearson Correlation	.547**	.518**	1	.311**	.401**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	255	255	255	255	255
Advocate Recommendation	Pearson Correlation	.437**	.411**	.311**	1	.543**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	255	255	255	255	255
Investment Decision-Making Behavior	Pearson Correlation	.519**	.519**	.401**	.543**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	255	255	255	255	255

**. Correlation is significant at the 0.01 level (2-tailed).

Multiple Regression Analysis

Table 12 shows the result of the multiple regression analysis. The multiple regression analysis was used to examine the relationship between capital gain, cash dividend, firm image, and advocate recommendation with the retail investor investment decision-making behavior. In other words, the regression analysis examines how one variable influences another. All the coefficients show a positive figure, which indicates that all independent variables positively affect the dependent variable. The direction of the coefficients gathered from regression analysis is consistent with the results from correlation analysis (Table 11).

Table 12 Multiple Regression Analysis

Coefficients					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	4.592	1.059		4.337	.000
Capital Gain	.258	.063	.245	4.075	.000
Cash Dividend	.204	.046	.260	4.465	.000
Firm Image	.028	.050	.033	.551	.582
Advocate Recommendation	.231	.039	.319	5.892	.000

a. Dependent Variable: Investment Decision Making Behavior

Furthermore, the significance level of the firm image is 0.582, which is more than 0.05. It indicates that firm image has no significant influence on retail investor investment decision-making behavior. However, the significant value of capital gain, cash dividend, and advocate recommendation is 0.000, which is lower than the 0.05 significance level. It indicates that the rest of the independent variables (capital gain, cash dividend, and advocate recommendation) have a significant influence on retail investor investment decision-making behavior. The outcome is consistent with correlation analysis except for one independent variable, the firm image. This is because the multiple regression analysis considers the effect of other variables, not only the relationship between 2 variables. Thus, the result obtained from multiple regression has been used by the researcher.

Hypotheses Test

Table 13 shows that there is a significantly positive relationship between capital gain, cash dividend, and advocate recommendation with the retail investor's investment decision-making behavior. Thus, the H1, H2, and H4 were accepted by the researcher (the null hypotheses 1, 2, and 4 were rejected by the researcher). On the other hand, the hypothesis test also indicates a positive, yet insignificant, relationship between firm image and retail investor investment decision-making behavior. Hence, the H3 was rejected by the researcher (null hypothesis 3 was not rejected).

Table 13 Hypotheses Test

Hypotheses	Regression Result	Significant Level	Accept/Reject
H1: The capital gain has a significant influence on the retail investor investment decision-making behavior in Malaysia stock market	Positive Significant	0.000	Accept
H2: The cash dividend has a significant influence on the retail investor investment decision-making behavior in Malaysia stock market	Positive Significant	0.000	Accept
H3: The firm image has a significant influence on the retail investor investment decision-making behavior in Malaysia stock market	Positive insignificant	0.582	Reject
H4: The advocate recommendation has a significant influence on the retail investor investment decision-making behavior in Malaysia stock market	Positive Significant	0.000	Accept

5. Discussions of findings

This study aims to identify the factors that influence the investment decision-making behavior of retail investors in the Malaysian stock market. To scope down the area of study, the paper identifies whether capital gain, cash dividend, firm image, and advocate recommendation have a significant influence on retail investor investment decision-making behavior. The findings found that capital gain, cash dividend, and advocate recommendation

have a significant influence on retail investor investment decision-making behavior. According to Porkharel (2018), retail investors face a trade-off between high-dividend income stocks and firms with high potential for capital gains. Our findings clarify that most retail investors have a preference for both cash dividends and capital gains. On the other hand, Malaysian retail investors tend to pursue shares for a combination of capital growth and cash dividends. Thus, the high-growth firm should offer a reasonable cash dividend to attract more retail investors.

Besides that, our findings also show that the advocate recommendation will influence investor behavior, but only a few types of recommendations have been considered by retail investors. Based on the result from the descriptive statistic, only market trends (rumors) and the opinion of the firm's majority shareholder were accepted by the retail investor. The broker recommendation has not been welcomed by the retail investor, which is out of the expectation. Based on past studies, retail investors perceive the brokerage house as a professional entity with accurate and reliable information sources, making them highly dependent on broker advice (Ahmad, 2017; Akbar et al., 2016). This indicates that the credibility of a broker in Malaysia is extremely low compared to foreign countries, which could be because most local investors have suffered from the broker's advice. The broker firm should enhance its credibility by providing helpful information and assistance to the retail investor, thereby restoring their confidence level. Additionally, this suggests that retail investors in Malaysia are irrational, as their decision-making has been influenced by advocacy recommendations (Imran & Tariq, 2013). Lastly, our findings show that the firm image has positively engaged with investment decisions, but has not had a significant influence on retail investor investment decision-making behavior

6. Conclusion of the study

The implications of the study for retail investors, listed firms, governments, and stockbrokers are enormous. Firstly, the study provides retail investors with insights into how others invest their money in the stock market, which is especially useful for rookie investors. On the other hand, the study provides a guideline for a rookie investor in terms of how to start in the stock market. Secondly, it provides insight into the behavior of retail investors for a listed firm, allowing the firm to construct attractive policies that attract retail investors. Thirdly, the government agency can understand the retail investor's behavior, which is crucial for building a genuine policy. Ultimately, stockbrokers can offer tailored information and support to retail investors based on their individual preferences.

Some limitations should be noted. The study does not divide retail investors into different segments (e.g., age, income level) when identifying their decision-making behavior; instead, it only shows how overall retail investors behave. Thus, the findings are unable to reflect the decision-making behavior of retail investors with different socio-economic characteristics. Moreover, the study only includes four independent variables, which are not comprehensive; thus, the findings only indicate a small portion of decision-making behavior.

Further studies should investigate the relationship between stock returns and retail investor behavior to determine which behaviors contribute to high investment returns. It can enhance the reference value of the finding. The decision-making behavior of retail investors with different socio-economic characteristics can also be included in the analysis. More independent variables can be tested in the study to yield a more comprehensive result.

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