Decision-Making Style and Investment Success of Retail Investors in Malaysia

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Abstract

Since the past three decades, numerous contributions have been made by the traditional finance proponents in assisting investors making good investment decisions assuming that they are rational decision makers, and unbiased in predicting the future. Nevertheless, proponents of behavioural finance always argued that people do act in irrational manner and often make predictable errors in their forecasts thus violated these assumptions. Market anomalies and crashes are some of the examples that explain the existence of psychological bias that lead to inefficient outcomes. When come to investing, different investors would have different investment style and strategy, depending on their objectives. Some don't even have strategy and would rather ask for 'hot tips' or listening to rumours. Prior studies revealed that some investors would prefer listening to strangers when the stock is fundamentally strong and consistent with their investment goals. This consequently would affect their investment objectives, causes mispricing, discourage trading among market participants and contribute towards market inefficiencies. Thus, in line to address this gap, the main objective of this research is to study the factors that influence investors' decision-making style and investment success. The research framework is adopted from Muhammad and Abdullah (2009), which suggested that investors' decision-making style and investment success could be influenced by the ability to analyze the environmental, financial and economic information (i.e rational manner) and individuals' emotions and frame of references (irrational manner). The research identified that investors' decision-making style is heavily influenced by financial analysis in which contributes towards their investment decision success. In other words, investors are rational when making decision investing in the capital market. On the other hand, other variables do not show any significant relationship with the dependant variable.

Field of Research: behavioural finance, decision-making style, prospect theory, efficient market hypothesis

1.0 Introduction

One widely accepted propositions in traditional finance theory is the efficient market hypothesis (EMH) which can be defined as a market that adjusts rapidly to new information or in essence, efficient in processing information. In short, the EMH postulates that the current market price for a stock reflects all available relevant information, the best estimate of value, and changes immediately every time information arrived (Nassir, 2002). Similar view also shared by Shiller (2003) where he mentioned that the price changes are unpredictable since they occur only in response to genuinely new information. In line to this, investors are expected to think rationally and use all available information to form rational expectations in the stock market, which in consequence would encourage the stock price to be accurate and reflect the fundamental values and it shall move up/down only if unexpected things happen. Hence investors should only expect to obtain a normal rate of return since all available information has fully reflected in the stock price (Ross *et. al* 2010).

1.1 Issues and Problems

Despite the rational expectations, Letkiewicz and Fox (2014) argued that in reality, there are quite a number of complicating factors currently existing in the marketplace, such as information asymmetry (Kozup and Hogarth, 2008), corporate greed and individual's own cognitive bias (Huston, 2010; Willis, 2008 and Cohen, 2008) which call into question the reliability of the traditional expectations.

In addition to that, recent economic turbulences have changed investors' behaviour in making investment decisions and challenged the traditional efficient market theory. For instance, the NASDAQ Composite Index experienced rare increase, rose by 170% during the speculative bubble in 1998 and lost half of its market value three years later. The Stockholm index (SAX) were experiencing the same phenomena of 118% increase in value during the corresponding period, and devalued by 43% in October 2001 (Johnsson et. al, 2002). The 1997-1998 financial crisis which first hit in Thailand and spread to other countries within the East Asian region saw a major meltdown in the Asian Stock Market with Kuala Lumpur led the highest percentage fall in value of 76%, followed by Jakarta and Philippines (-65%), Thailand and South Korea (-64%), Hong Kong (-56%) and Singapore of -58% (Sulong, 2011). Similar to this, Ali *et. al* (2009) in their study revealed that the Malaysian stock market tends to overreact prior the 1997-1998 Asian financial crisis and results from the phenomenon had created awareness among investors as things goes back to normal after the crisis. This unusual phenomenon has further proven that the traditional finance practices have been overshadowed by the irrationality shown by the investors when making investment decision. Shiller (1999) in Muhammad and Abdullah (2009) further argued that in reality investors do not behave and think rationally. Instead, driven by greed and fear, they become 'enemies' to the financial market by speculating stocks, attacking the currency which is one of the reason that further worsen and aggravated the Asian financial crisis (Sulong, 2011).

Behavioural finance explains the irrational behaviour of investors in making financial decisions, which in consequence such biases could create market inefficiencies. Examples of psychological biases that seldom caused market inefficiencies and mispricing includes individual cognitive bias, excessive optimism, overconfidence, heuristics, and social psychology (Shefrin, 2007; Nassir, 2002). Fromlet (2001) consider it as a subject that deals with investors' reactions, adaptation and ways in gathering and using information that they received. Olsen (1998) further added that behavioral finance focuses on psychological principles for financial decision making improvement. As suggested by Muhammad and Abdullah (2009), issues related to investors' behaviour should be given highlights since it helps to explain various anomalies which are to date is still persistent and tend to challenge the standard finance theory. In addition, behavioural finance will further justify why investors buy, hold, sell or did not buy stocks at all, at a particular time and period. A further study by Nassir (2002) highlighted some implications of behavioural finance to the Malaysian stock market. The outcome revealed that irrational decisions will create mispricing, artificial prices and will further discourage trading among market participants due to investors' reluctance to risk their money trading at prices which is considered too high or far below intrinsic values. With the latest dimension and technological advancement, the capital market today offers range of financial instruments that enables everyone to invest whether in stocks, bonds, loans or unit trusts. In line to this, different investors would have different set of investment strategies (or even no strategies) and views (or even no views) especially when trading in the stock market. Olsen (1998) revealed that most investors prefer to accept small returns with certain profits, rather than high return with uncertain profits. In short, they classified themselves as risk-adverse rather than risk-takers. In addition, further study by Frieder (2004) and Olsen (1998) discovered that some investors would prefer listening to strangers or friends when investing rather than making fundamental analysis on the respective stocks, which could negatively affect their investment objectives. Meanwhile in China, a study done by Wang *et. al* (2006) found that most of the investors are lacking in knowledge and skills when investing. On a same note, Diacon (2004) verified the similar finding in United Kingdom. These evidences have further proven that investing is not just simply weighting the risk and return of an investment, but it constitutes more than that. However it is surprisingly to see that most literatures are mostly confined to the practical benefits of low risk and high investment returns.

To date, studies on investment decision style in developing countries including Malaysia is still sparse thus requires further attention. Of all literatures, only Mansor and Lim (1995), Baghdadabad *et. al* (2011) and Muhammad and Abdullah (2009) had studied about Malaysian retail investors' behaviour and decision-making style but the scope of analysis was limited to Klang Valley area and does not represent the overall general behaviour of Malaysian investors. Lai et. al (2001) did another similar study but were merely focusing on institutional investors' behaviour and two main rational constructs were only being used which is fundamental and technical analysis. Thus, this research is to fill this gap by including more constructs that explain both rational and irrational behaviour, and expanding to a larger scope of analysis which will include one of the most populous states in Malaysia (Tourism Malaysia, 2010) that is Sabah, which generally known as The Land Below the Wind. Reasons that further motivate the research to be done in this area are the differences in its economic and social lifestyle, multi-ethnicity background, as well as different set of living standard as compared to West Malaysia.

By taking into consideration on these perspectives, the investment decision behaviour could differ compare to other states and countries.

1.2 Research Objectives

The overall intention of this research is to gain knowledge on decision-making style and investment success of retail investors who invest in the capital market in the state of Sabah, Malaysia. Thus, this study embarks the following objectives:

1) To investigate the factors that influence investors' investment- decision making success and its decision-making style investing in the capital market.
2) To explore the demographic characteristics of investors participating in the capital market investments.
3) To propose policies on assisting investors to become a better decision maker in the capital market investments.

2.0 Literature Review

It is interesting to see how investors make investment decision especially for emerging country like Malaysia. Unlike other stock market in developed countries, Malaysia is yet to be considered as fully developed stock market since most investors are believed to overreact to market rumours, speculations, and economic development issues. For some investors, information plays an important role in assisting them making good financial decisions especially in the stock market investment. Mansur and Ali (1995) highlighted that Malaysian market are still vulnerable to a great external challenge and global market changes thus somehow making it difficult to attract long-term investment to Malaysia. From institutional investors perspectives, Lai *et. al* (2001) in their study revealed that most investors relying heavily on internal and external information of the organization before making any stock selection. Furthermore, it was discovered that fundamental analysis appears to be the most popular method for share appraisal. This proved that despite being labelled as developing stock market, Malaysian investors are still rational and prudent, not easily swayed by emotions, feelings of belongingness or any other psychological interference when making financial decisions. They further added that institutional investors disregard rumours and political speculations that surrounded the stock market at the time the study was being conducted. Nonetheless, the research is only discussing on decision-making style and preference from institutional investors point of view, and does not represents retail/individual investors' behaviour. Ou and Penman (1989a & 1989b) stressed out the importance of using information from financial statements and conducting fundamental analysis, in which they argued that financial statements contain useful information for distinguishing permanent and transitory components of past earnings. Day (1986) on the other hand, viewed information on company management as an important source of external information (besides financial statements) in share appraisal.

There are a quite number of literatures that have investigated behaviour and decision making style of retail investors. Siconolfi (1988) revealed that investors' practices and techniques in the United States immediately changed after the market collapse in 1987 whereby they altered their security preferences in reaction to the stock market crash. Hossain and Nasrin (2012) highlighted the importance of company specific attributes/reputation and accounting information that could influence investors' selection of equity shares traded in Dhaka Stock Exchange (DSE) in Bangladesh. In line to this, interaction with brokers and dealers also plays an important role in influencing investors' decision-making success. In Jordan for instance, most brokers do not employ professional and trained analyst thus lose their clients' trust. Thereupon it forces the investors to educate themselves with financial knowledge so that they would be able survive in the complexities of financial markets as well as combating market manipulations (Fares and Khamis, 2011). In short, having good financial knowledge is considered important for investors in which it could assist them in making a good stock selection. Another important finding was also highlighted by Bagddadabad *et. al* (2011) who conducted a study on small investors' behaviour in choosing stock in the Malaysian stock market. They revealed 13 important factors that can influence small investors' decision for stock selection, which some of them includes financial statement of companies, accounting instruments, past return, firms' public information, financial ratios, secondary information and fundamental analysis.

Irrationality & Psychological Interferences

It has long been argued and proven in several countries that psychological factors do influence investors' decision-making style and preference.

Ngoc (2013) for instance, did a study on behaviour pattern of individual investors in Vietnam and revealed that there are five behavioural factors that have an impact on investors' decision. The five dimensions of behaviour patterns that exist are herding, market factor, prospect factor, overconfidence-gambler's fallacy, and anchoring.

Having these psychological interferences could affect and change investors' risk preference on their investments thus reducing their wealth. For example, if investors' are susceptible to loss aversion (under Heuristics dimension), it will change their mind-set where they tend to feel stronger impulse to avoid losses than to acquire gains. In consequence, it causes investors to hold their losing investments for too long and sell winning stocks, which could further lead to sub-optimal portfolio returns (Pompian, 2006). In the Malaysian context, Mansor and Lim (1995) conducted a survey on investors' behaviour and practices in Klang Valley and found that 73% of the investors involved in profit taking for short-term capital gain, and speculated in the bullish market. In other words, the retail investors trade based on rumours, speculations, tips or random picking stocks. On the other hand, only 32% of the investors did fundamental analysis before making investment decision. However during bearish market, investors' behaviour changed whereby almost 52% of these investors would resort for fundamental analysis and look for long-term profits. The use of technical analysis to predict future stock price movement increased from 16% to 26% during the said period, which further indicates the inefficiency in the stock market investments. In short, retail investors are said to be partly rational when making investment decision and these rationality differs according to market conditions.

Similar findings also confirmed by Muhammad and Abdullah (2009). Using a framework based on theory of behaviourism, they hypothesized investors' decision-making style and investment success into two main categories, namely rational and irrational types of behaviour. Rational behaviour is when investors consider and analyse all available financial, economic and environmental information before making decision to involve in the capital market investments. While irrational is defined as making shortcuts from doing fundamental analysis and relying on emotions, investment tips/advice from strangers, speculations and rumours. They reported that retail investors used all available economic information and at the same time follow opinions/recommendation from the stock broking experts as well as tips from relatives and friends when making investment decisions. Their findings on investors' partial-rational decision making had come to urgency to have the social interaction and network effect, as it serves as a key to understanding investors at micro level and the dynamicity of stock market at the macro level. Based on the findings, they also suggested to the government to formulate an appropriate strategies to control and monitor the economic condition and at the same time having more professional advisors advising small investors in making their investment decision. Meanwhile, much of previous literatures posit that demographic variables could also play a significant role in financial decisions. Barber and Odean (2001) for instance, examined the trading behaviour of 38,000 households and found that in terms of gender differences, men trades more than women. They are trapped to being overconfident about their ability to make investment decisions and beating the market, thus encourage them to do excessive trading than female investors do. Problem with being overconfident is that it will motivate investors to trade frequently and purchase wrong stocks. They added that overconfident investors will tend to take higher risk and hold portfolios with higher volatility and beta in which at the end of the day would affect their wealth.

Meanwhile in another similar discussions, male are said to be more financially literate than female (Al-Tamimi and Kalli, 2009; Addin et. al, 2013; Lusardi and Mitchell, 2008) due to less participation of females in financial issues. As a consequence, women are less likely to plan for retirement, and usually borrow at a higher rate. In the context of portfolio diversification, Abreu and Mendes (2010) found that education level impacted the number of investors' portfolio properties. Similar views also confirmed by Van Roiij *et. al* (2011) in which they highlighted that there's a strong positive link between formal education with financial literacy thus trigger positive impact on savings behaviour.

3.0 Data and Methodology

A structured questionnaire based on various literatures were adopted and developed as the research instrument. The questionnaire is divided into 5 main parts. The first part is where the respondent is required to provide basic demographic information such as age, gender, occupation, gross income per month, as well as income allocation for investment (Chen *et. al*, 2011). Part 2 consists of 19 questions on trading frequency, trading instruments and fundamental aspects of rational decisions which are later broken down into 3 parts i.e., (i) Environmental Analysis – 7 items, (ii) Financial Analysis – 4 items, and (iii) Economic Analysis – 5 items using five-point likert scale

ranging from 1(never) to 5 (always). Part 3 comprises of 8 questions on investment decision success. Part 4 consists of 3 items that measure irrational decision-making style in the sense of emotions.

While Part 5 is questions on frame of references which later separated into two main questions with 4 and 7 items respectively. The questions for part 4 and 5 were design using five-point likert scale ranging from 1 (never) to 5 (always).

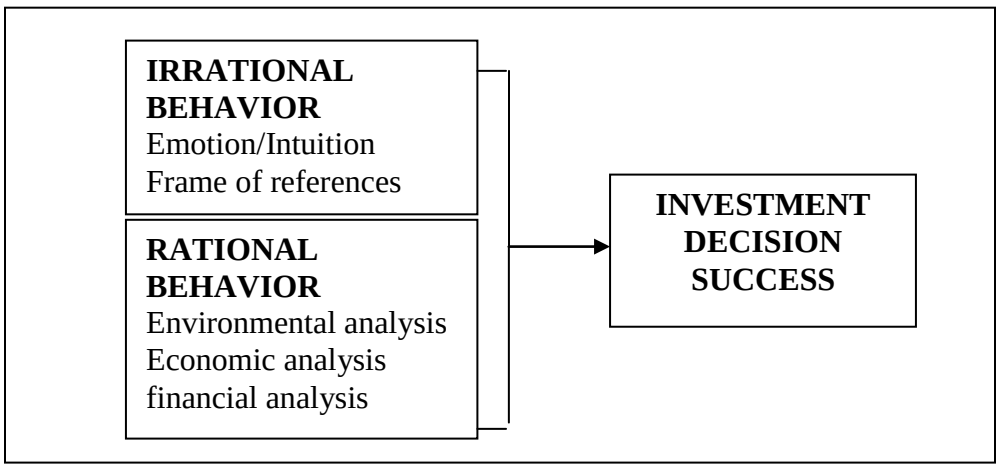
The theoretical model used in this research is adopted and adapted from model developed by Muhammad and Abdullah (2009) based on the theory of behaviourism, an extension of prospect theory in behavioural finance which was first introduced by Khaneman and Tversky (1979). The prospect theory suggested that investors may not be rational and tends to incorrectly pricing securities when it comes to investing. Furthermore, they can easily become risk-takers when facing sure loss but tend to be risk-adverse when facing a sure gain. In other words, investors are categorized as "loss aversion" which defined as their willingness to take higher risks to avoid losses than to realize gains. Shiller (2000) highlighted that investor's decision to allocate their money to the stock market is not based on careful calculations (i.e estimating forecast for the return of the assets and weighing these returns with measured risks). Instead, they prefer to do the opposite. Olsen (1998) further added that decision makers tend to be loss averse rather than risk averse. In short, investors' decision-making behaviour is related to emotions/intuition (i.e anchoring, mental accounting, overconfidence and overreaction) and herding behaviour (Banarjee, 1992; Ngoc, 2013). It is therefore concluded that investors who made decisions based on these two factors are categorized as irrational investors and hypothesized it as follows:

H1: There is a relationship between investors' emotion and their investment decision-making success.
H2: There is a relationship between investors' frame of references and their investment decision-making success.

On the other hand, investors are said to be rational if they consider all available information from the environment/external, economic and financial factors before making investment decision (Bagddadabad *et. al*, 2011; Lai et. al, 2011; Hossain and Nasrin, 2012; Ou and Penman, 1989a & 1989b). In other words, they will conduct fundamental analysis before deciding to invest at the initial stage. Khoo *et.al* (2008) further verified the importance of doing fundamental analysis to avoid losses from economic turbulence i.e analyse using patterns, creating a balanced portfolio and constructing a value investing plan. In line to this, investors are expected to think rationally and use all available information to form rational expectations in the stock market, which in consequence would encourage the stock price to be accurate and reflect the fundamental values and it shall move up/down only if unexpected things happen. Thus it is hypothesized that:

H3: There is a relationship between investors' ability to analyse environment factors and their investment decision-making success.
H4: There is a relationship between investors' ability to analyse economic factors and their investment decision-making success.
H5: There is a relationship between investors' ability to analyse financial factors and their investment decision-making success.

From the above-mentioned hypothesis, the theoretical framework for this research is presented as follows:



Questionnaires are distributed at three major town areas in the state of Sabah namely Kota Kinabalu, Tawau and Sandakan through selected financial institutions and stockbroking firms whom provide the capital market investment products. These townships were chosen because the targeted area of sampling are mostly located at these three townships, which indicates that there are more investors residing in this area compared to the others. Pilot study was conducted with 50 respondents outcome were collected to test the validity of the questionnaire and the result is reported under reliability analysis in chapter 4. The research process then continues with the distribution of new set of questionnaires with validated constructs and items to 250 investors who invest their money in capital market. The data collection was carried out using stratified and convenient sampling techniques. These sampling techniques were employed because 1) the sampling areas were segregated into several parts in Sabah (covering major townships, which are Kota Kinabalu, Sandakan and Tawau) and 2) the questionnaires were distributed to specific person (namely walk-in investors) at randomly targeted investment banks and stock-broking firms to whom have investment in stocks or other financial instruments in the capital market. The researchers spent four days collecting data in each respective township and it was done with slow pace to ensure that the instruments were well tested and valid. Out of 250 questionnaires distributed, 33 were incomplete, and 217 were useable for the analysis. Data were analysed using the Statistical Packages of Social Sciences (SPSS) version 17-computer software.

4.0 Research Findings

Table 1: Profile of Respondents

Profile	***Measuring Group***	***Percentage (%)***
Gender	Male	54.4
	Female	31.3
Race	Malay	30
	Chinese	42.9
	Indian	1.8
	Bajau	6.0
	Kadazan Dusun	12.9
	Other	18
Age (Years)	Less than 30	30
	30-39	38.7
	40-49	18.4
	50-59	0.5
	60 and above	0.5
Marital Status	Single	33.2
	Married	62.7
	Widowed	4.1
Occupation Sector	Government Employee	16.6
	Private Sector	65.4
	Self Employed	10.1
	Other	7.8
Educational Level	SPM/MCE	16.1
	STPM/HSE/Diploma	26.3
	Bachelor Degree	45.6
	Master	8.8
	PhD	1.8
	Other	1.4
Investment Instrument	Bond	2.8
	Stock	30.0
	Unit trust/mutual fund	57.6
	Short term instruments (T.Bills, CD, FD)	9.7
Trading Frequency	Daily basis	9.2
	Weekly basis	8.8
	Monthly basis	37.3
	Quarterly basis	23.5
	More than quarterly basis	21.2
Income Allocation for Investment	Less than 5%	14.7
	5% - 10%	36.9
	11% - 15%	19.8
	16% - 20%	13.8
	More than 20%	12.9
	Non at all	1.8

Demographic Profile

More than half of the investors are male (54.4%), while half of the respondents are middle-aged investors ranging from 30-39 years (68.7%), while 18.4% and 0.5% are those investors aged 40-49 and 50-59 years respectively. In terms of race, majority of the respondents are Chinese (42.9%), closely followed by Malay (30%) and other local Sabahan Bumiputera (18%). Investors with Kadazan Dusun and Bajau ethnicity are about 12.9% and 6% of the survey. This shows that local Sabahan from various ethnicities also took part in investment activities. Majority of the respondents are working in the private sector (65.4%), whilst 10.1% are self-employed and only 16.6% working in the government sector, which indicates that participation from the government employees in the capital market investments is relatively low. In terms of educational level, almost half of the respondents hold a bachelors degree (45.6%), followed by Diploma/STPM holders of 26.3% and SPM holders of 16.1%. Only few of the investors have masters degree and other academic/professional qualification, which can be concluded that that majority of the respondents are educated.

Investment Profile

Almost 60% of the respondents allocated between 5-15% of their monthly income for investment activities, while only 26.7% of them were willing to put between 16 to more than 20% of their monthly income for the abovementioned activities. In short, majority of the investors were only willing to invest small portion of their income for investments in the capital market and that proves why the participation of local investors in the capital market (especially in the stock market trading) is still low. Bursa Malaysia reported that the percentage of participants who are retail investors has declined to 26% in 2011, from 37% in 2007, with total trading volume declined from RM53, 316.13 million in January 2011 to RM39, 869.54 million in March 2012. Up to March 2014, local retail participation only accounted for 19.71% in terms of total value traded of RM43.4 billion (The Edge Malaysia, April, 2014). In the analysis of investment profile, respondent's choices of investments are mixed with high and low risks, short and long-term investment and diversified to various investment vehicles. Unit trust was found to have higher frequency (57.6%), and closely followed by investment in stocks at 30% rate. The other financial instruments (i.e bond and short terms instruments) on the other hand were not among the favourites, most probably because investors are lacking in knowledge in both instruments. In terms of trading frequency, most of the respondents prefer to trade on monthly basis (37.3%) while only 9.2% trade everyday. On the other hand, almost half of the respondents were not really an active trader with 23.5% of them trades on quarterly basis, while the remaining 21.2% trades more than quarterly basis.

Table 2: Reliability Test

Variables	No of Items	Alpha before Items Deleted	No of Items Deleted	Alpha if Items Deleted
Emotion	2	0.486	0	0.486
Frame of References	11	0.737	0	0.737
Environmental Analysis	6	0.787	1	0.804
Economic Analysis	5	0.883	0	0.883
Financial Analysis	4	0.728	0	0.728
Investment Decision Success	6	0.354	4	0.659

Table 2 above presents the reliability analysis, which calculates a number of commonly used measures of scale reliability and also provides information about the relationships between individual items in the scale. In a reliable scale, all items should correlate with the total. According to Field (2005), if the values are less than 0.3, then problems might occur and it means that a particular item does not correlate very well with the scale overall. Similar to this, Nunnally and Bernstein (1994) added that Cronbach's value of 0.60 and above is considered to be reliable as it indicates the items are homogenous and measuring the same construct. The first and second independent variables, namely emotion and frame of references measure irrational behaviour of investors. Responses for various features of emotion were judged to be moderately reliable for investor representatives who participated in the survey. A review of the corrected item-total correlation suggests that Q3 do not correlate with the corrected total very well. The elimination of Q3 is warranted on the basis that reducing the scale to only relevant items would make for a better, more parsimonious scale. It turns out that removing the item may further be motivated by anticipated increase in the reliability coefficient reported in the output (0.486).

The second measurements of irrational behaviour namely frame of references (11 items) shows high reliability coefficients with none of the items were deleted. Environmental, economic and financial analysis measures the rational behaviour of investors with 6, 5 and 4 items respectively. The alpha for environmental analysis with 6 items is 0.787. However, out of the 6 items, question 2 shows the worst offender, and deleting this question would increase the alpha from 0.787 to 0.804. However the changes are not dramatic and both values reflect a reasonable degree of reliability. Economic analysis on the other hand, appeared to have good internal consistency with alpha of 0.883 without having to delete any of the items. Similar with the previous two rational behaviour measurements, financial analysis also shows good reliability coefficients of 0.728. Even though the value is lower than economic and environmental analysis, it is still above the requirement and indicates that the items correlate well with the overall scale. Meanwhile the dependent variable namely investment decision success indicates a moderate reliability with alpha of 0.354. Both question 4 and 6, from the total of 6 items of the variable appeared to have the worst offender suggesting that both items do not correlate well with the overall scale and not reliable. The greatest increase in alpha would come from deleting both items (Q4 and Q6), which further improves the value from 0.354 to 0.659.

Table 3: Chi-Square Tests Analysis

Pearson Chi- Square	***X2***	***Df***	***P-Value***
Races vs Investment Vehicles	66.801	15	0.000*
Occupation Sector vs Trading Frequency	29.101	12	0.004*
Occupation Sector vs Investment Vehicles	25.382	9	0.003*
Educational Level vs Investment Vehicles	53.048	15	0.000*
Age vs Investment Vehicles	20.235	15	0.163
Marital Status vs Investment Activities	13	15	0.599

**Significant at 0.01 level*

Races vs Investment Vehicles

There is a connection exist between races and investment vehicles significant at 0.000 p-value. Thus, we can safely conclude that the investment vehicles chosen by the investors can be determined by races. Malay, Kadazan-Dusun and investors from other races were found to be the highest respondents to invest in bonds standing at 33.3% percent respectively. Stock investments, on the other hand were dominated by the Chinese representing more than half of the respondents, with frequency rate of 66.2%, followed by Malay (11.6%), Kadazan-Dusun and other races ranging at 4% and 5% respectively. While Unit Trust/Mutual Fund investment are the favorite choice amongst the Malays holding 40% of total response rate, followed by investors from other races (20%), Kadazan-Dusun (16%) and Chinese (14.4%). This shows that different types of race have their own preference choosing their preferred investment vehicles.

Occupation Sector vs Trading Frequency

Another connection between the two tested items exists between occupation sector and trading frequency, significant at 0.004 p-values. It can be concluded that investors' trading frequency can be determined by their occupation sector. Investors working in the private sector dominate the chart as they recorded to have the highest score in all trading frequency items. Being the majority of all respondents, they are the active traders (be it on daily, weekly, monthly or quarterly basis) compared to those working from the other sectors.

Occupation Sector vs Investment Vehicles

Another 2 items were tested and significant at 0.003 p-values, showing there is a relationship exists between occupation sector and investment vehicles chosen by the investors. The analysis shows that investors working in private sector are the key player for all investment vehicles (namely bonds, stocks, unit trust and other short term instruments) in which stock investment was recorded as the highest chosen investment vehicle at 76.9 percent compared to investors working in other sectors.

Educational Level vs Investment Vehicles

Investors' level of education was recorded significant at 0.000 p-values and have connection with selection of investment vehicles. Investors who held a Bachelor Degree appear to be the most active trader in stock and unit trust investments, both ranging at 66.7% and 40.8% respectively.

On the other hand, respondents with SPM/MCE certificates invest the most in other various short-term instruments such as fixed deposits, and T-bills. This indicates that investors with higher educational level appear to be actively involved in more challenging market given the level of knowledge and strategies that they acquired. This finding is in line with Abreu and Mendes (2010) and Van Roiij *et. al* (2011) that suggests education level has significant impact on certain financial decisions such as portfolio diversifications, financial literacy and individual savings behaviour. Thus the educated and knowledgeable individuals are most likely to make better financial decisions.

Table 4: Results of Regression Analysis

Variables	***β (t-statistics)***	***VIF***
Environment	-.072 (-.738)	2.114
Financial Analysis	.182 (2.295)**	1.388
Economic Analysis	-.124 (-1.276)	2.087
Emotion	-.086 (-1.246)	1.055
Frame of References	-.028 (-.380)	1.160

***Significant at 0.05 level*

The research applied multiple regression analysis in order to test the hypothesis and evaluate the behaviours that influence investor's decision-making style. The result is reported in table 4 above. The model can influence the investment decision success in that the F-value was recorded significant (p=0.1) with F-value of 1.956 (see appendix). Following Kutner et. al (2004), the VIF values were mostly recorded below 10, which indicates that there's no serious multicollinearity problem exist in the analysis. Of all five independent variables, only one variable showed positive relationship (namely financial analysis) with the dependent variable, significant at 10% level indicating that only Hypothesis 5 were supported in this study. The other four independent variables (namely environmental analysis, economic analysis, frame of references and emotion) on the other hand, do not have any significant relationship with decision-making style and investment success. In other words, investors analysed the financial analysis before making their decision investing in the capital market and it serves as an important construct for their investment success.

5.0 Discussion of Findings

The objectives of this study are to determine the key factors that influence investors' decision-making success and to identify whether investors are rational or not when making decisions. All instruments were adapted from various literatures and it has been modified for the adaptation to the investors' behaviour context. Rational in this context means the analyses (environmental, economic and financial) that are being considered by the investors before deciding to invest in any instruments in the capital market. While irrational is when the investors are making shortcuts (rather than doing the fundamental analysis) when making decisions by relying on investment tips/advice from strangers (namely friends, family, dealers etc.), rumours or by emotions.

With reference to the first research question highlighted earlier, it is discovered that investors are considered rational when making investment decision. The positive relationship between financial analyses with investment decision-making success indicates that all information pertaining to company background, announcement and news, as well as the ability to conduct fundamental analysis will influence investors and assist them in making good investment decisions. Financial analysis is defined as investor's ability in determining the return they will get, considering the company's news, background and financial reports before making decision, as well as making some fundamental analysis before deciding to invest. This further indicates that investors' decision to extensively analyse their investment using environmental analysis, economic analysis or relying heavily on frame of references and emotions do not significantly lead into investment decision success. Hence, the result from the analysis is in line with previous study done by Statman (1988), in which he argued that a rational investor should analyse information thoroughly in order to become successful in their investment activities. Furthermore, the result is also consistent with findings done by Lai *et. al* (2001) and Albaity and Rahman (2012). Their findings revealed that Malaysian investors are said to be neutral in risk, relying heavily on their skills than luck and believed that people cannot be trusted. In addition, fundamental analysis appears to be the most popular method of share appraisal used by Malaysian institutional investors in both bullish and bearish market.

In short, they argued that Malaysian investors (particularly the institutional) appear to be rational and prudent in investment decision-making, where financial information is heavily used before making any stock selection. The outcomes also support findings by Hossain and Nasrin (2012) and Ou and Penman (1989a & 1989b) in which they stressed out the importance of using information from financial statements and conducting fundamental analysis as it contain useful information for distinguishing permanent and transitory components of past earnings.

However, previous studies done by Muhammad and Abdullah (2009), Mansor and Lim (1995) and Banarjee (1992) seems to be contradicted with the findings in which they argued that investors are partly rational when making financial decisions, and having psychological interference would benefit them in making a better decisions. The insignificant relationship between both irrational behaviours constructs (namely emotion and frame of references) and decision-making success from this analysis indicates that not all psychological biases would benefit and give impact to investors. As highlighted by Lai *et. al* (2001), investors disregard rumours when making investment decision and were not swayed by emotions, political news and speculations that always surround the stock market during the period the study was conducted. Similar to that, Shefrin (2000) argued that investors could do serious harm to their wealth if they allow the psychological biases to affect their investment decision. Kahneman and Piepe (1998, p.3) further noted "investors who are prone to these biases will take risks that they do not acknowledge, experience outcome that they do not anticipate, prone to unjustified trading, and may end up blaming themselves or others when outcomes are bad". More than half of the respondents allocated only between 5-15% of the income for investments. With such small amount available, they may have to be cautious with their investments to avoid losses, thus could be the possible reason of why they prefer to study and look at all available financial information of the companies rather being swayed away by feelings and emotions that could further harm their wealth. Therefore, based on the previous literatures that in line with the findings, it can be concluded that irrational behaviour do not play an important role in contributing towards investors' decision-making success in Sabah. From the findings, it is suggested to the government or related agencies to provide more road shows or resource centres that serve as a platform in providing more reliable and accurate information to investors, as financial information is part of the factors that influence investor's decision-making success and also could influence their decision-making behaviour. Furthermore, in line with Muhammad and Abdullah (2009), it is also suggested to the government to formulate strategies to control, and monitor economic/financial condition of the country and at the same time having more professional advisors to advice small / retail investors in making their investment decision. Investors also need to be equipped with proper financial education, in which could further guide them making good decision and achieve their investment objectives. This could be done through related financial institutions/universities by organising seminars or workshop that could enhance their literacy and knowledge about the financial analysis and capital market investments.

This study comes with several limitations that could further be improved in the future. First, the findings require respondent's honesty and integrity. If respondent's answers are mostly based on socially desireable answers, it could contribute towards biasness in the findings. In reality, it is known that most respondents would agree more on socially desireable answers and disagree more towards socially undesireable answers rather than truly express their own feelings and honest opinions. Thus to make sure that no biasness will occur in the future findings, it is suggested for future research to conduct a self-monitored survey with the respondents to further ensure their honesty and integrity in answering the questions. To get more accurate and better indication on decision-making style and investment success, it is also suggested to increase the number of respondents at each selected townships. This could be done through seminars or workshops on capital market investment organised by financial authorities and its related agencies where such events are mostly attended by local investors who wish to get some information about the market, and it is the best opportunity to get more respondents there.

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