

The Impact of Behavioural Factors on Individual Investors' Investment Decision Making in Colombo Stock Exchange: Special Reference to Northern Province – Sri Lanka

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Abstract: Behavioural finance is important component of investment decision making of the people. It is based on the psychology; attempt to understand how emotions and cognitive errors influence individual investors' behaviours. This study sought to determine the impact levels of behavioural influences on the individual investor choices of securities at Colombo Stock Exchange (CSE). It was guided by one main objective seeking to determine the impact level of behavioural factors influences on the individual investors' investment decisions at CSE. To meet the objectives of the study, a descriptive survey design was chosen. Primary data was collected using self-administrated questionnaires. It was based on 200 individuals selected through CSE Northern Province. The data analysis for this study was performed with the help of SPSS. This study used multiple regression and correlation analysis. To examine such impact of behavioural factors considered as the independent variable with the proxies of regret aversion, overconfidence, availability bias, past trends of stock, market information, buying and selling of other investors and individual investors' decision-making is dependent variable. The findings revealed that the overconfidence, availability bias and past trends of stock have insignificant impact on investment decision of individual investors at CSE at 5 % significant level. The regret aversion, market information, buying and selling of other investors have significant impact on investment decision making of individual investors at CSE at 5 % significant level. The research, as overall, concluded that there is moderate significant impact of Northern province investors behavioral factors influence on individual investors' decision making at CSE Sri Lanka

Keywords: Investor Behavioral Factors, Investment Decision making at CSE

I. INTRODUCTION

In the present world, the term investment is frequently used. Investment means the commitment of money in purchasing financial or other assets with the objective of obtaining return. Jones (1994) defined the term investment as the commitment of funds to one or more assets, which will be held over some future period, which is a productive purposeful flow of capital. Nowadays most of the investors prefer to invest in the stock market because of long-term growth of capital, dividends, and a hedge against the inflationary erosion of purchasing power (Teweles and Bradly, 1998). The other reason is the stock market is more attractive than other types of

investment is its liquidity and the investors want to be the owners of the firm, from that they get benefit when the company pays dividends and when the share prices increase.

Investment in the stock market (equity instruments) means buying and holding shares of stock on a stock market by individuals and funds in anticipation of income from dividends and capital gain when the value of the stock rises (Zuravicky, 2005). Sri Lankan stock market is known as the Colombo Stock Exchange (CSE). The companies, which are listed under CSE known as public company (listed companies), can be freely traded on as stock exchange or in over the counter. Investors cannot buy shares from not listed companies under CSE. Securities Exchange Commission (SEC) is the regulatory body of the Sri Lankan stock market. Central Depositing System (CDS) accountants of the Sri Lankan share market. They hold the stocks in custody on behalf of companies and investors and they are responsible for clearing and settling transactions on the CSE. They do not maintain a physical stock of all the shares in Sri Lanka because all shares are held in electronic form. In the stock transactions, the stockbrokers are the middle parties they connect buyers and sellers of the stocks.

Investment decision making is a complex process and it is the important and integral part of the investment process. Decision-making can be defined as the process of choosing a particular alternative from a number of alternatives. An activity follows proper evaluation of all the alternatives. Investment decision process includes analysis of several factors and various steps, which means the investors involves the choice to place money in various categories of investment options (for an example fixed deposit, investment on stock markets, investment on debentures, etc.) all options have various types of characteristics. Therefore, it is a complex challenge to investors to select one or more than one investment options from various investment options. At the same time, the investors want to consider the investment mix and the time horizon while making investment decisions. So that they can stop, investments lead to severe losses by the wrong investment decisions. They have to work upon, if the decision makers need to keep themselves update by obtaining information / knowledge from diversity field so that investors can accomplish the task.

It is believed that decision-making is based on primarily two things: personal resources or factors, and technical factors. While making investment decision at stock market, investors tend to rely on these two factors. Decision making by individual investors is usually based on their personal factors such as age, education, income, and investment portfolio. Simultaneously, their investment decisions are also derived from complex models of finance. These models include those based on expected risk and return associated with an investment, and risk-based pricing models like CAPM (Capital Assets Pricing Model). Before two decades, the investment decision making on stock market depend on standard or traditional finance theories (Modern portfolio theory, Capital Asset Pricing Model). Traditional or standard theories assume that the investor and the market are rational. The investors gather ultimate knowledge, data, and information they need and their decisions are based on the data not based on their emotion, so that they face cognitive and psychological biases while their decision making. According to the behavioural theorist Tversky (1990) psychology influences on the investment, decisions of investors and due to these reason investors' investment decisions become as acceptable one but not optimal one. Decisions should never be made only by relying on the personal resources and complex models, which do not consider the situational factors. Situational factors are extended not only.

Behavioural finance is a combination of individual behaviour and market phenomena based on the knowledge gained from the fields of psychology and finance from let. In behavioural finance, psychology has a role in how people make financial decision or investments. Behavioural finance explains that people are irrational and our own emotions and bias have a role to play when making investment decisions. So that there may be a chance to make an error in judgments. There are several behavioural finance theories have been proposed. The most popular theories are prospect theory, heuristic theory, and herding theory.

This study attempts to dive into the depths of the human psyche to investors in the stock markets to explore investors such as overconfidence, availability bias, regret aversion, market information, past trends of stocks and impacts of other investors' decision (buying and selling choice). The study found a lack of capacity of most traditional finance models to interpretation of anomalies in the movements of the stock markets without paying attention to elements of psychological and social those guide the behaviour of the investor when making investment decisions. Therefore, the study emphasized the importance of understanding the behaviour of the investor through knowledge and awareness elements of behavioural psychological and social, which led to decision to buy or sell any of the securities. Because understanding the behaviour of investors helps to understand and predict future movements of the market accurately, and thus achieve higher returns than the average or avoid the risk associated with investment decisions.

II. LITERATURE

Theoretical Literature

Behavioural finance that considered human behaviour in the financial world is a new world. This behavioural finance theory is based on psychology, which means trying to understand how emotions and cognitive errors influence behaviour of individual investors. In the present scenario, behaviour finance is becoming a vital part of the decision, which is heavily influences the performance of investors. Behavioural finance is based on psychology, which suggests that human decisions processes are subjective to several cognitive illusions (Ritter, 2003). These illusions are divided in to two groups, which are illusions caused by heuristic decision process and illusion rooted from the adoption of mental frame grouped under the prospect theory (Waweru, 2008), with that, the herding and market theories are also presented as follows

Heuristic Theory

Heuristic means, which express that individual have a tendency to make judgments quickly, are simplifying strategies used to approach complex problems and limit explanatory information. Individual investors tend to take decisions usually by trial-and-error method, which develops the rules of thumb. Individual investors use rules of thumb in order to process complex information to make investment decisions. It may be possible that investors have obtained appropriate information and evaluate all these in an objective manner, but it is very difficult to separate one from emotional and cognitive errors involved in every step undertaken by the investor. In certain situations, it may lead to favourable decisions, but in many times, it may result in unfavourable and poor decision outcomes.

Prospect Theory

Expected Utility Theory (EUT) and prospect theory are considered as two approaches to decision making from different perspectives. Prospect theory focuses on subjective decision-making influenced by the investors' value system. Expected Utility Theory EUT concentrates an investors' rational expectation (Filbeck, Hatfield and Horvath, 2005). This theory is criticized for failing to explain why people are attracted to both insurance and gambling. People tend to under weigh probable outcomes compared with certain one and people response differently to the similar situations depending on the context of losses or gains in which they are presented (Kahmenan and Tversky, 1979). This theory describes some states of mind affecting an individuals' decision-making process including; regret aversion, loss aversion and mental accounting.

Herding Theory

Herding effect in financial market is identified as tendency of investors' behaviours to follow the others' actions. Practitioners usually consider carefully existence of herding, due to the fact, the investors rely on collective information more than private information can result the price deviation of the securities from fundamental value. The academic

researchers also pay their attention to herding; because its impacts on stock price changes can influence the attributes of risk and return models and this has impacts on the viewpoints of assets pricing theories (Tan, Chiang, Mason and Nelling, 2008). There are several elements that affect the herding behaviour of investor, as an example; overconfidence, volume of investment, and so on. The more confident the investors are, the more they rely on their private information for the investment decisions, at that time, the investors seem to be less interested in herding behaviours

Empirical Evidence

The empirical review of the above theories was as follows, which were conducted in developed countries and developing countries. Onsomu (2014) concluded that investors in the Nairobi Securities Exchange are influenced by availability bias, representativeness bias and disposition effect, and there is no significant of overconfidence bias on investment decisions. Abar, Hassan, Ahmad & Iqbal (2014) investigated the individual investors and found that the majority of the individual investors believe that they have full knowledge of market and they have the higher level of confidence on their skills. Pourbijan, Setayesh and Janani (2014) investigated 302 individual investors in Tehran Stock Exchange, and found that there is an association between overconfidence bias of investors and their investment decisions. Waweru, Mwangi and Parkinson (2014) investigated behavioural factors investment decisions in the Kenyan Property Market, and they found that anchoring, representativeness, availability, overconfidence, regret aversion and mental accounting biases in investment decision making. Luu (2014) examined the behaviour patterns of individual investors in Ho Chi Minh Stock market. It was found that overconfidence; anchoring, herding, loss aversion & regret aversion have moderate impacts on the investors while market factors have the highest impact among all on the investors' decision-making. Atif Kafayat (2014) investors in Islamabad Stock Market were affected from self-attribution bias, overconfidence and over-optimism bias in making rational decisions. That study found that all the factors mentioned are negatively correlated with investors' decision-making. Tripathy (2014) examined the role of psychological biases on the cognitive decision-making process of individual investors. The findings say that investors on Bhubaneswar Stock Exchange are victims of psychological biases namely: overconfidence, anchoring, regret and loss aversion and hence, their decision-making is affected. Qudri and Shabbir (2014) investigated an empirical review to understand the impact of overconfidence and illusion of control on investors' decision making in the Islamabad Stock Exchange, from that they found that overconfidence and illusion of control have positive significant impact on investors' decisions.

Bashir, Javed, Ali, Meer & Naseem, (2013) had investigated behavioural biases included overconfidence, confirmation, and illusion of control, loss aversion, mental accounting, status quo and excessive optimism on investors' financial decision making. They founded that there is a positive significant relationship and impact of the overconfidence bias. However,

status quo, loss aversion and mental accounting biases have significant relationship but have no influence on investors' decision-making. Rekik & Boujelbene (2013) conducted a study among 300 investors in Tunisian Stock Market and found that herding, representativeness, anchoring, loss aversion, and mental accounting influence the decisions of the investors. However, overconfidence has no influence on investment decisions.

Sri Lankan Literature

Tuan and Sampath (2020) analysed the influence of behavioural finance factors and the moderating effects of contextual and demographic factors on individual investors' investment performance. When individual investors simultaneously follow other investors and keep track of their trading patterns, follow up to the current market information and past trends of stocks. So that they standard to gain greater financial returns. Finally he concludes that individual investors should pay attention to stock broker's recommendations received and at the same time utilize existing knowledge more wisely and selectively because there could possibly be market manipulation in terms of fixing stock prices and stock brokers are likely to be biased towards rational models when

Arumugam and Velnampy (2017) examined that the role of behavioural factors in the investment decisions of household investors. They found that the effect of representativeness bias in the investment decisions of household investors. They do not spend adequate effort and time in making investment decisions. They make quick investment decisions based on experiences. The overconfidence bias has the influence on the investment decision taken by the individual investors and he found that availability bias play a role in the investment decisions of the household investors. Which means he found that the investors rely on the easily available information and their main source of information are their friends and relatives. In addition, the investors select familiar investment options for investing their money in order to avoid the problem of new investment option. Another finding is, the investors provide more attention in protecting their hardly earning money, because the negative outcomes which may arise from their wrong investment decision (regret) and the investors provide more attention on the safety of their money rather than earning return in order to avoid losses than to earn more return (loss aversion).

Aminda (2016) concluded that there is a strong correlation between the investor's demographic factors, market factors, risk bearing capacity, lifestyle characters and individual investors' behaviour. Finally, the findings of the study is that the individual gender attitudes, such as gender, material status, age, education, occupation, type of investing and experiences are significantly influence investors' cognitive, emotional and herding factors.

The behavioural finance theory based on psychology seeks to understand how emotions and cognitive errors influence behaviours of individual investors conducted by Kengatharan (2014) and he had investigated on the behavioural factors influencing individual investors' decisions at CSE. In addition

to that, the relations between these factors and investment performance were also examined. The results showed that herding (volume of stocks, buying and selling and speed of herding) heuristics (over confidence) prospect (loss aversion and regret aversion) and market (market information and customer preference) have moderate impacts on individual investor's decision-making at CSE. There is one from herding (choice of stocks) having low impacts on investors' decisions and there is one variable from heuristics (anchoring) having high impacts on investors' decision. Furthermore, he found that under the herding theory the choice of trading stocks has negative significant influence on investment performance and other three variables of herding theory volume of trading stock, buying and selling and speed of herding do not have impact on performance. Under the heuristics theory overconfidence has negative significant influence of investment performance whereas anchoring has positive significant influence on investment performance. Under the prospect, theory loss aversion and regret aversion do not have significant influence on investment performance. Under the market, theory the market information and customer preference do not have influence on investment performance.

Gunathilaka (2014) examined that how the firm is perceived value, accounting information, advocate's recommendation and self-image or firm image, Impact the stock selection decision of retail investors in Colombo stock exchange. He concluded that the selection of equity depends on investor's market awareness and they seek stability of investment and capital preservation, use performance of the stock during the recent past and are risk concerned. He concluded that the religious beliefs, the family background and advocate's opinion do not influence the decision-making process.

Research Gap

The literature about the impacts of Behavioural Factors on individual investors' Investment Decision Making at CSE is a large scope of theoretical and empirical review of research. In Sri Lankan context, there were many researches were conducted mainly focused completely individual investors in Sri Lanka. There may be chances that there is a deviation of people behaviour on investment decisions in various part of Sri Lanka. Because there is a cultural difference, ethnicity differences in Sri Lanka (for an example, compare northern province with western province). Based on the literature review, researcher found that, in previous studies not one mainly focusses particular Province, as a research gap. Therefore, this study mainly focuses Northern Province individual investors' behaviour on investment decision making at CSE. It will be useful for future investors to undertaken the common behaviours, from which justify the reactions for better returns.

III. RESEARCH PROBLEM

The decision of the investors on stock market is a complex process and vital role in determining the market trend, which affect the economy of Sri Lanka. To understand and provide an appropriate explanation for individual investors' decision, it is

important to explore the impact of behavioural factors on individual investors' investment decision making of individual investors at the CSE. It will be useful for investors to understand common behaviours, from that they can gain better returns and also this information used for better understanding about investors to forecast more accurately and give better recommendations. So that the stock price will reflect true value and CSE, influence the economy's wealth and increase the capital of the particular enterprises.

In Sri Lankan context, the previous studies conducted mainly focused whole Sri Lanka. There is a high deviation in between the Northern Province part of people behaviour on investment decision making and western part of people behaviour on investment decision making. Therefore, this study mainly focuses Northern Province people's behaviour on investment decision making. This study helps to understand and provide an appropriate explanation for the investors' decision. It will be useful for investors of Northern Province to understand common behaviours, from which justify the reactions for better returns. Moreover, another problem is that, previous studies have not described the factors that exert a significance influence on investment decision in stock market. This study therefore will add to existing study by analysing behavioural factors have impact on investment decision in stock market reference from Northern Province.

Research Questions

- What are the behavioral factors influencing individual investment decision makers at CSE?
- At which level of impact do the behavioral factors affect the investment decisions at the CSE?

Objectives

To identify the possible behavioral factors influencing the investment decisions of individual investors at CSE.

To identify the impact levels of behavioral factors on the investment decisions at the CSE.

IV. SIGNIFICANCE OF THE STUDY

In Sri Lanka, the Northern Province is one of the provinces with different ethnicity and many cultural (Tamil, Muslims, and Sinhalese) nearly similar to other province in Sri Lanka. This research will provide an overview of behavioural finance in Northern Province comparing with other provinces, mainly western province, because there is a huge deviation in cultural and ethnicity from western province. In the previous studies, focuses on individual investors of whole Sri Lanka. Therefore, nowadays, investment decisions play a vital role than before. This research has been designed to investigate the impacts of behavioural factors on investments decisions in Northern Province. An additionally, no studies have been carried out in Northern Province and studying un-research area would be great contribution to existing literature.

This research is a good reference of stock investment behaviour for the investor to consider and analyse the stock market trend

before making suitable decisions of investment and which provides them with a good background for the security organizations' prediction of future stock market trend and growing more reliable consultant information to the investors. In addition to that, this study hopes to confirm the suitability of using behavioural finance for all kinds of stock market than traditional theories, because behavioural finance has limited application for less developed security markets.

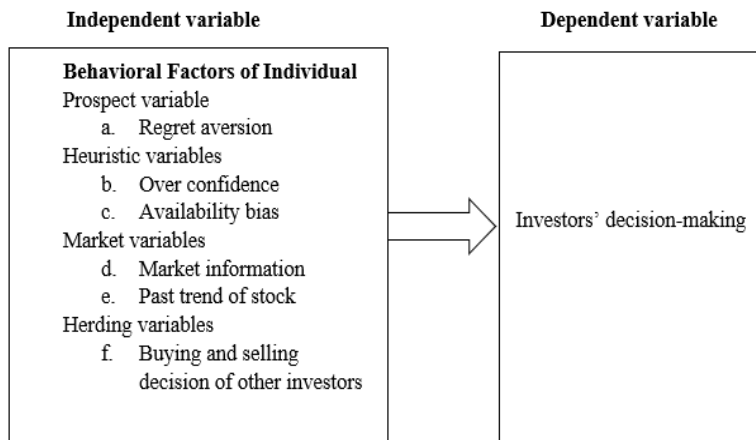


Figure 1: Conceptual Framework

Source: Developed by Researcher

In this research, the behavioural factors are the independent variable. The behavioural factors have the impact on the investor's decision making are divided in to four groups such as heuristics (Overconfidence and Availability Bias), prospect (Regret Aversion), market (Market Information and past trends of stock) and herding effect (Buying and selling decisions of other investors), And the individual investors' investment decision is the dependent variable in this study.

V. HYPOTHESES

H1	There is a significant impact of behavioural factors on investment decision making of individual investors at CSE.
H1a.	The regret aversion has the impact on the investment decision of the individual investors at CSE
H1b.	The overconfidence has the impact on the investment decision of the individual investors at CSE
H1c.	The availability bias has the impact on the investment decision of the individual investors at CSE
H1d.	The market information has the impact on the investment decision of the individual investors at CSE
H1e.	The past trends of stock have the impact on the investment decision of the individual investors at CSE
H1f.	The buying and selling of other investors have the impact on the investment decision of the individual investors at CSE

VI. RESEARCH DESIGN

In this research, exploring the behavioural factors influencing the decision making of the investors, the deduction approach is most appropriate choice. This study starts with reviewing the behavioural finance theories in general and in stock market and get the theoretical and conceptual context as well as empirical findings of previous researchers. Then the questions used in

questionnaires are prepared, from that the conclusions will be founded.

Data Collection

All the data and information for this study are gathered from primary sources via questionnaire send to individual investors of CSE from Northern Province. The data collected from questionnaires provide the basic understanding about the factors' affecting investors' decision. The sample individual investors themselves complete the questionnaires. The questionnaire is divided into two parts; such as personal information and behavioural factors impacts on investment decisions. The personal information includes gender, age, material status, educational qualification, occupation, annual income, annual savings, and experience in stock market, investment at CSE and last year investment at CSE. The five points Likert scales used for asking respondents' opinions and attitudes (Fisher, 2010), used to ask the individual investors to evaluate the degree of the impact of behavioural factors on their investment decisions. The five points in the scale are respectively from 1-5 strongly disagree, disagree, no opinion, agree and strongly agree.

Population of the Study

The Northern Province of Sri Lanka., which is collected from the manager of CSE Jaffna branch. Most of the investors are doing their trading through online, which is known as "Online Trading" And nearly 1000 individuals are the active investors, which means who are trading at least four times per year known as active investors. The population for this study is those 1000 individual investors. Therefore, those populations could provide information to accomplish the objective of the study.

Empirical Model

Researchers used multiple regression models to test the impact of independent variables on dependent variable and the model for this study is as follows,

$$DM = \alpha + \beta_1 RA + \beta_2 OC + \beta_3 AB + \beta_4 MI + \beta_5 PTS + \beta_6 BSD + \epsilon$$

Where,

DM	-	Decision Making of Individual Investors
RA	-	Regret Aversion
OC	-	Over Confidence
AB	-	Availability Bias
MI	-	Market Information
PTS	-	Past Trend of Stocks
BSD	-	Buying and Selling of Other Investors

$\beta_1, \beta_2, \beta_3, \beta_4$ - Model Coefficients

α	- Constant
ϵ	- Error Term

VII. RELIABILITY ANALYSIS

The Cronbach's Alpha value of OC is 0.08, which is greater than 0.7. The Cronbach's Alpha value of AB is 0.76, which is greater than 0.7. The Cronbach's Alpha value of RA is 0.67, which is less than 0.7. The Cronbach's Alpha value of MI is

0.89, which is greater than 0.7. The Cronbach's Alpha value of PST is 0.72, which is greater than 0.7. The Cronbach's Alpha value of BSD is 0.68, which is less than 0.7. The Cronbach's Alpha value of DM is 0.74, which is greater than 0.7. This coefficient varies from 0-1, and the value 0.7 or greater than 0.7 generally indicates satisfactory internal consistency reliability.

VIII. DATA PRESENTATION

In this present study, the researcher has been done the analysis regarding the characteristics of individual investors at CSE and the behavioural factors affecting on individual investors' decision making at CSE. The researcher issued 165 samples for this study. Among that, all questionnaires have been responded. Researcher used all responded questionnaire without any rejection. Finally, the researcher analysed 165 samples (100%). In this process all the data collected from 165 respondents has been categorized and analysed based on the following basis,

Personal information

Research information

Gender distribution pattern of the individual investors at CSE is represented by the sample of 165. out of the sample, 57.6% of respondents are male and 42.4% of respondents are female. According to the analysis, most of the respondents are male than female. Age distribution pattern of the individual investors at CSE is represented by the sample of 165. 26.7% of the respondents are under the age group of 20-30 years, 27.3% of the respondents are under the age group of 31-40 years, 24.8% of the respondents are under the age group of 41-50 years and balance 21.2% of the respondents are under the age group of above 50 years. According to the analysis, most of the respondents are under the age group of 31-40 years than other age category. Out of sample 27.3% of the respondents are under the qualification of school final, 25.5% of the respondents are under the qualification of postgraduate, 22.4% of the respondents are under the qualification of graduate and 24.8% of the respondents are under the qualification of professional. According to the analysis, most of the respondents are under the qualification of school final. Out of sample 55.2% of the respondents are single and balance 44.8% of the respondents are married. According to the analysis, most of the respondents are single than married. Out of sample, 21.8% of the respondents are self-employed, 30.3% of the respondents are employed in government, 21.2% of the respondents are employed in private and balances 26.7% of the respondents are retired. According to the analysis, most of the respondents are employed in government. Out of sample 21.2% of the respondents' annual income under the group of below 2 lakhs, 25.5% of the respondents' annual income under the group of 200000-400000, 23% of the respondents' annual income under the group of Rs 400000-Rs 600000 and the balance 30.3% of the respondents' income under the group of above 6 lakhs. According to the analysis, most of the respondents' annual income is the group of above six lakhs.

Out of sample 21.2% of the respondents' annual savings under the group of below Rs 25000, 31.5% of the respondents' annual

savings under the group of Rs 25,000- Rs 50000, 20.6% of the respondents' annual savings under the group of Rs 50,000-Rs 100,000 and the balance 26.7% of the respondents' annual savings under the group of above Rs 100,000. According to the analysis, most of the respondents' annual savings is the group of Rs 25,000- Rs 50,000. Out of the sample 20.6% of the respondents' stock trading period is under 1 year, 25.5% of the respondents' stock trading period is 1-2 years, 15.2% of the respondents' stock trading period is 3-5 years, and 21.2% of the respondents' stock trading period is 5-10 Years. balance 17.6% of the respondents' stock trading period is above 10 years. According to the analysis, most of the respondents' stock trading period is 1-2 years. Out of sample 17% of the respondents are invested below 5000, 26.1% of the respondents invested 5000-10000, 17% of the respondents invested Rs10,000- Rs 20,000, 21.2% of the respondents invested Rs 20,000-Rs 50,000 and the balance 18.8% of the respondents invested above Rs 50,000. According to the analysis, most of the respondents invested at CSE between Rs 50,00 and Rs 10,000. Out of sample 20% of the respondents' last year investment at CSE under the group of Rs 50,00, 26.1% of the respondents' last year investment at CSE under group of Rs5,000- Rs 10,000, 12.7% of the respondents' last year investment at CSE under the group of Rs 10,000-Rs 20,000. 22.4% of the respondents' last year investment at CSE under the group of Rs 20,000-50000 and 18.8% of the respondents' last year investment at CSE under the group of above 50000. According to the analysis, most of the respondents' last year investment at CSE under the group of Rs 5000- Rs10000.

Table 1. Descriptive Statistics

	OC	AB	RA	MI	PST	BSD	DM
Mean	3.12	3.04	3.10	3.15	3.02	3.02	2.99
Maximum	5.00	5.00	5.00	5.00	5.00	4.67	4.13
Minimum	1.00	1.00	1.00	1.00	1.00	1.00	1.63
Standard Deviation	.16	.01	1.05	1.49	1.45	.86	.54
Total N	165	165	165	165	165	165	165

Source: Researcher's Findings

Table 1 illustrates the descriptive statistics for the behavioural factors affecting individual investors' decision making at CSE such as OC, AB, RA, MI, PST and BSD are independent variable and DM is dependent variable.

In the case of OC, the average value is 3.12 with the standard deviation of 0.16. Maximum value is 5 and minimum value is 1. Further, the variable AB is ranged between 1 and 5, the average value of this variable 3.04 with the standard deviation of 0.01. The next variable is RA, which average value is 3.10 with the standard deviation of 1.05. RA is ranged between 1 and 5. MI has the average value of 3.15 with the standard deviation of 1.49. The maximum value is 5 and the minimum value is 1. The PST fall the range of 1 to 5 with the standard deviation of 1.45. The average value of the PST is 3.02. The BSD is ranged between 1 to 4.67 with the standard deviation of 0.86 and the average value of 3.02. The DM fall the range of

1.63 to 4.13 with the average of 2.99 and the standard deviation of 0.54.

Correlation Analysis

Normally, the use of statistical correlation is to evaluate the strength of the relations between variables in a particular study. In this study, the researcher used correlation analysis to explain the significant relationship between independent variables and dependent variable, which express the significant relationship between the behavioural factors of individual investors' impacts on the investment decision making at CSE.

Table 2 Correlation Analysis

	OC	AB	RA	MI	PST	BSD	DM
OC	1						
AB	.136	1					
	.081						
RA	-.024	.013	1				
	.759	.865					
MI	.158	.045	.020	1			
	.042	.570	.803				
PST	.068	.091	.109	.109	1		
	.387	.243	.163	.164			
BSD	-.098	-0.009	-0.85	-.184	-.070	1	
	.209	.279	.018	.369			
DM	-.034	.041	.073	-.084	.041	-0.02	1
	.668	.597	.035	.028	.601	.020	

According to correlation analysis in Table 2, the correlation between Overconfidence (OC) and Decision Making (DM) is -0.034 with the p value 0.668, it implies that there is negative and insignificant relationship between Overconfidence (OC) and Decision Making (DM) of individual investors at CSE Sri Lanka. Where the p value is 0.668, which is above 0.05 significant level. The correlation Availability Bias (AB) and Decision Making (DM) is 0.041

Table 2 indicates the direction and strength of relationship between the independent variables such as OC, AB, RA, MI, PST, BSD and the dependent variable DM. Further the identified relationship tested whether significant or not with the probability value.

with the p value of 0.597; it implies there is positive but insignificant relationship between Availability Bias (AB) and Decision Making (DM) of individual investors at CSE Sri Lanka. Where the p value 0.597 is above 0.05 significant level. The correlation between Regret Aversion (RA) and Decision Making (DM) is 0.073 with the p value 0.035; it implies there is positive and significant relationship between Regret Aversion (RA) and Decision Making (DM) of individual investors at CSE Sri Lanka. Where the p value is 0.035, which is less than 0.05 significant level. The correlation between Market Information (MI) and Decision Making (DM) is -0.084 with the p value 0.028, it implies there is negative but

significant relationship between Market Information (MI) and Decision Making (DM) of individual investors at CSE Sri Lanka. Where the p value is 0.028, which is less than 0.05 significant level. The correlation between Past Trend of Stocks (PTS) and Decision Making (DM) is 0.041 with the p value 0.601; it implies there is positive but insignificant relationship between Past Trend of Stocks (PTS) and Decision Making (DM) of individual investors at CSE Sri Lanka. Where the p value is 0.601, which is higher than 0.05 significant level. The correlation between Buying and Selling of Other Investors (BSD) and Decision Making (DM) is -0.002 with the p value 0.020, it implies there is negative but significant relationship between Buying and Selling of Other Investors (BSD) and Decision Making (DM) of individual investors at CSE Sri Lanka. Where the p value is 0.020, which is less than 0.05 significant level.

Regression Analysis

Multiple regression analysis is a statistical process for estimating among variables. It includes many techniques for modelling and analysing several variables, when the focus is on the significant relationship between a dependent variable and one or more independent variables. A regression analysis was carried out by the researcher to determine whether there is an impact of behavioural factors of individual investors on decision making at CSE.

The results of the analysis are given in the following

Table 3. Model Summary of Behavioural Factors DM

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.130a	.047	-.020	.54673

Table 3 Explains that R Square value of 0.047 denotes that 4.7% of the observed variability can be explained by the difference in the independent variables, namely OC, AB, RA, MI, PTS and BSD respectively. Remaining 95.3% variance in the decision-making is attributed by other variables, which are not depicted in the model.

Table 4 Indicates that the analysis of variance for the Behavioural Factors of Individual Investors and Decision Making (DM). It represents the significant value of 0.141, which is more than at 5% significant level. Therefore, there is insignificant impact of behavioural factors on investment decision making of individual investors at CSE in Sri Lanka.

Table 4. Model Summary of Behavioural Factors DM

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	.815	6	.136	1.455	.141b
1 Residual	47.229	158	.299		
Total	48.044	164			

Table 5 Coefficients of predictors of DM

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
(Constant)	2.931	.300		9.779	.000
OC	-.014	.041	-.028	.343	.732
AB	.024	.043	.045	.557	.578
RA	.035	.041	.068	.886	.039
MI	-.033	.030	-.090	1.100	.027
PST	.015	.030	.040	.502	.616
BSD	-.007	.051	-.012	-.146	.018

The independent variable consists of six indicators such as OC, AB, RA, MI, PTS and BSD while the dependent variable is DM. based on these variables the researcher developed regression analysis for this study. The predictor equation of the multiple regression models took the following form.

In the Table 5 The significant value of OC is 0.732, which is greater than 0.05. Therefore, there is insignificant impact of behavioural factors on investment decision making of individual investors at CSE in Sri Lanka. The significant value of AB is 0.578, which is greater than 0.05. Therefore, there is insignificant impact of behavioural factors on investment decision making of individual investors at CSE in Sri Lanka. The significant value of PST is 0.616, which is greater than 0.05. Therefore, there is insignificant impact of behavioural factors on investment decision making of individual investors at CSE in Sri Lanka. The significant value of RA is 0.039, which is less than 0.05. Therefore, there is significant impact of behavioural factors on investment decision making of individual investors at CSE in Sri Lanka. The significant value of MI is 0.027, which is less than 0.05. Therefore, there is significant impact of behavioural factors on investment decision making of individual investors at CSE in Sri Lanka. The significant value of BSD is 0.018, which is less than 0.05. Therefore, there is significant impact of behavioural factors on investment decision making of individual investors at CSE in Sri Lanka.

At last, the researcher formulated the following equation with constant results appears in the B value; basic equation,

$$DM = \alpha + \beta_1 RA + \beta_2 OC + \beta_3 AB + \beta_4 MI + \beta_5 PTS + \beta_6 BSD + \varepsilon$$

Apply the “ β ” value in the equation will be,

$$DM = 2.931 + 0.035 RA - 0.014 OC + 0.024 AB - 0.033 MI + 0.015 PTS - 0.007 BSD + \varepsilon$$

Hypotheses Testing

Hypothesis testing focuses on hypothesis, which have been already formulated, according to the conceptual framework, the results of the hypothesis are shown below.

H1: There is a significant impact of behavioural factors on investment decision making of individual investors at CSE.

H1 is rejected because p value based on ANOVA table is 0.141, which is more than at 5% significant level. Therefore, there is

insignificant impact of behavioural factors on investment decision making of individual investors at CSE in Sri Lanka.

H1a: The Regret Aversion has the impact on the investment decision of the individual investors at CSE

H1a is accepted because p value of Regret Aversion is 0.039, which is less than at 5% significant level. Therefore, the Regret Aversion has the significant impact on the investment decision of the individual investors at CSE.

H1b: The Overconfidence has the impact on the investment decision of the individual investors at CSE

H1b is rejected because p value of Overconfidence is 0.732, which is greater than at 5% significant level. Therefore, there is insignificant impact of Overconfidence on the investment decision of the individual investors at CSE.

H1c: The Availability Bias has the impact on the investment decision of the individual investors at CSE.

H1c is rejected because the p value of Availability Bias is 0.578, which is greater than at 5% significant level. Therefore, there is insignificant impact of Availability Bias on the investment decision of the individual investors at CSE.

H1d: The Market Information has the impact on the investment decision of the individual investors at CSE

H1d is accepted because the p value of Market Information is 0.027, which is less than at 5% significant level. Therefore, there is significant impact of Market Information on the investment decision of the individual investors at CSE.

H1e: The Past Trends of Stock have the impact on the investment decision of the individual investors at CSE.

H1e is rejected because the p value of Past Trends of Stock is 0.616, which is greater than at 5% significant level. Therefore, there is insignificant impact of Past Trends of Stock on the investment decision of the individual investors at CSE.

H1f: The Buying and Selling of Other Investors have the impact on the investment decision of the individual investors at CSE.

H1f is accepted because the p value of Buying and Selling of Other Investors is 0.018, which is less than at 5% significant level. Therefore, there is significant impact of Buying and Selling of Other Investors on the investment decision of the individual investors at CSE.

Table 6. Summary of the Hypotheses Tested

No	P Value	Tool	Results
H1	0.141	0.141>0.05	Rejected
H1a	0.039	0.039<0.05	Accepted
H1b	0.732	0.732>0.05	Rejected
H1c	0.578	0.578>0.05	Rejected
H1d	0.027	0.027<0.05	Accepted
H1e	0.616	0.616>0.05	Rejected
H1f	0.018	0.018<0.05	Accepted

Source: Researcher's Findings

IX. DISCUSSION OF FINDINGS

The study endeavoured to examine the impact of behavioural factors on individual investors' investment decision making at CSE Sri Lanka. This study initially found that 4.7% of the observed variability can be explained by the difference in the independent variables, namely Over confidence, Availability Bias, Regret Aversion, Market Information, Past Trend of Stock and Buying and Selling of other Investors respectively. Remaining 95.3% variance in the decision-making is attributed by other variables, which are not depicted in the model.

There is insignificant impact of behavioural factors on investment decision making of individual investors at CSE in Sri Lanka at 5% significant level. The Regret Aversion has the positive, significant impact on the investment decision of the individual investors at CSE with the β value is 0.035, and P value is 0.039. There is negative and insignificant impact of Overconfidence on the investment decision of the individual investors at CSE with the β value is -0.014 and P value is 0.732. There is positive but insignificant impact of Availability Bias on the investment decision of the individual investors at CSE with the β value is 0.024 and P value is 0.578. There is negative but significant impact of Market Information on the investment decision of the individual investors at CSE with the β value is -0.033 and P value is 0.027. There is positive but insignificant impact of Past Trends of Stock on the investment decision of the individual investors at CSE with the β value is 0.015 and P value is 0.616. There is negative but significant impact of Buying and Selling of Other Investors on the investment decision of the individual investors at CSE with the β value is -0.007 and P value is 0.018. Based on the hypothesis testing, the Overconfidence, Availability Bias and Past Trends of Stock have insignificant impact on investment decision of individual investors at CSE. The Regret Aversion, Market Information, Buying, and Selling of Other Investors have significant impact on investment decision making of individual investors at CSE.

Moreover, the study examined the relationship between the behavioural factors and individual investors' decision-making at CSE Sri Lanka. The correlation between Overconfidence (OC) and Decision Making (DM) is -0.034 with the p value 0.668, it implies that there is negative and insignificant relationship between Overconfidence (OC) and Decision Making (DM) of individual investors at CSE Sri Lanka. Where the p value is 0.668, which is above 0.05 significant level. The correlation Availability Bias (AB) and Decision Making (DM) is 0.041 with the p value of 0.597; it implies there is positive but insignificant relationship between Availability Bias (AB) and Decision Making (DM) of individual investors at CSE Sri Lanka. Where the p value 0.597 is above 0.05 significant level. The correlation between Regret Aversion (RA) and Decision Making (DM) is 0.073 with the p value 0.035; it implies there is positive and significant relationship between Regret Aversion (RA) and Decision Making (DM) of individual investors at CSE Sri Lanka. Where the p value is 0.035, which is less than 0.05 significant level. The correlation between Market Information (MI) and Decision Making (DM) is -0.084 with the p value 0.028, it implies there is negative but

significant relationship between Market Information (MI) and Decision Making (DM) of individual investors at CSE Sri Lanka. Where the p value is 0.028, which is less than 0.05 significant level. The correlation between Past Trend of Stocks (PTS) and Decision Making (DM) is 0.041 with the p value 0.601; it implies there is positive but insignificant relationship between Past Trend of Stocks (PTS) and Decision Making (DM) of individual investors at CSE Sri Lanka. Where the p value is 0.601, which is higher than 0.05 significant level. The correlation between Buying and Selling of Other Investors (BSD) and Decision Making (DM) is -0.002 with the p value 0.020, it implies there is negative but significant relationship between Buying and Selling of Other Investors (BSD) and Decision Making (DM) of individual investors at CSE Sri Lanka. Where the p value is 0.020, which is less than 0.05 significant level.

X. CONCLUSION OF THE STUDY

In brief, the study attempted to find out the impact of behavioural factors on individual investors' decision making at CSE Sri Lanka and the relationship between behavioural factors and individual investors' decision making at CSE Sri Lanka. The study used multiple linear regression model to find out the impact of behavioural factors on individual investors' decision-making at CSE Sri Lanka. Statistical techniques of correlation analysis, regression analysis, and SPSS computer package were used to investigate the research problem and concluded the study.

The research, as overall, there is insignificant impact of behavioural factors on investment decision making of individual investors at CSE in Sri Lanka at 5% significant level. The Regret Aversion has the positive, significant impact on the investment decision of the individual investors at CSE with the β value is 0.035, and P value is 0.039. There is negative and insignificant impact of Overconfidence on the investment decision of the individual investors at CSE with the β value is -0.014 and P value is 0.732. There is positive but insignificant impact of Availability Bias on the investment decision of the individual investors at CSE with the β value is 0.024 and P value is 0.578. There is negative but significant impact of Market Information on the investment decision of the individual investors at CSE with the β value is -0.033 and P value is 0.027. There is positive but insignificant impact of Past Trends of Stock on the investment decision of the individual investors at CSE with the β value is 0.015 and P value is 0.616. There is negative but significant impact of Buying and Selling of Other Investors on the investment decision of the individual investors at CSE with the β value is -0.007 and P value is 0.018. Based on the hypothesis testing, the Overconfidence, Availability Bias and Past Trends of Stock have insignificant impact on investment decision of individual investors at CSE. The Regret Aversion, Market Information, Buying, and Selling of Other Investors have significant impact on investment decision making of individual investors at CSE.

Moreover, the study examined the relationship between the behavioural factors and individual investors' decision-making

at CSE Sri Lanka. The study found that there is negative and insignificant relationship between Overconfidence (OC) and Decision Making (DM) of individual investors at CSE Sri Lanka with r value is -0.034 and the p value 0.668. There is positive but insignificant relationship between Availability Bias (AB) and Decision Making (DM) of individual investors at CSE Sri Lanka r value is 0.041 and the p value of 0.597. There is positive and significant relationship between Regret Aversion (RA) and Decision Making (DM) of individual investors at CSE Sri Lanka r value is 0.073 and the p value 0.035. There is negative but significant relationship between Market Information (MI) and Decision Making (DM) of individual investors at CSE Sri Lanka r value is -0.084 and the p value 0.028. There is positive but insignificant relationship between Past Trend of Stocks (PTS) and Decision Making (DM) of individual investors at CSE Sri Lanka r value is 0.041 and the p value 0.601. There is negative but significant relationship between Buying and Selling of Other Investors (BSD) and Decision Making (DM) of individual investors at CSE Sri Lanka r value is -0.002 and the p value 0.020.

Therefore, these findings are expressed that the Overconfidence, Availability Bias and Past Trends of Stock will not have major impacts on investment decision making. The individual investors have the knowledge on Regret Aversion, Market Information and Buying and Selling of Other Investors while making investment decisions at CSE Sri Lanka.

XI. RECOMMENDATIONS

This study enhanced users or readers to obtain better understanding on the behavioural factors impact on individual investors' decision-making at CSE Sri Lanka currently. According to the above results, which are confirmed by this study and discussed in detail previous chapters, the following recommendation can be stated. As overall, Overconfidence, Availability Bias and Past Trends of Stock have negative relationship with individual investors' decision making at CSE Sri Lanka and Regret Aversion, Market Information and Buying and Selling of Other Investors have positive relationship with individual investors' decision making at CSE Sri Lanka. Recommendation given to investors are that they should carefully consider that the market information to the price movement as well as the importance of technical analysis in forecasting. Individual investors are recommended to choose good investment partners to consider as references for their investment. Investors should establish the forums to support each other in finding reliable information of stock market. The corporation of a crowd of investors can help limit the risks and increase the chances to have good investment results. Investors should carefully consider the investment options independently before allowing for the investors' decisions of buying and selling stocks. Investors should consider that to avoid selling shares that have decreased in value, and readily sell shares that have increased in value while decision making about selling and buying of stocks. By understanding, how these independent variables affect the individual investors' decision-making at CSE Sri Lanka can take better decision about their investment to gain better outcome.

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QUESTIONNAIRE

A Study On The Impact Of Behavioural Factors On Investment Decision Making In Cse: Special Reference To Jaffna District

01. Personal Information

1. **Gender** : Male ☐ Female ☐
2. **Age** :years
3. **Academic qualification** : 1) School Final ☐ 3) Post graduate ☐
2) Graduate ☐ 4) Professional ☐
4. **Marital status** : 1) Married ☐ 2) Unmarried ☐
5. **Occupation** : 1) Self employed ☐
2) Employed in Government ☐ 3) Employed in Private ☐
4) Retired ☐
6. **Annual income in RS** : 1) Below 2 lakhs ☐ 3) 4 lakhs to 6 lakhs ☐
2) 2 lakhs to 4 lakhs ☐ 4) above 6 lakhs ☐
7. **How much do you save Annually (in RS Approx.):**
1) Less than Rs. 25000 ☐
2) Rs 25000 to 5000 ☐
3) Rs 50000 to 1lakh ☐
4) Rs 1lakh and above ☐
8. **How long you attended the stock market:**
1) under 1 year ☐ 2) 1-2 years ☐
3) 3-5 years ☐ 4) 5-10 years ☐
5) Above 10 years ☐
9. **The total amount of money that you have invested at CSE:**
1) Under 5000 ☐ 2) 5000 - 10000 ☐
3) 10000 -20000 ☐ 4) 20000 -50000 ☐
5) Above 50000 ☐
10. **The total amount of money that you have invested at CSE during last year:**
1) Under 5000 ☐ 2) 5000 - 10000 ☐
3) 10000 -20000 ☐ 4) 20000 -50000 ☐
4) Above 50000 ☐

02. Behavioural Factors Influencing Your Investment Decisions

Please evaluate the degree of your agreement with the impacts of behavioural factors on your investment making.

Factors	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
11. You are normally able to anticipate the end of good or poor market returns at CSE Sri Lanka.					
12. You believe that your skills and knowledge of stock market can help you to outperform the market.					
13. You buy 'hot' stock and avoid stocks that performed poorly in the recent past.					
14. You prefer to buy local stocks than international stocks because the information of local stocks is more available.					
15. You avoid selling shares that have decreased in value and readily sell shares that have increased in value.					

16. You feel more sorrow about holding losing stocks too long than about selling winning stocks too soon.					
17. Market information is important for your stock investment.					
18. You put the past trends of stocks under your consideration for your investment.					
19. You use trend analysis of some representative stocks to make investment decisions for all stocks that you invest.					
20. You ignore the connection between different possibilities.					
21. You rely on your previous experience in the Market for your next investment					
22. You have the over-reaction to price changes of stocks.					
23. You forecast the changes in stock prices in the future based on the recent stock prices					
24. You consider the information from your close friends and relatives as the reliable reference for your investment decisions.					
25. You analyse the companies' customer preference before you invest in their stocks.					
26. You study about the market fundamentals of underlying stocks before making investment decisions.					
27. Other investors' decisions of choosing stock types have impact on your investment decisions.					
28. Other investors' decisions of the stock volume have impact on your investment decisions.					
29. Other investors' decisions of buying and selling stocks have impact on your investment decisions.					