

# “An Empirical Analysis on Behavioural Pattern of Indian Retail Equity Investors”

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## Abstract

Behavioural finance is an emerging field that combines the understanding of behavioural and cognitive psychology with financial decision making process. The present paper examine the presence and relationship of behavioural factors on investment decision and investment performance of retail equity investors in India. From the existing literature, the study has identified broad behavioural factors such as Overconfidence, Representativeness, Anchoring, Mental Accounting, Disposition effect, herd behaviour, loss aversion, Regret aversion and market factors that influence on investment decisions. The present paper conducted a Structural equation model (SEM) to confirm the presence of these factors on retail equity investors' decision in India and also find to what extent these behavioural factors have an impact on investment performance of retail equity investors. The study was conducted by using a structured questionnaire from a sample of 182 prospective retail equity investors residing twin cities of Hyderabad and Secunderabad cities. The results of the study revealed that behavioural factors such as Overconfidence, Disposition effect and Herd behaviour had significant and positive relationship with investment performance whereas market factors had negative relationship with investment performance. The findings of the study would be useful for the investors to have a better understanding of the common mistakes made in their decisions and to identify the behaviours which leads to better returns and also helpful to the financial planners and investment advisors to build suitable asset allocation policies for their clients.

**Keywords:** Behavioural finance, Herd behaviour, Mental Accounting, Anchoring

**JEL Classification:** G02, G11

## 1. Introduction

Studies of different types of investors over the past 20 years shows that equities have done exceedingly well with returns of 15%. Yet whenever we ask investors about their investment performance, the majority say that equity investments are risky and they have lost money in the stock market. They always curse the volatility and blame it for their losses. Even well-educated investors with an above average IQ do not do well on the stock market. It's a paradox that while equity investments have done well, investors have done poorly.

Recent studies on individual investors' investment behaviour have shown that investors do not act in a rational manner, rather several factors influence their investment decisions in the stock market. In this context, an empirical study was conducted to examine the relationship of various behavioural factors on investment decisions and investment performance of retail equity investors in India.

## 2. Rationale of the study

Financial markets are growing all over the world. Every country needs to attract capital for its growth and stock market could be the better route for raising the needed capital. Stock market is the barometer of country's economic development.

Chief Executive Officer of BSE, Mr. Ashish Kumar Chauhan<sup>1</sup>, stated that over the 138 years of the BSE history, India's market capitalisation has grown to \$ 1.3 trillion that is Rs.65 lakh crores and Sensex has risen from 100 since its launch in the year 1980 to 27000 levels by the end of 2015. Among the all financial instruments available in the financial market, only stock markets are generating better returns for a long term perspective. Further, over the past 20 years, transaction costs have come down by 99% and the market has become safer and more trackable. Despite of this, today only two crore retail investors take part in the stock market which is only 2% of India's population whereas retail investors' participation in developed countries like USA and UK is 34%. – Report from Value research online

A recent census survey<sup>2</sup> in India revealed that by the year 2020, 60% of population constitutes Youth. As youth is generating more investments, there is a need to understand them that various opportunities available in the financial market that generates good returns. These investments will help in building the nation considering that the money invested in stocks goes to industries, which helps the economy grow and create jobs.

But Indian stock market is a highly volatile, sensitive and reactive to the unanticipated shocks and changes. Understanding the stock market as how it works and what to expect from it is a huge piece of armour

<sup>1</sup>. [https://www.valueresearchonline.com/story/h2\\_storyView.asp?str=25262](https://www.valueresearchonline.com/story/h2_storyView.asp?str=25262)

<sup>2</sup>. [www.censusindia.gov.in/2011...Population/Adolescents\\_and\\_Youth\\_in\\_...](http://www.censusindia.gov.in/2011...Population/Adolescents_and_Youth_in_...)

that an individual entered into the battlefield can take with him. Understanding the behavioural finance will help the investors to select a better stock investment and can avoid repeating the expensive errors in future.

### 3.Scope of the study

There is an extensive research has been taken place in developed countries to understand the individual investor behaviour, but very few studies has been conducted in Asian countries especially in India. The results of the existing studies has revealed that apart from the fundamentals, there are numerous factors influencing the investor behaviour. Most of the studies on investor behaviour taken place on institutional investors and very few studies on individual investor behaviour. In this context, the present study mainly focused on retail equity investors who are residing twin cities of Hyderabad and Secunderabad cities. The present study has mainly focused on the most influencing behaviours such as Heuristic, Emotional, Herding and market behaviour on individual investors' decision making process and how they impact the investment performance.

### 4. Review of Literature

Traditional finance theories such as Capital Asset Pricing Model, Efficient Market Hypothesis and Modern portfolio theories presumes that markets are efficient & people make rational decisions to maximise profits. Efficient Market Hypothesis is considered as the major pillar of traditional financial theory and has been the dominant investing theory for more than 30 years (from the early 60s to the mid-90s). But after 1990s, researchers and academicians have been identified various anomalies and behaviours which these traditional theories could not explain. Two popular examples are (I) The January Effect <sup>1</sup>(ii) The Winner's Curse<sup>2</sup>

As more and more anomalies were identified, the concept of EMH was criticized and the new emerging school of behavioural economists argued that markets are not efficient, especially in the short run, and people do not make rational decisions to maximize profits. Human beings are susceptible to numerous behavioural anomalies, which become counter-productive to the wealth- maximization principle leading to irrational behaviour. These thoughts leads to the development of new domain of finance, called as Behavioural finance which incorporates the psychology in to financial decisions.

#### 4.1 Behavioural finance

Behavioural finance is focusing on individual investor behaviour at micro level and stock market behaviour at macro level by incorporating the psychology in to financial theory (Fromlet, 2001). Studies on Behavioural finance shows how cognitive & emotional factors affect the rational behaviour in investment decision. An Understanding of how our emotions result in irrational behaviour is indispensable for any investor. The study of behavioural anomalies helps an investor to accomplish just that task.

According to Sewell (2007), "Behavioural finance is the study of influence of psychology on the behaviour of financial practitioners and the subsequent effect on markets". Daniel Kahneman and Amos Tversky are referred as fathers of Behavioural finance as they are the early proponents of behavioural finance by introducing behavioural aspects into investment decisions. During the period from 1990 to 2010, many researches have been taken place regarding the investment behaviour of retail equity investors in developed countries. Most of the studies' results had revealed that apart from fundamentals, there are several behavioural biases had a strong influence on investors' stock selection decision.

Nagy and Obenberger(1994),Tomola Marshal Obamuyi(2013) from their studies have identified 34 contextual factors that grouped into 5 categories such as Personal and Financial needs, Accounting information, Neutral information, Firm image and Advocate recommendations has an influence on individual investor behaviour.

Dimitrios I. Maditinos et al.(2007) from their study concluded that individual investors rely more on news papers and media and noise in the market when making their investment decisions, while professional investors rely more on fundamental and technical analysis and less on portfolio analysis. Odean.T (1998), Geoffrey GitauMwangi (2011) had found that heuristics such as Anchoring, Representativeness and Availability bias had more influence on investment decision. Lephuc Doan Thi Ha (2011), Rahul subhash (2011) in their research on individual investor behaviour, results revealed that five behavioural factors affecting the investment decisions of individual investors such as Herding, Prospect, Overconfidence and Anchoring and Market factors. Abhijeet Chandra and Ravinder Kumar (2011), Dr.S.Jayaraj (2012) from their research have found that there are some psychological axes such as conservatism, under confidence, prudence, precautious attitude and information

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<sup>1</sup>.January effect: According to Rozeff and Kinney, it is an anomaly that without any fundamental reasons, the price of stocks increases in the month of January.

<sup>2</sup> Winners Curve: Thaler(1988) states that Winners curve is an anomaly where the winning big in an auction tends to exceeds intrinsic value of the item purchased, mainly due to incomplete information and emotions leading bidders to over estimating the items value.

asymmetry have an influence on individual investor decision making. Sohani Islam (2012) had found that psychological factor is the most dominating influence upon investor's decision making process and micro economic factor also has an influence on selection of better investments. Studies of Warren (1990), Gaurav Kabra, Prashant Kumar, Manoj Kumar dash (2010) concluded that demographic factors had a significant influence on investor decision making process.

From the above existing literature, it was found that behavioural factors had an influence on the investment decisions of individual investors in the financial markets, especially stock markets. The present study has considered the broad behavioural factors that had influence on individual investor decision making.

#### **4.2 Broad Behavioural factors influencing investors' behaviour and performance**

##### 4.2.1 Heuristics

According to Daniel Kahneman and Amos Tversky (1990), "Heuristics are simple efficient rules of thumb which have been proposed to explain how people make decision, come to judgement and solve problems, typically when facing complex problems or incomplete information". They are the first writers who studied the factors belonging to heuristics by introducing three factors such as Representativeness, Availability bias and Anchoring. Waweru et al. (2008) proposed that heuristics are quite useful, particularly when time is limited. He also list two factors as Gambler's fallacy and Overconfidence into Heuristic theory. Heuristics are the short cuts, the brain takes when processing the information. It does not process full information. This leads to cognitive biases.

###### 4.2.1.1 Representativeness

Resemblance to a certain attribute or quality is termed as representative of that particular group. This is known as Representativeness (Kahneman and Tversky, 1974). The outcome of Representativeness bias is where people put too much weight on recent experience and ignore the long term return (Ritter, 2003). Robust growth in the economy is representative of good times ahead for business and companies. Higher the stock prices are the representative of companies doing well and investors tend to chase stocks and are willing to pay any price for them. From period 2003 to 2008, India's GDP grew from 6% to 9%, while the BSE Sensex grew seven-fold, from 2800 to 21000. The stocks had a much faster run than what the fundamentals of the economy justified. This the way representative thinking works.

###### 4.2.1.2 Anchoring

In financial markets, Anchoring arises when a value scale is fixed by recent observations such as 52 week high-low of a stock price, initial purchase price as investor consider when buying and selling the stocks. Anchoring has some connection with representativeness as it also focuses on recent experience (Waweru et al. (2008). Getting anchored to the right investment principles could save the investors a lot of heartburn. The problem is that right investment principle do not promise short term and abnormal returns. They are representative of slow, steady and long term returns.

###### 4.2.1.3 Overconfidence

One of the most significant and irrefutable findings of behavioural psychologists is that people are overconfident in their judgements. They over-estimate the reliability of their knowledge and skills (Debondt and Thaler, 1995). Studies of Allens and Evans (2001), Anderson et al. (2005) reveals that overconfident investors trade too much higher than the rational investors which significantly influence the trading volume and results in higher returns. But the studies of Kim and Nofsinger (2003) has claimed that overconfident investors are more likely to sell their winners and hold their losers, which can badly affect their investment results.

###### 4.2.1.4 Availability bias

People tend to make decisions based on recent events, which are vivid in their minds. When certain types of information hit on a regular basis, they tend to be swayed by such information. Their decision making process gets guided by this recently and regularly available information. In times of optimism in the markets, there is a lot of investor interest regarding company news, new offerings, new investment tips etc. Media plays a very important role in the creation of this bias. They are the vehicles for spreading the ideas in the form of the robustness of the economy, huge investment flow from foreign institutional investors and the new operator driven stock so on. In stock trading, this bias manifest itself through the preference of investing in local companies which investors are familiar and easy accessibility of information (Waweru et al. 2003)

##### 4.2.2 Prospect Theory

Daniel Kahneman and Amos Tversky (1979) postulated the Prospect theory which explains that people tend to take more risks simply to avoid acknowledging a certain loss and avoid taking extra risk even if entails a higher profits. This theory describes some state of mind affecting an individual's decision making process including Regret Aversion, Loss Aversion and Mental Accounting.

###### 4.2.2.1 Loss Aversion

Loss Aversion refers to the fact that people are more upset when they experience losses as compared to the satisfaction they derive from a similar gain. Studies of Barberis and Huang (2001), Barberis and Thaler (2003) have showed that the pain of a loss is three times greater than the joy from an equal amount of gain. Investors

are not risk averse or else they would not enter the market. But they are loss averse. They will shy away from any opportunity where there is a loss. This behaviour leads to Disposition effect where they are selling the winners very fast and holding the losers till the prices appreciates.

#### 4.2.2.2 Regret Aversion

Regret is an emotion that occurs after people make mistakes. Investors avoid regret by refusing to sell decreasing shares and willing to sell increasing ones. Moreover, they tend to be more regretful about holding losing stocks too long than selling the winning ones too soon. (Forgel and Berry, 2006)

#### 4.2.2.3 Mental Accounting

Mental Accounting is coined by Richard Thaler (1990) and defined as “the set of cognitive operations used by individuals and households to organise, evaluate and keep track of financial activities”. This results in a tendency where people separate their money into separate account based on a variety of subjective reasons. They hold on to losing stocks for various reasons to justify their action but the fact remains that mentally they are unwilling to accept that they are making a loss. Mentally they tend to believe that they book the loss only when they sell. This is a common mental accounting error.

#### 4.2.3 Herding

Herding in financial markets is a mutual imitation that leads to convergence of action (Hirshleifer and Teoh, 2003). This is the common mistake where investors tend to follow the investment decisions taken by the majority. This gives them the confidence that if anything goes wrong they are not the only ones affected. This creates a herd mentality among investors and they all buy what others are buying. The Reliance Power IPO, 2008 is an example of an instance where many investors subscribed without having full information on the issue. Scharfstein, Steins (1990), Waweru (2008) from their study, founded that investors apply to herd behaviour because they are concerned of what others think of their investment decisions.

#### 4.2.4 Market factors

Market factors are the external factors which influence the behaviour of sentimental and rational investors in different ways. The study on behavioural factors may not be adequate, if the market factors are not included in the study. The present study has taken into consideration various market factors that have an influence on irrational behaviour of investors. Waweru et al. (2008) in their study has identified some broad market factors such as price changes, market information, past trends of stocks, customer preference, over and under reaction to price changes and fundamentals of underlying stocks that have an impact on investors' decision making. Along with these market factors, the present study is included market index performance, influence of ruling party in the country and its government policies are also taken in to consideration.

#### 4.2.5 Investment Performance

Return on investment plays major role in deciding the best investment options available in the financial markets. There are various methods has been adopted by the various authors to measure the investment performance. But the present study is adopted ROI as the major basis for deciding the investment performance of equity investors (Oberlechner and Osler, 2004).

### 5. Objectives of the study

1. To identify the broad behavioural factors that determines the retail investors' stock selection decision.
2. To examine the impact levels of behavioural factors on investment performance of retail investors.

### 6. Research Methodology

#### 6.1 Design of the Study

The study is descriptive and empirical in nature as it is mainly aimed at portraying the characteristics and behaviour of retail equity investors' towards equity investment and investment performance. Hypotheses are framed to test the relationships between behavioural factors and investment performance of retail equity investors.

#### 6.2 Research approach

The study is quantitative in nature. Questionnaire method of collecting data is adopted. The questionnaire that has been put into study was developed by Loung and Thu Ha. A total of 200 questionnaires have been distributed and received 182 questionnaires which are fully completed and can be used for the research. It took 3 months to collect the responses. Simple random sampling technique was adopted to distribute the questionnaires. The respondents were from Hyderabad and Secunderabad cities. The study adopted the five point Likert scale which seems appropriate and ideal for survey instrument. The respondents were furnished with scenario based questions to which they were asked to mark their response in a range from 1 (strongly disagree) to 5 (strongly agree).

### 6.3 Hypothesis

H1: There is a significant relationship between Stock selection decision of equity investor and behavioural factors.

H2: There is a positive relationship between Heuristic factors and Investment performance of equity investors.

H3: There is a positive relationship between Herding factors and Investment performance of equity investors.

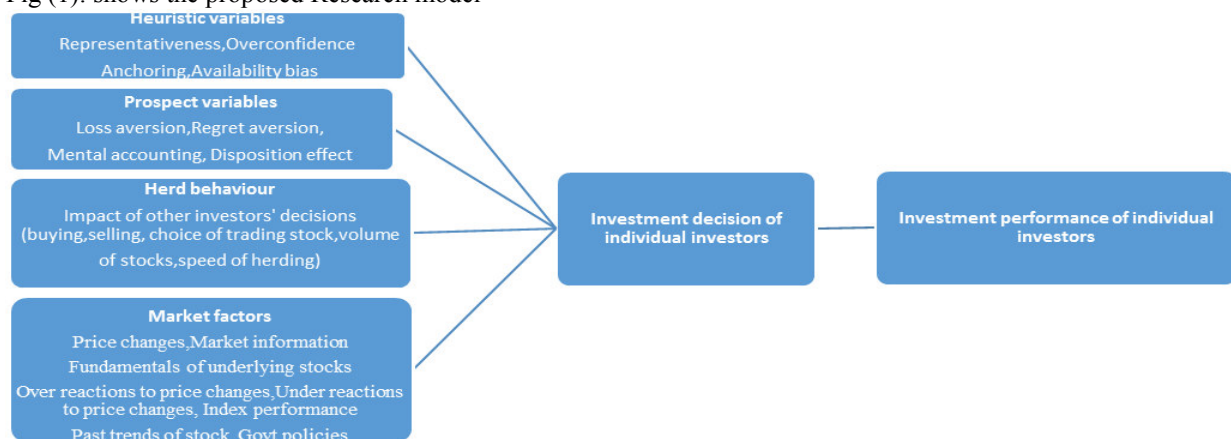
H4: There is a positive relationship between Prospect factors and Investment performance of equity investors.

H5: There is a positive relationship between Market factors and Investment performance of equity investors.

### 6.4 Research model

The proposed research model has been adopted from the study of Loung and Thu Ha by incorporating some characteristics from the Indian investors' perspective.

Fig (1): shows the proposed Research model



### 6.5 Procedure

To meet the objectives, hypotheses were tested using various statistical tools. Data collected had been first coded and then using AMOS 20 version, a Structural Equation Model has been applied to decide whether to accept or reject the hypotheses.

## 7. Results of the study

The present study has conducted Structural equation model (SEM) to portray relationships among variables. This model is used to confirm which behavioural factors have an impact on investment decision of individual investors as well as estimate the regression weights among them to accept or reject hypothesis. Various fit indices were calculated to check the model fit.

### 7.1 Results of Confirmatory Factor Analysis & Reliability Test

A Confirmatory factor analysis (CFA) is used to confirm the presence of observed variables on latent variables to indicate the model fit.

From the results of Confirmatory Factor analysis, the study has confirmed 5 behavioural factors that had presence on stock selection decision of retail equity investors. The factor loadings of selected observed variables on latent variables are significant as the factor loadings of observed variables and latent variables are more than 0.5 which indicates a good model-fit. It indicates that we cannot reject H1 & conclude that there is a significant relationship between stock selection decision and behavioural factors.

Table: 1 Shows Factor loadings of Behavioural Factors

Factors	Variables	Factor loadings
Overconfidence	X1	.844
	X3	.635
Anchoring	X6	.740
	X8	.622
Loss Aversion	X27	.649
	X28	.795
Market factors	X34	.835
	X35	.797
Herding	X23	.834
	X24	.849
	X25	.797
	X26	.818
Investment performance	X51	.831
	X52	.823
	X53	.634
	X54	.732

Cronbach's Alpha is used to test the reliability of items included in the factors. This test is conducted to ensure that the measurements are reliable for further use. Table: 2 shows that Cronbach's Alpha values of all factors are greater than 0.6 except Anchoring factor as its Alpha value is less than 0.6. The significant of F test for each factor is conducted to make sure the suitability of using Cronbach's Alpha technique for the data is less than 0.05. These indexes show that items included in the factors: Herding, Overconfidence, Loss Aversion and Market are reliable enough for further use.

Table: 2 shows Reliability statistics

Factors	variable	cronbach Alpha	corrected Item total correlation	cronbach Alpha item deleted	F(sig)
Overconfidence	X1	.612	.45	-	0.012
	X3		.45	-	
Anchoring	X6	.53	.37	-	0.01
	X8		.37	-	
Loss Aversion	X27	.633	.47	-	0.048
	X28		.47	-	
Market factors	X34	.782	.642	-	0.04
	X35		.642	-	
Herding	X23	.872	.753	.828	0.013
	X24		.773	.818	
	X25		.680	.855	
	X26		.714	.841	
Investment performance	X51	.785	.652	-	0.015
	X52		.673	-	
	X53		.712	-	
	X54		.625	-	

### 7.2 Relationship between behavioural factors and Investment performance

The study used AMOS 20 version to assess the extent to which the broad behavioural factors has relationship with investment performance of retail equity investors. If p value is less than 0.05, then the estimations are significant. In the present model all estimations are less than 0.05 (p value less than 0.00 is indicated as \*\*\*\*).

The regression estimates presented in Table: 3 examined the direct association between the study constructs. It is noted that the level of significance is based on the critical ratio (CR) of the regression estimates. Thus when CR values are greater than or equal to 2.58, it indicates a 99% level of significance and when CR values are greater than or equal to 1.96 but less than 2.25 it indicates a 95% level of significance.

Accordingly in the model, the values state that behavioural factors such as Overconfidence, Loss aversion and herding factors were regressed significantly and positively as the heuristic behaviour which is related to Over confidence has highest positive impact on the investment performance with the regression estimate of 0.41 and Critical ratio of 3.699 (sig=0.02). The prospect behaviour which related to loss aversion has also positively influence the investment performance with regression estimate of 0.35 and critical ratio of 2.894(sig=0.09). The herd behaviour has low positive influence on investment performance with regression estimate of 0.02 and critical ratio of 2.612(sig=0.041). It indicates that these 3 factors had significant and positive relationship with investment performance at 99% level of confidence. The market factors have negative impact on investment performance with regression estimate of -0.11 and critical ratio of -1.648(sig=0.035). The results revealed that hypothesis H2, H3, H4 can't be not rejected and conclude that there is a positive relationship between the factors of Overconfidence, Loss Aversion, Herding with investment performance. The hypothesis H5 is rejected and conclude that there is a negative relationship between market factors and investment performance.

Table: 3 Regression Weights

	estimate	S.E	C.R	P	Decision
Inv performance ←----- Herding	.020	.085	2.612	.041	Significant
Inv performance ←----- Prospect	.432	.167	2.894	.009	Significant
Inv performance ←----- Market	-.137	.083	-1.648	.035	Significant
Inv performance ←----- Heuristic	.339	.154	3.699	.028	Significant
Q36 ←----- Herding	1.423	.186	7.656	***	Significant
Q37 ←----- Herding	1.302	.165	7.899	***	Significant
Q38 ←----- Herding	1.000				
Q39 ←----- Herding	1.193	.163	7.328	***	Significant
Q40 ←----- Prospect	1.000				
Q41 ←----- Prospect	1.209	.575	2.103	.035	Significant
Q47 ←----- Market factors	3.004	1.538	1.953	.05	
Q48 ←----- Market factors	1.000				
Q19 ←----- Heuristic	.777	.336	2.310	.021	Significant
Q21 ←----- Heuristic	1.000				
Q51←----- Investment performance	1.000	.133	5.917		
Q52←----- Investment performance	.788	.189	6.012	***	Significant
Q53←----- Investment performance	1.135	.132	6.903	***	Significant
Q54 ←--- Investment performance	.913			***	Significant

Table:4 Standardised Regression Weights

	Stimate
Inv performance ←- Herding	.024
Inv performance←-Prospect	.347
Inv performance←- Market	-.113
Inv performance←-Heuristic	.407
Q36 ←----- Herding	.822
Q37 ←----- Herding	.856
Q38 ←----- Herding	.723
Q39 ←----- Herding	.783
Q40 ←----- Prospect	.568
Q41 ←----- Prospect	.829
Q47 ←----- Market	.595
Q48 ←----- Market	.462
Q19 ←----- Heuristic	.549
Q21 ←----- Heuristic	.811
Q51 ←----- Inv Performance	.653
Q52 ←----- Inv Performance	.723
Q53 ←----- Inv Performance	.735
Q54 ←----- Inv Performance	.782

The structural model fit is very good with GFI (Goodness-of-fit Index) = 0.92; CFI (Comparative fit Index) =0.932, TLI (Tucker-Lewis coefficient) = 0.89, RMSEA (Root mean square error of Approximation) = 0.08, CMIN/df=1.693 and p= 0.000. These indexes indicate a strong predictive validity of the model for the surveyed data.

Fig. 2 gives the estimates of factor loadings, regression weights between variables as well as the variance each variable explained by other variables.

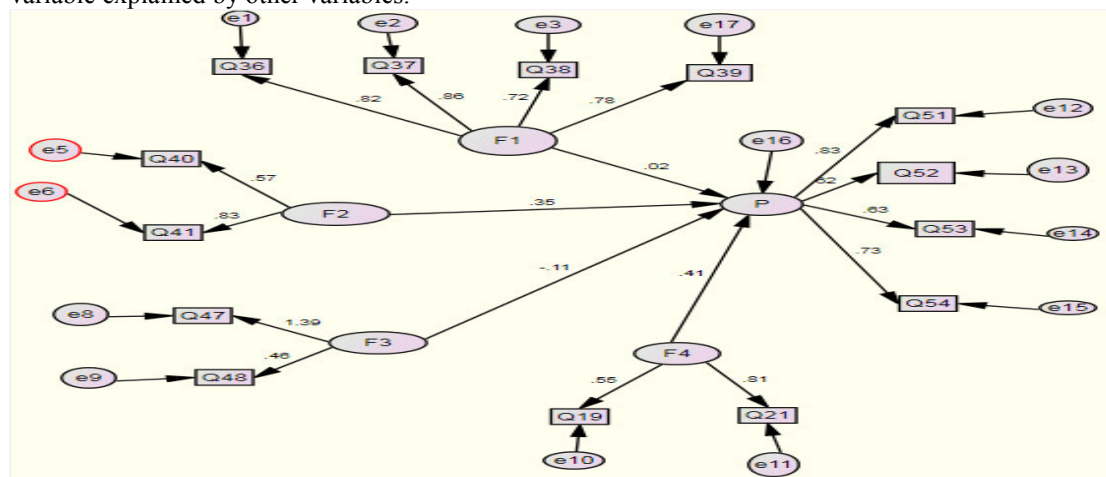


Table: 5 shows Model fit summery

Parameter	GFI	CFI	TLI	RMSEA	CMIN/d.f	p
Value	.92	.932	.89	.08	1.693	0.000

### 8. Discussion and Conclusion

The results of the present study provided the empirical support for the proposed model. The first hypothesis postulates a significant relationship between stock selection decision and behavioural factors. The results of the



data analysis supported the stated hypothesis that behavioural factors had exist among the retail equity investors and there is a significant relationship between behavioural factors and investors' stock selection decision.

The second hypothesis states that there is a positive relationship between heuristics factors and investment performance. The results indicates that Overconfidence as a heuristic factor had a strong positive relationship with investment performance. In every business, decisiveness is very important to catch the great opportunities. Investors, who are confident, probably utilize their skills and knowledge in certain circumstances to improve the investment results. Many researchers believe that overconfidence is good. The results of the present study support the findings of Allen and Evans (2001) and Anderson et al. (2005) that overconfident investors trade too much compared to the rational investors and excessive trading leads to greater returns. But the studies of Kim and Nofsinger (2003) contradict this behaviour and their results revealed that overconfident investors are more likely to sell their winners and hold their losers which badly affect their investment results. Thus, although overconfidence is good, but the investors should be careful as it may also have unexpected impact on investment performance.

The third hypothesis states that there is a positive relationship between Herding factors and Investment performance of equity investors. The results of the study revealed that Herding factor has less positive influence on investment performance. Hershleifer and Teoh (2003) argued that overconfidence can promote herding in security markets. Jaya M Prosad (2014) examined the herding behaviour in the macro level at stock market behaviour and micro level at individual investor behaviour. The results of the study revealed that herding is not existed in the Indian stock market, but it is existed among individual investor and especially old age investors and the present study support this results.

The fourth hypothesis states that there is a positive relationship between emotional factors and investment performance of equity investors. The results indicates that Loss aversion, an emotional factor has positive impact on investment performance. Many researchers argued that after a gain, people became more confident about their ability, they may ignore some information that can affect investment performance & especially they tend to believe in themselves rather than others' opinions. Some times this will leads to hasty decisions. Similarly after a loss, people are more upset and become insecure when facing any investment decision. They tend to forgo investing in such situation even if, in the long run, such an approach leads to higher returns. For any investment, they must weigh the risk-reward ratio and then come to a decision. Though the investor become very careful before making any investment decision, but too much carefulness leads to slow actions, thus they may miss a good chance for investment that generate better returns.

The fifth hypothesis states that there is a positive relationship between market factors and investment performance of retail equity investors. But the results revealed that Market factors have negative impact on investment performance. Evaluating the market factors are very important for an investor to take right decision regarding the investments.

## 9. Limitations and scope for further research

The present study has made an attempt to investigate the behavioural pattern of retail equity investors and not institutional investors. Generalization of the results may not be applicable to whole of Indian equity investors as the study chosen a small sample randomly for a specific region. It is necessary to have further research studies to confirm the findings of this research with large sample size and more diversity of respondents. The further research studies are also suggested to apply behavioural finance to explore the behavioural factors that have an impact on institutional investors at the Indian stock exchange. It is very important to understand the behaviour of institutional investors in order to control the volatility in the stock prices due to their actions. They are the stakeholders of a corporation and understanding their behaviour will help the corporation to manage its stock volatility.

## 10. References

1. Allen, D.W., & Evans, A.D. (2005). Bidding and Overconfidence in experimenting financial markets. *Journal of Behavioural Finance*, 6(3), 8-12
2. Anderson, D., Henker, J., Owen, S. (2005). Limit order Trading Behaviour and Individual Investor Performance. *The Journal of Behavioural Finance*, 6(2), 71-89
3. Barber, N., & Odean, T. (2001). Boys will be boys: Gender, Overconfidence and Common Stock Investment. *Quarterly Journal of Economics*, 116(1), 261-292. Retrieved January 23, 2014 from <http://qje.oxfordjournals.org/content/116/1/261>
4. Barberis, N., & Huang, M. (2001). Mental Accounting, Loss Aversion and Individual stock return. *The Journal of Finance*, 56(4), 1247-1292
5. Bryan, A., & Bell, E. (2011). *Business Research Methods*, 3<sup>rd</sup> Edition, Oxford University Press.
6. Chandra, A., & Kumar, R. (2011). Determinants of Individual Investor Behaviour: An Orthogonal Linear Transformation Approach. *MPRA Paper No.29722*, posted 22. Retrieved September 8, 2014 from

[http://mp.ra.ub.uni-muench.en.de/29722/1/Determinants\\_of\\_Individual\\_](http://mp.ra.ub.uni-muench.en.de/29722/1/Determinants_of_Individual_)

7. Debondt, W.F.M., & Thaler, R.H. (1995). Financial Decision-Making in Markets and Firms: A Behavioural Perspective, *Handbook in Operations Research and Management Science*, 9(13), 45-52
8. Evans, D.A. (2006). Subjective perception of confidence and predictive validity in financial cues, *Journal of Behavioural Finance*, 7(1), 12-28
9. Fogel, O., & Berry, T. (2006). The disposition effect and individual investor decisions: The roles of regret and counterfactual alternatives. *Journal of Behavioural Finance*, 7(2), 107-116
10. Fromlet, H. (2001), Behavioural Finance- Theory and Practical Application. *Business Economics*, 36(3), 34-42. Retrieved February 12, 2014 from <http://connection.ebscohost.com/.../behavioural-finance-theory-practical->
11. Goetzmann, W., & Kumar, A. (2008). Equity Portfolio Diversification, *Review of Finance*, 12(1), 433-463 Retrieved April 11, 2014 from <http://ssrn.com/abstract=1212099>
12. Jayaraj, S. (2013). The factor model for determining the individual investment behaviour in India, *IOSR Journal of Economics and Finance* e-ISSN: 2321-5933, 1(4), 21-32
13. Kahneman, D., & Tversky, A. (1979). Prospect Theory: An analysis of decision making under Risk *Econometrica*, 47(2), 63-72, DOI: 10.2307/1914185
14. Kim, K., & Nofsinger, J. (2008). Behavioural finance in Asia. *Pacific- Basin Finance Journal*, 16(1), 1-7. Retrieved April 11, 2014 from <http://www.sciencedirect.com/science/journal/0927538X/16/1-2>
15. Krishnan, R., & Booker, D.M. (2002). Investors' use of Analysts' Recommendations, *Behavioural Research in Accounting*, 14(2), 129-158
16. Lehenkari, M., & Pertinent, J. (2004). Holding onto the losers: finish evidence. *Journal of Behavioural Finance*, 5(2), 116-126
17. Lin, A., & Swanson, P. (2003). The behaviour and performance of foreign investors in Emerging Equity Markets: Evidence from Taiwan. *International Review of Finance*, 4(3), 189-210
18. Le Phuoc, D.T.H (2011). *Behavioural factors influencing individual investor decision making & performance, a survey at Ho Chi Minh Stock Exchange*, Umea School of Business, China. Retrieved July 22, 2014 from <http://www.diva-portal.org/smash/get/diva2:423263>
19. Nagy & Obenberger (1994). Factors influencing individual investor behaviour, *Financial Analysts Journal*, 50(4), 63-68.
20. Odean, T. (1998). Are investors reluctant to realize their losses? *Journal of Finance*, 53(5), 1775-1798. Retrieved January 23, 2014 from <http://faculty.haas.berkeley.edu/odean/.../AreInvestorsReluctant.pdf>
21. Parikh, P. (2012). *Value Investing and Behavioural Finance*, Tata McGraw Hill, New Delhi
22. Ritter, J.R. (2003). Behavioural Finance. *Pacific- Basin Finance Journal*, 11(4), 429-437, Retrieved December 7, 2013 from [http://www.bear.warrington.ufl.edu/ritter/publ\\_papers/behavioural%20fiance.pdf](http://www.bear.warrington.ufl.edu/ritter/publ_papers/behavioural%20fiance.pdf)
23. Rockenbach, B. (2004). The behavioural relevance of mental accounting for the pricing of financial options. *Journal of Economic Behaviour and Organization*, 53(4), 513-527
24. Shefrin, H., & Statman, M. (1994). The disposition to sell winners too early and ride losers too long: theory and evidence. *Journal of Finance*, 40(3), 777-790
25. Sohani, I. (2012). Behavioural fiancé of an inefficient markets, *Global Journal of Management & Business Research*, 12(14), 34-42
26. Thaler, R.H. (1999). The end of Behavioural Finance. *Financial Analysts Journal*, 55(6), 12-17
27. Thaler, R.H. (1988). Anomalies: The winner's Curse. *Journal of Economic Perspective*, 2(1), DOI: 10.1257/jep.2.1.191.
28. Tomola, M.O. (2013). Factors influencing investment decisions in capital market: A study of individual Investors in Nigeria, *Organizations & Markets in Emerging Economies*, 4(1), 15-28
29. Warren (1990). Using demographic and life style analysis to segment individual investors: A segmentation Approach. *Journal of Behavioural Finance*, 5(3), 170-179. DOI: doi.org/10.1016/0304-405X(76)90028-
30. Waweru, N.M., Munyoki, E., & Uliana, E. (2008). The effects of behavioural factors in Investment Decision Making: A survey of institutional investors operating at the Nairobi Stock Exchange. *International Journal of Business and Emerging Markets*, 1(1), 24-41.
31. Rozeff, M.S., & Kinney, W.R. (2001), Capital market seasonality: The case of stock returns. *Journal of Finance*, 3(1), 561-575, DOI: doi.org/10.1016/0304-405X(76)90028-