International Journal of Latest Engineering Research and Applications (IJLERA) ISSN: 2455-7137

Volume – 03, Issue – 03, March 2018, PP – 70-80

A study on Behavioural factors influencing individual investment decision making (propsed by Phuoc Luong and Doan Thi Thu Hal (2011)) with special reference to South Gujarat region.

[1]Dr. Chetankumar J Lad, [2]Mr. Hiral R Tailor

[1]*Director, Naran Lala School of Industrial Management & Computer Science, Navsari*

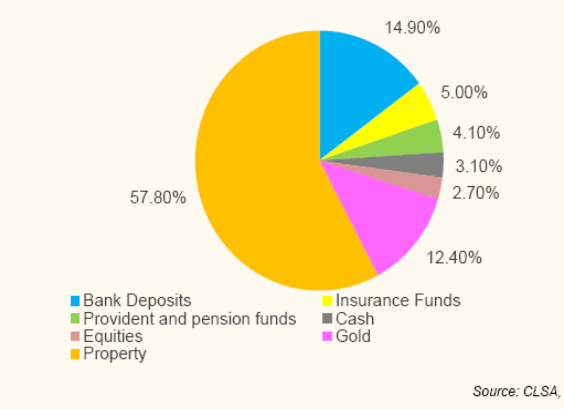
[2]*Account Executive at Sachi Molding solutions Pvt Limited.*

Abstract: Investors sentiments has been one of the key factors in determining the market movement. Various study in the different parts of globe were conducted on the behvaioural aspects of investors to understand how behvaioural biases influence investors investment decision making. The major objective of this paper is to find out the validity of behvaioural model proposed by Le Phuoc Luong and Doan Thi Thu Hal (2011) in south Gujarat Region. The data were collected from the retail equity investors from the 7 district of South Gujarat region through structured questionnaire and the data collected were analyzed using AMOS package. The results showed that the behavioural factors influenced the investors investment decision making and the validity of model also met all the benchmarks for accepting the validity of model.

Keywords: Behavioural factors – investment decision making – validity of existing model.

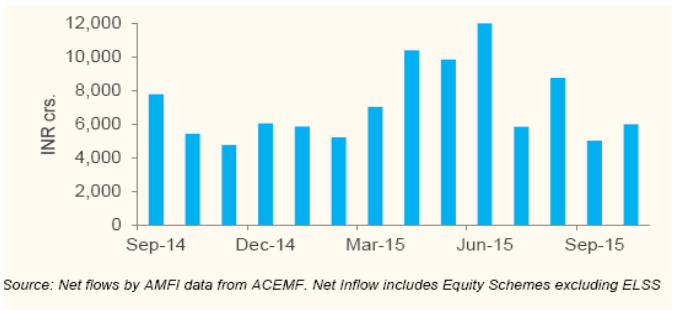
Introduction

Capital market in developed as well as developing nations have significantly helped in converting savings and disposable income of people into investments, which is carried out through initial public offer or fresh issue of securities through primary market and trading of issued securities is carried out through secondary market. In India, it has been observed that retail individual investor's participation in the primary market for equity has been massive in the last few decades and is testified by the number of companies that have been offering equity through primary markets (Girish & Rastogi, 2013).



During the 2015 Indian markets struggled, since the beginning of the year nifty was marginally down and close to 15 % from its intra year highs. Equity markets in India struggled due to three major reasons. Firstly are global investors pulling out of money from emerging economies and India has been no exception. Within India there has been a resetting of reform and policy expectations from the government even as the government has faced political challenges in passing reform legislation. lastly and most significantly, the ongoing economic recovery has been weaker than expected and consequently demand has not picked up sufficiently. This has led to disappointments in topline growth across sectors leading to earning downgrades.

Year 2014-15 has witnessed the return of the Indian investor to the equity market after many years. Equity ownership of Indian households remains abysmally low – both in absolute terms as well as compared to historical levels seen in 2007-08. As these holdings start to get normalized, they can sustain large inflows into equities. Large domestic inflows are structurally important as can provide a counter-balance to FII flows.



The equity market sentiments seem to be having become excessively cautious for the year 2016. There seems to be an improvement in the growth environment which starts with better corporate earnings, besides that lower inflation and commodity prices, transmission of 125 bps of rate cuts done, improvement in

urban discretionary demand, follow-on effects of government spending on capex as also one-off factors such as award of the pay commission.

During the year 2008 Bombay stock exchange reached the peak of 21000 points, hitting a rock bottom of 8000 points during US subprime crises 2007-2008. During the preceding year to the year of crises, stocks had been rising, it was difficult to predict, whether the hike was due to the strong economic fundamentals or it was a mere speculations. But the manner in which the stock prices behaved during the real estate mortgage crises period confirmed that the market deemed macroeconomic fundamentals obsolete. No matter what the fundamentals illustrated, the stock market kept on rising to an unsustainable level were mainly due to the psychological factors (Karlsson & Olson, 2007). Thus the psychological bias covered the rational thinking of the investors which had negatively affected the investment decisions.

Although India was unharmed by the financial crises, the Indian stock markets have not been attractive since then. The investors suffered huge losses and set back in their portfolio due to the hasty reactions. Individual investors who constitute a minor segment suffered heavy losses due to their spontaneous streak of winning trades and their untiring efforts, not realising the inherent danger of peak level exit.

Review of Literature

Psychologists have found several judgment biases but it remains unclear which biases affect economic decisions of retail investors or whether these biases affect economic behavior at all. Behavioural finance studies the behaviour of an agent in the financial market, influence by psychological factors which influence the decision making while buying and selling in the market, thus affecting the prices. Sewell (2007), states that "Behavioral finance is the study of the influence of psychology on the behaviour of financial practitioners and the subsequent effect on markets." Ritter (2003), states that behavioral finance is based on psychology which suggests that human decision processes are subject to several cognitive illusions, which is further divided into two groups: illusions caused by heuristic decision process and illusions rooted from the adoption of mental frames grouped in the prospect theory (Waweru et al., 2008,). Along with these two categories, the herding and market factors are also presented as the following:

Heuristics Theory:

Heuristics Theory		
	Heuristics are the rules of thumb which makes decision making easier in uncertain and complex environment by reducing the complexity of assessing probabilities and predicting values to simpler judgment. These heuristics are useful when time is limited but sometimes lead to biases. Kahneman and Tversky were the first to introduced three heuristic factors namely representativeness, availability bias and anchoring. Besides that Waweru et al also listed two factors namely Gambler's fallacy and Overconfidence into heuristic theory	Kahneman & Tversky, 1974, Ritter, 2003, Waweru et al., 2008
Representativeness	Representativeness refers to the degree of similarity that an event has with its parent population or the degree to which an event resembles its population. This bias results as people put too much weight on recent experiences and ignore the average long term rate. This bias also leads to "sample size neglect" which occurs when people try to infer from too few samples. Representativeness is applied when investors buy hot stock instead of poorly performed ones. This behavior is an explanation for investor overreaction.	Kahneman & Tversky, 1974., DeBondt & Thaler, 1995, Ritter,2003, Barberis & Thaler, 2003, Waweru et al., 2008
Gamblers Fallacy	This bias arises due to the belief that a small sample can resemble the parent population from which it is drawn. More precisely, in stock market Gamblers' fallacy arises when people predict inaccurately the reverse points which are considered as the end of good (or poor) market returns. In addition, when people subject to status quo bias, they tend to select suboptimal	Statman, 1999, Rabin, 2002, Barberis & Thaler, 2003, Kempf and Ruenzi, 2006, Waweru et al., 2008

	alternative simply because it was chosen previously.	
Anchoring	Anchoring arises when people in some situation use some initial values to make estimation, which are biased toward the initial ones as different starting points yield different estimates. Anchoring in financial market arises when a value scale is fixed by recent observations. Investors always refer to the initial purchase price when selling or analyzing. Thus, today prices are often determined by those of the past. Anchoring makes investors to define a range for a share price or company's income based on the historical trends, resulting in under-reaction to unexpected changes. Anchoring has some connection with representativeness as it also reflects that people often focus on recent experience and tend to be more optimistic when the market rises and more pessimistic when the market falls.	Kahneman & Tversky, 1974, Ariely et al. (2003) Nunes Boatwright (2004), Simonson and Drolet (2004), Waweru et al., 2008, Bateman et al.(2008), Cricther and Gilovich (2008), Adaval and Wyer (2011),Sudgen et al. (2013),
Overconfidence	When people overestimate the reliability of their knowledge and skills, it is the manifestation of overconfidence. Overconfidence: Too Much Trading, the individuals who traded most fared worst, underperforming the index by 500 basis points. Investors are overconfident in their abilities and in addition to that people tend to be overconfident in their predictions. Overconfidence results in high volume of trade as observed in speculative market. Investors and analysts are often overconfident in areas that they have knowledge. overconfidence can help to promote professional performance. Further It can enhance other's perception of one's abilities, which may help to achieve faster promotion and greater investment duration.	DeBondt & Thaler, 1995, Shiller (2000), Shefrin (2000), Hvide, 2002, Oberlechner & Osler, 2004, Evans, 2006
Availability	When people are asked to assess the frequency of a class or the probability of an event, they do so by the ease with which instances or occurrences can be brought to mind. Availability is a cognitive heuristic in which we rely upon knowledge that is readily available, rather than examine other alternatives or procedures. That is, decision making is carried out on how easily things come to mind. Availability bias comes into play when people make use of easily available information excessively.	TVERSKY, and KAHNEMAN, 1973, Waweru et al., 2003, Martin Sewell, 2011
Prospect theory		
	Prospect theory suggests that people respond differently to equivalent situations depending on whether it is presented in the context of a loss or a gain. Theory describes some states of mind affecting an individual's decision-making processes including Regret aversion, Loss aversion and Mental accounting	Khaneman and Tvernsky 1979, 1981, 1986, Waweru et al., 2003
Regret Aversion	Regret with people's emotional reaction to having made an error of judgment. To avoid regret, investors refuse to sell decreasing stocks and willing to sell the increasing stocks. Moreover the investors regret more on for holding stock for a long time and selling the winning stocks very soon.	Larrick, Boles, 1995, Lehenkari & Perttunen, 2004 Forgel & Berry, 2006
Loss Aversion	Loss aversion – the psychological propensity that losses loom larger than equal-sized gains relative to a reference point – can occur in riskless and in risky choices. Loss aversion refers to the difference level of mental penalty people have from a similar size loss or gain. Risk	Kahneman and Tversky 1979; Tversky and Kahneman 1991, Odean, 1998a Barberis & Huang, 2001, Barberis & Thaler,

	aversion can be understood as a common behavior of investor, nevertheless it may result in bad decision affecting investor's wealth.	2003
Mental Accounting	It is a set of cognitive operations used by individuals and households to organize, evaluate, and keep track of financial activities. It is also referred as process by which people think about and evaluate their financial transactions. Further it allows investors to organize their portfolios in a separate account.	Thaler, 1999, Barberis & Huang, 2001, Barberis & Thaler, 2003, Ritter, 2003
Market Factors		
	Financial markets can be affected by investors behaviour as explained by behavioural finance. As explained by behavioural finance, investors may have over- or under-reaction to price changes or news; extrapolation of past trends into the future; a lack of attention to fundamentals underlying a stock; the focus on popular stocks and seasonal price cycles. These market factors, in turns, influence the decision making of investors in the stock market. Below are the factors of market that have impact on investors' decision making: Price changes, market information, past trends of stocks, customer preference, over-reaction to price changes, and fundamentals of underlying stocks.	DeBondt & Thaler, 1985, Odean 1998a, 1999, Barber and Odean 2000, Lai, 2001, Waweru et al. 2008
Herding Effect		
	In financial markets herding is defined as mutual imitation leading to a convergence of action. The most common mistake by investors is by following the investment decisions of majority. Investors experience herd behaviour as they are concerned about what others will think of their investment decision.	Scharfstein and Stein, 1990, Welch, 2000, Hirshleifer and Teoh, 2003, Caparrelli et al., 2004, Tan, Chiang, Mason & Nelling, 2008, Waweru et al. 2008, Goodfellow, Bohl & Gebka, 2009, Kostakis and Philippas , 2010, Kallinterakis, Munir & Markovic, 2010

Research Methodology

Rationale of the Study

Study focuses on factors affecting investment decisions of the retail equity investors in the districts of south Gujarat. The study will be carried on the basis of behavioural factors affecting investment decisions as suggested by Le Phuoc Luong and Doan Thi Thu Hal (2011). The present study will testing and validating the model based on Le Phuoc Luong and Doan Thi Thu Hal (2011) behavioural factors affecting investment decisions of retail equity investors in south Gujarat region and on the basis of the results new model may be proposed.

Objectives of the study

To study the behavioural biases affecting the investment decisions of the retail investors of South Gujarat region.

To study and validate the model based on behavioural biases as suggested by Le Phuoc Luong and Doan Thi Thu Hal (2011) in south Gujarat Region.

To identify the impact levels of behavioral factors on the investment decisions and performance of individual investors.

Data type and Source: In order to address the objective of the study, qualitative and quantitative type of data were gathered through primary and secondary sources.

Data Collection:

The primary data were collected from the respondents through Questionnaires. A structure Questionnaire was designed and distributed to the sample respondents. Primary data were used to collect information on the variables having impact on the decision making. Secondary data were gathered from the websites, research papers, articles and other sources. Questionnaire r consists of questions related to demographic variables, heuristics, prospect theory, market factors & investment performance.

Sampling Technique:

Two stage non Probability convenience sampling Tools used. First stage cluster of districts will be formed in South Gujarat, i.e. seven districts of south Gujarat (Bharuch, Narmada, Surat, Tapi, Navsari, Valsad, Dang). Second stage data will be collected from investors from these districts with the help of questionnaire.

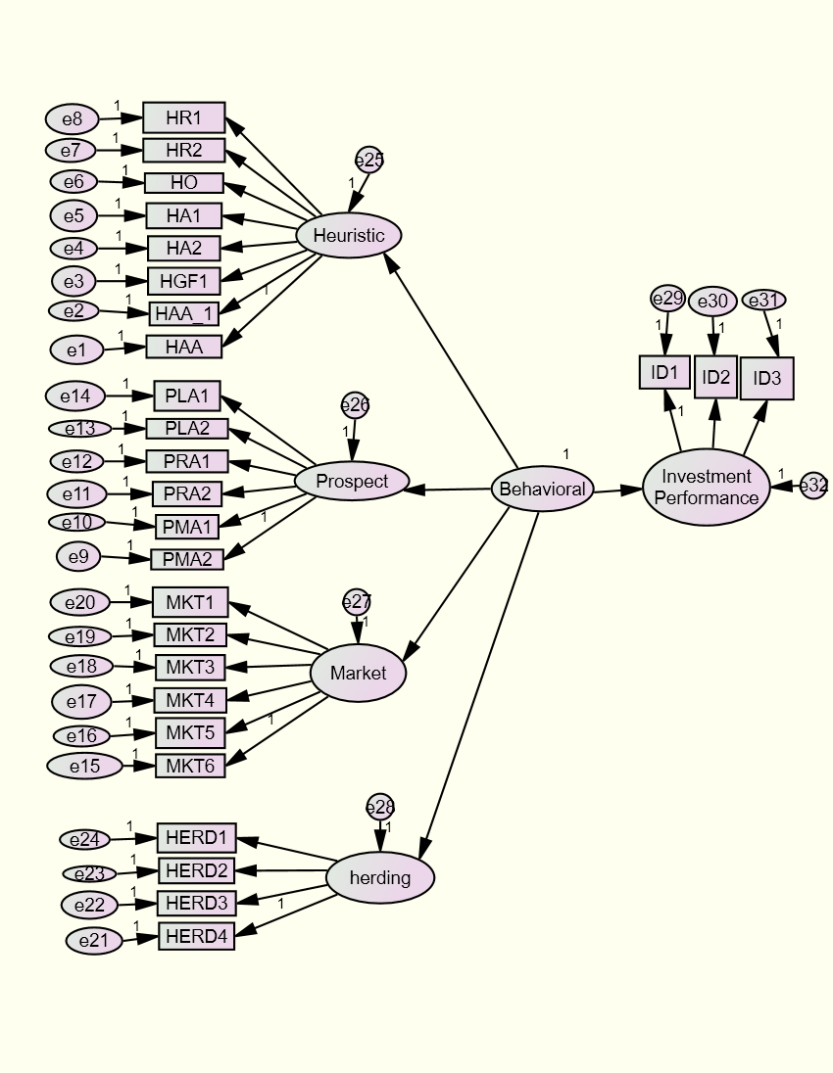
Sample Size:

350 respondents (Investors) will be selected by using non Probability conveniences sampling with the help of structured & undisguised questionnaire from the districts of South Gujarat

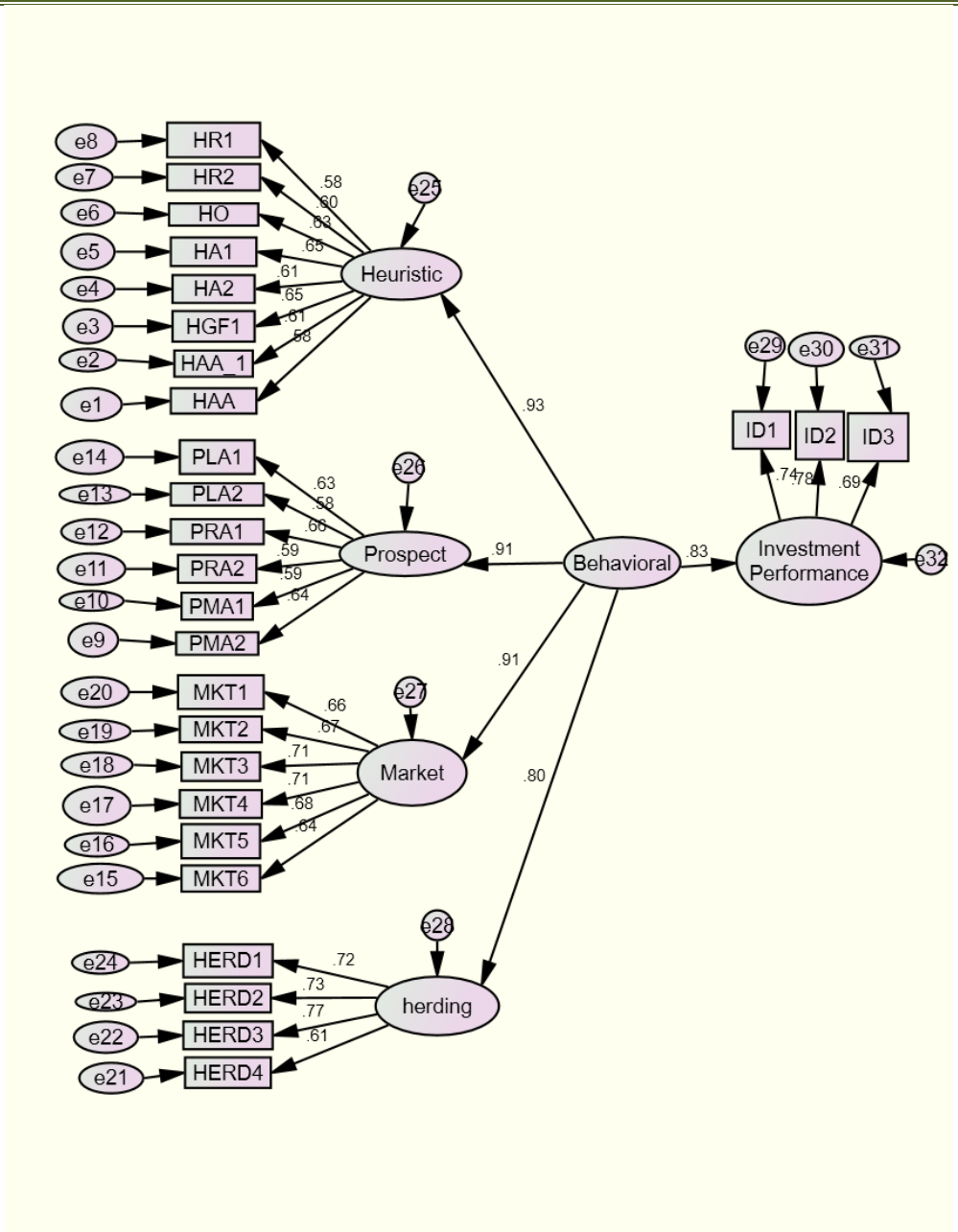
Tools of Data Analysis

Data collected will be analyzed by using software like AMOS to validate the model.

Analysis



Estimated Model



Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
Heuristic	<---	Behavioral	.749	.069	10.828	***	
Prospect	<---	Behavioral	.770	.066	11.725	***	
Market	<---	Behavioral	.819	.069	11.817	***	
Herding	<---	Behavioral	.665	.066	10.134	***	
Investment_Performance	<---	Behavioral	.828	.066	12.498	***	
HAA	<---	Heuristic	1.000				
HAA_1	<---	Heuristic	1.081	.118	9.145	***	
HGF1	<---	Heuristic	1.067	.112	9.536	***	
HA2	<---	Heuristic	.961	.105	9.182	***	
HA1	<---	Heuristic	1.077	.113	9.520	***	
HO	<---	Heuristic	1.056	.113	9.352	***	

			Estimate	S.E.	C.R.	P	Label
HR2	<---	Heuristic	.973	.108	9.030	***	
HR1	<---	Heuristic	1.028	.117	8.784	***	
PMA2	<---	Prospect	1.000				
PMA1	<---	Prospect	.918	.098	9.388	***	
PRA2	<---	Prospect	.947	.100	9.441	***	
PRA1	<---	Prospect	1.085	.105	10.295	***	
PLA2	<---	Prospect	.983	.106	9.258	***	
PLA1	<---	Prospect	1.003	.102	9.854	***	
MKT6	<---	Market	1.000				
MKT5	<---	Market	1.061	.099	10.711	***	
MKT4	<---	Market	1.102	.100	11.022	***	
MKT3	<---	Market	1.140	.103	11.047	***	
MKT2	<---	Market	1.142	.108	10.574	***	
MKT1	<---	Market	.963	.092	10.461	***	
HERD4	<---	herding	1.000				
HERD3	<---	herding	1.272	.118	10.764	***	
HERD2	<---	herding	1.209	.116	10.435	***	
HERD1	<---	herding	1.148	.111	10.296	***	
ID1	<---	Investment_Performance	1.000				
ID2	<---	Investment_Performance	.970	.075	12.975	***	
ID3	<---	Investment_Performance	.939	.080	11.753	***	

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
Heuristic	<---	Behavioral	.928
Prospect	<---	Behavioral	.911
Market	<---	Behavioral	.907
Herding	<---	Behavioral	.797
Investment_Performance	<---	Behavioral	.827
HAA	<---	Heuristic	.583
HAA_1	<---	Heuristic	.610
HGF1	<---	Heuristic	.647
HA2	<---	Heuristic	.614
HA1	<---	Heuristic	.646
HO	<---	Heuristic	.630
HR2	<---	Heuristic	.600
HR1	<---	Heuristic	.578
PMA2	<---	Prospect	.639
PMA1	<---	Prospect	.591
PRA2	<---	Prospect	.595
PRA1	<---	Prospect	.662
PLA2	<---	Prospect	.581
PLA1	<---	Prospect	.627
MKT6	<---	Market	.638
MKT5	<---	Market	.680
MKT4	<---	Market	.706
MKT3	<---	Market	.708
MKT2	<---	Market	.670
MKT1	<---	Market	.661
HERD4	<---	Herding	.608

			Estimate
HERD3	<---	Herding	.773
HERD2	<---	Herding	.735
HERD1	<---	Herding	.720
ID1	<---	Investment_Performance	.742
ID2	<---	Investment_Performance	.777
ID3	<---	Investment_Performance	.692

The above table shows the Standard Regression weight for each variables. It can be observed that all the standardized regression weights are more than 0.50 indicating high level of convergent validity. It can be concluded that all variables are contributing in explaining the fair amount of variance in factor Behavioural biases factor. Hence all variables will be considered in subsequent analysis.

Model Fit Summary:

Model-data fit was evaluated based on multiple fit indices. The overall model fit indices includes Chi square statistics, goodness of fit index (GFI), Comparative fit indices (CFI), and root mean square error of approximation (RMSEA). GFI indicates the relative amount of 99 variance and covariance jointly explained by the model.

A GFI and CFI score in the range of 0.8 to 0.89 is considered as representing a reasonable fit; a score of 0.9 or higher is considered as evidence of good fit (Joreskog and Sorbom, 1989).

The RMSEA takes into account the error of approximation and is expressed per degree of freedom, thus making the index sensitive to the number of estimated parameters in the model; a value of less than 0.05 indicates a good fit, a value as high as 0.08 represents reasonable errors of approximation in the population (Browne and Cudeck, 1993), a value ranging from 0.08 to 0.10 indicates mediocre fit, and values greater than 0.10 indicate poor fit (MacCallum et al., 1996).

The table below shows the Model Fit. It can be concluded that all the values are above the standard cut off values.

Absolute Fit Measures		
Test	**Recommended Value**	**Reporting Model**
□2	p> 0.05	.000
CMIN/DF	< 5	2.32
RMSEA	<0.10	0.09

Relative Fit Measures		
Test	**Recommended Value**	**Reporting Model**
CFI	>0.90	0.91
NFI	>0.90	0.90
RFI	>0.90	0.90
IFI	>0.90	0.90

Parsimonious Fit Measures		
Test	**Recommended Value**	**Reporting Model**
PCFI	>0.50	0.80
PNFI	>0.50	0.74

Note : *All Recommended values are based on Hair et al.(2000), Ullman (1996) recommended CMIN/DF < 5*
χ2 = Chi- Square Test , CMIN/DF = Chi square test / Degree of freedom ,
RMSEA = Root Mean Square Error of Approximation, CFI = Comparative Fit Index
NFI = Normed Fit Index, RFI = Relative Fit Index , IFI = Incremental Fit Index,
PCFI= parsimony Comparative Fit Index , PNFI= Parsimony Normed Fit Index

Findings

From the analysis of the data collected from the South Gujarat region, the results from the validity test are meeting the standard, which proves that the behavioural factors have influence over the investment decision making of the retail equity investors.

Conclusion

The stock exchanges in India have witness many changes in its structure, ups and downs, cross the various bench marks sets making it an efficient organization. But the retail equity investors were not able to take the advantage of this development and volatility of the market. From the various studies conducted in the different parts of the world, it has been observed that the retail equity investors were not able to take the most out from the development and volatility of market, the major reasons identified that affect the investment decisions were behavioural and emotional factors. In the present study on the factors influencing the investment decision, where the model developed by Le Phuoc Luong and Doan Thi Thu Hal (2011), the validity of that model showed a positive impact on investment decision of investors. The results from the validity conclude that the investment decisions of investors are influenced by the behavioural biases.

Suggestions/ Recommendations

From the study it was concluded that the behvaioural biases/factors have an impact on the investment performance of the retail equity investors, the similar factors can be taken into consideration and reviews of investors from other parts of Gujarat and other states of India can be taken to know to which extent these biases are associated with the investors psychology. From the literature available, the present model on factors influencing investment decisions of investors can be extended by adding more behvaioural biases, besides the behavioural biases the model can also be extended by adding emotional biases to cover a wider perspective of the behavioural and emotional biases affecting the investors investment decision.

Bibliography

[1]. Anchoring Bias in Consensus Forecasts and its Effect on Market Prices by Sean D. Campbell and Steven A. Sharpe, (2007), Finance and Economics Discussion Series Divisions of Research & Statistics and Monetary Affairs Federal Reserve Board, Washington, D.C.

[2]. Alwathainani, A. (2012), Market reaction to an earnings shock: A test of conservatism effect. The Journal of Behavioural Finance and Economics, 2, 14-37

[3]. Barberis, N., Shleifer, A. and Vishny, R. (1998) "A model of investor sentiment", Journal of Financial Economics

[4]. Barberis, N., Huang, M. (2001), Mental accounting, loss aversion and individual stock returns. Journal of Finance, 56, 1247-1292.

[5]. Bloomfield, R., Hales, J. (2002), Predicting the next step of a random walk: Experimental evidence of regime-shifting beliefs. Journal of Financial Economics, 65, 397-414.

[6]. Barberis, N., Thaler, R. (2002), A survey of behavioural finance. In: Constantinides, G., Harris, M., Stulz, R., editors. Handbook of the Economics of Finance. Amsterdam: North-Holland.

[7]. Bodie, Zvi, Alex Kane, and Alan J. Marcus, Investments, (2005), 6th ed., Boston: McGraw-Hill.

[8]. Bryman, A. and Bell, E. (2007) Business Research Methods, Second edition, Oxford University Press.

[9]. Barber B.M. and T. Odean (2008). All that Glitters: The Effect of Attention on the Buying Behavior of Individual and Institutional Investors. Review of Financial Studies, 21, 785-818.

[10]. Cryder, C.E., Lerner, J.S., Gross, J.J., Dahl, R.E., 2008. Misery is not miserly: sad and self-focused individuals spend more. Psychological Science 19, 525–530.

[11]. Charness, G., Karni, E., & Levin, D. (2010). On the conjunction fallacy in probability judgment: New experimental evidence regarding Linda. Games and Economic Behavior, 68, 551-556.

[12]. DeBondt, W., Thaler, R. (1985), Does the stock market overact? Journal of Finance, 40(3), 793-805.

[13]. Goodwin, P. (2010), Why hindsight can damage foresight. The International Journal of Applied Forecasting, 17, 5-7.

[14]. Fischhoff, B. (1975), Hindsight foresight: The effect of outcome knowledge on judgment under uncertainty. Journal of Experimental Psychology: Human Perception and Performance, 1(3), 228-299. Available from: http://www.dx.doi.org/10.1037/0096-1523.1.3.288.

[15]. Frieder, L. (2004), Evidence on Behavioral Biases in Trading Activity. Working Paper. Los Angeles: University of California.

[16]. Kahneman, D. and Tversky, A. (1974). Judgment under Uncertainty: Heuristics and Biases, Science, 85 (4157), 1124-1131.

[17]. Kahneman, D., Tversky, A. (1979), Prospect theory: An analysis of decision under risk. Econometrica, 47, 263-291.
[18]. Kahneman, D., Tversky, A. (1982), The psychology of preferences. Scientific American, 246, 160-173.
[19]. Kahneman, D., Knetsch, L.J., Thaler, H.R. (1990), Experimental tests of the endowment effect and the coase theorem. Journal of Political Economy, 98(6), 1325-1348.
[20]. Kahneman, D., Tversky, A. (2001), Choices, Values and Frames. Cambridge, UK: Cambridge University Press.
[21]. Kahneman, D., Tversky, A. (1991), Loss aversion in riskless choice: A reference dependent model. Quarterly Journal of Economics, 106(4), 1039-1061.
[22]. Kahneman, D., Tversky, A. (2001), Choices, Values and Frames.Cambridge, UK: Cambridge University Press.
[23]. Kahneman, D. (2011). Thinking, Fast and Slow. New York: Farrar, Straus, & Giroux.
[24]. Langer, E.J. (1975), The illusion of control. Journal of Personality and Social Psychology, 32(2), 311-328.
[25]. Lichtenstein, Sarah and Slovic, Paul, "Reversals of Preference between Bids and Choices in Gambling Decisions," Journal of Experimental Psychology, January 1971,
[26]. Ljungqvist, A. W.J. and W. JR, 2005. Does Prospect Theory Explain IPO Market Behavior? The Journal of Finance, 60(4): 1759-1790.
[27]. Montier, J. (2002), Behavioural Finance: Insights into Irrational Minds and Markets. Sussex: Wiley.
[28]. Montier, J. (2007), Behavioural Investing: A Practitioners Guide to Applying Behavioural Finance. Chichester: John Wiley & Sons.
[29]. Pompian, M.M. (2006), Behavioural Finance and Wealth Management: Building Optimal Portfolios that Account For Investor Biases. Hoboken, New Jersey, USA: John Wiley & Sons, Inc.
[30]. Pezzo, M., Pezzo, S.P. (2007), Making sense of failure: A motivated model of hindsight bias. Social Cognition, 25(1), 147-165.
[31]. Ritter, J. R. (2003). Behavioral Finance. Pacific-Basin Finance Journal, 11 (4), 429-437.
[32]. Ramzi Boussaidi (2013). Representativeness Heuristic, Investor Sentiment and Overreaction to Accounting Earnings: The Case of the Tunisian Stock Market. Procedia - Social and Behavioral Sciences 81 (2013) 9 – 21
[33]. Shefrin, H. (2000), Beyond Greed and Fear: Understanding Behavioural Finance and Psychology of Investing. New York: Oxford University Press.
[34]. Shefrin,H.(2002) Behavioral decision making, forecasting, game theory, and role-play.International Journal of Forecasting 18, 375–382
[35]. Shefrin, H. (2005), A Behavioural Approach to Asset Pricing. Burlington, MA: Elsevier Academic.
[36]. Shefrin & Hersh (2007) Behavioral Corporate Finance. Decisions that Create Value. McGraw-Hill/Irwin. New York, 2007
[37]. Shiller, R. (2000), Irrational Exuberance. Princeton: Princeton University Press.
[38]. Shiller R. 2003. From Efficient Markets Theory to Behavioral Finance, The journal of Economicperspectives,(17),83-104.
[39]. Tversky, A., Kahneman, D. (1974), Judgment under uncertainty: Heuristics and biases. Science, New Series, 185(4157), 1124-1131.
[40]. Tversky, A., Kahneman, D. (1981), Loss aversion in riskless choice: A reference-dependent model. Quarterly Journal of Economics, 106(4), 1039-1061.
[41]. Tversky, A., Kahneman, D. (1981), The framing of decisions and the psychology of choice. Science, 211(4481), 453-458.
[42]. Thaler, Richard J., (1999). Mental Accounting Matters, "Journal of Behavioral DecisionMaking" (12), 183-206.
[43]. Tseng, S.,& Yang, C. (2011). "Influence of information search on risky investment preferences: Testing a moderating role of income", Proceedings of the 3rd International on Information and Financial Engineering.
[44]. Tseng, S., and Yang, C. (2011). "The role of information searches in investment choicevariation: Digital information, advice seeking and heuristics", African Journal of Business Management 5 (12), 4934-4944.
[45]. Tchai, T. (2012), The hindsight bias effect in short-term investment decision-making. Universal Journal of Management and Social Sciences, 2(11), 201-212.

[46]. Waweru, N., M., Munyoki, E., and Uliana, E. (2008). The effects of behavioral 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.

[47]. Werth, L., Strack, F., Forster, J. (2002), Certainty and uncertainty: The two faces of hindsight bias. Organizational Behavioural and Human Decision Processes, 87(2), 323-341.

[48]. Weber, E.U., Blais, A., & Betz, N.E. (2002). A domain-specific risk-attitude scale: Measuring risk perceptions and risk behaviors. Journal of Behavioral Decision Making, 15, 263–290.

[49]. Waweru, N. M., Munyoki, E., & Uliana, E. (2008). The effects of behavioral 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.

