Impact of Heuristic Bias and Prospect Bias on Share Market Investment Decision Making

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Abstract:

Traditional economic theories believed that the share market investors always behave rational while taking investment decisions. Followers of Behavioral finance started to argue strongly that, the investors may not be able to act rational and he will be controlled by various psychological factors, which controls him in the process of investment decision making. Several studies which are carried inside as well as outside the country have provided empirical evidence supporting the fact that, an investors always restricted through different psychological factors and are broadly classified into four groups i.e., Heuristic Theory, Prospect Theory, Market Factors and finally herding effects. Present empirical research work concentrate to find the validity of heuristic bias and prospect bias on Indian share market investors. Structured questionnaires are distributed to 375 share market investors, who have been chosen through stratified random sampling method by dividing on the basis of different geographical areas and different share broking houses. 310 properly filled questioners are considered for the further analysis. Even unstructured and informal discussions are placed before share brokers, analysts and with a group of exports to get in-depth knowledge on the issues related for influence of psychology factors on investment decision of individual share market investors. Pre-determined set of objectives of the study analyzed through several statistical and econometric tools such as Descriptive Statistics, Factor Analysis Correlation Co-efficient and Regression Model using SPSS. Study has been concluded by giving the direction for framing investment strategies to the individual investors, revised business plans for share brokers and also, proposed further chances of research work in the field of behavioral finance to the researchers.

Keywords: Heuristic Theory, Investment Decisions, Prospect Theory, Psychology, Share Market Investors.

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Introduction

Coverage of share market investment in the country is one of the parameter to decide modernization in the economy. Economic development of a country can be represented through percentage of total national investment on share market. All most all the developed contraries have got more than 50% of their investments in the share market, whereas this percentage is lesser than 10% both in the developing and under-developing countries including India. There is thousands of success and failure stories in the share market investment create both confidence and fear in the minds of present and prospective investors. Even though people are highly educated but lack of share market knowledge is found to the larger extent both in rural and urban areas. Researches carried out have identified many reasons behind this, which includes failure to understand logic behind unexpected price fluctuations in the share market, high satisfaction with traditional investments, excess commitments, lack of investible fund, no motivation and guidance to open demat account etc.

Traditional economic theories pointed out that always investor behave rationally in the investment decision making process. Pioneers of behavioral finance strongly argue that investor may not be rational while taking investment decisions and he will be controlled by several psychological factors. These psychological factors divided into four groups such as **Heuristic Bias, Prospect Bias, Market Bias and Availability Bias**. Indian share market price fluctuations can be well predicted by understanding extent to which these four factors influence the individual investors' decision making and performance at Indian stock exchanges.
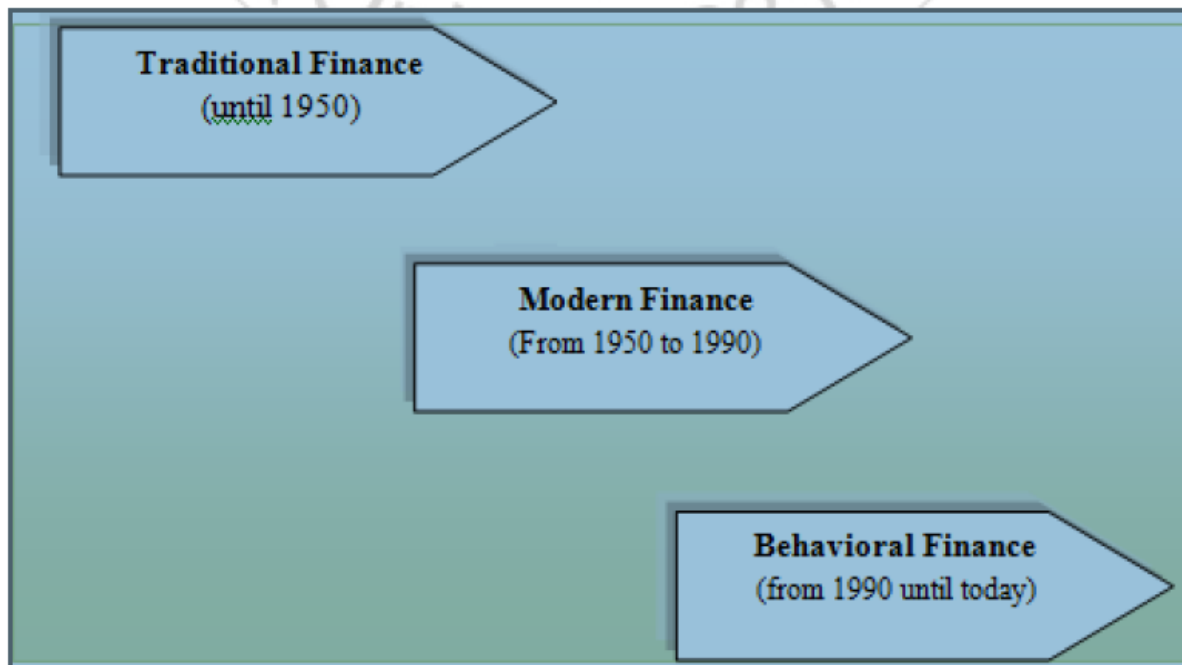
Evolution Process of Finance Theory:

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Figure 1: Evolutionary process of finance theory (Pimenta & Fama, 2014)

Fundamental aspects of the fiancé theory is studied by dividing into two fundamental bases i.e., standard finance and behavioral fiancé. Standard finance further divided as traditional finance and modern finance. The traditional finance believe that rationality of an investor, where his decision is based on expected utility. Modern finance in other hand supports that the individual investor's attempt is to maximizing the utility function of wealth based on informal efficiency of market. The basic assumption of modern theories is that activities of an economic human being are rational and is backed with core objective of profit maximization. The following theories of rational finances were formed: Modern Portfolio Theory (MPT) (Markowitz, 1952), Life Cycle Hypothesis (Modigliani & Brumberg, 1954), Permanent Income Hypothesis (Friedman, 1957), Efficient Market Hypothesis (EMH) by (Fama, 1991).

Behavioral Finance:

The person studying about behavioral finance must have knowledge on psychology, sociology and finance. Impact of emotional variables on investors decision making process will results in dilution of traditional economic theory assumptions. Most of the studies and researchers have identified that there are several factors will influence individual investors' decision making process, most of which have a direct contact with psychological behavior of an individual.

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Major Behavioral Factors Influencing Investors Share Market Investment Decision Making and Performance:

Behavioral factors play crucial effect on investors' investment decision making and on also performance in the share market investment. Behavioral finance theories are based on the psychology, where attempt is made to understand how emotions and cognitive errors influence individual investors' behavior.

Group	Behavioral variables
Heuristic Theory	- Representativeness - Overconfidence - Anchoring - Gambler's fallacy - Availability bias
Prospect Theory	- Loss aversion - Regret aversion - Mental accounting
Market	- Price changes - Market information - Past trends of stocks - Fundamentals of underlying stocks - Customer preference - Over-reaction to price changes
Herding Effect	- Buying and Selling decisions of other investors - Choice of stock to trade of other investors - Volume of stock to trade of other investors - Speed of herding

Figure 2: Behavioral factors influencing the investment decision making (Source: Waweru et al., 2008)

Heuristic Theory:

Investors and financial analyst use a heuristic approach for speeding up analysis and investment decisions. Heuristic leads for poor decision making on base of limited easily available data reference. In simple word heuristics refers to rules of thumb, which makes decision making easier

through the reference of easily available set of information and anomalies. Kahneman and Tversky (1974), initial follower of behavioral finance contributed three factors resulting in heuristics in decision making namely representativeness, availability bias and anchoring. Waweru et al. (2008) supported existence of heuristics with two more factors namely gambler's fallacy and overconfidence.

Prospect Theory:

Subjective decision making influenced by the investors' value system is referred as a result of prospect state of mind. Expected Utility Theory which believed strongly on investors rational expectation was completely failed give reason why people response differently for similar situation. Prospect theory describes some states of mind affecting an individual's decision making process including regret analysis, loss aversion and mental accounting.

Market:

Individual investment decision making process even get affected by several psychological factors which are derived from market forces like price change, market information, past trends of stocks, fundamentals of underlying stocks, customer preference and over reaction to price change. All these factors results in miss pricing of securities due to over or under reactions of an individual in his investment decision.

Statement of Problem:

Share market investment ratio is very low in India compare to the highly developed countries due to several reasons. Lack of knowledge and fear factors led Indian investors, especially in rural area just to stick for traditional investment avenues. Share market investment success depends upon depth knowledge of price fluctuations and required investment strategies that would grab the possible positive outcomes. Here both investor and broking houses must know the impact of human psychological factors on deciding the direction of market movement. It is immediate requirement to evaluate, "what extent different behavioral factors of the investors do influences purchase/selling decisions and performance in the share market investment process?"

Research Objectives and Questions:

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Present research is an attempt to achieve following **<u>objectives:</u>**

➢ To identify the possible factors of heuristic theory and prospect theory that influence the investment decisions of individual investors of Indian Stock Exchanges.

➢ To measure the impact level of heuristic, pros]pect factors on the investment decisions and performance of individual investors of Indian Stock Exchanges.

➢ To recommend individual investors and share broking houses to adjust their heuristic and prospect behavior to achieve good investment results.

Some **<u>questions</u>** raised to reach research objectives followed by answering the same:

➢ What are the behavioral variables of heuristic theory and prospect theory influencing individual investors' of Indian Stock Exchanges?

➢ At which impact level these behavioral factors do influence the individual investors' decisions of Indian Stock Exchanges?

➢ At which impact level do these behavioral factors influence the investment performance of individual investors of Indian Stock Exchanges?

Significance of the research:

Studies conducted both by the Indian and foreign authors have shown that share market decision completely influenced by several psychological factors of investors. In order to get success in investment there must be deep understanding on human behavioral factors and its level of impact. This study tries to guide both individual investors and share broking houses for effective formulation of their business plans.

Limitations of the study:

This study is constrained with following issues.

a. This study relates only for Indian stock exchanges.

b. Survey results depicted only on the basis of individual investors point of view.

c. Only two behavioral variables i.e., heuristic and prospect theory haven been considered.

Literature Review

Foreign Studies:

Author(s)	Findings
Jagongo Ambrose, (2011)	Herding, market, prospect, over confidence, gamble's and anchoring ability are having moderate impact on investment decision of investors at the Ho Chi Mihn Stock Exchange, whereas market factor as high impact. Also found three factors are found to influence the investment performance i.e., Herding (Including buying and selling; choice of trading stocks; volume of trading stocks; speed of herding), Prospect (including loss aversion, regret aversion and Mental accounting), and Heuristics (including overconfidence and gambles' fallacy).
Seetharam et al (2017)	45.6 % of the variance in the extent of investors' behavior can be explained by the asset familiarity, investment objectives and risk profile of the individual investors. Financial knowledge or understanding about particular investment product and investment objective has a significant impact on investors' behavior but investors risk profile proved to be not having significant influence on investment decision.
Le Phuoc Luong & Doan Thi Thu Ha (2011)	Research thesis on behavioral factors influencing individual investors' decision-making and performance, survey on Chi Minh Stock Exchange of Vietnam, tried to give detailed structure on survey to understand impact of behavioral variables and its impact on investment decision-making and performance. All behavioral factors played significant positive impact on Vietnam Stock Exchange. While performance and satisfaction on investment decision taken shown moderate impact on behavioral variables.

Foreign Studies:

Author(s)	Findings
Dr. V. Raman Nair, Anu Antony (2015)	• Behavioral finance is not a replacement to the classical finance paradigm, but an alternative solution to explain the market inefficiency and the irrational behavior of investor. • A frequency of obvious over-reaction to information is similar to that of under-reaction in terms of EMH by considering anomalies as chance results

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	• Considerable number of reasons as to why efficient hypothesis was so generally acknowledged in mainstream finance, at least in academic circles. • The six anomalies are (a) Excessive volatility, (b)Risk premium puzzle (c)book to market ratio (d)close end fund discount (e)calendar effect (f) Stock market crash (Rubinstein, 2001). He also emphasized that several psychological assumptions and phenomena were considered in the EMH.
Sudhir Singh (2012)	• Create awareness of the various human biases of investors and the high costs they impose on their portfolios
Dr.Mahabaleswara Bhatta HS (2010)	• Intrinsic value being far less than the market value except a few exceptions. Study revealed that shares are overvalued to the greater extent and created bubble in the market which is expected be burst at any time. • This paper proved with evidence that people will behave unpredictably and irrationally. Major issues which are unanswerable is The January Effect (Michael and William, 1976), The Winner's Curse (Robert Thaler, 1988) and equity premium Puzzle. • Investors trade both for cognitive and emotional reasons.
Mr.K.Riyazahmed, Dr.MG.Saravanaraj (2015)	* Heuristic variables are grouped into two factors: overconfidence gambler's fallacy and Anchoring ability bias. All heuristic variables have moderate impact on investment decision making. *In the dimensions of prospect, all its three kinds of behavior: loss aversion, regret aversion and mental accounting have their representative variables influence on the decision making of the investors stock investment. *Changes in the stock prices, market information, and past trends of stocks are variables of market that have high influence. * Impact of Herding is high on Investment decision (Others choice - Volume - buying & selling decision of others - Immediate reaction towards other buying & selling decision)

Figure 3: Source: developed for the study (2019)
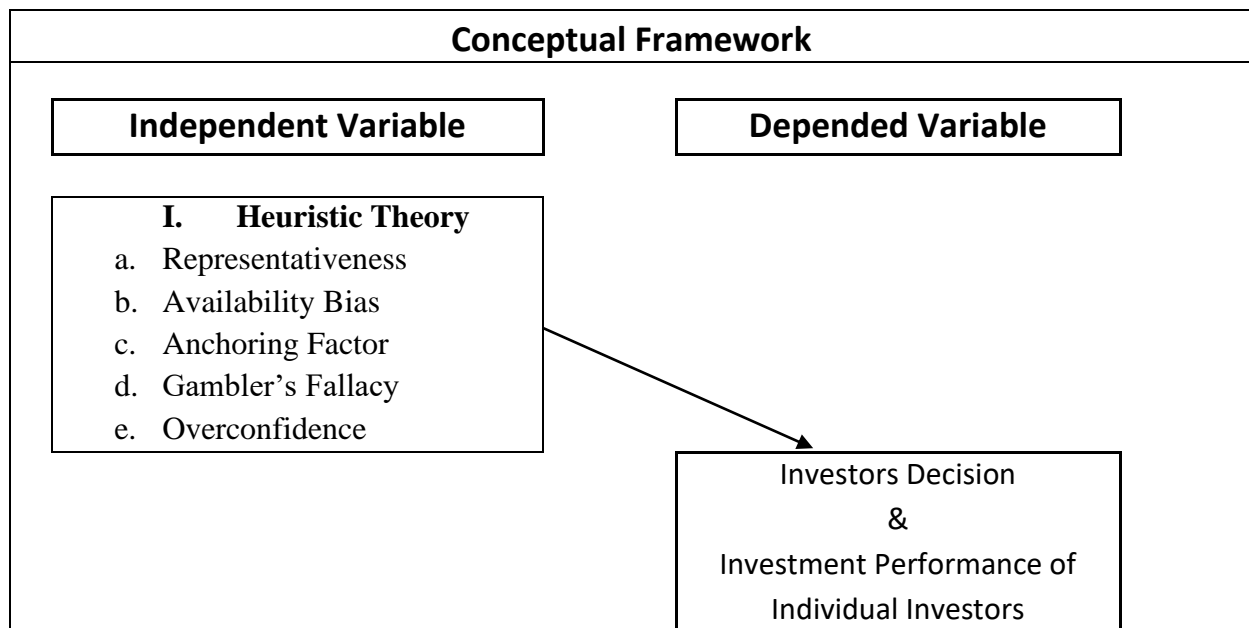
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Research Design and Research Methodology:

Research Approach:

This study is based on deductive approach of research, where existence and influence of human psychological factors in Indian share market are verified by applying behavioral finance, through systematic pre-determined hypothesis.

Research Design and Methodology:

Large sample size studying at single time can be effectively through cross-sectional research design. Cross sectional design allows collecting and analyzing data from more than one case at one single time. The patent of association is then examined by using the collected quantitative or quantifiable data. Cross sectional design most applicable for this study since, researcher makes an attempt to describe a common trend of investors' behavior rather than one specific case, and data is collected in a single time period.

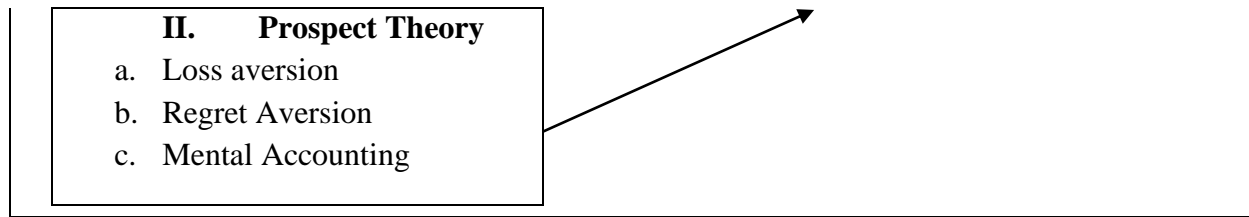**Variables under the Study: (Independent and Dependent Variable)**

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┌─────────────────────────────────────────────────────────────────┐
│                     Conceptual Framework                         │
│  ┌──────────────────────────┐   ┌──────────────────────────┐    │
│  │   Independent Variable    │   │    Depended Variable      │    │
│  └──────────────────────────┘   └──────────────────────────┘    │
│  ┌──────────────────────────┐                                    │
│  │   I.    Heuristic Theory  │                                   │
│  │  a.  Representativeness    │                                  │
│  │  b.  Availability Bias     │                                  │
│  │  c.  Anchoring Factor      │                                  │
│  │  d.  Gambler's Fallacy     │                                  │
│  │  e.  Overconfidence        │                                  │
│  └──────────────────────────┘   ┌──────────────────────────┐    │
│                                  │   Investors Decision      │    │
│                                  │          &                │    │
│                                  │ Investment Performance of │    │
│                                  │   Individual Investors    │    │
│                                  └──────────────────────────┘    │
└─────────────────────────────────────────────────────────────────┘
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| **II.   Prospect Theory** |
| a. Loss aversion |
| b. Regret Aversion |
| c. Mental Accounting |

Figure 4: Source: developed for the study (2019)

Data Collection Method and Respondents Selection:

75 each (total 375) randomly selected individual Indian share market investors of 5 top stock broking houses in Udupi and Dhakshina Kannada district were considered for this study. Systematic questionnaire served for all respondents, which contained three parts related for personal details, behavioral characteristics and investment performance respectively. 6 Point Likert Scale is applied to measure behavioral variables. Data collection period for the present study is January 2018 to march 2019. Finally, 310 correctly filled questionnaires are chosen for the proposed study. Hypothesis in this study are tested using several statistical and econometric tools such as Descriptive Statistics, Cronbach Alpha, Factor Analysis Correlation Co-efficient and Regression Model using SPSS. Unstructured discussion placed before experts, agents and regular investors to verify the people common understanding and view on share price fluctuation in Indian share market.

Respondents Selection and Response Rate:

	Company Name	**No. Questionnaire Sent**	**Number of Response Received**	**Response %**
1.	Karvy Stock Broking	75	68	**90.67**
2.	Adithya Birla Capital Ltd.	75	71	**94.67**
3.	Angel Broking Pvt. Ltd.	75	57	**76.00**
4.	Capitalvia Global Research	75	54	**72.00**
5.	Hirwani's World Org.	75	60	80.00
	Grand Total	**375**	**310**	82.67

Figure 5: Source: developed for the study (2019)

Overall response rate in this survey is about 82.67% is highly acceptable for generalizing the final findings.

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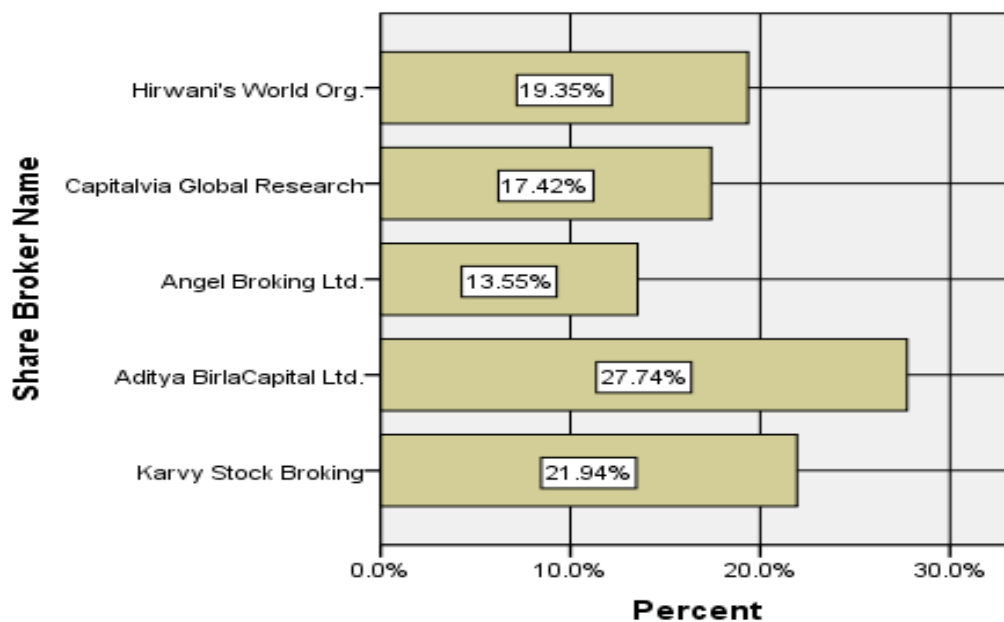**Percentage of samples from different Stock Broking Houses:**

Figure 6: Source: developed for the study (2019)

75 questionnaires each or 20% each, questionnaires sent among five top rated stock broking houses from Udupi and Dhakshina Kannada district. 310 questionnaires selected on the basis of satisfying basic conditions. Individual share broking coverage rate is shown above, which has got final overall average of 16.53%, within the range of lowest 13.55% to highest 27.74%.

Design and Measurement of Questionnaire:

   a.   **Personal Information and Other Related Details:**

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Personal Information	Questions	Types of Measurement
Classifying: Gender, Area, professional background and Stock Broking Agency	Questions 1,4,5 &10	Nominal
Classifying and Raking Order of : Age, Qualification, Average Annual Income, Amount reserved for all kinds of investment, average amount in share market Investment, Type of Investor & Experience in Share Market	Questions 2,3,6,7,8,9 & 11	Ordinal

Figure 7: Source: developed for the study (2019)

b. Verification on Behavioral and Performance Factors:

Groups	Dimensions Questions	Question	Measurement
Heuristic Behavioral Factor	1. Representativeness 2.Over Confidence 3.Achoring 4.Gambler Fallacy 5.Ability Bias	Question 12 - 13, Question 14, Question 15 -16, Question 17, Question 18-19	6 - Point Likert Scale
Prospect Behavioral Factor	1. Loss Aversion 2.Regret Aversion 3.Mentol Accounting	Question 20, Question 21, Question 22,	6 - Point Likert Scale
Investment Performance	1. Meeting Return Rate Expectation, 2. Beating Market return 3. Satisfaction in investment decision	Question 23, Question 24, Question 25	6 - Point Likert Scale

Figure 8: Source: developed for the study (2019)

Hypothesis of the Study:

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Hypothesis 1:

H_0 = All the factors of heuristics and prospect theory load equally for investors investment decision making.

Hypothesis 2:

H_0 = Share market performance is not depended on major 6 factors of heuristics and one factors of prospect, which have selected under factor mode.

Hypothesis 2(1):

H0: Meeting expectations cannot be decided by 6 variables of heuristic behavioral factors:

Hypothesis 2(2):

H0: Outperforming market cannot be decided by 6 variables of heuristic behavioral factors:

Hypothesis 2(3):

H0: Share market performance satisfaction level cannot be decided by 6 variables of heuristic behavioral factors:

Hypothesis 2(4):

H0: Meeting expectations cannot be decided by one variable of prospect behavioral factors:

Hypothesis 2(5):

H0: Outperforming market cannot be decided by one variable of prospect behavioral factors:

Hypothesis 2(6):

H0: Share market performance satisfaction level cannot be decided by one variable of prospect behavioral factors:

Classification of respondents on the basis of gender and age:
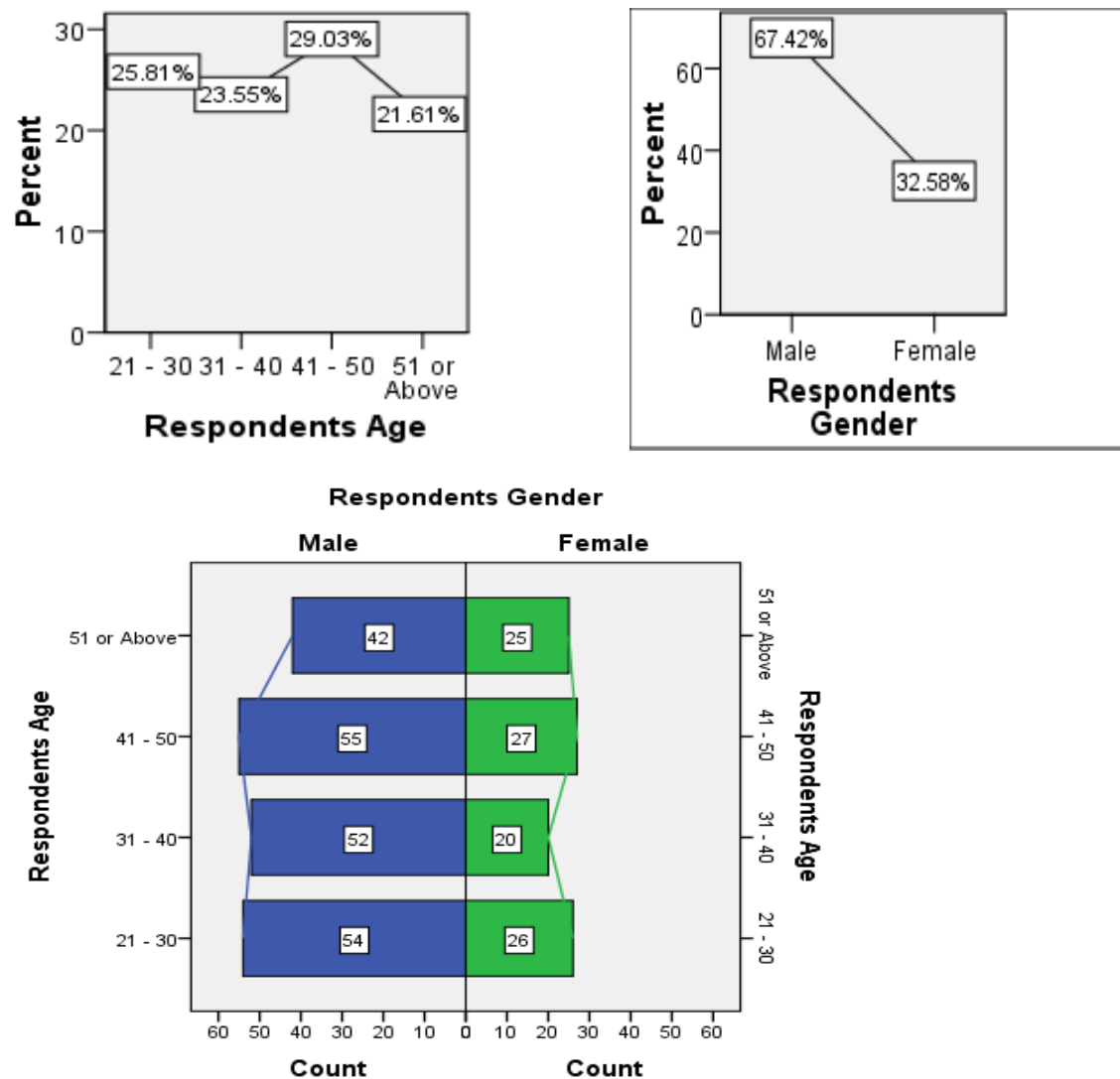
Figure 9: Source: developed for the study (2019)

Classification on the basis of age shows respondent spread in all age groups equally but, huge gap was found in gender wise classification with the extent of 67% and 33% between male and female respectively

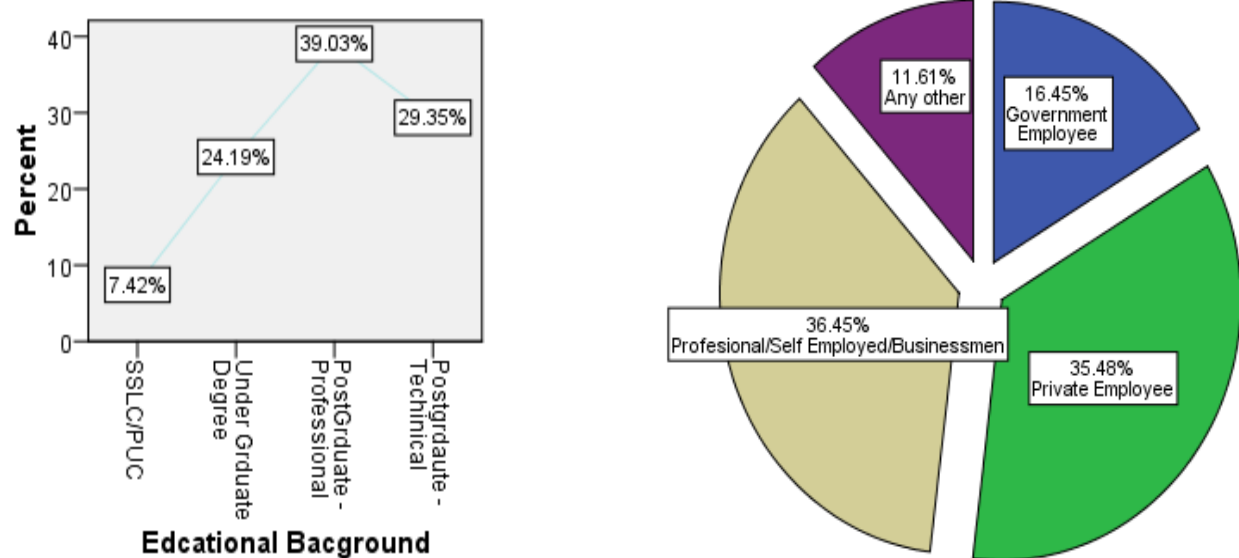**Table showing respondents educational status and professional background:**

Figure 10: Source: developed for the study (2019)

It can be observed that 70% of the respondents have got double degree qualification and 84% of the share market investors are serving other than government organizations.

Table showing residential status and type of job/profession held by the respondents:
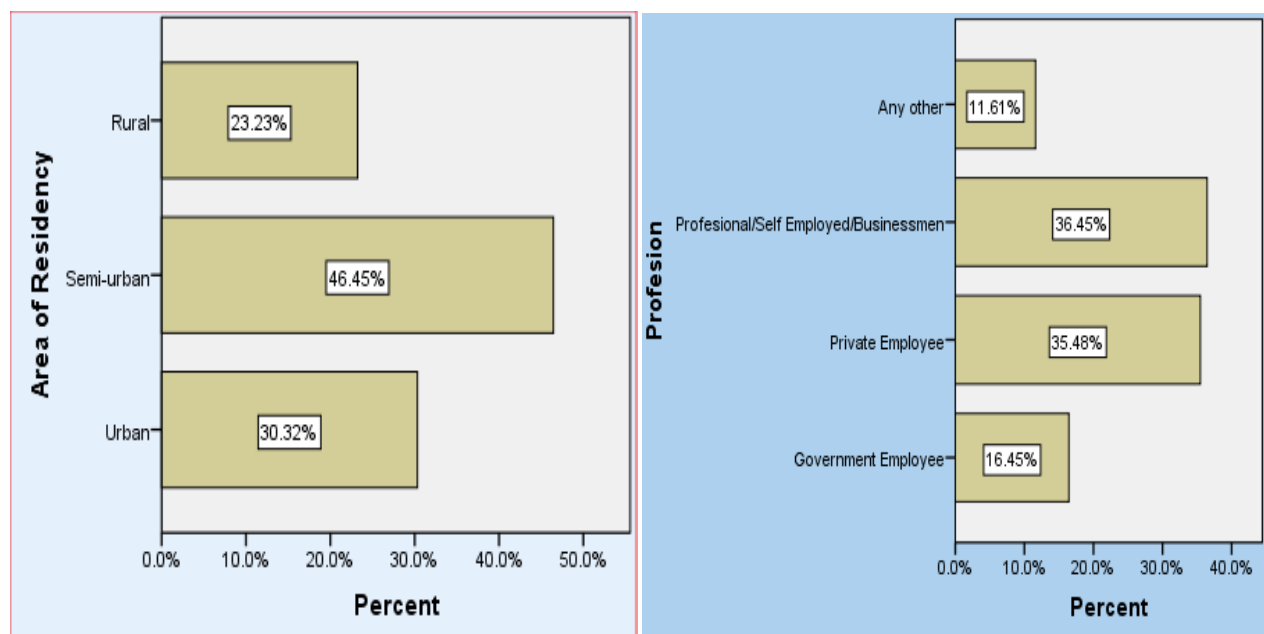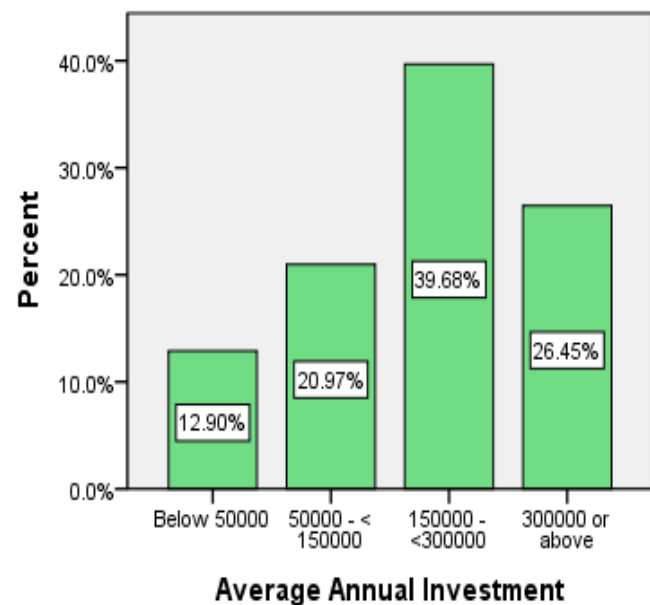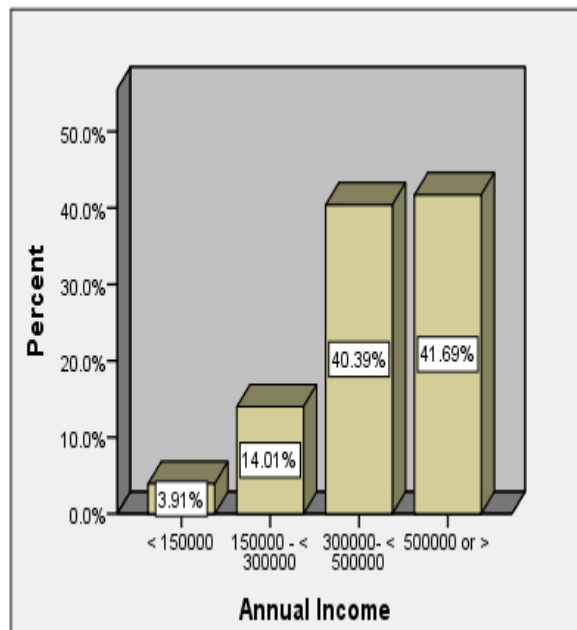

Figure 11: Source: developed for the study (2019)

Figure 11 shows details on residential area and profession held by the share market investors of this study. Maximum 77 percent of the respondents have their residential either at urban or semi-

urban geographical area. Sources of income or profession based comparison had shown that 84% of the respondents run their own business or private employees.

Table showing average annual income, total investment and amount reserved for share market investment:
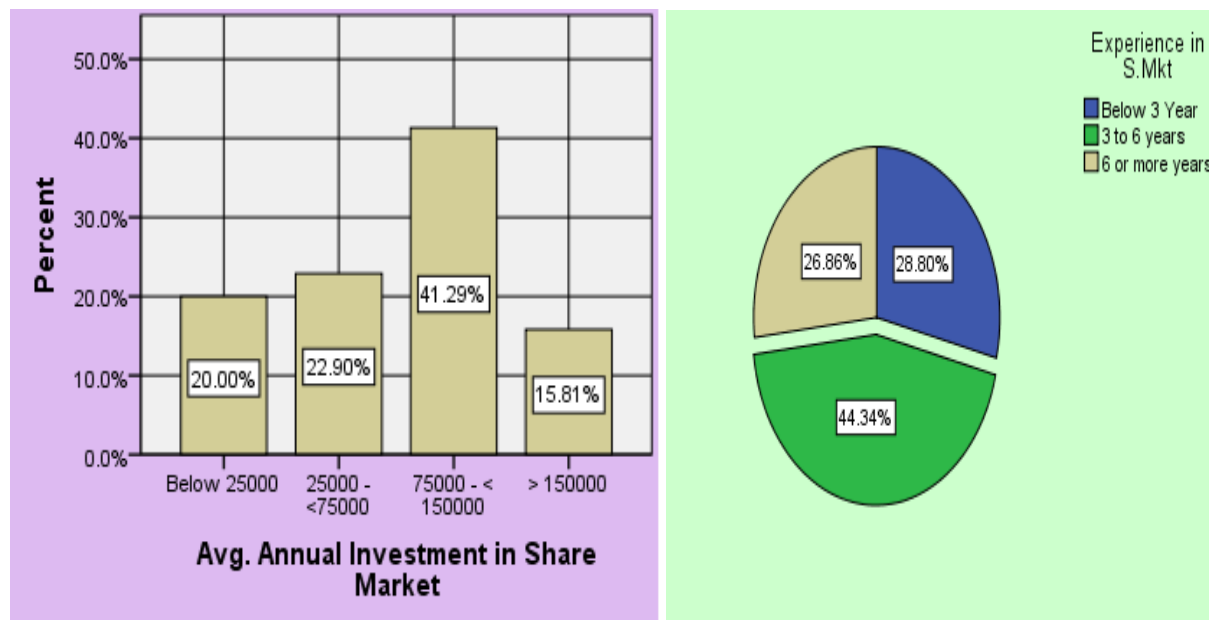
Figure 12 Source: developed for the study (2019)

Respondents annual income, average annual investment, amount reserved for share market investment and experience in share market investment is shown above in the charts. More than 80% of the respondents have average annual income above Rs.3,00,000. Average annual amount reserved for investment purpose for 40% of the respondents is between Rs.1,50,000 to Rs.3,00,000. Half of the total investment is shifted to share market, whereas 72% of the investors have got experience in share market investment more than 3 years.
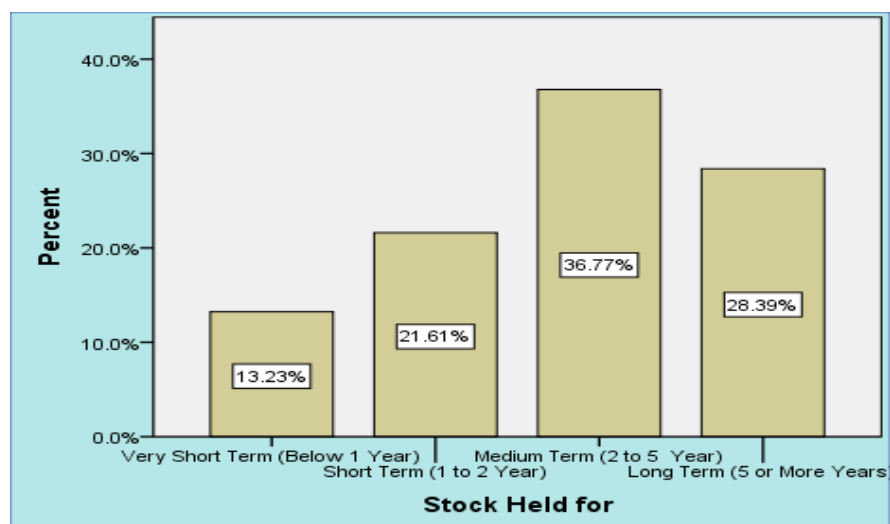
Type of Investor:

Figure 13 Source: developed for the study (2019)

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On the basis, 'Duration of stock held' is used to decide variable, types of investor. In this research very short term investor who holds security lesser than one year is found to the very negligible extent. Maximum investors i.e., to the extent of 37% were found to be medium term investors with holding duration of shares between two to five years. 29% found to be very long in share market by holding stocks above 5 years.

Factor Analysis

Factor Analysis of behavioral variables influencing the individual investment decisions and variables of investment performance:

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.713
Bartlett's Test of Sphericity	Approx. Chi-Square	51.452
	df	55
	Sig.	.000

Figure 14: Source: developed for the study (2019)

Initially all data entered into Excel and imported to SPSS. Exploratory Factor Analysis Principal Component Approach is applied to know the factor which loads for investors' psychological investment   behavior. Initial screening of data is done by creating correlation matrix, which showed that there were many coefficients in the moderate-to-high range, which encouraged us to use factor analysis. In order verify data suitability for factor analysis "KMO Test for Sample Adequacy" and "Bartlett's Test" is applied. Obtained KMO test value is .713, which is higher than the minimum required .6 and Bartlett's test had given value of significance level .000 for chi-square value 51.452 with degree of freedom 55, also highly supported for applying factor analysis for present study.

The analysis provided evidence of the underlying structure and the existence of five components (latent variables). Cumulative total of five latent underlying factors is to the extent of 53.067% (Ref. figure 14). Components matrix and the rotated component matrix are used to discover newly generated underlying components.

Hypothesis 1:

> **H_0 = All the factors of heuristics and prospect theory load equally for investors investment decision making.**

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Hypothesis rejected, it can be concluded that all variables of the heuristic and prospect behavioral factors doesn't contribute equally on investors investment decision making.

Major underlying factors which are derived from components matrix and the rotated component matrix are as follows:

Components	Variable Identified	Behavioral Factor	Sub-components
Component 1	1. Outperform market through own skill	Heuristic	Over Confidence
	2. Information from friend and relatives	Heuristic	Ability Bias – 2
Component 2	3. Local stock purchase	Heuristic	Ability Bias – 1
Component 3	4. Forecast market price	Heuristic	Anchoring – 2
Component 4	5. Anticipation of return	Heuristic	Gambler Fallacy
	6. Mental accounting	Prospects	Mental accounting
Component 5	7. Role of previous experience in next purchase	Heuristic	Anchoring – 1

Figure 15: Source: developed for the study (2019)

Out of 8 factors of eristic's theory, only six major factors and one out of 3 factors of prospect theory load highly for investors investment decision making process, which are shown in figure 15. It can be noted that from heuristics behavioral factor both variables of Representativeness and, from prospect theory loss aversion and regret aversion have not shown any underlying influence for investors investment decision making.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.324	12.040	12.040	1.324	12.040	12.040	1.218	11.071	11.071
2	1.214	11.035	23.075	1.214	11.035	23.075	1.192	10.835	21.906
3	1.171	10.649	33.724	1.171	10.649	33.724	1.155	10.502	32.409
4	1.092	9.927	43.651	1.092	9.927	43.651	1.142	10.383	42.792
5	1.036	9.416	53.067	1.036	9.416	53.067	1.130	10.276	53.067
6	.969	8.813	61.881						

7	.937	8.516	70.397							
8	.872	7.931	78.328							
9	.840	7.637	85.964							
10	.785	7.135	93.099							
11	.759	6.901	100.000							

Extraction Method: Principal Component Analysis.

Figure 16: Source: developed for the study (2019)

Rotated Component Matrix[a]

	Component				
	1	2	3	4	5
Purchasing Hot Stock	.199	.326	-.609	-.163	.290
Use of Trend Analysis	-.160	-.686	.041	.061	-.020
Out-Perform Through own skill	.734	-.019	-.007	-.135	.041
Previous Exp. in Next Purchase	.097	.195	-.118	.221	.674
Forecast Mkt. Price	.174	.255	.710	-.008	.181
Anticipation of Return	.048	.089	.036	.694	-.082
Local stock Purchase	-.330	.646	.167	.085	-.045
Information from friends/relatives	.635	.023	.146	.256	-.066
Loss Aversion	.175	.020	.428	-.427	.026
Regret Aversion	.154	.191	-.172	.227	-.660
Mentel Accounting	.071	-.222	.031	.505	.328

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 10 iterations.

Figure 17: Source: developed for the study (2019)

Impact level of heuristic and prospect factors on the individual investment performance:

Hypothesis 2:

H_0 = Share market performance is not depended on major 6 factors of heuristics and one factors of prospect, which have selected under factor mode.

Hypothesis 2(1):

H0: Meeting expectations cannot be decided by 6 variables of heuristic behavioral factors:

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.231a	.053	.035	1.221

a. Predictors: (Constant), Information from friends/relatives, Local stock

Purchase, Previous Exp. in Next Purchase, Anticipation of Return,

Forecast Mkt. Price, Out-Perform Through own skill

b. Dependent Variable: Reaching Expected Return

Figure 18: Source: developed for the study (2019)

Hypothesis 2(2):

H0: Outperforming market cannot be decided by 6 variables of heuristic behavioral factors:

Model Summaryb

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.154a	.024	.005	1.304

a. Predictors: (Constant), Information from friends/relatives, Local stock

Purchase, Previous Exp. in Next Purchase, Anticipation of Return,

Forecast Mkt. Price, Out-Perform Through own skill

b. Dependent Variable: Outperforming Market Return

Figure 19: Source: developed for the study (2019)

Hypothesis 2(3):

H0: Share market performance satisfaction level cannot be decided by 6 variables of heuristic
behavioral factors:

Model Summaryb

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.190a	.036	.017	1.162

a. Predictors: (Constant), Information from friends/relatives, Local stock

Purchase, Previous Exp. in Next Purchase, Anticipation of Return,

Forecast Mkt. Price, Out-Perform Through own skill

b. Dependent Variable: Satisfaction of Investment Return

Figure 20: Source: developed for the study (2019)

Hypothesis 2(4):

H0: Meeting expectations cannot be decided by one variable of prospect behavioral factors:

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.049[a]	.002	-.001	1.244

a. Predictors: (Constant), Mentel Accounting

b. Dependent Variable: Reaching Expected Return

Figure 21: Source: developed for the study (2019)

Hypothesis 2(5):

H0: Outperforming market cannot be decided by one variable of prospect behavioral factors:

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.009[a]	.000	-.003	1.309

a. Predictors: (Constant), Mentel Accounting

b. Dependent Variable: Outform Market Return

Figure 22: Source: developed for the study (2019)

Hypothesis 2(6):

H0: Share market performance satisfaction level cannot be decided by one variable of prospect behavioral factors:

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.145[a]	.021	.018	1.161

a. Predictors: (Constant), Mentel Accounting

b. Dependent Variable: Satisfaction of Investment Return

Figure 23: Source: developed for the study (2019)

In order to conclude hypothesis on influence of heuristic behavioral factors and prospect factors on investment performance of individual investors, multiple regression and single regression concept is applied. It can be noted that in all individual verification the value of std. error is higher than .05,

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since original null hypothesis can be accepted. Finally it can be concluded that factors of heuristic and prospect will not influence the share market performance of individual investors.

Analysis /Discussion/Recommendations/conclusions

Findings of the study:

Findings in this survey completely based on responses recorded by the respondents during the empirical study. Findings are divided into two parts i.e., general findings and hypothec findings.

General findings:

In this survey basic information collected and recorded for better understanding of sampling space, have depicted and proved following major known findings about Indian share market.

a. Age-wise classification of respondents has shown equal frequencies in all age groups but there was huge gap to 4:1 among male and female share market investors. Females still believe in traditional investment avenues due to several reasons such as preference for safe investment, lack of knowledge, non-availability of inventible fund and importance for present consumption/life style.

b. Rural-urban total number of demat account holders has shown huge gap with 22:78 ratio. Lack of awareness in rural area about share market investment possibilities led as a major fact behind this.

c. Active participation in the share market investment in India is found from double degree holders i.e., to the extent of 70%.

a. $7/10^{th}$ of the investors in the stock market are having double degree.

b. Professional master degree holders covered to the extent of $4/10^{th}$ of the total demat account holdings and coverage from the technical master degree holders is about $3/10^{th}$ proportion. Degree holders or people with lesser qualification do not believe on the Indian share market.

c. $7/10^{th}$ of the total demat account holders are employed either from private employer or having their own business/profession. Lack of government employees' involvement in the share dealing is found to the larger extent.

d. More than 82% of the respondents have annual income greater than Rs. 3,00,000.

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e. 4/10th of the demat account holders reserved Rs. 1,50,000 to Rs. 3,00,00 for all kinds of investments.

f. Annual average investment in the share market is between Rs. 75,000 to Rs.1,50,000 for maximum of 42% respondents.

g. Nearly half of the demat account holders having experience in the share market to the extent of 3 to 6 years. Only 29% of the individual investors do have experience lesser than 3 years, it shows lack of new entry to the share market investment.

h. Maximum 37% of the investor will hold their securities for 2 to 5 years which shows the medium term investment characteristic. 29% of the investors are holding their positions for more than 5 years, which shows long term attitude of the investors.

i. Maximum people will have the fear of speculation and gambling which resulted in only 1/3rd of investors showing interest for short term or very short term investment in the share market.

Hypothec Findings:

a. 6 factors out of 8 of heuristic behavioral theory will influence investors' investment decision making process, whereas only one of 3 factors from prospect behavioral factors show underlying structure for investors investment decision making. **(Hypothesis 1)**

b. Meeting expectations cannot be decided by 6 variables of heuristic behavioral factors. (**Hypothesis 2(1)**)

c. Outperforming market cannot be decided by 6 variables of heuristic behavioral factors. (**Hypothesis 2(2)**)

d. Share market performance satisfaction level cannot be decided by 6 variables of heuristic behavioral factors. **(Hypothesis 2(3))**

e. Meeting expectations cannot be decided by one variable of prospect behavioral factors. **(Hypothesis 2(4))**

f. Outperforming market cannot be decided by one variable of prospect behavioral factors. **(Hypothesis 2(5))**

g. Share market performance satisfaction level cannot be decided by one variable of prospect behavioral factors**. (Hypothesis 2(6))**

Recommendations:

Recommendations for individual investors of Indian stock exchanges:

In Indian not more than 7% of the total population is investing in share market due to several reasons. One of the major facts behind this is fear of unexpected movement in share price and risk of loss. Influence of the heuristic behavioral factors on investment decision making and share market performance was verified through factor analysis depicted valuable findings. Recommendations offered to the individual share market investors for better understanding market price movement.

a. Variables purchasing hot stock by avoiding poor performer and using trend analysis for purchase decision (Representativeness Bias) has shown high degree of positive correlation relations with investment decision making and performance of overall decisions.

b. Over confidence will not result in outperforming the market performance.

c. Variable use of previous experience in next purchase of (Anchoring bias) yielded high degree of positive correlation with investment decision and performance, but this vice-versa in case of variable forecasting market price based on recent stock price (Anchoring Bias).

d. Strong positive correlation was found in respect of variable forecasting return of good or poor market conditions. (Gambler Fallacy).

e. Variable reference from friend or relatives while purchase decision(Ability Bais) as shown high degree positive correlation, but purchasing local stock (Ability Bias) doesn't resulted in positive impact.

An individual should refer these points before moving for actual investment thereby he can tackle negative issues rising because of heuristic behavioral factors.

Recommendations for Stock Brokers:

Immediate requirement of the stock broking houses to understand the inner minds of investor and suggest them in a way, which will results them with high positive return. Because of huge competitions among the agencies, it is must to formulate strategies which will consider behavioral aspects and its role on investment decision as well as on investment performance.

Chances of further research:

In this study importance is given only on impact of heuristic behavioral factors on investment decision making and on performance of share market. This study could be extended for other remaining factors like prospect theory, market theory and hardening effects.

Conclusion:

This study reaches final stage by answering all the questions raised during the empirical survey. Here with we would like to conclude by presenting main points to answer the research questions.

What are the heuristic and prospect behavioral factors influencing individual investors' decision in Indian stock exchanges?

Are these factors affects on investors share market performance?

Throughout the study a prompt effort made to answer following questions drawn initially. It can be strongly concluded that there are further chances of research in this area where findings can be directed towards new dimension in the area of influence of behavioral finance on Indian share market investment decision.

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