"Do Market and Herding Effect Really Impact on Investment Decision Making in the Indian Share Market?"

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Abstract:

"Mad March – 2020, witnessed dramatic down-slide in the world's top stock exchanges due to COVID-19 pandemic with worrying volatility which resulted in traders panic sold of their holdings out of fear".2020's first quarter witnessed substantial losses in the several well recognized stock indices, especially between March 6 to 18, more than 20% that were triggered downward by the outbreak of COVID-19. Dow Jones Industrial Average and S&P 500 experienced worst first quarters ever in the history during year 2020 reducing its value by 23.2%. Year 2020 witnessed several historical landmark changes in the Indian share market movements along with other prominent stock exchanges of glob. On March 23rd, 2020, Benchmark index SENSEX touched intraday lowest value of 25880 and NIFTY fell to the lowest value of 7583. Throughout the globe, including Indian investors, started to rush for clearing their holdings ahead of dark lines created by pandemic in spite most of the financial analysts' suggestion for fresh buy and/or to hold previous purchase for long. Supporting financial experts' views, within next nine months SENSEX has gained around 100% and stood at 48834.34 on 8th Jan 2021.

There are many studies both in India and outside country have provided evidence for role of behavioral factors on investment decision making at respective stock markets. Here authors made an attempt to verify, 'weather market factor and herding effect of behavioral variables do influences on investment decision making of Indian share market investors?'

Keywords: Behavioral Factors, Investment Decision Making, Share Market, Stock Market Performance.

I. INTRODUCTION

1. **Recent Scenario of Share Market and View of Investors Towards Share Market Investment:**

   In India, even in the era of 21st century people still stick to the traditional investment avenues such as bank deposit, insurance, gold or real estate etc. Lack of knowledge, fear, and lack of experience made people to have common understanding that the share market investment is always dangerous and loss making venture. In India not more than 5% of

total population is actively involving in the share market investment activities, but this percentage is more than 50% in the well developed countries. Most of the highly educated white color professional also negative towards share market investment. Since last few years number of demat account in India is showing increasing trend created new hopes towards the creating its coverage. Numbers of total demat accounts stood at 40.8 million at the end of fiscal 2020 from its previous 35.9 million during March 2019.

There is a difference of opinion among the experts regarding the share price movement in the market, where some people opine that its fully rational and other believe it's a result of behavioral reactions. In order to understand share market logarithms one must have detailed knowledge of different stages in evolution of finance theory.
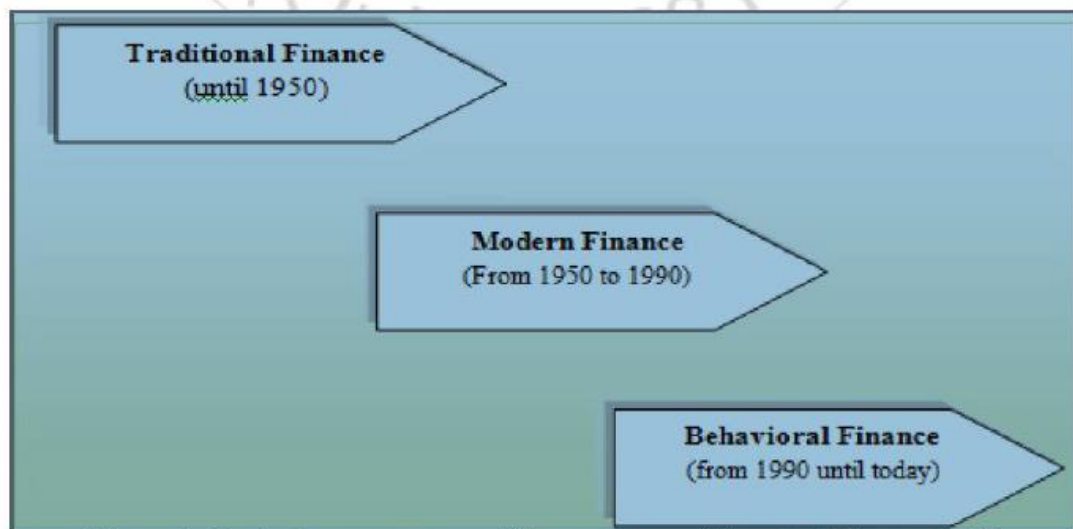
2. Evolution of Finance Theory:

Fundamental aspects of the fiancé theory is studied by dividing into two fundamental bases i.e., standard finance and behavioral fiancé.

Standard Finance (Traditional and Modern Finance): 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.

Figure 2: Different stages in development of finance theory

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

3. **Major Behavioral Factors Influencing Investment Decision Making:**

Literature review helped us to identify the major behavioral factors influencing investors' investment decision making. Waweru et al., (2008) identified four broad categories behavioral factors it includes heuristic theory, prospect theory, market factors and herding effect. Figure below shows individual behavioral variables involved in each category of behavioral factors.

Figure 2: Important Behavioral Factors Investment Decision Making Process

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

Figure1: Behavioral factors influencing the investment decision making (Source: Waweru et al., 2008)

Heuristic Theory: Heuristics are defined as a mental shortcut which allows people to solve problems by making judgmental decision based on rule-of-thumb strategy. Heuristic are helpful in many situation since, it shorten the time, amount of information and cost associated with decision making process but, are also exposed to possible cognitive biases sometime. Psychologists Amos Tversky and Daniel Kahnemanin their research paper cognitive biases published during 1970s proposed that these biases influence on how people think and the judgment people make. Cognitive biases are forced to rely on mental shortcuts to react for the situation without extended analysis may lead for error or inaccurate judgment.

Prospect Theory: Psychologists Amos Tversky and Daniel Kahneman's another contribution to the field of behavioral finance is prospect theory assumes that losses and gains are valued differently and individual will take decision in the base of perceived gains instead of perceived losses. Prospect theory speaks about the loss aversion nature of an individual may lead for biases in the decision making process and end up with wrong judgment or error.

Market Factors: Researches have provided evidence for existence of direct relationship of market variables on the investment performance of investors. Waweru et al., 2008 identified six key variables which form the group of market factor, which includes price changes; market information; past trends of stock; fundamentals of underlying stock; customers preference and over reaction to the price changes. These all key variables from the market factor are considered to be guiding icons for individual investor in the process of picking right investment choice in the stock market.

Herding Effect: Herding effect in the finance depicts the tendency of investors' following other investors' actions rather than their own analysis. In other words it could be said a herd effect is exists in the financial market when a group of investors ignores their own information and fallows the decisions of other investors. Imitating other investors action without analyzing available information may not end up with guaranteed positive returns every time. Herding effect or imitation may be seen in the form of buying and selling decisions of other investors; choice of stock to trade off other investors; volume of stock to trade of other investors and speed of herding.

4. Statement of Problem:

Month March 2020 made remarkable landmarks in the history of stock markets throughout the globe resulted overnight dropdown in its value. Investing community rushed to clear their holdings due to the fear created by dark shade of Covide-19. One can understand glancing at past that these kinds of crashes is not new in the share market, and gradually it will drag into stability by loosing weak hands. Irrational behavior of stock market investors' termed to be reason for such kinds of unpredictable flow of share market price movement. There is a need for extended study with this regard to verify the role of behavioral factors in the process of share market price movement.

5. Research Objective and Research Question:

This research is based on the broad ***objective*** of identifying the possible chances of behavioral factors influences on share market investment decision making with context to Indian investors. In order reach desired outcome following objectives were identified.

i.   To record the major market and herding effect of behavioral variables influencing share market investment decision making.

ii. To identify the individual factors of market and herding effect existed in the Indian share market investment decision making.

iii. To measure the extent to which these individual factors influence on Indian investors investment decision making process.

iv. To evaluate the influence of these factors on share market performance.

v.   To suggest retail investors and share broking houses to adjust their behavioral attributes based on the outcome of the study.

To research desire objectives following ***research questions*** were drawn which includes,

i.   What are the major behavioral factors especially in respect of market and herding effect influencing share market investment decision making?

ii. How many factors out of these, will applicable to Indian share market and to what extent?

iii. What is the role played by these behavioral factors on investment performance of investors?

6. Significance of Study:

No single contribution made an attempt to identify the logic behind the share market price movements. Traditional contributor to the theory of investment psychology have argued that the investors are always act rational in the process of investment decision making and their decision will be the result of risk-return trade off. Whereas, modern contributors pointed out with empirical evidences that the investors always may not be rational and they will be influenced or controlled by several psychological variables. This attempt of research is undergone with a broad objective of identifying the behavioral variables which are existed in Indian share market investment decision making..

7. Limitations of the Study:

Boundaries are part of all successful research, even this empirical study exposed to following major issues.

   i. This study considers only variables of market and herding effect, heuristic theory and prospect theory is kept out of the study circle.
  ii. This study focuses on view of retail investors, and completely silent towards institutional investors or share broking houses.
 iii. Study of behavioral variables in respect of Indian stock exchanges is based on the survey result of only two major district of costal Karnataka.
  iv. Sample survey was done during the period January 2018 to March 2019.

II. LITERATURE REVIEW

II.A Foreign Studies:

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.

II.B Indian Studies:

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. 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.

II.C Research Gap:

A behavioral aspect for financial decision making is emerging stream of knowledge and it argues that investors cannot behave rationally in the course of share marketinvestment decision making process. Most of the empirical evidences throughout the world have proved claims of behavioral fiancé. But, behavioral finance is in the stage of infant in India. ***"There are no major studies undertaken especially in the state of Karnataka with respect to impact of behavioral factors on Indian share market investment decision making process".***

III.   RESEARCH DESGIN AND METHODOLOGY

III.A Research Approach:

Researcher applied ***deductive approach*** of research for proposed study. Deductive approach of the research helped in studying the existence and influence of human psychological factors on the subject matter i.e., on the Indian share market price movements. This verification is done by using behavioral finance after setting suitable hypothesis.

III.B Research Design and Methodology:

Cross-sectional research design is used in process of large sample size studying at single time. Cross sectional research design facilitates collecting and analyzing data from more than one case at one single time. The patent of association is then examined by using the quantitative or quantifiable data. Cross-sectional research design is most suitable in this study since the main intention is to describe a common trend of investors' behavior rather than one specific case, and data is collected in a single time period.

III.C Variables under the study (Dependent and Independent Variables):

Figure 3: Dependent and independent variables of the study:

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┌─────────────────────────────────────────────────────────────────────┐
│                     Conceptual Framework                            │
│  ┌───────────────────────────┐        ┌─────────────────────────┐   │
│  │   Independent Variable     │        │    Depended Variable     │   │
│  └───────────────────────────┘        └─────────────────────────┘   │
│  ┌──────────────────────────────┐                                   │
│  │   I.     Market Factor        │                                   │
│  │  a. Price Change              │                                   │
│  │  b. Market Information        │          ┌──────────────────────┐ │
│  │  c. Past Trends of Stock      │          │  Investors Decision   │ │
│  │  d. Fundaments of Underlying  │          │         &            │ │
│  │     Stock                     │          │ Investment Performance│ │
│  │  e. Customers Preference      │          │  of Individual        │ │
│  │  f. Over Reaction to Price    │          │  Investors            │ │
│  │     Change                    │          └──────────────────────┘ │
│  └──────────────────────────────┘                                   │
│  ┌──────────────────────────────┐                                   │
│  │   II.    Herding Effect       │                                   │
│  │  a. Buying and Selling        │                                   │
│  │     Decisions of other        │                                   │
│  │     Investors                 │                                   │
│  │  b. Choice of Stock of other  │                                   │
│  │     Investors                 │                                   │
│  │  c. Volume of stock to trade  │                                   │
│  │     of other Investors        │                                   │
│  │  d. Speed of Herding          │                                   │
│  └──────────────────────────────┘                                   │
└─────────────────────────────────────────────────────────────────────┘
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Source: developed for the study (2019)

III.D Research Hypothesis:

Detailed review of available literatures worldwide helped us in identifying research gap. Fowling hypothesis are designed to facilitate verification of empirical evidence.

Hypothesis H₁:

The behavioral variables that influence the investment decisions of individual at Indian share market are grouped in two factors as the reviewed theories: Market and Herding.

(This hypothesis is tested by exploratory factor analysis to identify which dimensions the Behavioral variables belong to).

Hypothesis H₂:

The factors of market variable and herding effect of behavioral finance have high impact on the investment decisions of individual investors at the Indian share market.

(This hypothesis is tested by synthesizing the respondents' evaluations of influence degree of behavioral factors on investment decision)

Hypothesis H₃:

The factors of market variable and herding effect of behavioral finance have positive impact on the investment performance of individual investors at the Indian share market.

(Multiple Regression)

III.E Data Collection and Respondents Selection:

This study is concentrated two prominent districts of costal Karnataka i.e., Udupi and Dhakshina Kannada. It is found that there're around 900 to 1000 demat account holders together in two prominent districts of costal Karnataka i.e., Udupi and Dhakshina Kannada district. Sample requirement at 5% of significance for population size of 1000 is 278. In this study 375 respondents are chosen and 310 acceptable responses are received.

75 each (total 375) randomly selected individual investors from five top share broking houses in Udupi and Dhakshina Kannada district are chosen for this study. Well planned pre-determined systematic questionnaire which contained three different sections, each related for personal details, behavioral characteristics and investment performance respectively, were served for all randomly chosen respondents. Behavioral variables are measured by '*6 Point Likert Scale'*. Data collected during the period of January 2018 to March 2019. Out of distributed 375 questionnaire 310 genuinely filled questionnaires chosen for further process. Pre-determined set of hypothesis is verified by applying several econometric and statistical tools such as Descriptive Statistics, Correlation Co-efficient, Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy, Bartlett's Test of Sphericity, Factor Analysis, Cronbach Alpha, and Multiple Regression Model using SPSS. Final conclusions are drawn for outcome of empirical evidence consulting numerous specialist and experts in the field of financial market, which helped us in generalizing the empirical facts.

III.F Respondents Selection and Response Rate:

**Figure 4: 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**

Source: developed for the study (2019)

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

III.G Percentage of Samples from Different Stock Broking Houses:

Figure 5: Percentage of samples representations from different Stock Broking Houses:
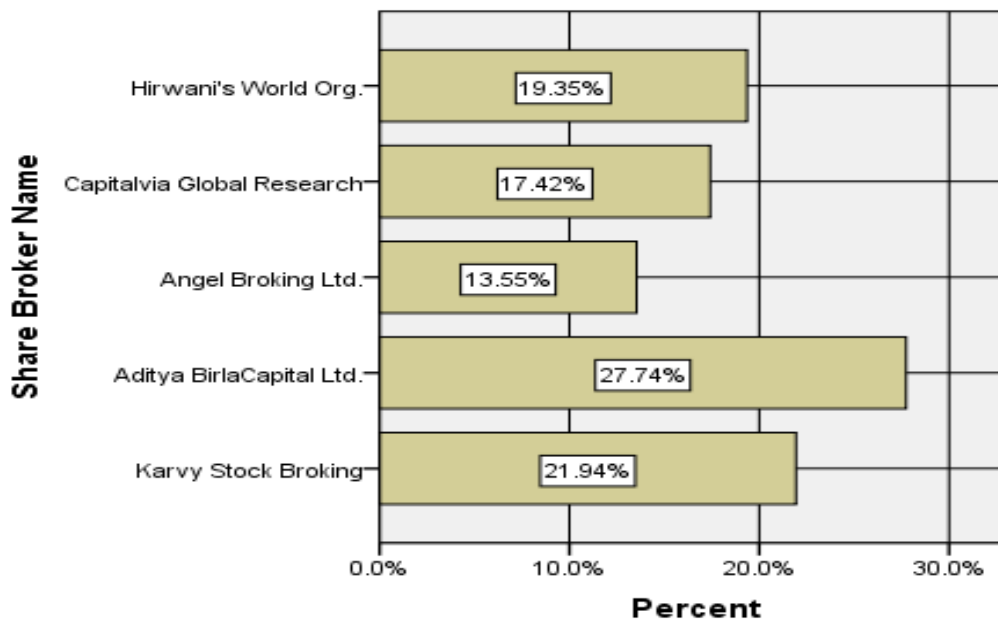
Source: developed for the study (2019)

It can be observed from the above table that the equal representation is existed among chosen five stock broking houses with range value of 14.19 % (difference between highest and lowest percentages.

III.H Design and Measurement of Questionnaires:

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

    Figure 6: Coverage of Personal Information:

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

Source: developed for the study (2019)

b. **Verification on Behavioral and Performance Factors:**

   **Figure 7: Coverage in Behavioral and performance factors:**

Groups	Dimensions Questions	Question	Measurement
Market Behavioral Factor	1. Price Change 2. Market Information 3.Past Trends of Stock 4.Fundamentals of Underlying Stock 5.Customers Preference 6. Over Reaction to the Price Change	Question 35, Question 36, Question 37, Question 38, Question 39, Question 40,	6 - Point Likert Scale
Herding Effect	1. Buying and Selling Decisions of other Investors 2. Choice of Stock of other Investors 3. Volume of stock to trade of other Investors4. Speed of Herding	Question 41, Question 42, Question 43, Question 44,	6 - Point Likert Scale
Investment Performance	1. Meeting Return Rate Expectation, 2. Beating Market return 3. Satisfaction in investment decision	Question 45 Question 46 Question 47	6 - Point Likert Scale

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

## IV.   ANALYSIS/DISCUSSION/RECOMMENDATIONS/CONCLUSION

IV.A Descriptive Statistics:

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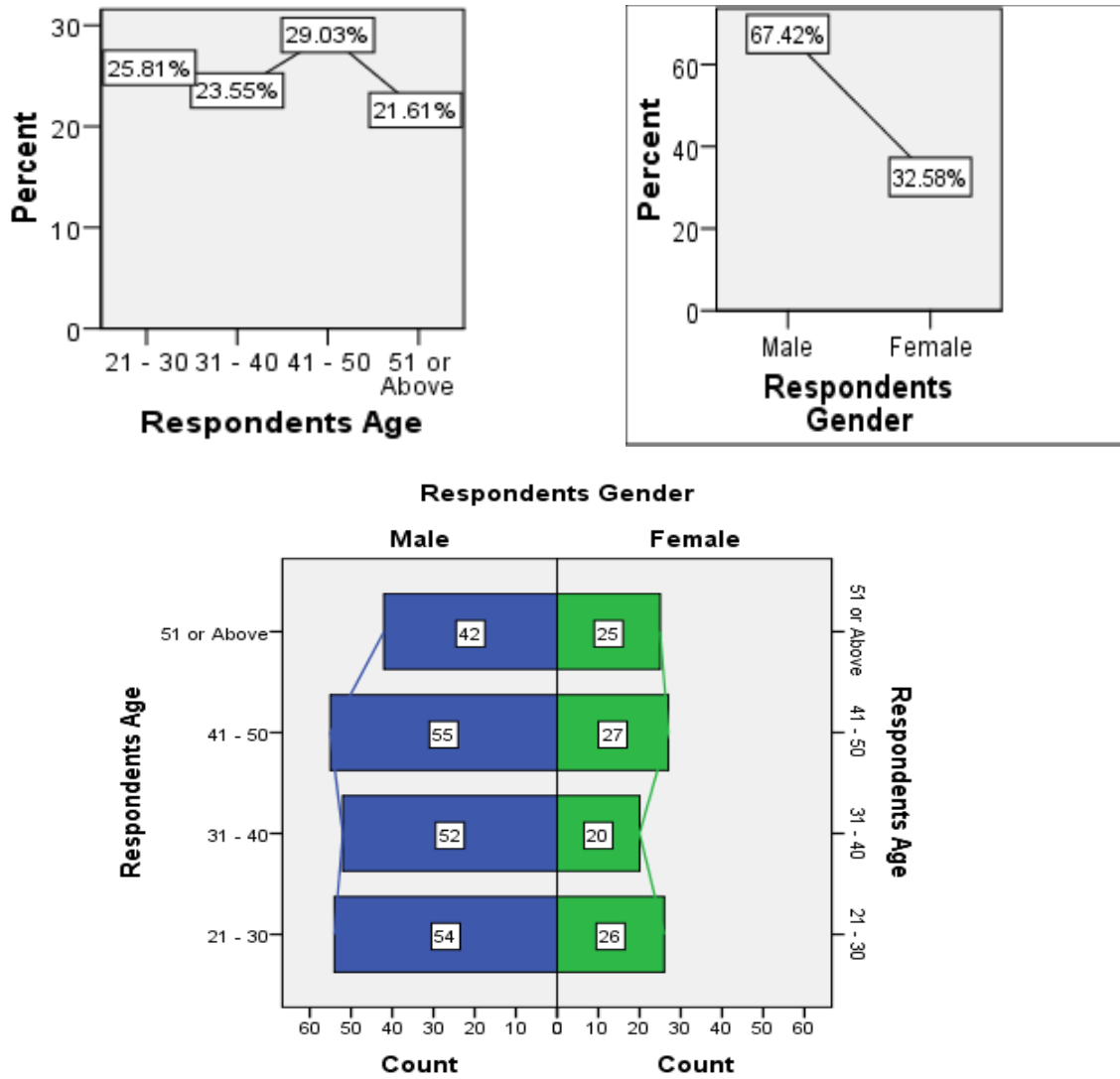
Figure 9: Source: developed for the study (2019)

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

Figure 10: Table showing respondents educational status and professional background:
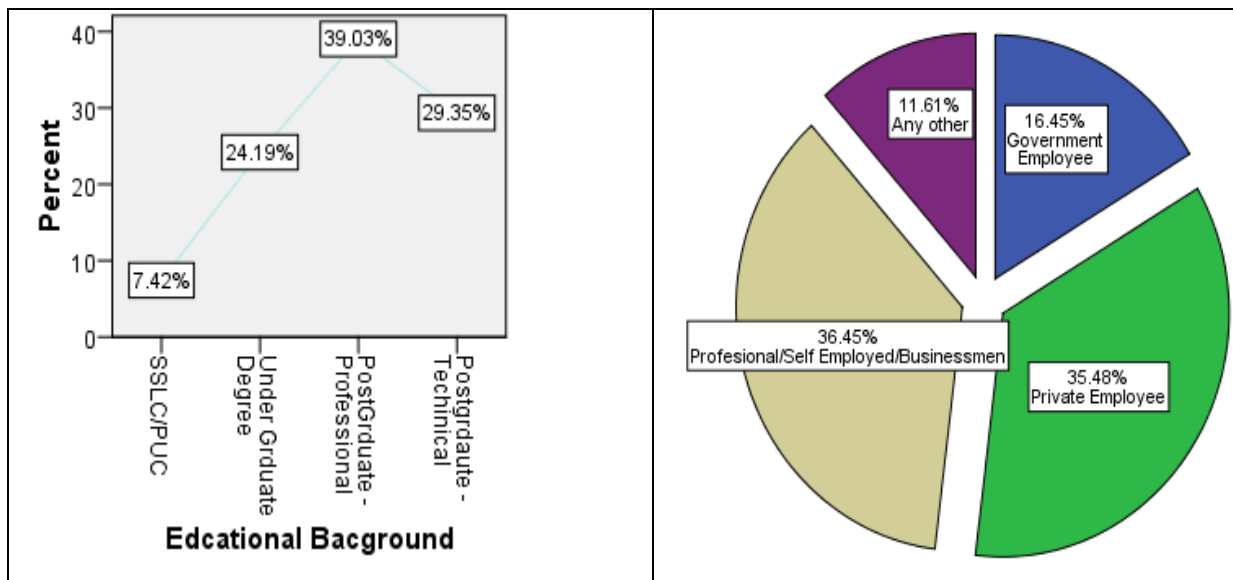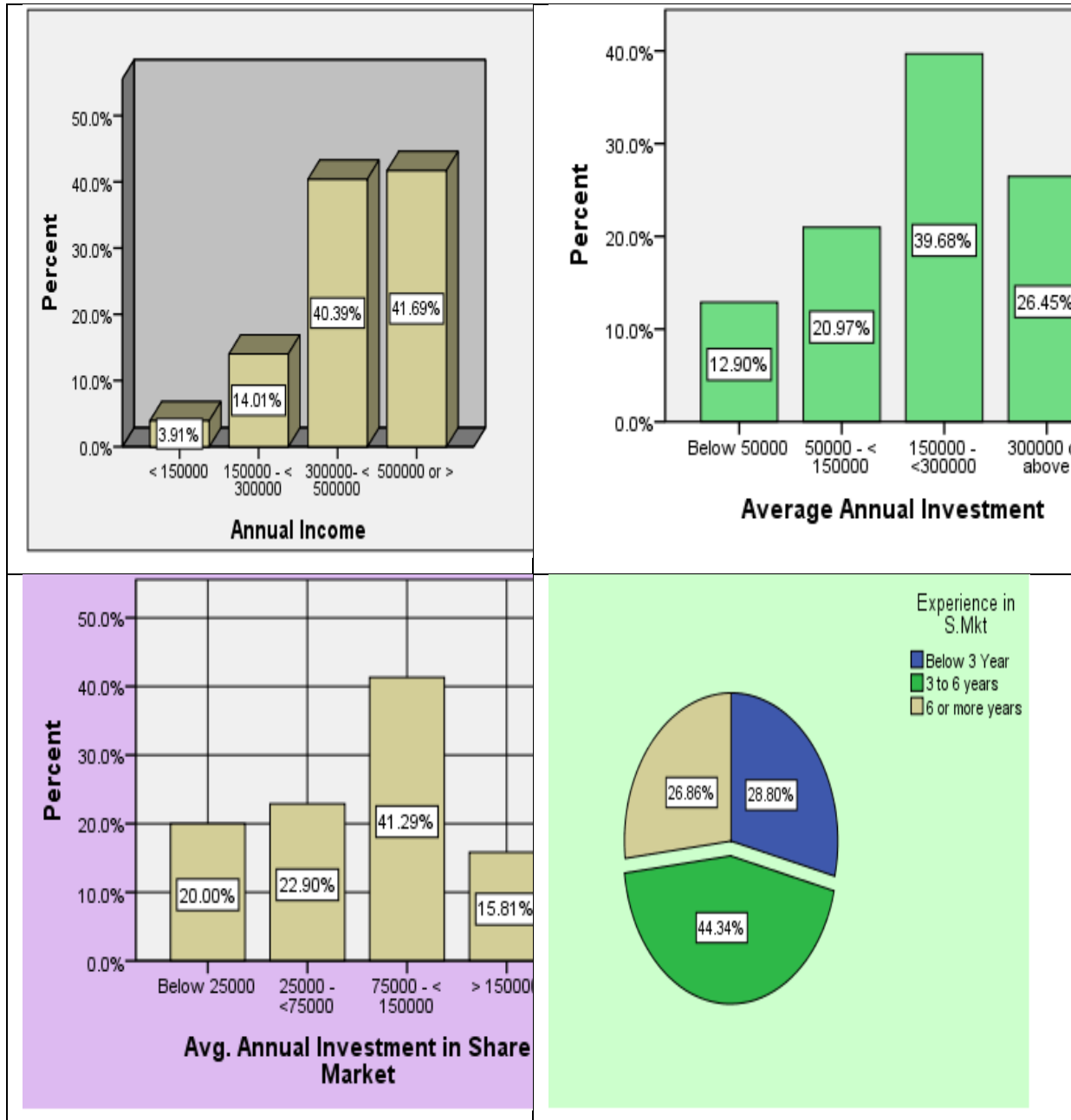

Source: developed for the study (2019)

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.

Figure 11: showing residential status and type of job/profession held by the respondents:
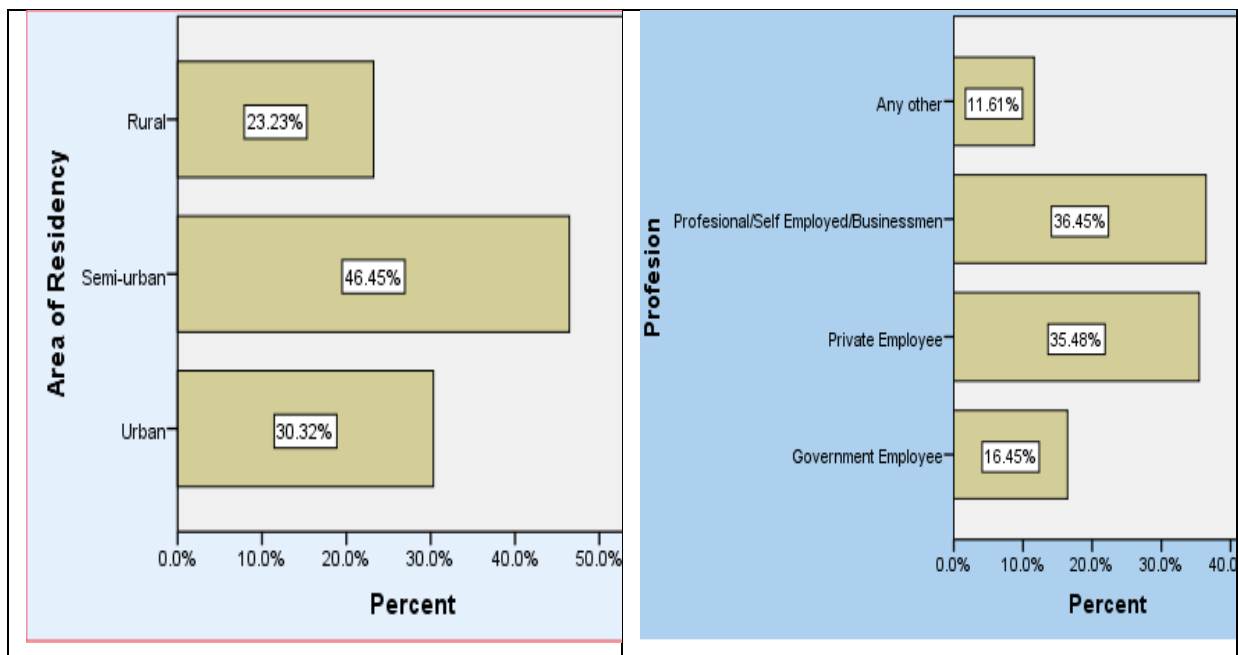
Source: developed for the study (2019)

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

Figure 12: Table showing average annual income, total investment and amount reserved for share market investment:

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.

Figure 13: Type of Investor:
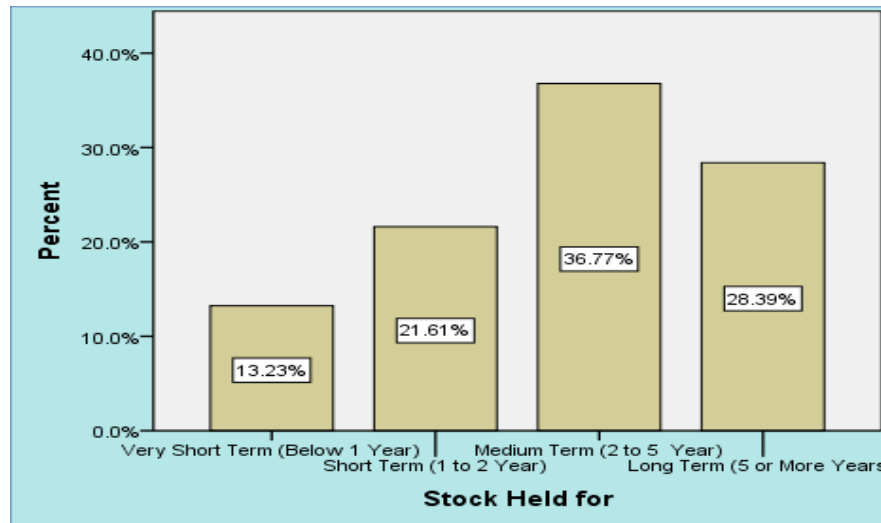
Figure 13 Source: developed for the study (2019)

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.

IV.B Testing Hypothesis:

IV.B. Hypothesis 1:

Hypothesis H₁: *The behavioral variables that influence the investment decisions of individual at Indian share market are grouped in two factors as the reviewed theories: Market and Herding*. **Results of Factor Analysis:** Null Hypothesis is rejected and it is concluded that factors of market variables and herding effects divided into 6 latent components different variables (Ref. figure 16).

IV.B.1 Factor Analysis:

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.65
	Approx. Chi-Square	322.286
Bartlett's Test of Sphericity	Df	78
	Sig.	.000

Source: developed for the study (2019)

Respondents' responses recorded in the excel sheet and imported to SPSS for further analysis. Exploratory Factor Analysis Principal Component Approach is used to know the latent factors loading out of market variables and herding effect to the investors' investment decision making in the Indian share market.

Correlation matrix as a part of initial screening showed coefficient in the range of moderate-to-high range, which is highly supportive for application of factor analysis. Data suitability for the application of factor analysis "KMO test for Sample Adequacy" and "Bartlett's Test" is applied. Obtained KMO test value was .65 (any value above .60 is recommended for factor analysis) and Bartlett's showed a value of significance level .000 for chi-square value of 322.286 with degree of freedom 78, was also highly supportive. (Ref. figure 14)

The analysis provided evidence of the underlying structure and the existence of five components (latent variables). Cumulative total of six latent underlying factors is to the extent of 61.98% of total variance (Ref. figure 15). Components matrix and the rotated component matrix are used to discover newly generated underlying components.

Figure 15: Total Variance Explained:

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.820	13.999	13.999	1.820	13.999	13.999	1.700	13.078	13.078
2	1.597	12.282	26.282	1.597	12.282	26.282	1.516	11.659	24.737
3	1.298	9.985	36.267	1.298	9.985	36.267	1.257	9.667	34.404
4	1.187	9.134	45.400	1.187	9.134	45.400	1.254	9.646	44.050
5	1.090	8.385	53.785	1.090	8.385	53.785	1.192	9.169	53.218

6	1.066	8.198	61.983	1.066	8.198	61.983	1.139	8.765	61.983
7	.967	7.439	69.422						
8	.845	6.503	75.925						
9	.813	6.251	82.177						
10	.753	5.791	87.968						
11	.630	4.848	92.816						
12	.551	4.235	97.051						
13	.383	2.949	100.000						

Extraction Method: Principal Component Analysis.

Source: developed for the study (2019)

Figure 16: Rotated Components Matrix:

Compon ents		Component					
		1	2	3	4	5	6
1	**M4** (Fundamentals of underlying stock)	.839					
	M5 (Customers Preference)	.826					
2	**M6** (Over Reaction to the Price Change)		.736				
	PE3 (Satisfaction in the investment Decision			.723			
3	HE3 (Volume of Stock of other Investor)			.698			
4	**HE1**(Buying & selling Decision of other investors)				.789		
5	**HE2** (Choice of Stock of other Investors)					.837	
6	**PE2** (Beating Market Return)						.661
	M3 (Past Trends of Stock Price)						.615

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 18 iterations.

Source: developed for the study (2019)

Rotated Components Matrix in the figure 16 above depicts newly generated components along with respective components.

IV.B.1.a Reliability Test (Cronbach Alpha):

Cronbacch's alpha is the most common measure of internal consistency ("reliability). It is most commonly used for likert scale involved survey/questionnaire that forms a scale for determining the scale is reliable. In figure 17 below, highest value of Cronbach Alpha (Above 0.7) confirms internal consistency of collected Likert scale data, and outcome of the study can be generalized.

Figure 17: Reliability (Cronbach Alpha):

Factor	Variables	Cronbach's Alpha	Corrected Item - total Correlation	Cronbach's Alpha if item deleted	F (Sig)
1	**M4** (Fundamentals of underlying stock) **M5** (Customers Preference)	0.703	0.548	0.708	55.726 (.000)
2	**M6** (Over Reaction to the Price Change)				
3	**PE3** (Satisfaction in the investment Decision **HE3** (Volume of Stock of other Investor)	0.801	0.648	0.809	78.913 (.000)
4	**HE1**(Buying & selling Decision of other investors)				
5	**HE2** (Choice of Stock of other Investors)				
6	**PE2** (Beating Market Return) **M3** (Past Trends of Stock Price)	0.701	0.708	0.548	55.726 (.000)

Source: developed for the study (2019)

IV.B. Hypothesis 2:

Impact level of Behavioral Factors on the Individual InvestmentDecisions:

> **Hypothesis H$_2$:**
>
> The factors of market variable and herding effect of behavioral finance have high impact on the investment decisions of individual investors at the Indian share market.
>
> **Results of Hypothesis Test:**Null Hypothesis is all-most accepted, and it is empirically proved that all factors of herding effect and markets variable are having high level impact on individual investors' investment decision making process. (Except HE2). (Ref. figure 18).

The impact level of behavioral variables on the investment decisions are identified by calculating the value of sample mean of each variable. Variables of investment performance are also scored by identifying mean value of the respondents' evaluation for each variable. In hypothesis-1, variables which are chosen based on Factor analysis and the Cronbach's Alpha are continued for demonstrating their scores.

Variables impact level on investment decision making are decided on following rules:

- ✓ Mean values are less than 2 shows that the variables have very low impacts

- ✓ Mean values are from 2 to 3 shows that the variables have low impacts
- ✓ Mean values are from 3 to 4 shows that the variables have moderate impacts
- ✓ Mean values are from 4 to 5 shows that the variables have high impacts
- ✓ Mean values are more 5 shows that the variables have very high impacts

Figure 18: Calculated value of mean and standard deviation for variables of all factors of decision making and performance:

Factor	Variables	Mean	Standard Mean	Impact Level
1	M4 (Fundamentals of underlying stock)	**4.43**	1.243	Very High
	M5 (Customers Preference)	3.88	1.438	High
2	M6 (Over Reaction to the Price Change)	3.02	1.355	High
3	PE3 (Satisfaction in the investment Decision	**4.75**	1.109	Very High
	HE3 (Volume of Stock of other Investor)	3.68	1.478	High
4	HE1(Buying & selling Decision of other investors)	3.97	1.247	High
5	HE2 (Choice of Stock of other Investors)	2.81	1.267	Moderate
6	PE2 (Beating Market Return)	**4.65**	1.147	Very High
	M3 (Past Trends of Stock Price)	3.79	1.166	High

Source: developed for the study (2019)

Factors of market variable i.e., M4 (fundamentals of underlying stock) is having very high impact on investors investment decision making process. Remaining factors of market i.e., M5 (Customers preference); M6 (overreaction to the price change) and M3 (past trends of stock price) are having high impact. Two factors of herding i.e., HE3 (volume of other investors), HE1(Buying & selling Decision of other investors) are having high impact on investment decision making process of investors, but HE2 (Choice of Stock of other Investors) moderate impact.

IV.B. Hypothesis 3:

Influences of Behavioral Factors on the Individual Investment Performance:

> **Hypothesis H₃:**
>
> The factors of market variable and herding effect of behavioral finance have positive impact on the investment performance of individual investors at the Indian share market
>
> **Results of Hypothesis Test:**All null hypotheses arerejected except in case of Harding effect on satisfaction level of individual's investment performance.(Ref. figure 19).

Figure 19: Results of regression analysis showing impact level of herding effect and market variables on investment performance:

Independent Variables	Dependent Variable	Regression value (R Square)	Significance of ANOVA	Accept/Reject Null hypothesis
Market Variables (M3; M4; M5 and M6)	1. Meeting Return Rate Expectation,	.018	.239	**Reject**
	2. Beating Market return	.017	.262	**Reject**
	3. Satisfaction in investment decision	.011	.488	**Reject**
Herding Effect (HE1, HE2 and HE3)	1. Meeting Return Rate Expectation,	.009	.452	**Reject**
	2. Beating Market return	.002	.897	**Reject**
	3. Satisfaction in investment decision	.27	.037	**Accept**

Source: developed for the study (2019)

In order to measure variable performance three criterions are used which includes meeting return rate expectation, beating market return and satisfaction in investment decision. Four variables of market and three variables of herding tested individual by using multiple regression analysis. Except impact of herding effects on satisfaction in the investment decision making, no other variables are having positive impact.

IV.C Findings of the Study:

IV.C.A Important general findings of the study are:

- All age group respondents are participated equally in the survey but there were found huge gap gender-wise participation (4:1).
- Rural-urban imbalance in share market investment (22:78).
- 70% of share market investors are double degree holders (Imbalance in educational background based participation).
- 60% of share market investors' are professional degree holders. (Imbalance between stream or nature of education)
- Lack of government employees' participation in share market investment (just to the extent of 30%)
- More than 80% of the share market investors have annual package above Rs. 3,00,000.

- Half of the annual earning will be reserved for all kind of the investment Around Rs. 1,50,000), and reserve for share market investment will not cross half which (i.e., Rs. 75,000).

- Half of the respondents are having average experience of share market investment around 3 to 6 years. 20 percentages of investors are in share market for more than 6 years.

- 40 % investors hold securities for 2 to 5 years, around 30% continue holding for more than 5 years. There are equal importance was found for short, medium and long term investment commitment in Indian share market.

IV.C.B Important Hypothetical Findings:

Hypothesis 1:

- *The behavioral variables that influence the investment decisions of individual at Indian share market are grouped in two factors as the reviewed theories: Market and Herding*. Empirical evidence using factor analysis did not support the argument and decision variables are divided 6 different factors with different variables as shown below.

Factors	Variables
1	**M4** (Fundamentals of underlying stock) **M5** (Customers Preference)
2	**M6** (Over Reaction to the Price Change)
3	**PE3** (Satisfaction in the investment Decision HE3 (Volume of Stock of other Investor)
4	**HE1**(Buying & selling Decision of other investors)
5	**HE2** (Choice of Stock of other Investors)
6	**PE2** (Beating Market Return) **M3** (Past Trends of Stock Price)

Hypothesis 2:

- *The factors of market variable and herding effect of behavioral finance have high impact on the investment decisions of individual investors at the Indian share market.* Null Hypothesis is all-most accepted, and it is empirically proved that all factors of herding effect and markets variable are having high level impact on individual investors' investment decision making process (Except HE2: Choice of Stock of other Investors).

Hypothesis 3:

- *The factors of market variable and herding effect of behavioral finance have positive impact on the investment performance of individual investors at the Indian share market.*

    Herding effects are having high positive impact on satisfaction level of individual's investment performance.

IV.D Suggestion or Recommendations:

After discussing the observations found during the empirical survey with the experts in the field following suggestions are presented for implementation. In India share market investment is still in developing stage and there are greater opportunities to the share broking houses to increase their coverage by working against the evidences found during the study. Share market participation in any country will reflect its economic status. It's the responsibility of educational institutions, governments, individual investors and other authorities to create awareness and spread knowledge among the common people on the truth and facts behind the share market operation. While formulating any strategy by the authorities must focus on following facts.

- Increasing the women participation.
- Special attention must be given to increase participation of investors from tier-I and tier-II cities.
- Special concentration to cover just degree holders or even lesser educated people.
- Provision for covering technical degree holders along with existed professional degree holders with commerce or management background.
- Increasing government jobholders' participation.
- Trying to include medium and low income category investors along with existed high income group.
- Creating awareness and motivating investors to invest higher proportion to the share market out of the money reserved for all kinds of investments.
- Realizing investors real worth and depth of short term, medium term and long term investment strategies.
- Increasing the overall active participation and experience of investors in the share market investment.

- All factors of herding and market are highly influences on the investors' investment decision making process but it will results positively on investment performance. Retail investors must take care of behavioral variables while taking investment decisions and must proceed after fundamental and technical analysis.

- Retail investor must keep in mind that the herding effects are having high positive impact on satisfaction level of individual's investment performance and accordingly can allow those variables to the acceptable level.

IV.E Conclusions:

Price movement in the share market takes place each fraction of time and the direction of changes depends upon several factors. Modern behavioral theorist of finance argues that investors can not behave rationally all time and he will limited by several behavioral variables. To verify this in context with Indian share market following study was under taken. Herding and market variables are grouped into six different categories based on respondents' response pattern.   It is also confirmed that factors of herding and markets are having higher positive impact on Indian share market investment process but it will not confirm the performance in the share market. Investors while taking investment decisions in the Indian share markets, along with behavioral influences must grade selected stocks with the application of technical and fundamental analysis.

References:

1. Allen, D. W. and Evans, A. D. (2005). Bidding and overconfidence in experimenting financial markets. Journal of Behavioral Finance, 6 (3), 8–120.

2. Ali, N. A., Zairi, M. and Mahat, F. (2006). Quality HR-TQM Model in Service Context.

3. Anderson, J. C., &Gerbing, S. W. (1988). Structural equation modeling in practice:A review and recommended two-step approach. Psychological Bulletin, 103(3), 411–423. https://doi.org/10.1037/0033-2909.103.3.411

4. Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. Journalof the Academy of Marketing Science, 16(1), 74–94. https://doi.org/10.1007/BF02723327Staff paper, University of Putra Malaysia.

5. **https://www.ijitee.org/wp-content/uploads/papers/v8i12S2/L113510812S219.pdf**

6. **https://www.researchgate.net/publication/332933509_Evolutions_and_Challenges_ of_Behavioral_Finance**

7. https://www.homeworkmarket.com/questions/u10-dq-19950589

8. https://www.researchgate.net/publication/24139486_Rational_Markets_Yes_or_No_The_Affirmative_Case

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