Scholastic Seed Inc.

www.gjeis.com

global Journal of ENTERPRISE INFORMATION SYSTEM

Does Aging Impacts on Financial Behavior and Investment Decisions

– Ashima Saxena*

Assistant Professor, Manav Rachna University Faridabad

ashima@mru.edu.in https://orcid.org/0000-0002-7289-1848

ARTICLE HISTORY

Paper Nomenclature: Empirical Research Paper

Paper Code: GJEISV12N3JS2020ERP1

Submission Online at www.gjeis.com: 12-July-2020

Manuscript Acknowledged: 13-July-2020

Originality Check: 01-Aug-2020

Originality Test (Plag) Ratio (urkund): 15%

Author Revert with Rectified Copy: 12-Aug-2020

Peer Reviewers Comment (Open): 14-Aug-2020

Single Blind Reviewers Remarks: 22-Sep 2020

Double Blind Reviewers Remarks: 23-Sep-2020

Triple Blind Reviewers Remarks: 25-Sep-2020

Authour Update (w.r.t. correction, suggestion & observation): 25-Sep 2020

Camera-Ready-Copy: 26-Sep-2020

Editorial Board Excerpt & Citation: 28-Sep- 2020

Published Online First: 31-Dec 2020

ABSTRACT

Purpose: The theory of behavioral finance explains that how the emotions and mental errors influence the investing decision of the investor in the investment market. Behavioral finance as a different stream brought a different perspective where studies in the area proved through various studies that individuals are not necessarily rational and logical in their financial decision making. Behavioral biases impacts and influence the investment decisions differently based on the various independent factors. One of the prominent factor that influences the investment decision is demographic variables, prominently gender, age, income, occupation and marital status. This paper pivots around the behavioral aspect of the financial decision maker based on the age; that whether the aged or elderly investors make better investment decisions. The other point of research was the effect of demographic variable (age) on different behavioral biases of financial decision makers.

Design/Methodology/ Approach: This empirical research is based on the data collected through an administered questionnaire and responses received from 290 investors in Delhi National Capital Region. Statistical tools were used for analysis and to discover the relationship between the various independent and dependent variables.

Finding: The research finding suggests the presence of significant association of age with different behavioral biases. Authors feel that outcome of research could be beneficial not only for the is the investors in understanding the said relationship while considering investment decisions and behavioral mistakes, but also to the dealers in financial products in recognizing buyers' behavioral aspects.

Originality/Value: This paper will benefit the investors of all the age- groups to understand the biases that they unknowingly face. It will help the investors to take better financial decisions in the future.

KEYWORDS Behavioral Biases | Gender | Overconfidence | Herding | Representativeness | Investment Decisions

**Corresponding Author (Ashima)*

- Present Volume & Issue (Cycle): Volume 12 | Issue 3 | Jul-Sep 2020
- International Standard Serial Number: Online ISSN: 0975-1432 | Print ISSN: 0975-153X
- DOI (Crossref, USA) https://doi.org/10.18311/gjeis/2020
- Bibliographic database: OCLC Number (WorldCat): 988732114
- Impact Factor: 2.69 (GIF, Citescore, SIF), CiteFactor: 3.57 (2019-20)
- Editor-in-Chief: Dr. Subodh Kesharwani
- Frequency: Quarterly
- Published Since: 2009
- Research database: EBSCO https://www.ebsco.com
- Review Pedagogy: Single Blind Review/ Double Blind Review/ Triple Blind Review/ Open Review

- Publisher: Scholastic Seed Inc. and KARAM Society
- Place: New Delhi, India.
- Repository (figshare): 704442/13

Introduction

The greatest obstacle that investors encounter while making investment is not only the decision being taken at present but also the returns in future; while considering unpredictable future with perfect accuracy. The decisions being taken are not being taken in same manner by each individual, reason being the presence of various factors. Specifically demographic factors like gender, socio-economic history, marital status, degree of accomplishment in employment, age, sex, etc. are the differentiating factor amongst the investors. Behavioral finance theories seek to clarify and develop an interpretation of investors' thought habits, and the cognitive and decision-making mechanisms involved. Basically, behavioral finance tries to clarify the psychological viewpoint on what, when and how investments are to be made. Behavioral finance theorists and researchers had examined the capital markets and discussed the behavior behind certain stock market trends. It tries to build the bridge between neoclassical finance and psychological finance. Behavioral finance deals with different types of financial biases which an investor unknowingly faces at the time of investment, which has been explained in this section of the paper.

- Overconfidence bias: Overconfidence occurs when people continue to overestimate their performance skills and expectations.

- Representativeness bias: Gilovich et al (1983) defined it as "an assessment of the degree of correspondence between a sample and a population, an instance and a category, an act and an actor or, more generally, between an outcome and a model." The goal of representativeness is to assess the probability of situation. Heuristic estimation of the likelihood of an item or occurrence A belonging to a class or a mechanism B.People also make the error of assuming that two identical items or incidents are connected than they are really linked.

- Gambler's Fallacy bias: Known as Monte Carlo fallacy or the fallacy of the maturity of chances, this is situational event when the investors lack in preparedness due to huge data generating process and in the presence of law of small numbers which lead them to a gambler's fallacy effect Kanheman and Tversky (1971) research concluded that such behavioral bias revolves around the misconception of the fairness of the laws of chance.

- Anchoring bias: "In many situations, people make estimates by starting from an initial value that is adjusted to yield the final answer. The initial value, or starting point, maybe suggested by the formulation of the problem, or it may be the result of a partial computation. In either case, adjustments are typically insufficient." (Slovic and Lichtenstein, 1971). That is, "different starting points yield different estimates, which are biased toward the initial values. We call this phenomenon Anchoring." (Tversky and Kahneman, 1974).

- Availability bias: Based on selective inaccessibility, people appear to focus their decisions more on current results than on a detailed inquiry of past incidents and therefore are prone to news. People sometimes make decisions centered on investments across the world on the details that are readily available and do not require the burden of a detailed assessment.

- Herding bias: That is the most important error in which investors appear to follow the investment choices of the majority.

- Loss aversion bias" Loss Aversion is a general trend of human decision-making that is harmful and unstable, whereby people are more prone to losses than income.

- Regret aversion bias: Regret Aversion is a psychological mistake due to excessive exposure to regret while making a bad decision, particularly when the investor has a clearly enhanced view of the alternative's outcomes.This form of mistake is origin induced by people's inability to accept their mistake.

Review of Literature

Noura Metawa, M. Kabir Hassan, Saad Metawa, M. Faisal Safa, (2018) studied the relationship between Behavioral factors such as "investor sentiments", "overconfidence", and "herd behavior", "over reaction and under reaction" investment decisions and also between demographic factors and investment decisions. The survey was conducted in Egyptian stock market, with the help of a questionnaire. The questionnaire was filled by 384 investors. Data, so collected, was analyzed with the help of multiple regression method. It was found out that behavioral factors such an "investor sentiment", "over confidence", and "overreaction" and "under reaction" affects the investment decision. Also age, gender and level of education have direct effect on investment decisions.

Ashly Lynn Joseph, Prakash (2014) carried out the research to understand the preference of the investors in terms of savings.The outcome of the analysis was that respondent savings in bank deposits and insurance are of greater value across all age groups. The respondent's wealth is an significant aspect impacting the respondent's financial portfolio.Tahira R. Hassan in 2014 studied the effect of demographic factors-gender and age on two biases, i.e. overconfidence bias and loss aversion bias. The study was confined to Pakistan. The results of the study show that gender is not related to overconfidence, gender is not related to loss aversion, people who are overconfident are usually less reluctant to loss, men are generally less confident, young people are less confident in the past, women are often less willing to loss, and older

people are often not willing to bear losses.She considered males in Pakistan more confident and females more reluctant to lose. The results also show that older and experienced investors are overconfident in trading.

Korniotis, G. M. et.al (2011) carried out work in order to define the paradigm utilized by older investors for their investment decisions. Older investors have been shown to be more seasoned and have strong understanding of investments too. When the older investors, on the other hand, have less experience or lower wages, their expertise on the stock market is immediately decreased and their investing ability is less effective. If it is seen on a wider scale, however, older investors show more expertise and experience, and thus take good choices.

Objectives of the study

The objectives of the study are as follows:

1. To understandthe different financial behavioral biases that prevails in the stock industry.
2. To see how the investment decisions of investors of various ages are significantly different.
3. To know if there exists any significant difference in the financial behavior biases and age of the respondent.

Research Methodology

Hypothesis $1H_0$: There is no significant association between different age groups in context to their investment decisions.

Hypothesis $2H_0$: There is no significant association in financial behavior biases different age groups.

Data collection- In order to carry out an empirical analysis, the researchers had developed a questionnaire. The same questionnaire was personally administered and data was collected through it personally, email and other mode of communications. Primary data from investors who invest using various financial products and modes is obtained.

Sample size- The sample size for the study was 315 respondents. 25 questionnaires were found to be incomplete, so they were out rightly rejected from the sample size. So the data size used for analyzing the result is 290 respondents from Delhi NCR after. The main group in this study was stockbroker's employees, although the direct investors were some of the respondents

Pilot Study-A pilot research was carried out before the data collection at a bigger level analysis could take effect. 50 respondents were randomly selected for this study. Reframing of questions was done, few of the questions were found to be tough to interpret by the respondents were reframed and even some of them were merged to reduce the number of repetitive questions. At last 44 variables were identified to be captured through the administration of the questionnaire. On the collected data the analysis was done with the help of statistical tools.

Reliability Statistics of the Questionnaire-Before the compilation of data it was submitted, a check was conducted to validate the precision and quality of the questionnaire. The alpha of Cronbach was 0.853. In order to validate that the questionnaire is able to analyze the different behavioral bias substantially and as was tried to be captured through the questionnaire, Cronbach's alpha was measured.

Figure 1: Cronbach's Alpha result

Reliability Statistics

Cronbach's Alpha	N of Items
.853	44

(Source: Data collected from field study)

Data Analysis: Descriptive Analysis

The data was collected by 290 investors having the following age groups. Approximately 39% of respondents were from the age bracket of 26 to 35 years, followed by 30% from the age bracket of 36 to 60 years of age. Around 18% of respondents were from 18 to 25 years of age and remaining 13% were above 60 years of age.

Table 1: Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 to 25 years	53	18.3	18.3	18.3
	26 to 35 years	112	38.6	38.6	56.9
	36 to 60 years	87	30.0	30.0	86.9
	> 60 years	38	13.1	13.1	100.0
	Total	290	100.0	100.0	

(Source: Data collected from field study)

Testing of hypothesis using ANOVA

Table 2 : ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.
OC	Between Groups	4.552	3	1.517	3.009	**.031**
	Within Groups	144.222	286	.504		
	Total	148.774	289			
RE	Between Groups	3.223	3	1.074	1.509	.212
	Within Groups	203.582	286	.712		
	Total	206.805	289			
AV	Between Groups	2.409	3	.803	1.972	.118
	Within Groups	116.460	286	.407		
	Total	118.870	289			
HE	Between Groups	.766	3	.255	.390	.760
	Within Groups	187.273	286	.655		
	Total	188.039	289			
GF	Between Groups	1.696	3	.565	1.880	.133
	Within Groups	85.995	286	.301		
	Total	87.690	289			
RA	Between Groups	.287	3	.096	.163	.921
	Within Groups	167.731	286	.586		
	Total	168.019	289			
AN	Between Groups	2.010	3	.670	1.760	.155
	Within Groups	108.865	286	.381		
	Total	110.875	289			
LA	Between Groups	4.568	3	1.523	2.892	**.036**
	Within Groups	150.608	286	.527		
	Total	155.176	289			
ID	Between Groups	3.764	3	1.255	2.659	**.049**
	Within Groups	134.954	286	.472		
	Total	138.719	289			

(Source: Data collected from field study)

POST HOC (TUKEY HSD TEST) between financial behavioral biases and investment decisions with demographic variable (Age)

Table 3- Multiple Comparisons-Tukey HSD

Dependent Variable	(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Overconfidence	18 to 25 years	26 to 35 years	-.21771	.11839	.257	-.5237	.0882
		36 to 60 years	-.22550	.12374	.265	-.5453	.0943
		> 60 years	-.44991	.15095	.016	-.8400	-.0598
Loss Aversion	18 to 25 years	26 to 35 years	-.02861	.12099	.995	-.3413	.2840
		36 to 60 years	-.14422	.12645	.665	-.4710	.1825
		> 60 years	.27003	.15425	.300	-.1286	.6686
	26 to 35 years	> 60 years	.29864	.13623	.128	-.0534	.6507
	36 to 60 years	> 60 years	.41425	.14111	.019	.0496	.7789
Investment Decisions	18 to 25 years	26 to 35 years	-.31666	.11453	.031	-.6126	-.0207
		36 to 60 years	-.21933	.11970	.260	-.5286	.0900
		> 60 years	-.28517	.14602	.209	-.6625	.0922
	26 to 35 years	36 to 60 years	.09732	.09817	.754	-.1564	.3510
		> 60 years	.03148	.12896	.995	-.3018	.3647

(Source: Data collected from field study)

Analysis of Variance (ANOVA) is the set of statistical models and related measurement methods for evaluating variations between group means in one study (such as the "variationamong and between groups"). The ANOVA test explains that when the p- value is less than the significance level, the results are statistically significant and the null hypothesis should be rejected.

As per the results shown in the above table, it is seen that Overconfidence bias, having p-value of 0.31 and Loss aversion biashaving p-value of0.36 have a significant association with the different age groups of the investors, since the p-value in both the biases is less than significance level of 0.05. In case of investment decisions, it was seen that p-value is less than the significance level, and hence the null hypothesis is rejected and an alternative hypothesis is accepted.

Tukey's Honest Significant Difference (HSD) test, which is an integral part of ANOVA, is a post-hoc test based on the studentized range distribution. The ANOVA check will inform that the findings are statistically relevant, so it won't tell where the variations lay. The variation between the groups is explained by HSD Tukey test.

From the above analysis in table 3, it has been observed that investors who fall in the age group of 26 to 35 years, 36 to 60 years and investors of 60 years are more prone to overconfidence bias as compared to the investors who are in the age group of 18 to 25 years. Further analysis shows that respondents who are of the age group of 26 to 35 years and 36 to 60 years face more of loss aversion bias as compared to investors who are in the age group of 18 to 25 years. The investors who are in the age group of above 60 years are more prone to face loss aversion when compared with the investors who are in the age group of 18 to 25 years, 26 to 35 years and 36 to 60 years. Investors of age group 26 to 35 years, 36 to 60 years and investors above the age of 60 years take better investment decisions as compared to investors of age group of 18 to 25 years.

Findings

The following are the findings from the research-

- The data was collected by 290 investors from different age groups. Approximately 39% of respondents were from the age bracket of 26 to 35 years, followed by 30% from the age bracket of 36 to 60 years of age. Around 18% of respondents were from 18 to 25 years of age and remaining 13% were above 60 years of age.
- Overconfidence bias and Loss aversion bias have a significant association with the different age groups of the investors.
- Investment decisions have a significant association with the different age groups of the investors.
- Age group of 26 to 35 years, 36 to 60 years and investors above 60 years are more prone to Overconfidence bias as compared to the investors who are in the age of 18 to 25 years.
- Investors who are of the age group of 26 to 35 years and 36 to 60 years face more of loss aversion bias as compared to investors who are in the age group of 18 to 25 years.
- Investors of age group 26 to 35 years, 36 to 60 years and investors above the age of 60 years take better investment decisions as compared to investors of age group of 18 to 25 years.

Conclusion

The purpose of the research was to find out whether behavioral biases and investment decisions affect individuals differently based on their age. Findings suggest that age matters as far as the investment decisions and financial biases are concerned. Robust data from total of 290 respondents for the study from Delhi NCR states that in the present circumstances in the sample universe the respondents demographic variable, age had a relationship with the variables investment decisions and financial behavioral biases. Based on the objective of the study and the statistical testing of hypothesis researchers had shown the relationships. The results of the research show that overconfidence bias and loss aversion bias are the important behavioral bises that are visible with the age of the respondent. With diversity in the age groups from 39% being highest for the age group 26 to 35 and least with 13% of the sample size being in the age group above 60 years of age. The investment decisions made by the investors are also dependent upon the age of the investor, due to this the age group 18 to 25 years of age are the most overconfident age group with its impact on their investment decisions. the same age group is found to be less prone to the loss aversion biases in comparative to the senior age groups. With maturing the experiences in the investments is visible by the fact that the investors with the age group of 60 and above of age are making better investment decisions in comparative

to the younger age groups. In other words, the research can be summed up by saying that overconfidence bias, loss aversion bias and investment decisions have a significant association with the different age groups of the investor.

The research is really useful for investors as well as investment traders in recognizing buyers' feelings and behavioral mistakes. By this way they can prepare, plan and produce products and services based on the behavioral biases of the individual investors and promote accordingly. Providing products and services at young age will be beneficial for building financial behavior during investors' investment in future. This is one of the areas which set the future direction of research in the Indian context, where studies in this regard are limited. With the emergence of new technologies and modes of investments, are the youngsters in India are also changing with these products and services in their hands with the presence of disposable funds in their hands.

References

- Baddeley, M. (2010). Herding, social influence and economic decision-making: socio-psychological and neuroscientific analyses. Philosophical Transactions of the Royal Society B: Biological Sciences, 365(1538), 281-290.
- Bhavani, G., & Shetty, K. (2017). Impact of Demographics and Perceptions of Investors on Investment Avenues.
- Burns, B. D., & Corpus, B. (2004). Randomness and inductions from streaks:"Gambler's fallacy" versus" hot hand ". Psychonomic Bulletin & Review, 11(1), 179-184.
- Daniel, K. D., Hirshleifer, D., & Subrahmanyam, A. (2001). Overconfidence, arbitrage, and equilibrium asset pricing. The Journal of Finance, 56(3), 921-965.
- Gilovich, T. (1983). Biased evaluation and persistence in gambling. Journal of personality and social psychology, 44(6), 1110.
- Joseph, A. L., & Prakash, M. (2014). A study on analyzing the trend of NPA level in private sector banks and public sector banks. International Journal of Scientific and Research Publications, 4(7), 1-9.
- Hon-Snir, S., Kudryavtsev, A., & Cohen, G. (2012). Stock market investors: Who is more rational, and who relies on intuition. International Journal of Economics and Finance, 4(5), 56-72.
- Kahneman D and Tversky A (1973), "Availability: A Heuristic for Judging Frequency and Probability", Cognitive Psychology, No. 5, pp. 207-232.
- Kahneman D and Tversky A (1979), "Prospect Theory : An Analysis of Decision Under Risk", Econometrics, Vol. 47, pp. 263-291.
- Korniotis, G. M., & Kumar, A. (2011). Do older investors make better investment decisions? The Review of Economics and Statistics, 93(1), 244-265.
- Metawa, N., Hassan, M. K., Metawa, S., & Safa, M. F. (2019). Impact of behavioral factors on investors' financial decisions: case of the Egyptian stock market. International Journal of Islamic and Middle Eastern Finance and Management.
- SoumayaBechirHechmi, 2020. "The Determinants of Investment Behavior of Saudi Industrial Firms," International Journal of Economics and Financial Issues, Econjournals, vol. 10(2), pages 203-208.
- Sharpe, W. (1964). Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk. Journal of Finance, 19, 425- 442.
- Shefrin H (2002), Beyond Greed and Fear: Understanding Behavioral financeand the Psychology of Investing, p.18, Oxford University Press, ABD
- Slovic, P., & Lichtenstein, S. (1971). Comparison of Bayesian and regression approaches to the study of information processing in judgment. Organizational behavior and human performance, 6(6), 649-744.
- Tahira R.H., (2014). "The Behavior of Individual Investors in the Pakistan". Journal of Risk and Financial Managment, 1(5) 59 - 77.

GJEIS Prevent Plagiarism in Publication

The Editorial Board had used the Urkund – a Swedish anti-plagiarism software tool which is a fully-automatic machine learning text-recognition system made for detecting, preventing and handling plagiarism and trusted by thousands of institutions across worldwide. Urkund is GDPR compliant with privacy by design and an uptime of 99.9% and have trust to be the partner in academic integrity. https://www.urkund.com] tool to check the originality and further affixed the similarity index which is {15%} in this case (See Above Annexure-I). Thus, the reviewers and editors are of view to find it suitable to publish in this Volume-12, Issue-3, July-September, 2020

Annexure 1

Submission Date	Submission Id	Word Count	Character Count
1-Aug-2020	D92770012 (Urkund)	2752	17299

Urkund Analysis Result

Analysed Document:	DOES AGING IMPACTS ON FINANCIAL BEHAVIOR AND INVESTMENT DECISIONS.docx (D92770012)
Submitted:	8/1/2020 8:33:00 AM
Submitted By:	skesharwani@ignou.ac.in
Significance:	15 %

Reviewers Comment

Reviewer's Comment 1: The paper signifies the behavioral aspect of the financial decision maker based on the age; that whether the aged or elderly investors make better investment decisions.The study will be of importance to the investors of all the age- groups to interpret the biases that they unknowingly face.The author however could have enhanced the study with improved review of past studies

Reviewer's Comment 2: The author has come with a fresh approach towards financial and investment decisions with reference to age.The findings of the study show association of age with financial and investment decisions. However the finding cannot be generalized due to the limited scope of the study.

Reviewer's Comment 3: The study brings to light the effect of demographic variable viz age on different behavioral biases of financial decision makers. ANOVA was used to analyze and to discover the relationship between the various independent and dependent variables.The study will help and encourage the budding investors to invest in right places at the right time.

Citation
Ashima Saxena
"Does Aging Impacts on Financial Behavior and Investment Decisions"
Volume-12, Issue-3, Jul-Sep 2020. (www.gjeis.com)

https://doi.org/10.18311/gjeis/2020
Volume-12, Issue-3, Jul-Sep 2020
Online iSSN : 0975-1432, **Print iSSN** : 0975-153X
Frequency : Quarterly, Published Since : 2009

Google Citations: Since 2009
H-Index = 96
i10-Index: 964

Source: https://scholar.google.co.in/citations?user=S47TtNkAAAAJ&hl=en

Conflict of Interest: Author of a Paper had no conflict neither financially nor academically.

Editorial Excerpt

The article has 15% of plagiarism which is the accepted percentage as per the norms and standards of the journal for the publication. As per the editorial board's observations and blind reviewers' remarks the paper had some minor revisions which were communicated on timely basis to the author (Ashima) and accordingly all the corrections had been incorporated as and when directed and required to do so. The comments related to this manuscript are noticeably related to "Does Aging Impacts on Financial Behaviour and Investment Decisions" both subject-wise and research-wise.The article brings out behavioral finance aspects of investment with reference to age. The This study is based on the data collected through an administered questionnaire and responses received from 290 investors in Delhi NCR. The paper will be of immense importance to people who plan to invest in financial market. The author has conducted ANOVA test and the outcome depicted the presence of significant association of age with different behavioral biases.After comprehensive reviews and editorial board's remarks the manuscript has been categorised and decided to publish under "**Empirical Research Papers (ERP)**" category.

Acknowledgement

The acknowledgment section is an essential part of all academic research papers. It provides appropriate recognition to all contributors for their hard work and effort taken while writing a paper. The data presented and analyzed in this paper by (Ashima) were collected first handily and wherever it has been taken the proper acknowledgment and endorsement depicts. The author is highly indebted to others who had facilitated in accomplishing the research. Last but not least endorse all reviewers and editors of GJEIS in publishing in a present issue.

Disclaimer

All views expressed in this paper are my/our own. Some of the content is taken from open source websites & some are copyright free for the purpose of disseminating knowledge. Those some We/I had mentioned above in the references section and acknowledged/cited as when and where required. The author/s has cited their joint own work mostly, Tables/Data from other referenced sources in this particular paper with the narrative & endorsement has been presented within quotes and reference at the bottom of the article accordingly & appropriately. Finally, some of the contents which are taken or overlapped from open source websites for the knowledge purpose. Those some of i/we had mentioned above in the references section. On the other hand opinions expressed in this paper are those of the author and do not reflect the views of the GJEIS. The author has made every effort to ensure that the information in this paper is correct, any remaining errors and deficiencies is solely the responsibility of the author.

Scholastic Seed Inc.
www.scholasticseed.in