



A Study of Heuristics on Investment Decisions of Young and Experienced Investors

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ABSTRACT

Behavioral finance research has extensively explored how heuristics biases influence investment decision-making processes. However, there remains a significant gap in understanding the specific impact of these biases on different age cohorts, particularly young and experienced investors. Despite the wealth of literature on investment behavior, empirical investigations into age-related variations in heuristics biases are lacking. This study aims to bridge this gap by examining how heuristics biases shape the investment choices of young and experienced investors. Young investors, lacking experience and susceptible to marketing influences, are particularly at risk. Conversely, experienced investors, while more adept at recognizing biases, are still susceptible and may engage in complex investment strategies. Through providing empirical insights into how heuristics biases manifest across different age groups, this study seeks to enhance the understanding of investment decision-making dynamics.

KEYWORDS: Heuristics biases, young investors, experienced investors, availability, anchoring, representativeness, overconfidence

Introduction

Behavioural finance shows that individuals may not necessarily make decisions based on a rational analysis of all the information. This can lead to movements away from a fair price for an individual company's shares, and the market to a period where share prices are collectively very high or low. Heuristics are mental shortcuts that our brains use to enable us to make quick decisions without all the relevant information. These can be thought of as general rules that allow us to make effective decisions without having to think everything through. Heuristic methods are used in every aspect of life, from making daily decisions to solving complex problems. They are an essential part of the human experience and allow us to function effectively in a complex world.

Types of heuristics are:

- Availability Bias
- Anchoring Bias
- Representativeness Bias
- Overconfidence Bias

Although heuristics aid in problem-solving and expediting decision-making, they are not without drawbacks. Heuristics can fuel stereotypes and prejudice. By relying on mental shortcuts for classification and categorization, individuals often neglect pertinent information, thus forming stereotypical classifications that diverge from reality. Heuristics can result in bias through several means:

- **Stereotyping:** Heuristics often involve simplifying individuals or situations based on certain characteristics, which can lead to biased judgments formed on preconceived notions rather than accurate information.
- **Availability heuristic:** This entails estimating the likelihood of an event based on how easily it can be recalled. If certain events are more memorable due to media coverage or personal experiences, they may be perceived as more common or typical, leading to biased assessments.
- **Representativeness heuristic:** People often gauge the probability of an event by how closely it resembles a typical prototype. This can lead to biased judgments if the prototype does not accurately represent the underlying probabilities.
- **Anchoring and adjustment:** This heuristic involves heavily relying on an initial piece of information (the anchor) when making judgments, and insufficiently adjusting from that anchor. This can lead to biased estimates as additional information may not be adequately considered.

While heuristics serve as efficient mental shortcuts, they can introduce biases when applied uncritically or inappropriately to complex situations.

Review of Literature

Babita H. Kakkar, Sahasranam Hariharan (May 2022), this study investigates the influence of heuristics on investors' decision-making in Mumbai Stock Markets. It analyzes the impact of four heuristic biases: anchoring, availability, representativeness, and overconfidence bias using both quantitative and qualitative methods. The research focuses on young investors in Mumbai stock exchanges, employing convenient sampling. Data is collected through a self-constructed questionnaire, and descriptive and correlation analyses are used to interpret the findings.

Gregory Gadzinski, Markus Schuller, S. Jamshid Mousavi (Mar 2022) this paper discusses the limitations of debiasing methods in addressing behavioural biases in decision-making. It proposes a classification of methodologies for inducing long-lasting changes and offers detailed heuristics as behavioral principles. Practical advice is provided to investors interested in mitigating cognitive biases in finance, emphasizing habitualizing changes and fostering cognitively diverse teams.

Jeetendra Dangol, Rashmita Manandhar (Jul 2020), this study examines the impact of four heuristic biases on investment decision-making rationality in Nepal. It finds a significant relationship between irrationality and all four heuristic biases, with the moderating effect of internal locus of control explored. The paper's literature review focuses on the impact of heuristic biases on investment decisions, particularly regarding representativeness, availability, anchoring, and overconfidence bias.

M Siraji Tversky and Daniel Kahneman (Sep 2019), this research identifies three main types of heuristics: representativeness, availability, and adjustment and anchoring heuristic, and investigates their effects on investment performance in the Colombo Stock Exchange. The study examines differences in heuristic biases between younger and older investors and finds statistically significant effects on investment performance, except for the gambler's fallacy. Notable variations in responses between younger and older investors are observed.

Research Gap

The existing research on heuristics biases in investment decision-making has predominantly focused on their general influence, lacking specific examination of how these biases affect different age groups. Despite extensive literature on investment decision-making and behavioral finance, a significant research gap exists regarding the impact of heuristics biases on varying age demographics, particularly young and experienced investors. Previous studies have explored heuristics biases across different contexts but have not sufficiently delved into age-related differences in investment behavior. Empirical evidence on how young and experienced investors perceive and respond to heuristics biases differently is limited. While theoretical frameworks and psychological models shed light on decision-making processes, empirical validation within the context of age-related investment behavior is lacking. Therefore, there is an urgent need for empirical research dedicated to understanding how heuristics biases affect the investment decisions of different age groups. Addressing this gap aims to deepen our understanding of how heuristics biases manifest across various age demographics.

Objectives

- To study how various age groups are influenced by heuristics biases.
- To verify whether young and experienced investors exhibit heuristics bias differently.

Hypothesis Of the Study

H0: There is no significant relationship difference in the degree to which different age groups are influenced by heuristics bias.

H1: There is significant relationship difference in the degree to which different age groups are influenced by heuristics bias.

H0: There is no significant relationship between investor's experience and heuristics bias.

H1: There is a significant relationship between investor's experience and heuristics bias.

Data Collection Method

Primary Data Primary data were used which was collected through structured questionnaire developed based on previous studies on heuristics. The questionnaire contains questions related to the behavioural decisions of the investors. The data was collected for influence of heuristics bias on the decision-making process of investors in Bengaluru. The data collected for analysis was 145 respondents from Bengaluru and was further divided into two groups: young investors and experienced investors.

Sampling Type

The research paper utilizes non-probability sampling methods, where not every member of the population has an equal chance of being selected for the sample. This approach is common in exploratory research or when it's difficult or costly to access the entire population. The study employs snowball

sampling, where initial participants meeting the criteria are asked to refer others, creating a chain of referrals. Convenience sampling selects readily accessible participants, while purposive sampling involves deliberately selecting participants deemed representative of the population.

Tool For Analysis

1. **Chi-square analysis** serves to explore the impact of heuristic biases on various age groups.
2. **ANOVA** (Analysis of Variance) is used to explore whether there are variations in heuristic bias between young and experienced investors.

Period of Study

The sample was collected from the population of Bengaluru, for studying the investment decisions of young and experienced investors who are being influenced by heuristics biases. The sample was collected for the period October 2023 to March 2024.

Data Analysis and Interpretation

a. Chi-square

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	38.874 ^a	6	.000
Likelihood Ratio	41.696	6	.000
Linear-by-Linear Association	18.113	1	.000
N of Valid Cases	145		

- a. 1 cells (8.3%) have expected count less than 5. The minimum expected count is 4.44.

Interpretation: Pearson Chi-Square: Interpretation: The Pearson chi-square test statistic is 38.874 with 6 degrees of freedom, yielding a p-value of 0.000. With a significant p-value, we reject the null hypothesis. There is evidence to suggest that there is an association between the variables being studied. Likelihood Ratio Chi-Square: The Likelihood Ratio chi-square test statistic is 41.696 with 6 degrees of freedom, yielding a p-value of 0.000. Like the Pearson chi-square test, with a significant p-value, we reject the null hypothesis. This indicates that there is evidence of an association between the variables. Linear-by-Linear Association: The Linear-by-Linear Association chi-square test statistic is 18.113 with 1 degree of freedom, yielding a p-value of 0.000. Again, with a significant p-value, we reject the null hypothesis. This suggests that there is a linear association between the two variables being examined. All three chi-square tests indicate significant associations between the variables under study. Therefore, we reject the null hypothesis.

b. ANOVA

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Risk level	Between Groups	25.785	2	12.893	16.107	.000
	Within Groups	113.663	142	.800		
	Total	139.448	144			
Investment in new tech co. due to growth	Between Groups	.507	2	.253	.389	.678
	Within Groups	92.431	142	.651		
	Total	92.938	144			
Whose judgement do you trust	Between Groups	34.852	2	17.426	16.675	.000
	Within Groups					

	Within Groups	148.390	142	1.045		
	Total	183.241	144			
Buy stock after self-analysis or expert opinion	Between Groups	2.700	2	1.350	6.959	.001
	Within Groups	27.548	142	.194		
	Total	30.248	144			
Buy stock after friend recommendation or self-analysis	Between Groups	4.074	2	2.037	9.208	.000
	Within Groups	31.415	142	.221		
	Total	35.490	144			

Interpretation:

Risk level: Between Groups: The sum of squares between groups is 25.785, with 2 degrees of freedom, resulting in a mean square of 12.893. Within Groups: The sum of squares within groups is 113.663, with 142 degrees of freedom, resulting in a mean square of 0.800. The F-statistic is 16.107, with a p-value of less than 0.001 (Sig. = .000), indicating a significant difference between the groups based on risk level. There is a significant difference in risk level among the groups.

Investment in new tech co. due to growth: Between Groups: The ANOVA results show no significant difference between the groups (p-value = 0.678). There is no significant difference in the willingness to invest in new tech companies based on the reason of growth.

Whose judgement do you trust: Between Groups: The ANOVA indicates a significant difference between the groups (p-value < 0.001). There is a significant difference in the trust in judgment while making investment decisions based on different sources.

Buy stock after self-analysis or expert opinion: Between Groups: The ANOVA shows a significant difference between the groups (p-value = 0.001). There is a significant difference in the decision to buy stocks based on self-analysis or expert opinion.

Buy stock after friend recommendation or self-analysis: Between Groups: The ANOVA indicates a significant difference between the groups (p-value < 0.001). There is a significant difference in the decision to buy stocks based on friend recommendation or self-analysis.

For Risk level, whose judgement do you trust, buy stock after self-analysis or expert opinion, and buy stock after friend recommendation or self-analysis, we reject the null hypothesis.

There are significant differences observed between the groups for these variables. For Investment in new tech co. due to growth, we accept the null hypothesis as there is no significant difference between the groups.

Finding, Suggestion and Conclusion**Finding:**

Heuristic Biases in Investment Decision-Making, there is significant association between different age groups and heuristic biases, with availability bias prominent among young investors and representativeness bias prevalent among experienced investors.

Risk Perception there is a significant difference in risk tolerance between young and experienced investors, suggesting variations in heuristic biases related to risk perception.

Willingness to Invest in New Tech Companies, despite potential growth opportunities, most of the investor's express hesitancy in investing in new technology companies.

Trust in Judgment Sources, young and experienced investors exhibit differences in trust towards different sources of judgment, indicating variations in heuristic biases.

Decision-Making Processes, young and experienced investors differ in decision-making processes based on self-analysis, expert opinion, friend recommendation, and social influence.

Suggestion:

Increase Sample Size and Diversity: Enhance reliability by including a larger and more diverse participant pool, considering factors such as age, experience, gender, education, and cultural background.

Include Intermediate Investors: Incorporate intermediate-level investors to understand their decision-making patterns and tailor interventions accordingly.

Longitudinal Research Approach: Employ longitudinal studies to track changes in decision-making processes over time and assess the stability and adaptability of heuristic-based strategies.

Cross-Cultural Analysis: Conduct cross-cultural analysis to explore how cultural differences influence heuristic usage and decision-making processes.

Conclusion:

The statement emphasizes the importance of avoiding generalizations regarding the influence of heuristic biases on all investors. While biases significantly impact decision-making, individual differences and conscious efforts can mitigate their effects. Heuristics, though aiding quick decision-making, can lead to biased choices if not critically evaluated. Experience doesn't eliminate biases; factors like overconfidence and representativeness still influence decisions. Young investors, due to limited experience and cognitive development, may be more prone to biased decisions. However, some investors, regardless of age or experience, exhibit greater awareness and control over biases. Overall, the study provides insights into the interplay between age, gender, risk perception, heuristic biases, and investment decisions, aiding informed decision-making for investors, financial advisors, and policymakers.

Bibliography

Kakkar, B. H., & Hariharan, S. (May 2022). Influence of heuristics on investors' investment decision making in the context of Mumbai Stock Markets, *International Journal of Health Sciences*, 6(S3), 8858-8868. <https://doi.org/10.53730/ijhs.v6nS3.8143>

Hallale, P. S., & Gadekar, M. (2019). A Study of Behavioural Factors Affecting Individual Investment Decisions. *International Journal of Trend in Scientific Research and Development*, 3(6), 298. Retrieved from <http://www.ijtsrd.com/eISSN:2456-6470>.

Dangol, J., & Manandhar, R. (2020). Impact of Heuristics on Investment Decisions: *The Moderating Role of Locus of Control*. *Journal of Business and Social Sciences Research*, 5(1), 1-14. DOI: 10.3126/jbssr.v5i1.30195.

Siraji, M. (2019). Heuristics Bias and Investment Performance: Does Age Matter? Evidence from Colombo Stock Exchange. *Asian Journal of Economics, Business and Accounting*, 12(4), 1-15. DOI: 10.9734/ajeba/2019/v12i430156