Presenting a Qualitative Model of Behavioral Biases in Institutional Investors' Decisions in Iran

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Abstract

The purpose of this study is to present a qualitative model of behavioral biases in institutional investors' decisions in Iran. This research is applied in terms of its goal and descriptive-analytical in nature. The research method is qualitative. The statistical population of this study includes academic experts and managers of investment companies listed on the stock exchange, selected through the snowball sampling method and theoretical saturation, with a total of 12 participants. The data collection tool is a semi-structured interview based on theoretical foundations. The data analysis was conducted using thematic analysis. The results of the qualitative section were categorized into four main themes and sub-themes. The identified cognitive and psychological factors include: "overconfidence, disposition effect, herding behavior, information bias, and mental accounting." The identified amplifying factors are: "macroeconomic decisions, information asymmetry, and information overload." The identified strategies include: "reviewing and accepting mistakes, adherence to the trading plan, and avoiding bias toward specific stocks or characteristics." The identified outcome factors are: "better performance, attracting more investors, and enhancing the efficiency of the capital market."

Keywords: *Gamification, customer engagement, brand loyalty, digital marketing, sustainability, consumer behavior, marketing strategies, Interpretive Structural Modeling (ISM).*

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1. Introduction

For those who consider psychology's role in finance as a significant factor influencing securities markets and investor decisions, it is difficult to accept doubts about the validity of behavioral finance. Advocates of behavioral finance firmly believe that understanding psychological tendencies and investor behaviors in the investment arena is essential and requires a serious expansion of the study's scope {Ashrafi, 2019 #75897}.

Portfolio investment, as Harry Markowitz (1952) explains, focuses on two factors: first, maximizing investment returns for a given level of risk, and second, minimizing investment risk for a specified return. In constructing portfolio theory, Markowitz assumed that all investors are rational in their decision-making; therefore, it is expected that all decisions made through various logical analysis processes would yield the highest utility. Not only does modern portfolio theory, but also a range of common financial theories, such as the Capital Asset Pricing Model (CAPM) and the Efficient Market Hypothesis (EMH), rely on the assumption that investors are always rational {Rahayu, 2020 #75914}.

According to studies, rational behavior should cover two aspects. First, when investors receive new information, they will appropriately and accurately update their beliefs. Second, based on their new beliefs, investors will make the correct decisions, consistent with conventional financial theories. As a result, bias and prejudice in investment decision-making will not occur, as it is assumed that each individual, based on complete calculations, theories, concepts, and appropriate approaches, selects the best options among the available choices {Kartini, 2021 #75906}.

One of the key demographic factors in short- and long-term investor decisions is individual personality traits. By identifying investors' personality traits and behavioral deviations, and by offering programs that reduce the impact of these deviations in behavioral finance, the deviation from long-term decisions can be minimized, helping investors achieve their long-term financial goals {Jami Al-Ahmadi, 2018 #75905}.

Theorists in decision-making have always tried to prevent personality and behavioral tendencies from interfering in their models, although individual perspectives, risk tolerance, and experience play a role in decision-making. In the field of behavioral finance, in addition to personality, certain behavioral biases also greatly influence investor behavior. These biases cause investor behavior to deviate from rationality, leading to issues such as inappropriate portfolio formation and excessive trading. Overconfidence, anchoring, adjustment bias, hindsight bias, availability bias, commitment escalation bias, and randomness error are among the biases and tendencies examined in various studies {Dadras, 2018 #75903}.

One of the well-known and superior models in the field of personality is the Five-Factor Model. Many studies in recent years have confirmed the validity of this model and consider it the basis for other models. In this study, the Five-Factor Model is used to examine personality dimensions. The aim of this study is to investigate the impact of personality traits and some behavioral biases on long-term and short-term investment decisions {Khalaf, 2017 #75907}.

Among these, we encounter legal entities in the capital market. Legal entities refer to companies and any type of organization engaged in social activities, granted a type of fictional personality by law to facilitate their social activities. Article 588 of the Commercial Code states that a legal entity can have all the rights and duties established for individuals, except for those rights and duties that, by their nature, it cannot possess. One of the main differences between the perspectives of individual and institutional investors is the waiting period for a stock's return, i.e., whether it is long-term or short-term {Rahmaniani, 2019 #75915}.

For investing in the capital market, institutional investors generally purchase stocks with a long-term and fundamental perspective and do not focus on short-term views. This group follows the overall market unless they choose a different approach for specific purposes, such as supporting a stock. Meanwhile, individual investors mainly make decisions based on market rumors and short-term trends. Institutional investors, due to their greater financial capacity and larger investments, have a greater impact on price fluctuations. For instance, they can prevent the price increase of a stock if a large portion of it is controlled by one or two institutional investors. However, this does not imply manipulation or negative market changes. For institutional investors, recognizing and recording profit to cover their budget is highly important, which makes investing in stocks with a good dividend yield one of their priorities. Additionally, institutional investors cannot immediately recognize the profit from the growth in their stock's value (i.e., the difference between the initial cost and the stock's end-of-year market price), while individual investors can calculate and reflect

this profit as part of their stock return whenever they wish. This distinction highlights the importance of investment companies, especially those with portfolios consisting of listed companies. Market efficiency refers to the ability of prices set in the market to fully reflect all available information {Weissensteiner, 2019 #75917}{Ahmadi, 2021 #75896}.

This information efficiency is achieved when stock-related information is distributed rapidly, fairly, and affordably among all investors, and prices accurately reflect this information {Zetzsche, 2017 #75920}. However, information asymmetry arises when this information is not distributed fairly among all investors in the market. This discrepancy occurs due to differences in the volume and accuracy of information held by two or more large market participants {Briere, 2023 #75901}.

Moreover, this group of large investors, primarily institutional investors, may take actions that benefit themselves but harm other investors {Wang, 2018 #75916}. According to the information asymmetry between small and large investors, informed traders or large investors, who usually have valuable information about the future state of a stock, may exploit their privileged position to gain additional profits. They might take actions that benefit them but harm other investors. Therefore, asymmetric information often leads to high price fluctuations, potentially resulting in market failures {Moss, 2015 #75911}. As a result, many financial studies consider information asymmetry an important factor in evaluating price stability. What is notable is that large investors, in this study referring to institutional investors, due to their access to confidential information, are less likely to be influenced by behavioral biases. The increase in the volume of information regarding a stock's future status can prevent the emergence of many behavioral biases that small investors may not be aware of. Therefore, it is expected that the performance of large and small investors in capital markets differs, and this difference can be attributed to their varying behavioral biases, which are influenced by information asymmetry {Park, 2020 #75913}.

Given that many investors in the market do not act rationally and have numerous biases, the market may deviate from its efficiency. For example, one of the outcomes of these anomalies is the formation of bubbles in the stock market, which causes a large number of investors to incur losses. Therefore, the findings of this research can be used to more accurately identify behavioral biases, match an individual's personality with their investment style, and ultimately moderate these anomalies.

2. Methodology

The research method is qualitative and based on thematic analysis. In this method, sampling continues until the researcher reaches theoretical saturation, meaning that new data related to the category no longer appears, the categories are sufficiently expanded, and the relationships between categories are established and confirmed. The process of data collection is controlled through thematic analysis. The criterion for determining saturation is the repetition of previous data, meaning that the researcher encounters repeated data. For example, when in interviews, the researcher receives similar and repeated opinions, they can assume that data saturation has been reached. Nevertheless, it is recommended that after the researcher feels that the obtained data is repeating, several additional interviews be conducted to confirm theoretical saturation. Therefore, using purposeful and snowball sampling methods in the qualitative section, 12 experts from academia and investment company managers were considered. This study used semi-structured interviews, one of the most common types of interviews used in qualitative social research. This type of interview falls between fully structured and unstructured interviews and is sometimes referred to as a "deep interview," where all respondents are asked similar questions, but they are free to respond in any way they prefer. The responsibility of coding and classifying responses lies with the researcher. Finally, based on Creswell's criteria for ensuring the validity of mixed-method research, and to ensure the accuracy of the findings from the perspectives of the researcher, participants, or readers of the research report, member checking, peer review, and participatory research were conducted. In this research, diagrams will be used as a method for integration. The categories are revised multiple times, some rare concepts are removed, and consistency between theory and data is examined.

3. Findings

The study's participants included 12 individuals, with the majority (11) holding a doctoral degree or higher and one participant with a master's degree. In terms of work experience, four participants had over 20 years of experience, seven had between 11 to 20 years, and one participant had between 5 to 10 years of experience. The group was predominantly male, with nine men and no women represented in the sample.

To analyze the qualitative data, thematic analysis was employed, and from the various methods available, the

thematic network approach was used. After the interviews were transcribed, coding was conducted. During the theoretical coding phase, the data were carefully examined, appropriate expressions, concepts, and relevant categories were identified, and their dimensions and characteristics were determined. The primary unit of analysis for theoretical coding and the thematic network was the concepts extracted from the interviews. These concepts were created through labeling by the researcher, directly derived from the interview transcripts, and the total statements were obtained from the interviews. Based on the theoretical codes obtained at this step, initial concepts were formed, resulting in 126 codes, although not all of the extracted codes were necessarily correct.

After preparing and organizing the tables as part of the qualitative data analysis from the interviews, concepts were grouped at a higher, more abstract level to achieve categories, as part of the thematic analysis. Categorization is the process by which concepts are grouped. Without this, confusion may arise. Therefore, once again, by continuously comparing concepts with each other, each concept was compared with previous or subsequent concepts or all existing concepts to extract the general categories. Thus, after comparing the extracted concepts, related concepts were grouped into a general category, and based on the titles found in related theories or the concepts obtained from the research, general titles were assigned to the categories. In this way, after the constant comparison of responses from the interviews, similar responses were organized, and similar concepts were extracted from them. Furthermore, closely related statements were merged, and the themes were grouped into four main categories.

The purpose of the thematic network is to establish relationships between the generated categories. This process is usually done based on a paradigmatic pattern and helps the theorist facilitate the theory-building process. Table 1 presents the basic, organizing, and global themes within the four main categories. Unrelated themes were removed, and some related themes were merged, resulting in 14 final organizing themes.

Table 1. Presenting Basic, Organizing, and Global Themes

Global Themes	Organizing Themes	Basic Themes
Cognitive and Psychological Factors	Overconfidence	Strong certainty about future conditions - Extreme judgment regarding the level of information - Overconfidence in the validity of cognition - Excessive confidence in resulting choices - Giving more weight to personal analysis than others' analyses
	Disposition Effect	Exiting a stock too early - False hope when facing losses - More emotional in profits than in similar loss situations - Fear of profits turning into losses - Exiting a stock later than planned - Providing convincing reasons when in loss
	Herding Behavior	Modeling specific individuals when making choices - Connecting with colleagues in other companies - Following powerful individuals in the market - Overemphasis on reputable analytical websites
	Information Bias	Availability of a vast amount of information - Limited time to analyze this volume of information - Receiving multiple influential analyses from employees
	Mental Accounting	Creating different classifications in the manager's mind - Showing different behavior for various available resources - Difference in the perceived value of money based on mental criteria - Irrational behavior based on existing mental structures
Amplifying Factors	Macroeconomic Decisions	Increased expectations due to government policies - Changes in the risk-free interest rate - Special schemes by some banks for profit - Lack of a clear plan for the country's economic future - Decision-making by top managers without considering consequences
	Information Asymmetry	Lack of disclosure of important information by some companies - Providing certain information to specific individuals - Doubt about critical and vital information - Information not being timely - Imbalance of power in information dissemination
	Information Overload	Excessive parameters and criteria for decision-making - Numerous employees in the company - Receiving a large volume of information in a short period - Conflicts between received analyses from different sections
Strategies	Acceptance and Review of Mistakes	Reviewing the entire decision-making process - Accepting mistakes made during buying or selling - Identifying factors leading to decision-making - Paying more attention after the transaction is completed
	Adherence to the Trading Plan	Following all points outlined in the trading plan - Penalizing or punishing in case of deviation from the plan - Remembering the emotions felt when deviating from the trading plan - Seeking better trades rather than just avoiding profit or loss - Experiencing loss is better than violating the written rules and regulations
	Avoiding Bias Towards a Specific Stock or Feature	Not being biased towards a particular industry due to past success - Ignoring past profits or losses - Not allowing external factors to influence stock selection - Not generalizing past results to future performance
Outcomes	Better Performance	Better and more desirable performance of investment companies - Increased confidence throughout the organization and staff - Perceiving oneself as a professional trader rather than an emotional one - Receiving rewards for good performance and avoiding emotional mistakes - Stronger track record and resume for investment company managers

Attracting Investors	More	Achieving reasonable profits and losses for better financial performance - Influencing retail and individual investors - Highlighting the company's profitability compared to risk-free returns - Building trust among other investors and market participants
Capital Efficiency	Market	Preventing the formation of price bubbles - Preventing the gap between intrinsic value and stock prices - Keeping the capital market on a logical and principled slope - Preventing emotional market rises and falls - Becoming a model for other retail investors - Aligning stock prices with their real and fundamental values

At the thematic network stage of the present study, the relationship between the main category and other categories was established. At this stage, primary and secondary categories were linked to collect theoretical concepts to understand the factors influencing the behavioral bias model in institutional investors' decision-making in the Iranian capital market. These actions allowed the researcher to integrate the concepts obtained in the previous stages and use them to present the thematic network. As shown, in drawing the thematic network, only the global and organizing themes were considered, arranged under the global themes.

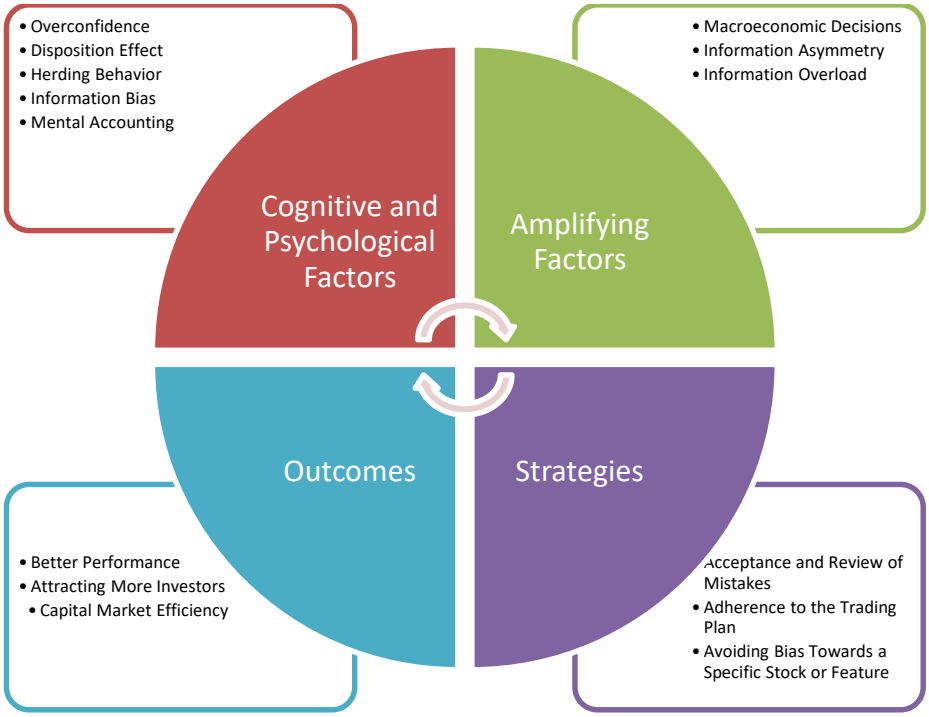

Figure 1. Thematic Network of the Study

4. Discussion and Conclusion

Managers, by attracting capital, provide the necessary resources to finance projects with positive net present value for the company. However, many factors influence a company's investment decisions. These factors, by affecting the selection of investment projects, can impact the cost of capital, profitability, expected shareholder returns, and the future value of the company's stock. The importance of this analysis lies in evaluating stock prices and investment projects. Theories related to the level of investment explain the reasons for the selection and examine the impact of variables such as cash flow, Tobin's q ratio, revenue growth rate, dividends paid, declared profits, debt changes, and capital changes on a company’s investment level in the best possible way. Investment analysis and familiarity with investment theories can, to the extent possible, improve management and increase investors' wealth, leading to informed decision-making.

Investment decisions face three critical issues: expectations, delays, and risk. Addressing these simultaneously is not simple for economists, as many factors influence a company’s investment level. By understanding the factors affecting investment and applying them to achieve the optimal investment level, managers can maximize returns. Inefficient markets possess deficiencies that can impact a company's optimal investment level and ultimately lead to overinvestment or underinvestment. The overinvestment and underinvestment hypothesis suggests

that companies investing below the optimal level suffer from underinvestment, while those investing beyond the optimal level face overinvestment issues. Therefore, understanding the key factors influencing investment levels is crucial in assessing, identifying, and determining the optimal level of investment for companies.

Given that time and resources for understanding are limited, we cannot optimally analyze the data obtained from the environment. Therefore, the human mind naturally uses heuristics. If such heuristic methods are applied correctly, they can be effective; otherwise, unavoidable biases will occur. Generally, individuals may make errors in the process of thinking and decision-making. Thus, recognizing and controlling these behavioral biases in the optimal selection of investment portfolios by investment companies prevents the wastage of resources.

It is recommended to increase the security level of investments in the stock market by using scientific and accepted procedures for conducting stock exchange activities. The presence of stability and reducing volatility plays a significant role in reducing investment biases within financial markets such as the stock exchange.

- It is recommended that political and economic macro issues be professionally analyzed for stock market investors. Additionally, appropriate educational courses should be offered in regional stock exchanges to enhance the understanding and analysis of political and economic issues.
- It is suggested that the factors affecting shareholder satisfaction be identified based on the strengths of investment companies. In this regard, suitable policies should be formulated to retain current shareholders and increase their satisfaction.
- It is recommended that stock exchange officials ensure fair access to available information for stock buyers and take preventive measures to address any potential misuse by certain individuals.
- Generally, economic factors influencing investors' decisions are not classified as behavioral factors, as they are external elements that affect investor behavior. Market and economic factors impact both behavioral and rational investors in various ways. If these factors are not examined, behavioral factors influencing decision-making alone are insufficient.
- Investors' financial decisions related to buying, selling, or holding stocks in situations containing technical information about price trends are minimally influenced by their behavioral biases.

Authors' Contributions

Authors equally contributed to this article.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

All procedures performed in this study were under the ethical standards.

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