



Understanding Behavioral Prejudices In Investment Decisions Across Financial Crisis And High Uncertainty Contexts: An Exploratory Systematic Literature Review

Girijesh Kumar, Sunita Kumari Malhotra

*Research Scholar, Department of Management, Faculty of Social Sciences, Dayalbagh Educational Institute, Agra, Uttar Pradesh, India

*Professor, Department of Management, Faculty of Social Sciences, Dayalbagh Educational Institute, Agra, Uttar Pradesh, India

Abstract: This study aspires to carry out an exploratory systematic literature review to broadly investigate how behavioral prejudices were developed due to investors' financial crisis and high uncertainty situation investment decisions over time. A deep literary analysis was conducted to investigate the possible research contribution in the area of investors' investment decisions. In the selected topic of study 190 publications were listed from the SCOPUS database. To examine research works in the field of investment decisions, VOSviewer was applied for bibliometric analysis. The papers and articles published each year, the most influential papers and articles, the top journals, the top authors, and significant keywords are all explained by the systematic literature review. Additionally, this study identifies the prevalent behavioral biases that investors use while making decisions. The major concerns and theoretical justifications for behavioral biases in investing decisions are taken in this research work.

Keywords: Investors' sentiment, Overconfidence, Representativeness, Regret Aversion, Herding, Investors, Investment Decision- Making.

Paper Type: General review

1. Introduction

The global financial scenario was greatly influenced by COVID-19 pandemic, causing unanticipated challenges and disruptions (Li, 2023; Zhang et al., 2020). Within a few weeks, millions of individuals were affected, and the impact grew exponentially, affecting social, economic, and global unrest. At first, it caused widespread lockdowns and restrictions in many nations, which negatively impacted millions of people's livelihoods and disrupted the operations of several sectors (Laudari et al., 2021). The outbreak of pandemic laid many people to seek other sources of income because their pay packages are cut down. Under such circumstances, investing in the stock market emerged as a popular alternative to these individuals. The Indian stock market has attracted many people for investing their hard-earned money there in the hope of expecting heavy returns. However, a number of factors influence investors' decisions regarding their investment portfolios, including the country's and the world's political and economic processes, the accessibility and dispersion of information, and more. The investors' behavior became a crucial element. People were deeply afraid about the outbreak, and it greatly affected their investment decisions.

According to Maheeran & Muhammad (2009), conventional economic theory assumes that investors work according to their wisdom for making a variety of decisions. The expected utility theory (Bernoulli, 1738), the capital asset pricing model (Jack L. Treynor, 1961), the Markowitz portfolio principles (Markowitz, 1952), and other theories are applied in standard financial practices to describe the market growth, interacts with the available data while making financial decisions; where investors are supposed to be wise (Kumar & Goyal, 2015; Zahera & Bansal, 2018). Despite being largely acknowledged by scholars, the aforementioned theories have not addressed some issues, such as the reasons behind market collapses and bubbles and which factors contribute to erratic events (Sharma & Kumar, 2020; Zahera & Bansal, 2018). They discovered after analyzing the data that the use of behavioral finance, which goes against all conventional theories of ideas and rational investor assumptions, always resulted in remarkable financial choice. Inappropriate and indiscrete emotions of the human beings, attitudes, and psychological factors often influence the investors' decisions (D. Kahneman & Tversky, 1982; Kapoor & Prosad, 2017). Thus, in the years 1980s, a novel concept called "behavioral finance" emerged, along with behavioral and psychological factors in financial decision-making. Behavioral finance challenges the efficient market hypothesis (EMH) and explains why investors behave in specific way while investing into financial assets. According to the theory of behavioral finance a wide range of behavioral biases shows its impact on investors' investment decisions which deviates them from rational norms while making investment choices.

Behavioral biases are usually studied empirically using investor trade data (Barber et al., 2000; Dhar & Zhu, 2006; Frazzini, 2006). Lin (2011) asserts that compared to secondary data, primary data better captures the behavioral characteristics of investors. With a focus on investors, this is an extensive study of biases that have psychological effect on financial decision-making. The following discussion are based on five common biases that might affect an investor's decision-making process-

1. Investors Sentiments;
2. Overconfidence;
3. Representativeness;
4. Regret Aversion; and
5. Herding

Behavioral biases and investment decision-making

The efficient market hypothesis and other traditional finance theories assumes that people are wise enough to weigh all available information while making the best possible decisions in the marketplace. The studies, contrarily suggest that people who use simple preferences and judgments are seen making the issues complicated while making decisions. Such behaviors lead to formation of behavioral finance which further describes the market abnormalities caused by the investors' prejudices. Due to a limited range of rational ability and moderate mental level the common people are often make wrong decisions on the basis of emotional biases and cognitive hallucination. Prospect theory, which was created by D. Kahneman & Tversky' (1979), explains that investors tend to look at the early profits and losses rather than waiting to the end results. This occurrence is due to the influence of cognitive aspects which determined these gains and losses.

A variety of behavioral biases that investor exhibit, and in the sections that follow, we have examined five of them.

Investor Sentiment

The investor sentiment can be referred as the mood of investors toward a specific market, asset class, or investment. The uncertain nature of the stock returns is no less significant. Cliff & Brown (2001) examined the short-term returns on market aggregates and investor sentiment. A significant correlation was observed between the investor sentiments and market returns. They drew their results on the basis of finding from two surveys conducted on investor sentiment. One of them was a daily survey by American Association of Individual Investors and other was a weekly survey by Investor discretion.

Overconfidence

The results reflected a universal bias of people to overestimate their knowledge and talent termed as overconfidence leads the people to get too confident of their trade outcomes as they believe in their capacity to make investments. Such overconfidence reflects in optimism. Zahera & Bansal (2018) states that people tend to incur losses placing high value on their personal abilities, thereby ignoring other markets factors.

Representativeness

Such assessment of events based on one set of objects ignoring other set of equally important objects is called representativeness. This causes individuals to think that the event or item is more likely to occur, even when it might not. Tversky and Kahneman presented it at the start of the 1970s. According to Antony & Joseph (2017), representational bias is the propensity of an investor to forecast future prices by analyzing historical price movements. They consider the stock's present performance to be a predictor of its future performance.

Regret Aversion

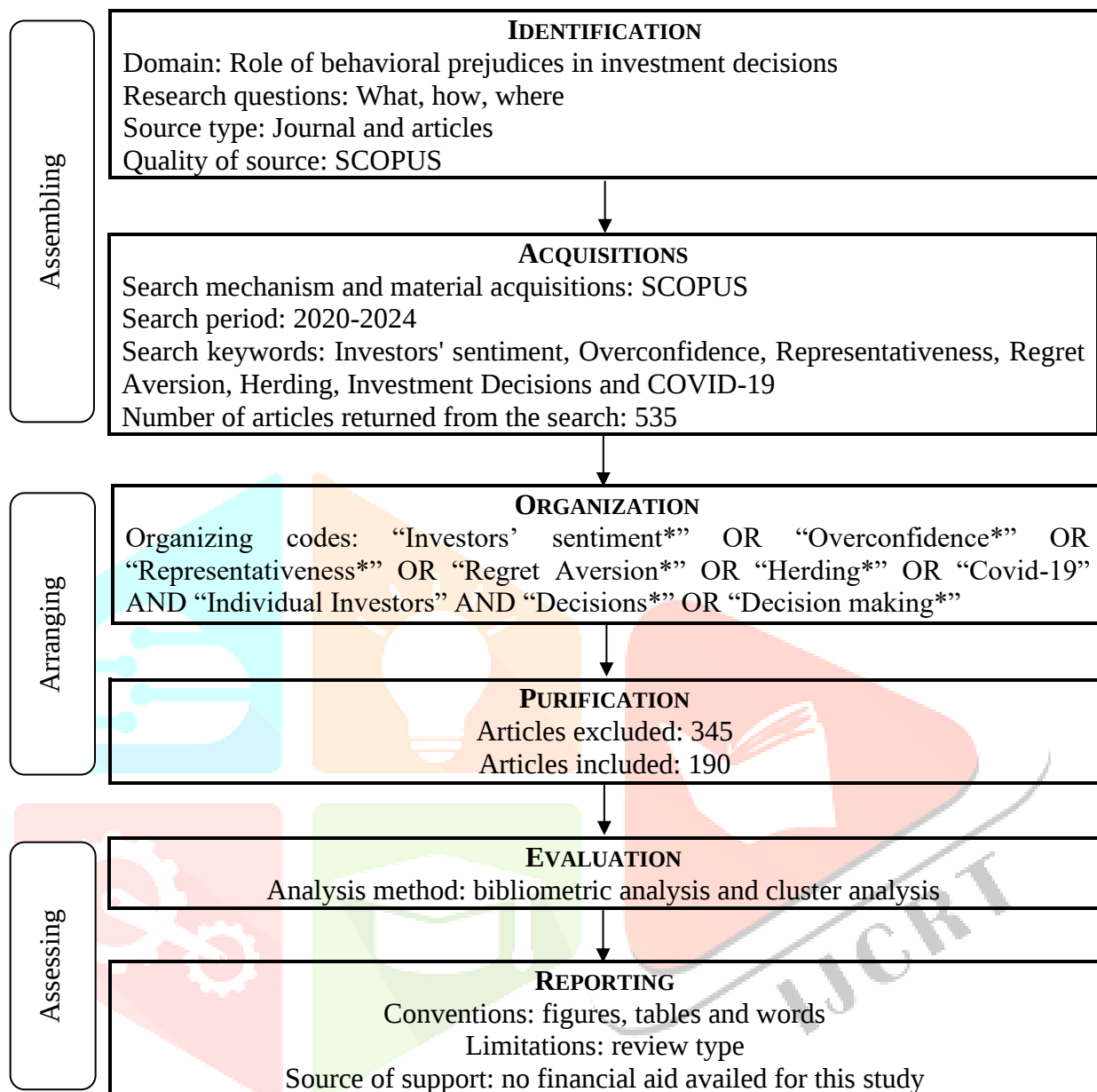
Fear that the choice will be incorrect is a common symptom of regret aversion. According to research by (Antony & Joseph, 2017), people often experience remorse for mistakes they have made. They thought they could have waited and held failing stocks for longer in the hopes of a trend reversal after booking profits in a winning stock. Two distinct papers- Loomes & Sugden (1982) and BELL (1982) are credited with creating regret aversion. Regret for a decision has a bigger influence on people's decisions going forward. They either become inspired to take more risks or decide not to take any risks at all.

Herding

When an investor is heavily driven by emotions and adopts the judgments of others instead of conducting his own independent research, his actions fall into this category (D. , Kahneman et al., 2011; Shiller, 2003). The individual investors, when follow the judgments of a big number or noisy investors, they tend to exhibit herd behavior. To protect their reputation or pay concerns, analysts might imitate others or rely on their own prior experiences and decisions Kumar & Goyal (2015). Individual investors are normally engage in herding behavior than institutional investors, according to Lee et al. (2004). Further, some significant studies (Grinblatt et al., 1995; Lakonishok et al., 1992; Wermers, 1999) have been done on this phenomenon in investment decision-making.

2. Data and methodology

The methodology involves using a process of recursion and iteration to select and filter keywords and this searched incorporates the academic resources within the review process, SPAR-4-SLR was chosen primarily to reduce selection unfairness in the review of the relevant literature. The available literature on the researched problem has been located by following the procedures outlined in this method. Systematic literature reviews that follow the SPAR-4-SLR process for gathering, organizing, and evaluating literature should be able to produce cutting-edge insights and innovative agendas to further knowledge in the review topic. This study adheres by Paul et al. (2021) methodology's three phases and six sub stages for an SLR. (Refer Figure 1)



Source: Researchers' own work

Figure1. SPAR-4-SLR protocol

Assembling

Identification of studies, Numerous researches on behavioral biases and investing decisions have been published (Kumar & Goyal, 2015; Rasheed et al., 2018). The strength and correlation between the published publications in this field need to be examined. Therefore, by using bibliometric analysis to pave the gap between literary works, the current study offers an intellectual framework in this field. In order to fill this gap, the following queries are put forth:

- RQ1. What pattern of publications is there in the field of investing decisions and behavioral prejudices? Which authors, publications, and nations produced the biggest contributions across financial crisis and high uncertainty contexts?
- RQ2. Which papers are the most significant based on citations (bibliographic coupling, co-authorship, and co-occurrence)?
- RQ3. Which research concerns are currently emerging in the field of behavioral biases?
- RQ4. What avenues ought to be explored in future research?

Therefore, a bibliometric analysis was followed by using Scopus search results. The following research objectives (RO) were formulated to analyze the behavioral prejudices in the investment decisions:

- RO1: To define main themes and published subject matters so far on the pandemic on investment decisions patterns;
- RO2: To identify the renowned authors, institutions, nations, reputed journals, and significant publications in the area of research on behavioral biases;
- RO3: To identify research clusters of behavioral prejudices and investment decisions.
- RO4: To suggest further research required on the said dimensions opportunities.

Acquisition

The study's sample is dispersed throughout the years 2020 through 2024. The database for searching the body of existing, pertinent literature is Scopus. One of the extensive resources for finding literature on social science subjects is Scopus (Aznar-Sánchez et al., 2019; Couckuyt & Looy, 2019). The main purpose of selecting the Scopus database to retrieve the literature is-

1. It is the largest source of abstract and citation information (Mugomeri et al., 2017; Zyoud & Fuchs-Hanusch, 2017).
2. Frequent updates that happen quickly (Borrett et al. 2018).
3. The ability to handle and debug data with flexibility (Aznar-Sánchez et al., 2019).

Finding pertinent keywords to use in search queries is the main challenge when using bibliometric databases (Aveyard, 2010). By examining commonly used keywords from previously reviewed literature on behavioral biases, the current work has determined the relevant search phrases in accordance with the suggestions made by Bartolini et al. (2019). The initial step is to use the chosen keywords to search the chosen database. The study separated the keywords into two groups in accordance with Chen et al. (2017) and (Singh & Walia, 2020) recommendations give an accurate explanation of the literature. Words associated with behavioral biases are included in the initial group of keywords, including Investors' sentiment, Overconfidence, Representativeness, Regret Aversion, and Herding. Institutional investor, individual investor, equity investors, mutual fund investors, investor, investment, decisions, decision- making are some of the terms that fall under the second category of keywords. Using Boolean operators, the authors joined search phrases systematically each from the first and second categories to execute the search queries. It was decided that the terms may be included in the abstracts, titles, or keywords of the publications. Because the Scopus database is constantly being upgraded, the search was carried out just once, on Jan 08, 2025, to minimize any potential bias. The publishing window was limited to 2020–2024. A total of 535 documents were found through this approach.

Arranging

Organization: To choose literature that aligned with this study, the following exclusion criteria were used-

- Publications that are irrelevant to the topic of this study;
- repetitions;
- Books, theses, dissertations, publications, patents, and conference communications, and
- Papers those were not included in Scimago journals and country rankings, or journals that use indices of scientific quality, including Journal Citation Reports (Social Sciences Citation Index and Social Citation Index).

The papers have been thoroughly read in the final stage. 190 papers were produced for more thorough examination as a result of this approach.

Purification

Then, to enhance the search results, we added additional criteria, such as topic area 117, documents type 25, content screening 119, language screening 5, and final selection by reading the abstract and entire paper, which resulted in the rejection of 79 documents. After the process was finished, 190 articles were produced for analysis.

Assessing

Evaluation: Bibliometric analysis is utilized to provide a quantitative examination of written articles or publications (Sweileh, 2020). The VOSviewer software was used for conducting bibliometric analysis, citation network analysis and keyword analysis, giving researchers a strong tool to find out a particular area of study by examining citations, geographic distribution, and keyword analysis. Co-citation, clustering, content analysis, and latest research works were done with the help of this software.

We will only evaluate English-language publications available in Scopus journals before initiating the present study. Table 1 provides an outline of the specific criteria used to determine whether publications are included or excluded.

Table1. Basis for Inclusion exclusion of articles

Included criteria	Excluded criteria
Publications indexed in Scopus Database English language Both national and international publications	Book chapters, conference papers and conference review and articles other than the scope of behavioural finance

Source: Researchers' own work

The entire selection procedure that the researchers employed to conduct the pertinent studies is shown in Table 2. Records imported in ".csv" and ".bibtex" formats were not considered for the purposes of the following analysis. Furthermore, a few chosen articles were considered to receive additional bibliometric analysis.

Table 2. The method to arrange and analyze the literature

Search criteria and article selection.

Filtering criteria	Reject	Accept
<u>Search criteria</u>		
Search engine: Scopus		
Search date: 08 Jan'2025		
Search term: ("Investors' sentiments*" OR "Overconfidence*" OR "Representativeness*" OR "Regret Aversion*" OR "Herding*") AND ("Individual Investors*" OR "Institutional Investors*" OR "Equity Investors*" OR "Investor*" OR "Investment*" OR "Mutual Fund Investors*") AND ("Decisions*" OR "Decision making*")		535
Subject area: Economics, Econometrics and Finance, Business Management and Accounting, Social Sciences	117	418
Document type: "Articles"	25	393
<u>Article selection</u>		
Content screening: Include articles if "keywords" indicate relevance to scope of study	119	274
Language screening: Include documents in English only	5	269
Final article selection: Filtering by reading abstract and full paper	79	190

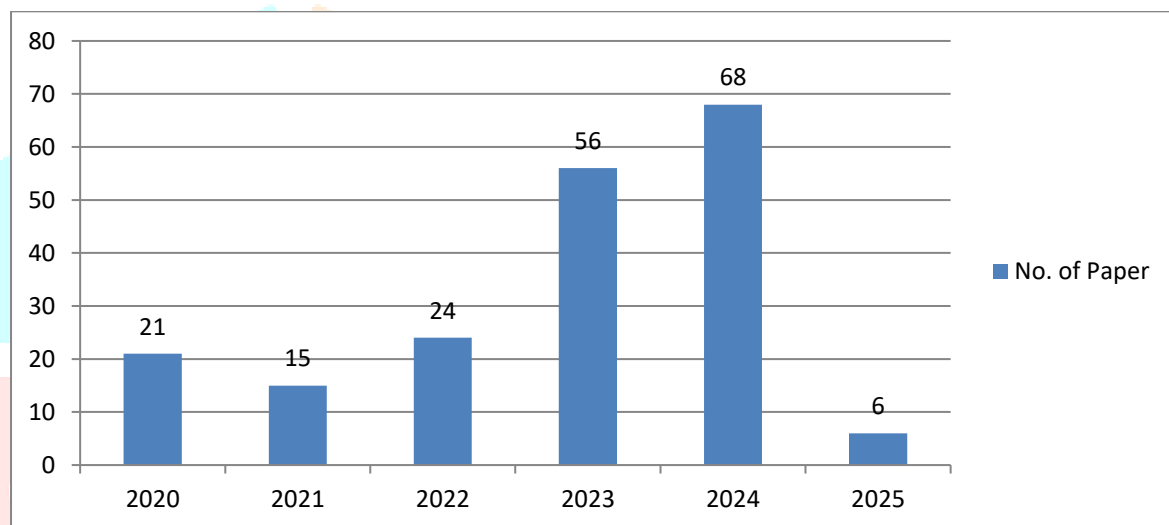
Source: Researchers' own work

Findings

RO1: To define main themes and published subject matters so far on the pandemic on investment decisions patterns;

The following is a presentation of the primary topics found in published research: Publication frequency increased significantly after 2021, with a distribution of 21 articles in 2020, 15 articles in 2021, 24 articles in 2022, 56 articles in 2023 and 68 articles in 2024 and 6 articles in 2025 till date. The VOSviewer tool was used to analyze the network of collaboration between writers and between countries. The study's sample consisted of 190 papers with 514 authors. This answer the RQ1: What pattern of publications is there in the field of investing decisions and behavioral biases? Which authors, publications, and nations produced the biggest contributions post pandemic?

Figure 2 shows the publishing of the articles on behavioral biases and investing decisions by year. There has been an upward tendency in this area of study since 2021. The year 2021 was a little worse. However, from 2022, the trend has rapidly increased, while in 2023, the number of publications increased by 133%. The increasing interest of studies elucidate that the behavioral biases influence the investment decision making significantly post COVID- 19.



Source: Researchers' own work

Figure 2. Presentation of the publications in the area of BB and IDM

Table 3 demonstrates the top leading journals in the domain of behavioral prejudices and investment decision making and shows that *Review of behavioral finance* journal leading with 11 publications.

Table 3. Articles by Journal source title

Articles by Journal source title	No. of articles
<i>Review of behavioral finance</i>	11
<i>Global business review</i>	5
<i>Investment management and financial innovations</i>	5
<i>Cogent economics and finance</i>	4
<i>Qualitative research in financial market</i>	4
<i>International journal of emerging markets</i>	4
<i>Sage open</i>	3
<i>Journal of advances in management research</i>	3
<i>Management research review</i>	2
<i>Vision</i>	2

Source: Researchers' own work

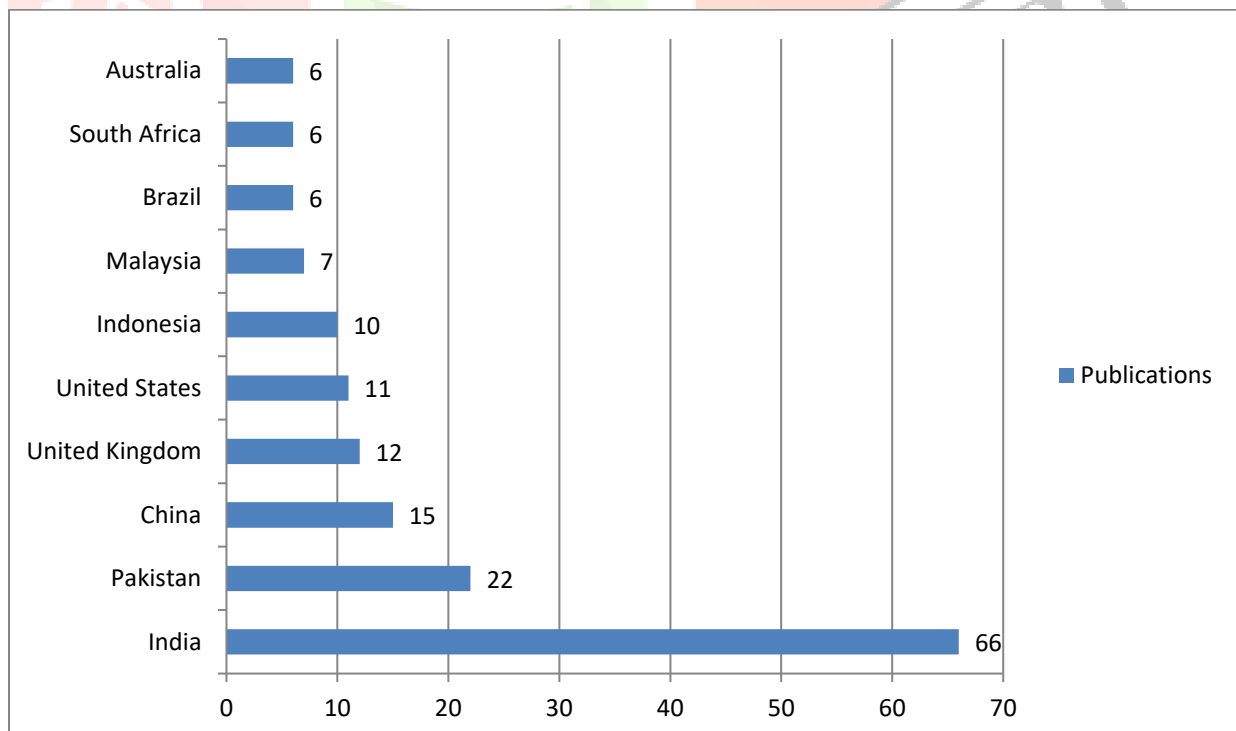
However, other journals are *Global business review* and *Investment management and financial innovations* journal with 5 each, *Cogent economics and finance*, *Qualitative research in financial market* and *International journal of emerging markets* journal had 4 each, rest identified journals had less than 4 articles. The bibliometric data and their frequency itself are not as significant as comparatively more established fields of research, here the author sheds some lights on main themes and topics by conducting co-citation analysis that were cover in the selected 190 articles.

Table 4 elucidates the leading organizations contributing to the research of BB and IDM. Among these organizations *School of Economics, Hiroshima University, Higashi-Hiroshima, Japan*, *Sri Aurobindo College of Commerce and Management, Ludhiana, India*, and *Vietnam National University, Hanoi, Ho, Chi Minh City, Vietnam* are the leading institutions to publish two articles each in this area, rest identified organizations have one each.

Table 4. Articles by Affiliated University

Articles by Journal source title	Articles
<i>School of Economics, Hiroshima University, Higashi-Hiroshima, Japan</i>	2
<i>Sri Aurobindo College of Commerce and Management, Ludhiana, India</i>	2
<i>Vietnam National University, Hanoi, Ho, Chi Minh City, Vietnam</i>	2
<i>Department of Economics and Finance, University of Hong Kong, Shatin, Hong Kong</i>	1
<i>Department of Business Administration, Iqra University, Karachi, Pakistan</i>	1
<i>Economics Management College, Weifang University of Science and Technology, Weifang, China</i>	1
<i>Department of Management, School of Business and Law, University of Agder, Agder, Norway</i>	1
<i>K. J. Somaiya Institute of Management - Somaiya Vidyavihar University, Mumbai, India</i>	1
<i>Em Normandie usiness School, École de management de Normandie, Le Havre, France</i>	1
<i>Department of Finance, Business School, University of Finance and Economics, Mongolia</i>	1

Source: Researchers' own work



Source: Researchers' own work

Figure 3. Frequency distribution based on Country of sample data collection

Figure 3 reveals the leading countries contributing to the research in behavioral biases and investment decision making. Among these countries *India* is the leading country with the top most publications of 66 articles. Whereas the countries like Pakistan with 22, China with 15, United Kingdom with 12, United States with 11 and Indonesia with 10, rest of the countries had less than 10 articles.

RO2: To identify the renowned authors, institutions, nations, reputed journals, and significant publications in the area of research on behavioral biases;

Table 5 shows the most used keywords in the research field of behavioral biases and investment decision-

Table 5. The maximum used keywords in the area of BB and IDM

Keywords	Occurrence	Total link strength
<i>Herding</i>	64	168
<i>Overconfidence</i>	64	167
<i>Investment Decision</i>	59	177
<i>Behavioral finance</i>	38	112
<i>Behavioral biases</i>	31	50
<i>Investors' sentiment</i>	22	33
<i>COVID- 19</i>	21	50
<i>Heuristics</i>	19	64
<i>Anchoring</i>	11	48
<i>Cognitive biases</i>	9	28
<i>Risk perception</i>	9	31
<i>Representativeness</i>	7	26
<i>Disposition effect</i>	6	15
<i>Regret aversion</i>	4	17
<i>Gamblers' fallacy</i>	3	19

Source: Researchers' own work

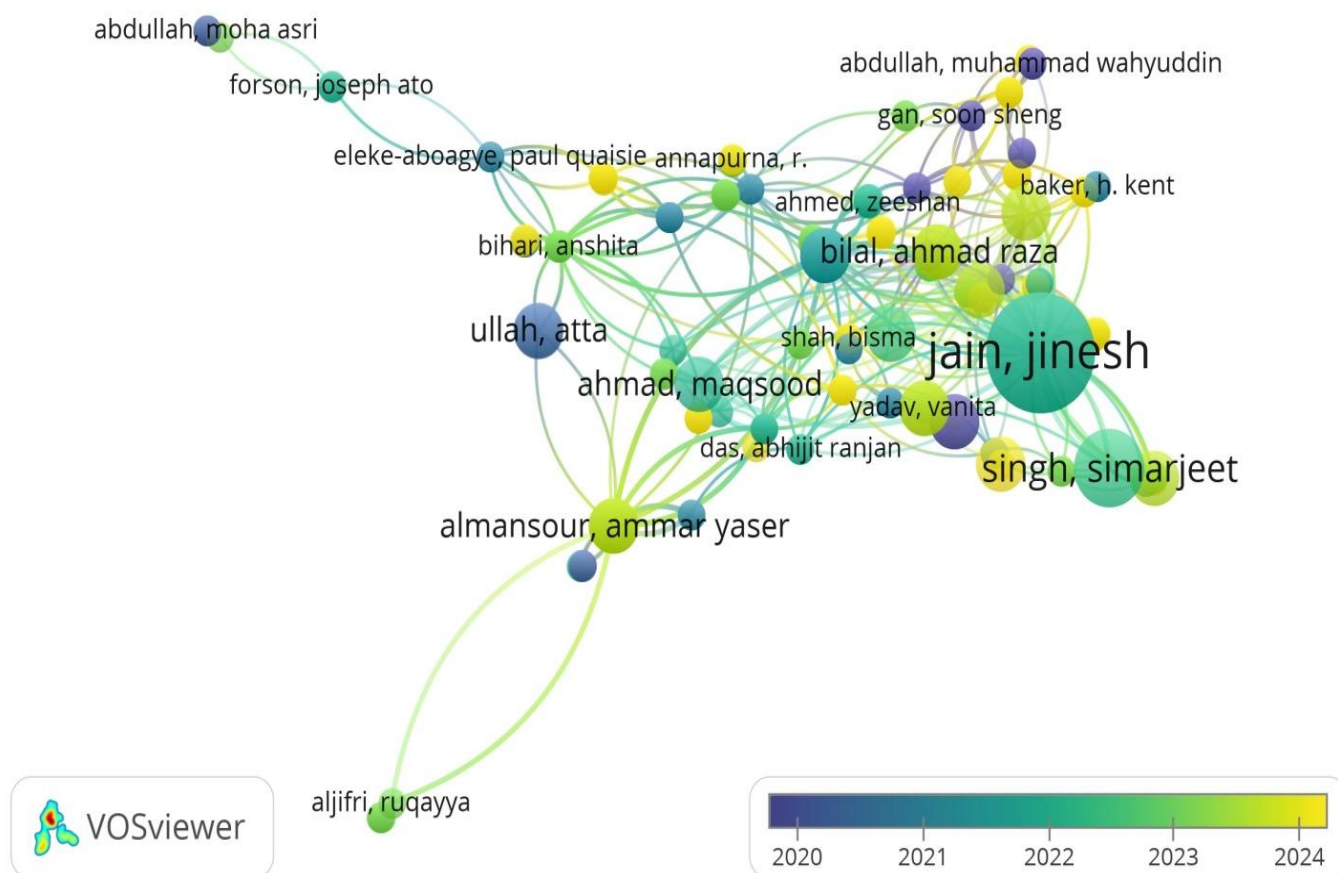
making. It elucidates that keyword "*Herding*" and "*Overconfidence*" occurred 64 times each in the search for publications in this area concerned, whereas "*Investment decision*", "*Behavioral finance*" and "*Behavioral biases*" occurred 59, 38 and 31 times respectively. Similarly, the occurrence of keywords like "*Investors' sentiment*", "*Representativeness*" and "*Regret aversion*" are 22, 7 and 4 in that order. Table 5 highlights on the top most used keywords in the selected research field of study.



Figure 4. Word cloud of mostly used keywords in the area BB and IDM.

Figure: 4. Word cloud of mostly used keywords in the area BB and IDM

Figure 4 demonstrates a “word cloud” in the keywords found in the selected article’s abstracts and highlights the most widespread terms in the chosen database. The magnitude of words points out that how often these keywords appeared in the preferred articles. As it is seen in the Figure 4, the selected behavioral biases such as “*Herding*” and “*Overconfidence*” are located in almost middle of the globe and having maximum total link strength of 168 and 167 respectively, whereas others such as “*Investors’ sentiment*”, “*Representativeness*” and “*Regret aversion*” are having comparatively less occurrence and total link strength. In fact, there are rare empirical studies on “*Investors’ sentiment*”, “*Representativeness*” and “*Regret aversion*”, earlier research shows that behavioral biases like “*Herding*” and “*Overconfidence*” were over emphasized by the former academicians.

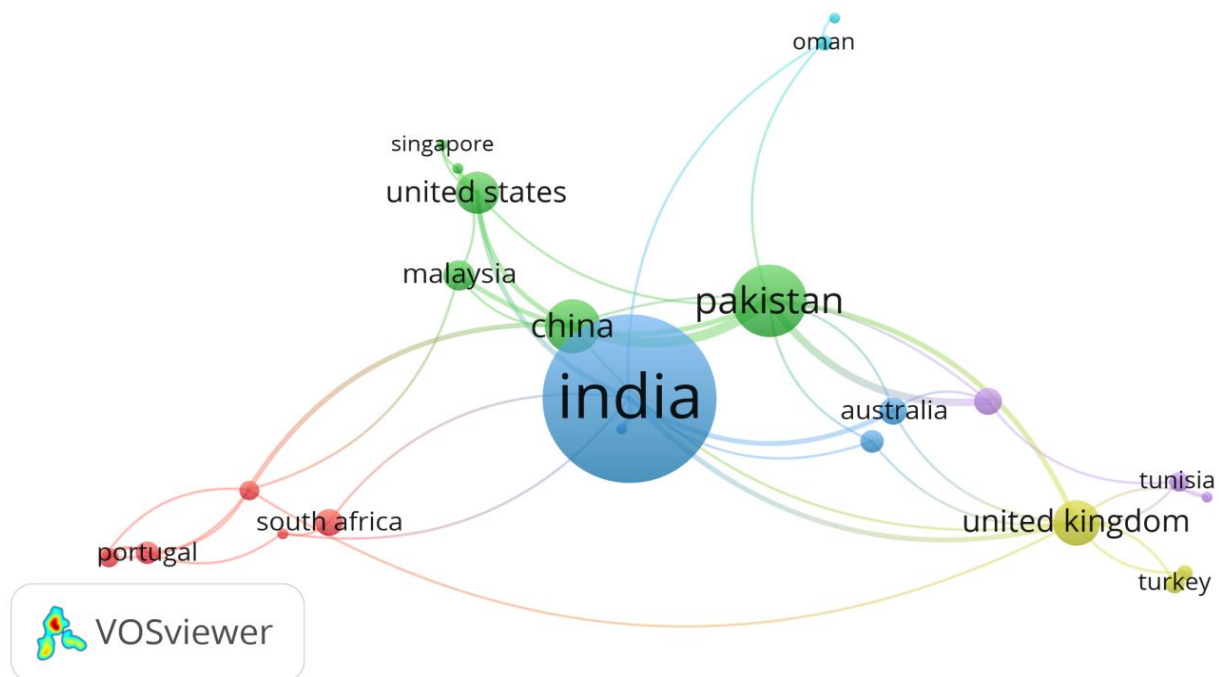


Source: Researchers' own work

Figure 5. Author collaboration for BB and IDM research work

When it comes to authors' contribution to the chosen field of study, Figure 5 illustrates network visualization where nodes represent authors and connections between nodes show collaborative relationships between them. It shows the influential authors with greatest numbers of publications in this field. *Jain, Jinesh* and *Walia, Nidhi* are the most creative authors who have contributed the most in this area of study with five articles each. The three most referred articles were *Jain J., Walia N. & Gupta S. (2020)*, *Shagufta P., Zoya W. S., Qazi A. S., Sana J. (2020)*^a and *Banik S., Sharma N., Mangla M., Mohanty S. & Sitharth S. (2022)*. Figure 6 exhibits the country based collaboration network. This suggests joint research efforts between scholars from those nations, as seen by their common publications. A total of 52 countries have published the 190 articles. Considering each country, the clusters were formed.

The country collaboration network divulges that 6 clusters, totaling 24 countries, were formed. The top four clusters consisting of colors blue, green, yellow and red have six, four, and three countries respectively. The last cluster shows only two countries viz. Libya and Oman represented in light blue color. Figure 6 analyses the cluster structure. The researcher ignored the countries with poor connectivity. It was observed that developed network was distributed in 5 clusters having 41 links and 54 total link strength. While India is found to be contributing significantly to the field of BB and IBM and the data also indicates that India has strong connectivity with other nations.



Source: Researchers' own work

Figure 6. Country collaboration for BB and IDM research work

India, Pakistan, China and United Kingdom were at forefront of developing collaborative research with the other leading countries on BB and IDM hence considered as originators of network based analysis.

RO3: To identify research clusters of behavioral prejudices and investment decisions.

The core relations among the terms emerged more frequently together in the sample of 190 articles which is shown in the Figure 4 and Table 4. Herding, overconfidence, investment decisions and COVID -19 stand out of them. These terms gave more importance to frequency and link power. Whereas the terms like behavioral finance, behavioral biases, are also having higher weight in the above terms. Although other behavioral factors such as investors' sentiment, representativeness and regret aversion are having less weight comparatively, this depicts that not as much of research has been done in this area post pandemic.

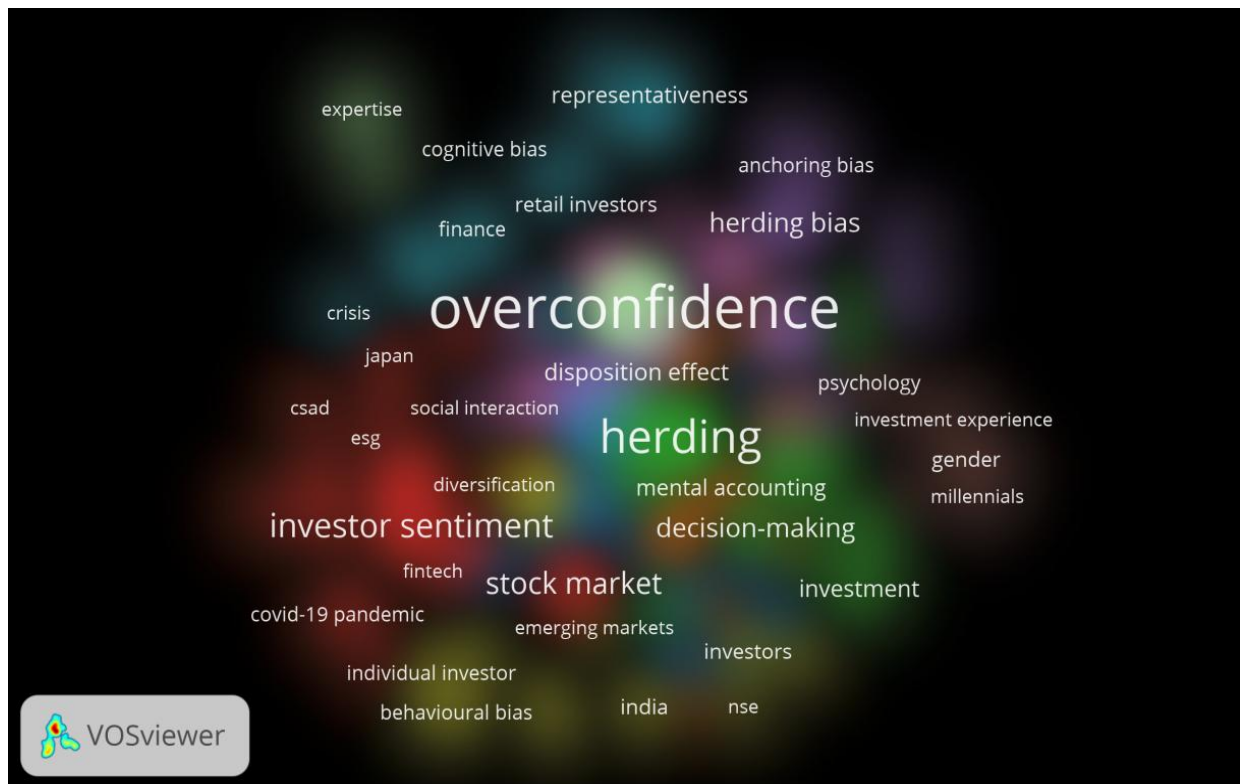
As far as cluster analysis is concerned, the facts presented in Figure 7 and in Table 6 clarifies that Cluster 1 was formed by the articles that are the theme related to investor sentiment and COVID- 19. The three major words are investor sentiment, stock market and COVID -19. These are the words grouped in red color in Figure 7. In Cluster 2, articles highlighted issues related to behavioral finance,

Table 6. Selected word clustered by VOSviewer Software showing the subjects of BB and IDM

Word	Weight Cluster	Weight <occurrence>	<links>	Weight <total links strength>
Investment decisions	5	68	136	208
Herding	2	64	113	168
Overconfidence	11	64	91	167
Behavioural finance	2	38	77	122
Behavioural biases	8	31	74	103
Investor sentiment	1	22	28	33
Covid-19	1	21	41	50
Heuristics	2	19	40	64
Individual investors	3	13	34	42
Investment behavior	6	12	35	39
Stock market	1	12	22	31
Financial literacy	4	12	20	34
Anchoring	9	11	29	48
Cognitive biases	7	9	21	28
Risk perception	9	9	21	31
Loss aversion	7	8	23	29
SEM	4	7	26	27
Representativeness	6	7	16	26
Disposition effect	5	6	13	15
Mental accounting	7	5	18	20
Bibliometric analysis	5	4	14	18
Investors	4	4	14	15
Investment performance	3	4	11	12
Psychological biases	3	4	11	12
Regret aversion	7	4	15	17
Gender	8	4	10	12
Retail investors	10	4	9	9
Emotional bias	10	2	6	7
Financial advice	11	2	4	5

Source: Researchers' own work

behavioral biases like herding and Heuristics. This consists of three major words as herding, behavioral finance and heuristics. These words are grouped in green color in Figure 7. Cluster 3 made up of three major words such as individual investors, investment performance and psychological biases. It is perceived that this cluster's articles are concerned with individual investors. In Figure 7, this cluster is articulated by the word grouped in blue color. Cluster 4 consists of only three words, financial literacy, SEM and investors these words appears in the article addressing the aspects of related to the another phenomena which affects the investment decision making and the tool which measure its relationships. This clustered is formed by the word grouped in yellow color in Figure 7. Cluster 5 contains three major words such as investment decisions, disposition effect and bibliometric analysis as revealed in Figure 8. As observed, this cluster's articles were concerned with investment decisions. This cluster is stands for word grouped in purple color in Figure 8.



Source. Researchers' own work

Figure 7. VOSviewer density graphic of clustered words from the articles sample

Cluster 6 is more concerned with representativeness and the word grouped with investment behavior and representativeness. This word grouped is represented by light blue in Figure 7. In respect to cluster 7, articles more focused on issues linked to behavioral aspects which affect the investment decisions and these words are cognitive biases, loss aversion, mental accounting and regret aversion. This word grouped is shown by orange color in Figure 7. Cluster 8 contains article related to behavioral biases and gender and it contains only these two major words. This word grouped is exposed by brown color in Figure 7. Cluster 9 contains the few major words like anchoring and risk perception. This word grouped is shown by magenta color in Figure 7. Cluster 10 contains only major word: retail investors and this word is represented by light orange color and finally, cluster 11 holds only one major word: overconfidence which is depicted by light green color in Figure 7. Using this literature review report, this article will consider the 11 aforementioned evidenced elements as Behavioral Biases and Investment Decision-making constructs: *Herding*, *Overconfidence*, *Investor sentiment*, *Representativeness* and *Regret aversion*.

3. Emerging research theme on behavioral biases and investment decisions

In this section, we discuss the identified clusters based on above study. After analyzing the aforementioned literature, the five main study themes were determined these includes herding behavior, overconfidence bias, regret aversion, investor's sentiments and representativeness. Each of these constructs and the terms associated with them in Table 4 will be explained.

Construct 1: COVID-19 pandemic

Cluster 1 contains articles concerned with COVID-19 issues and includes three key terms: COVID-19, investor sentiment, and stock market. The articles evaluated stock market performance driven by pandemic including investment decision making and behavioral biases. They have argued that stock market is affected widely by the prejudices about COVID-19. In near the beginning of the pandemic investor sentiment has negative impacts on stock market (Hassan, 2024). While behavioral biases like overconfidence and herding differed from market to market; location to location the key observation was that investor sentiment, market volatility and stock returns are strongly correlated.

Construct 2: herding behavior and Construct 11: overconfidence bias, which are both heavily impacted by COVID-19, are two examples of how this construct is related to other constructs. Zhang (2023) claims that the COVID-19 epidemic greatly impacted investor judgments by exacerbating conventional behavioral biases like herd mentality and overconfidence.

Construct 2: herding behavior

Articles on herding behavior, including herding, behavioral finance, and heuristics, are included in Cluster 2 (Table 5). The investors' complex financial decisions such as selection of stocks are influenced by a range of psychological factors viz. Heuristics, behavioral finance, and herding. There is a correlation among these three factors. Herding is a behavioral trait where the investor initiates the behavior of others. Such behavior is opposed to the principles of investment and may lead to negative market outcomes. The heuristics make systemic biases in making investment decisions. Such tendency affects market outcomes negatively. Heuristics tendency is to find shortcuts and herding is to follow the crowd in investment decision making. (Karimah & Suman, 2024).

Construct 3: Individual investor

Individual investors/ retail investors, investment performance, psychological biases and emotional bias constitute Cluster 3 and 10. Financial markets heavily rely on individual investors, who are impacted by a number of variables such as personality traits, psychological biases, and financial knowledge. These factors influence investing choices, according to recent studies, underscoring the need for a better comprehension of the behavior of individual investors. Psychological biases can have a detrimental effect on an individual investor's financial success, these biases cause illogical decision-making, which in turn impacts stock market returns and makes it more difficult to reach financial objectives.

Table 7. Cluster identified and current research themes

Cluster no.	Cluster label	Current research
1	COVID- 19	Investor sentiment, COVID- 19 and stock market
2	Herding behaviour	Herding, behavioral finance and heuristics
3 & 10	Individual investor/ Retail investor	Individual investors, investment performance, psychological biases, retail investors, emotional bias
4	Investors literacy	Financial literacy, SEM and investors
5	Investment decisions	Investment decisions, disposition effect and Bibliometric analysis
6	Representativeness	Investment behaviour, representativeness
7	Regret aversion	Cognitive biases, loss aversion, mental accounting and regret aversion
8 & 9	Behavioural biases	Behavioural biases, gender, anchoring, risk perception
11	Overconfidence bias	Overconfidence, financial advice

Source: Researchers' own work

Constructs 1 and 4- COVID-19 and financial literacy, respectively—and other constructs related to other behavioral biases, for instance, have a stronger influence on construct 3, and nearly every construct has some sort of connection to it, either fully or partially.

Construct 4: Investors literacy

Cluster 4 includes investors, SEM, and financial literacy. These terms are found in the articles selected for study in the above cluster. Many of the authors have emphasized the relationship among them. The several phases of interaction between investors and financial literacy often undermine the importance of financial literacy as shown by structural equation modeling (SEM) that affects investment choices. The investors who are financially literate who apprehend the risk in advance while making investment decisions where structural equation

modeling (SEM) functions as a potent tool for analyzing and understanding the dynamics of the above. The researches support the facts that the higher financial literacy level leads to better investment judgment (IGN Oka Ariwangsa et al., 2024). The studies also quote the younger group or the university students show higher interest and believe that there is close relationship between financial literacy and stock market (Maizan et al., 2024).

The above construct seems to have relationship with other constructs. Hence concludes vitality of financial knowledge for mitigating the impacts of behavioral biases. Financially literate people make their own judgment (Albert, 2023; Baker et al., 2019). The financial literacy of different gender is also a factor of investment, the male and female are found to differ in their investment decisions, financial literacy influence the male investors and female avoid risk and follow security measures while taking investment decisions (Adil et al., 2022; Qibthiyah et al., 2024). Alike the men the financially literate women were also making sound investment choices (Pepur et al., 2022; Qibthiyah et al., 2024).

Construct 5: Investment decisions

Bibliometric analysis, disposition effect, and investment decisions are covered in Cluster 5. The articles chosen for study in the above cluster contained these terms. One well-known behavioral bias in finance is the disposition effect, which describes investors' propensity to hang onto failing assets for too long and sell winning ones too soon. Individual investors, institutional investors, and even test participants have all been found to exhibit this bias across a variety of markets and investment groupings (Ansari et al., 2024). According to Lazarides et al. (2023), bibliometric analysis is supposed to be quantitative approach to analyze scientific literature that provides details on significant publications, authors, organizations, and research trends.

Cluster 5 has interconnected with all other clusters as mentioned in table 5. According to several studies, behavioral biases such as risk aversion, overconfidence, and the disposition effect have a big impact on how people make investing decisions (Hayat & Anwar, 2016; Khan et al., 2023; Poudel et al., 2024; Suresh G, 2024). One research revealed no discernible impact, despite the majority of studies finding herding behavior to be substantial (Hayat & Anwar, 2016; Khan et al., 2023). Moderating the influence of these biases on investing decisions requires financial knowledge (Khan et al., 2023; Poudel et al., 2024).

Construct 6: Representativeness bias

Cluster 6 consists of investment behavior and representativeness. Numerous studies show that representativeness bias has a major impact on investing decisions. Investors make this cognitive mistake by interpreting probabilities unrelated to circumstances (Konteos et al., 2018).

There is a connection between Cluster 6 and other clusters as seen in Table 5. The COVID-19 had an important influence over the global financial markets. The investors use cognitive bias to evaluate the probability by method of contrasting during the crises. There seems to be a relationship between COVID- 19 and representative bias including investors' financial literacy and investment decisions.

Construct 7: Regret aversion

Mental accounting, loss aversion, regret aversion, and cognitive biases are all included in Cluster 7. An investor regrets, if they are not able to make any decisions because they are afraid of the consequences. The inclination to steer clear of actions that might cause regret, which frequently leads to overly cautious or impetuous choices, is known as regret aversion (Bihari et al., 2022). Research suggests that regret aversion plays a substantial role in investing decisions. This bias can lead to missed opportunities, as investors may avoid selling losing stocks to prevent the regret of realizing a loss (P. et al., 2025).

The prejudices such as mental accounting, regret aversion, loss aversion seem to influence the investors' investment behavior. The psychological factors are also responsible for investors' imprudent decisions. The investors overconfidence and herding as the factors of cognitive bias effect extremely the decision making process, whereas the person with uncertainty in their investment matters caused by loss aversion and mental accounting react more to losses than profits. The market results and individual investment returns are greatly influenced by these psychologies of investors.

Construct 8: Behavioural biases

Articles are from clusters 8 and 9 that were chosen for the research address risk perception, gender, anchoring, and behavioral biases. Investment decisions are greatly affected by behavioral biases, which frequently result in worse than ideal outcomes. Investors that suffer from overconfidence bias, for example, tend to overestimate their skill, which leads to increased risk-taking and worse portfolio returns (Rani et al., 2024). Risk perception is one area where anchoring has a very noticeable effect. According to Malik et al. (2024), investors that rely too heavily on past data may overestimate the probability of future events, which might result in erroneous risk assessments and subpar investment outcomes. Financial decision seems to be influence by male and female differently. As a matter of fact men and women differ in their levels of risk taking (Qibthiyah et al., 2024). Furthermore women are more cautious about the risk in financial decisions this tendency has an impact on their portfolio (Srivastava et al., 2024).

The facts observed from table 5 echo the above matters. Thus, almost all the other constructs tally the above cluster. In short, the behavioral biases are systematic and having tendency to deviate from the standard which causes irrational investment decisions.

Construct 9: Overconfidence bias

Table 5 indicates that overconfidence and financial advice make up Cluster 11. The overconfident investor who do not rely on others advice suffer from lower return and take higher risk in financial matters (Asaad, 2020). An overconfident investor overestimates his skills and expertise, thereby resulting in hasty decisions and lower outcomes, hence financial guidance is imperative.

According to Trehan & Sinha (2018) confident person over rely on their ability to make wise decisions. In this field, varied studies have been conducted so far. Amiri et al. (2020; Broekema & Kramer, 2021; Kumari et al., 2023; Muhammad Ikhsan, 2024), and several others are the example. The majority of the constructs are related to the one mentioned above; for example, constructs 1, 3, 4, 5, and 10 either influence or are affected by this construct.

4. Discussion

The study has concentrated on the diverted behavioral biases and investment decisions across recent financial crisis. A total of 535 articles were examined to reveal the growing scope and changing trends in behavioral biases and investment choices between 2020 and 2024. The study covers a considerable range of subject matters from top nations, regions, reputed institutions, journals, authors, keywords and most quoted authors and publications. Figures and tables were used to display the data. Further, a deep analysis of the collected material helped us to separate articles into various clusters identify their theme and relationships that needed further investigation. VOSviewer software was used for bibliometric analysis. The primary aim of bibliometric analysis was to develop understanding the attributes of behavioral biases which were most relevant. 190 publications were evaluated for our study after carefully examining that what was to be considered and what to be left out. The SLR helped to correlate the available knowledge with the further research required in this area. The COVID-19 was barrier in the research in this field during 2020, by 2022, there was an observable increase in this area of research. Moreover 66 papers were documented by India in the capacity of co- authorship followed by Pakistan, China and UK as shown in the Figure 3. Still there seems to be a wide scope of study in this area. The behavioral biases and investment decisions were analyzed on the basis of SPAR-4-SLR and the cluster analysis technique. The relevant information collected helped to reduce the behavioral biases; the majority of articles written during this time were devoted to behavioral biases. After conducting a thorough review of the literature on behavioral biases, Karimi & Nasieku (2024) found that behavioral biases- like loss aversion, overconfidence, and herd mentality have a big impact on investment choices because they cause irrational actions, subpar portfolio performance, and higher market volatility, especially in volatile markets. Another bibliometric review that focused on behavioral biases such overconfidence, anchoring, loss aversion, and availability was provided by Upashi & Kadakol (2023). Bias has a major impact on how investors view opportunities and risks which eventually results in less-than-ideal judgments and affects their total financial

results. Using VOSviewer with co-authorship and co-occurrence analysis, a network map was created to illustrate the conceptual structure of the study, revealing patterns linking behavioral biases with investment decision-making. The SLR classified how cognitive (e.g. availability, representativeness, herding mental accounting) and emotional biases (e.g. Investor emotions, overconfidence, loss aversion, and regret aversion) influence investors. The findings indicate that these biases lead to irrational investment decisions.

Theoretical and managerial implications

This study offers valuable theoretical and managerial insights, enriching existing key research contributions in this field. This study will also help researchers and investors in general by identifying possible avenues for future research, which will help fund managers comprehend the related behavioral biases and take corrective measures. Behavioral biases shaped a significant portion of investors' cognitive process, leading them to form perceptual framework that influence their decision-making. The outcomes of this study present academic as well as practical (corporate) implications. From an academic standpoint, behavioral biases provide critical insights into the psychological tendencies that affect all investors and demonstrate how these biases influence investment outcomes. The study recommends for individual investors for adopting well-structured strategies within their financial planning ensures more rational and high-quality investment decisions. The financial advisor and institutional investors prefer suggest retention programs. They propose to construct such portfolio which combines risk and behavioral factors. This guarantees maximum returns from the portfolio. Such access to financial assistance can maximize the positive outcomes of the investment. The financial literacy is underrated by the study in reducing the impacts of behavioral biases. Investors awareness programs which may improve the knowledge of financial market, behavioral biases, and investments insights can take up by the Government for the welfare of the society.

RO4: To suggest further research required on the said dimensions opportunities.

The dynamics of investment challenges the proper investment strategies for investors. These facts provide worth to the present study. Finding out how behavioral biases affect investors' investment choices and addressing the issue of why investors' behaviors vary from rationality were the objectives of this article. Study analysis and discussion have raised a number of questions for further investigation. These are covered in the section that follows.

Key research gaps

We discovered that there has been continuous advancement in the body of research on behavioral biases and investing decisions after doing a thorough examination of the literature from 2020 to 2024 and the articles cited in the reference section. The following research gaps have been highlighted for further investigation:

- ***Regional gaps***

There is a big knowledge vacuum about behavioral biases in developing economies because the majority of research on the subject has been done in developed nations. Investigating how distinct socioeconomic circumstances affect investor behavior is crucial, as seen by the lack of studies in emerging nations.

- ***Asset class gaps***

The majority of research concentrates on equity markets, ignoring other asset classes including commodities, bonds, and real estate. Future research should examine how biases influence decisions in these little-studied domains.

- ***Interaction of multiple biases***

Current research frequently ignores the interactions between biases and instead looks at them separately. A more thorough framework for describing investing decisions may be provided by comprehending the interaction between cognitive and emotional biases.

- ***Cultural and socio-demographics factors***

The biases are greatly influenced by the socio-demographic features which includes age and gender as well as cultural factors. Future research should look at how these factors reduce the impact of bias and provide focused solutions.

- ***Measurement and assessment biases***

The majority of research uses ad hoc instruments to evaluate behavioral biases, and there is lack of standardized methods. Creating thorough, verified metrics would increase the precision and comparability of the research findings.

Limitations and the scope for future research

The study aims to assess the current available research works in the context of behavioral biases and investing decisions and identify areas that need more study. The limits and research needs for future investigations are outlined below based on the findings:

- However, further research is required to solve some restrictions. The first is using a single, all-inclusive, interdisciplinary database. The 190 articles in the core collection of Scopus were used as the data source, which might lead to variations in the bibliometric analysis results and make it insufficient to guard against research bias. More publications on behavioral biases and investment decision-making, such as ProQuest Dissertations, Theses, and WoS, might be added to the data source by the authors.
- Only bibliometrics and VOSviewer were used for the review and analysis of the literature. These tools help us understand the connections between authors, documents, organizations, and nations; they also show us how authors' works relate to one another and how teamwork may lead to better research papers and a new path. Additionally, practitioners and scholars might expand the study to investigate the ways in which behavioral biases influence investing choices.
- The limited use of keywords is still another disadvantage. The research was conducted with a focus on the stock market as an investment outlet; more investment avenues may have been investigated. Additionally, if the abstract, keywords, or title lacked additional relevant phrases, the paper might have gone overlooked.
- The current study's foundation is the contributions of authors, countries, and publishing patterns in the area of post- epidemic behavioral biases and investment decisions. Work on evaluating the biases influencing investors' decision-making can be expanded to empirical studies based on primary data.
- Only a few biases have been included for this study; future research can explore more significant cognitive and emotional biases as well as research directions based on the aforementioned constructs. Furthermore, it is important to take into account other biases in addition to the selected ones.
- The sample articles have discussed demographic factors and institutional and retail/individual investors separately. Future studies might compare institutional and retail investors holistically, taking into account the moderating and mediating role of demographic factors in influencing the biases in the process of making investment decisions.

5. Conclusion

This studies' primary contribution is to provide insight into the principle practices and contexts found in the topic of behavioral prejudices and investment decisions across financial crisis through an analysis of highly cited research papers from a number of countries and top contributing authors from prestigious journals. The study reviewed the literature from journal publications that are indexed by Scopus and look at behavioural prejudices and investment decision making over a five-year period, from 2020 to 2024, in order to find any gaps in the knowledge and offer the best possible answers. Using the VOS viewer, which provides a summary of the subjects studied and indicates the suggested dimensions, this study was carried out. The dimensions encompass the majority of relevant papers during financial crisis and high uncertainty contexts such as recent epidemic behavioural prejudices and investment decisions. The findings will prove to be the significant factors in decision-making thus the decision makers will be able to develop an original framework to enable the concerned persons to make efficient and wise investing choices. Through the analysis of the biases for further research and the creation of the most effective framework and approach for rational investing, this study offers some recommendations. Future scholars can also investigate the regions that have been found and devote more time and energy to developing models or tools that can recognize the traits of biases. This will mitigate the biases and offer a feasible solution for all types of investors, to prevent irrational decisions.

References:

1. Adil, M., Singh, Y., & Shamim Ansari, M. (2022). How financial literacy moderate the association between behaviour biases and investment decision? *Asian Journal of Accounting Research*, 7(1), 17–30. <https://doi.org/https://doi.org/10.1108/AJAR-09-2020-0086>
2. Albert, R. (2023). Investigating Students' Behavioral Biases in Regard to Financial Decision-Making. *Studia Universitatis Babes-Bolyai Oeconomica*, 68(2), 34–54. <https://doi.org/https://doi.org/10.2478/subboec-2023-0008>
3. Amiri, G. S., Eftekhari, V., & Daneshyar, F. (2020). Investigating the Relationship between Overconfidence Management and Investment Performance with Emphasis on the Mediating Role of Internal Financing. *Journal of Accounting Knowledge*, 11(4), 171–186. <https://doi.org/https://doi.org/10.22103/JAK.2020.14894.3114>
4. Ansari, Z. J., Gupta, S., & Bhatia, M. (2024). Mapping the Conceptual and Intellectual Structure of the Investor's Financial Behaviour: A Bibliometric Analysis. In *South Asian Journal of Business and Management Cases* (Vol. 13, Issue 2, pp. 228–258). SAGE Publications Ltd. <https://doi.org/10.1177/22779779241264350>
5. Antony, A., & Joseph, A. I. (2017). Influence of Behavioural Factors Affecting Investment Decision—An AHP Analysis. *Metamorphosis: A Journal of Management Research*, 16(2), 107–114. <https://doi.org/10.1177/0972622517738833>
6. Asaad, C. T. (2020). Investor confidence: Are you your own worst enemy? *Financial Planning Review*, 3(2). <https://doi.org/10.1002/cfp2.1092>
7. Aveyard, H. (2010). *Doing a Literature Review in Health and Social Care Doing a Literature Review in Health and Social Care A Practical Guide Second edition*.
8. Aznar-Sánchez, J. A., Velasco-Muñoz, J. F., Belmonte-Ureña, L. J., & Manzano-Agugliaro, F. (2019). Innovation and technology for sustainable mining activity: A worldwide research assessment. *Journal of Cleaner Production*, 221, 38–54. <https://doi.org/10.1016/j.jclepro.2019.02.243>
9. Baker, H. K., Kumar, S., Goyal, N., & Gaur, V. (2019). How financial literacy and demographic variables relate to behavioral biases. *Managerial Finance*, 45(1), 124–146. <https://doi.org/10.1108/MF-01-2018-0003>
10. Barber, B. M., Odean, T., Barry, C., Bittlingmayer, G., Fama, E., French, K., Krig-Man, L., Liang, B., Nofsinger, J., Rangan, S., & Rubinstein, M. (2000). Trading Is Hazardous to Your Wealth: The Common Stock Investment Performance of Individual Investors. In *THE JOURNAL OF FINANCE • Vol. LV* (Issue 2).
11. Bartolini, M., Bottani, E., & Grosse, E. H. (2019). Green warehousing: Systematic literature review and bibliometric analysis. In *Journal of Cleaner Production* (Vol. 226, pp. 242–258). Elsevier Ltd. <https://doi.org/10.1016/j.jclepro.2019.04.055>
12. BELL, D. E. (1982). REGRET IN DECISION MAKING UNDER UNCERTAINTY. *OPER RES*, 30(5), 961–981. <https://doi.org/10.1287/opre.30.5.961>
13. Bernoulli, D. (1738). Specimen Theoriae Novae de Mensura Sortis. *Commentarii Academiae Scientiarum Imperialis Petropolitanae*, 5, 175–192.
14. Bibliometric Review of Ecological Network Analysis: 2010–2016, 382 Ecological Modelling 63 (2018). <https://doi.org/10.1016/j.ecolmodel.2018.04.020>
15. Bihari, A., Dash, M., Kar, S. K., Muduli, K., Kumar, A., & Luthra, S. (2022). Exploring behavioural bias affecting investment decision-making: a network cluster based conceptual analysis for future research. In *International Journal of Industrial Engineering and Operations Management* (Vol. 4, Issues 1–2, pp. 19–43). Emerald Publishing. <https://doi.org/10.1108/IJIEOM-08-2022-0033>
16. Broekema, S. P. M., & Kramer, M. M. (2021). Overconfidence, Financial Advice Seeking and Household Portfolio Under-Diversification. *Journal of Risk and Financial Management*, 14(11). <https://doi.org/10.3390/jrfm14110553>
17. Chen, C. S., Cheng, J. C., Lin, F. C., & Peng, C. (2017). The role of house money effect and availability heuristic in investor behavior. *Management Decision*, 55(8), 1598–1612. <https://doi.org/10.1108/MD-10-2016-0725>

- 18.Cliff, M. T., & Brown, G. W. (2001). Investor Sentiment and near term Stock Market. *Social Science Research Network*. <https://doi.org/https://doi.org/10.2139/SSRN.282915>
- 19.Couckuyt, D., & Looy, A. Van. (2019). Green BPM as a business-oriented discipline: A systematic mapping study and research agenda. In *Sustainability (Switzerland)* (Vol. 11, Issue 15). MDPI. <https://doi.org/10.3390/su11154200>
- 20.Dhar, R., & Zhu, N. (2006). INFORMS Up Close and Personal: Investor Sophistication and the Disposition Effect Author. In *Source: Management Science* (Vol. 52, Issue 5). <http://www.jstor.orgURL:http://www.jstor.org/stable/20110549>Accessed:16-10-201503:38UTC
- 21.Frazzini, A. (2006). The Disposition Effect and Underreaction to News. In *THE JOURNAL OF FINANCE* •: Vol. LXI (Issue 4).
- 22.Grinblatt, M., Titman, S., & Wermers, R. (1995). Momentum Investment Strategies, Portfolio Performance, and Herding: A Study of Mutual. In *Source: The American Economic Review* (Vol. 85, Issue 5). <http://www.jstor.orgURL:http://www.jstor.org/stable/2950976><http://www.jstor.org/page/info/about/policies/terms.jsp>
- 23.Hassan, S. (2024). Assessing the Influence of Investor Sentiment on the Performance of the Stock prices: Analyzing Stock Returns and Volatility During the COVID-19 Pandemic and Periods of Market Fluctuations. *MSA-Management Science Journal*, 3(2), 76–119. <https://doi.org/doi.org/10.21608/msamsj.2024.263215.1051>
- 24.Hayat, A., & Anwar, M. (2016). *Impact of Behavioral Biases on Investment Decision; Moderating Role of Financial Literacy*. <https://doi.org/https://dx.doi.org/10.2139/ssrn.2842502>
- 25.IGN Oka Ariwangsa, Komang Widhya Sedana Putra P, & Kadek Wulandari Laksmi P. (2024). The Impact of Financial Literacy on Investment Decisions: The Moderating Role of Financial Technology. *UPI YPTK Journal of Business and Economics*, 9(3), 16–22. <https://doi.org/10.35134/jbe.v9i3.274>
- 26.Jack L. Treynor. (1961). MARKET VALUE, TIME, AND RISK. SSRN: <https://ssrn.com/abstract=2600356>. <https://doi.org/https://dx.doi.org/10.2139/ssrn.2600356>
- 27.Kahneman, D. , Knetsch J. L., & Thaler R. H. (2011). CHAPTER TWO. *Experimental tests of the endowment effect and the Coase theorem*.
- 28.Kahneman, D., & Tversky', A. (1979). *E C O N O M E T R I C A I C I* VOLUME 47 MARCH, 1979 NUMBER 2 *PROSPECT THEORY: AN ANALYSIS OF DECISION UNDER RISK*.
- 29.Kahneman, D., & Tversky, A. (1982). *The Psychology of Preferences* (Vol. 246, Issue 1). <https://doi.org/http://www.jstor.org/stable/24966506>
- 30.Kapoor, S., & Prosad, J. M. (2017). Behavioural Finance: A Review. *Procedia Computer Science*, 122, 50–54. <https://doi.org/10.1016/j.procs.2017.11.340>
- 31.Karimah, H. A., & Suman, A. (2024). PENGARUH LITERASI KEUANGAN, HERDING, DAN HEURISTIK TERHADAP KINERJA INVESTASI MAHASISWA DI INDONESIA. *Contemporary Studies in Economic, Finance, and Banking*, 3, 135–253. <https://doi.org/http://dx.doi.org/10.21776/csefb.2024.03.1.19>
- 32.Karimi, C. W., & Nasieku, T. (2024). Behavioral Biases and Investment Decisions: An Empirical Review. *International Journal of Social Science and Humanities Research (IJSSHR)* ISSN 2959-7056 (o); 2959-7048 (p), 2(3), 324–331. <https://doi.org/10.61108/ijsshr.v2i3.144>
- 33.Khan, S. K., Hassan, N. U., & Islam, J. (2023). UNLOCKING THE INVESTMENT PUZZLE: THE INFLUENCE OF BEHAVIORAL BIASES & MODERATING ROLE OF FINANCIAL LITERACY. *Journal of Social Research Development*, 4(2), 433–444. <https://doi.org/10.53664/jsrd/04-02-2023-17-433-444>
- 34.Konteos, G., Konstantinidis, A., & Spinthiropoulos, K. (2018). Representativeness and Investment Decision Making. *IOSR Journal of Business and Management (IOSR-JBM)*, 20, 5–10. <https://doi.org/10.9790/487X-2002050510>
- 35.Kumar, S., & Goyal, N. (2015). Behavioural biases in investment decision making – a systematic literature review. *Qualitative Research in Financial Markets*, 7(1), 88–108. <https://doi.org/10.1108/QRFM-07-2014-0022>

- 36.Kumari, A., Goyal, R., & Kumar, S. (2023). Analytical study of behavioral dimensions of retail investors towards investment decision making & performance in stock market. *Journal of Information and Optimization Sciences*, 44(3), 417–425. <https://doi.org/10.47974/jios-1358>
- 37.Lakonishok, J., Shleifer, A., & Vishny, R. W. (1992). The impact of institutional trading on stock prices*. In *Journal of Financial Economics* (Vol. 31).
- 38.Laudari, H. K., Pariyar, S., & Maraseni, T. (2021). COVID-19 lockdown and the forestry sector: Insight from Gandaki province of Nepal. In *Forest Policy and Economics* (Vol. 131). Elsevier B.V. <https://doi.org/10.1016/j.forpol.2021.102556>
- 39.Lazarides, M. K., Lazaridou, I. Z., & Papanas, N. (2023). Bibliometric Analysis: Bridging Informatics With Science. In *International Journal of Lower Extremity Wounds*. SAGE Publications Inc. <https://doi.org/10.1177/15347346231153538>
- 40.Lee, Y.-T., Liu, Y.-J., Roll, R., & Subrahmanyam, A. (2004). Order Imbalances and Market Efficiency: Evidence from the Taiwan Stock Exchange. In *JOURNAL OF FINANCIAL AND QUANTITATIVE ANALYSIS* (Vol. 39, Issue 2). <https://doi.org/https://doi.org/10.1017/S0022109000003094>
- 41.Li, M. (2023). The Impact of COVID-19 on Global Financial Markets. *Advances in Economics, Management and Political Sciences*, 11(1), 272–276. <https://doi.org/10.54254/2754-1169/11/20230555>
- 42.Lin, H.-W. (2011). Elucidating rational investment decisions and behavioral biases: Evidence from the Taiwanese stock market. *African Journal of Business Management*, 5(5), 1630–1641. <https://doi.org/10.5897/AJBM10.474>
- 43.Loomes, G., & Sugden, R. (1982). Regret Theory: An Alternative Theory of Rational Choice Under Uncertainty. In *Source: The Economic Journal* (Vol. 92, Issue 368).
- 44.Maheran, N., & Muhammad, N. (2009). Behavioral Finance Vs Traditional Finance. In *Advance Management Journal*..... (Vol. 2, Issue 6). <https://www.researchgate.net/publication/46560184>
- 45.Maizan, S., Manaf, A., Amron, M. T., Abdullah, Z., Mohamad, Z., Laily, S., & Hashim, M. (2024). Fostering Future Investors: Analysing Determinants of Stock Market Participation Among Malaysian Students using PLS-SEM. In *Information Management and Business Review* (Vol. 16, Issue 3). [https://doi.org/https://doi.org/10.22610/imbr.v16i3\(i\)s.4073](https://doi.org/https://doi.org/10.22610/imbr.v16i3(i)s.4073)
- 46.Malik, L., Ullah, K., & Soomro, M. (2024). The Impact of Cognitive and Emotional Biases on Individual Investor's Investment Decision: Mediating Role of Risk Perception. *Pakistan Journal of Humanities and Social Sciences*, 12(3), 2651–2660. <https://doi.org/10.52131/pjhss.2024.v12i3.2471>
- 47.Markowitz, H. (1952). *Portfolio Selection*. <https://doi.org/https://doi.org/10.2307/2975974>
- 48.Mugomeri, E., Bekele, B. S., Mafaesa, M., Maibvise, C., Tarirai, C., & Aiyuk, S. E. (2017). A 30-year bibliometric analysis of research coverage on HIV and AIDS in Lesotho. In *Health Research Policy and Systems* (Vol. 15, Issue 1). BioMed Central Ltd. <https://doi.org/10.1186/s12961-017-0183-y>
- 49.Muhammad Ikhsan, F. I. P. K. (2024). Enhancing Rational Investment Decisions: The Impact of Financial Literacy and Experience on Indonesian Retail Investors, Moderated by Overconfidence. *Journal of System and Management Sciences*. <https://doi.org/10.33168/jsms.2024.1029>
- 50.P., S. V., PEREIRA, C. V., & Hans, V. B. (2025). *The Impact of Investor Behaviour on Investment Decision Making in the Capital Market*. <https://doi.org/doi.org/10.36948/ijfmr.2025.v07i01.35478>
- 51.Paul, J., Lim, W. M., O'Cass, A., Hao, A. W., & Bresciani, S. (2021). Scientific procedures and rationales for systematic literature reviews (SPAR-4-SLR). *International Journal of Consumer Studies*. <https://doi.org/10.1111/ijcs.12695>
- 52.Pepur, S., Bulog, I., & Smiljanić, A. R. (2022). Household Financial Fragility During COVID-19: the Power of Financially Literate Women. *Zagreb International Review of Economics and Business*, 25(s1), 31–44. <https://doi.org/10.2478/zireb-2022-0023>
- 53.Poudel, A., Bhusal, S., & Datt Pathak, D. (2024). Behaviour Bias and Investment Decision in Nepalese Investors. *International Journal of Business and Management*, 19(2), 85. <https://doi.org/10.5539/ijbm.v19n2p85>
- 54.Qibthiyah, M., Widyastuti, U., & Ulupui, I. (2024). *The Influence of Financial Literacy and Risk Perception on Investment Decisions Based on Gender using Multi-Group Analysis Methods*. <https://doi.org/doi.org/10.21009/isc-beam.012.68>

55. Rani, Dr. T. S., .Sushmitha, S. N. V., & Vani, Dr. C. (2024). Investigate The Impact Of Overconfidence Bias And Anchoring Bias On Risk Tolerance, And Subsequently, How Risk Tolerance Affects Investment Decisions. *Educational Administration: Theory and Practice*. <https://doi.org/10.53555/kuey.v30i5.5915>
56. Rasheed, M. H., Rafique, A., Zahid, T., & Akhtar, M. W. (2018). Factors influencing investor's decision making in Pakistan: Moderating the role of locus of control. *Review of Behavioral Finance*, 10(1), 70–87. <https://doi.org/10.1108/RBF-05-2016-0028>
57. Sharma, A., & Kumar, A. (2020). A review paper on behavioral finance: study of emerging trends. In *Qualitative Research in Financial Markets* (Vol. 12, Issue 2, pp. 137–157). Emerald Publishing. <https://doi.org/10.1108/QRFM-06-2017-0050>
58. Shiller, R. J. (2003). From Efficient Markets Theory to Behavioral Finance. In *Journal of Economic Perspectives* (Vol. 17).
59. Singh, S., & Walia, N. (2020). Momentum investing: a systematic literature review and bibliometric analysis. *Management Review Quarterly*, 72(1), 87–113. <https://doi.org/10.1007/s11301-020-00205-6>
60. Srivastava, H., Moid, S., & Rushdi, N. J. (2024). Exploring the Mediating Role of Financial Risk Tolerance between Heuristic Biases and Working Women Investors' Investment Decisions. *International Research Journal of Multidisciplinary Scope*, 5(4), 1412–1422. <https://doi.org/10.47857/irjms.2024.v05i04.01742>
61. Suresh G. (2024). Impact of Financial Literacy and Behavioural Biases on Investment Decision-making. *FIIB Business Review*, 13(1), 72–86. <https://doi.org/10.1177/23197145211035481>
62. Sweileh, W. M. (2020). Bibliometric analysis of scientific publications on “sustainable development goals” with emphasis on “good health and well-being” goal (2015-2019). In *Globalization and Health* (Vol. 16, Issue 1). BioMed Central. <https://doi.org/10.1186/s12992-020-00602-2>
63. Trehan B., & Sinha A. K. (2018). A STUDY OF EXISTENCE OF OVERCONFIDENCE BIASES AMONG INVESTORS AND ITS IMPACT ON INVESTMENT DECISION. <https://www.researchgate.net/publication/318900454>
64. Upashi, R., & Kadakol, A. M. (2023). Impact of Behavioral Biases on Investment Decision Making: Evidence from the Review of Literature. *Abhigyan*, 41(1). <https://doi.org/10.56401/abhigyan/41.1.2023.35-49>
65. Wermers, R. (1999). *Mutual Fund Herding and the Impact on Stock Prices*. <https://doi.org/10.1111/0022-1082.00118>
66. Zahera, S. A., & Bansal, R. (2018). Do investors exhibit behavioral biases in investment decision making? A systematic review. In *Qualitative Research in Financial Markets* (Vol. 10, Issue 2, pp. 210–251). Emerald Publishing. <https://doi.org/10.1108/QRFM-04-2017-0028>
67. Zhang, D., Hu, M., & Ji, Q. (2020). Financial markets under the global pandemic of COVID-19. *Finance Research Letters*, 36. <https://doi.org/10.1016/j.frl.2020.101528>
68. Zyoud, S. H., & Fuchs-Hanusch, D. (2017). A bibliometric-based survey on AHP and TOPSIS techniques. In *Expert Systems with Applications* (Vol. 78, pp. 158–181). Elsevier Ltd. <https://doi.org/10.1016/j.eswa.2017.02.016>