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PREVALENCE OF OVERCONFIDENCE, OPTIMISM AND HERD IN INVESTOR'S PSYCHOLOGY: A BIBLIOMETRIC ANALYSIS

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Abstract
Study of factors that affect the investment behaviour used to attract researchers. Such studies are helpful for organisations as well to know more about investor's psychology. With the development of financial markets, interest in such researches is growing exponentially. The present study focuses on dominance of overconfidence bias, optimism bias and herd behaviour in the investor's psychology. The above three biases have significance while studying the investment behaviour. The intention to conduct the bibliometric tools is to select the theoretical references to felicitate an agile literature. Secondly, to find out the research gaps in the existing literature and at last to figure out the trend of research in this field, and to find research gaps for future studies. Bibliometric analysis is extensively used by researchers to deliver a latest scholarly knowledge over a topic. It is a demanding method to explore the large scale of scientific data relate to the researches published on a specific topic or keyword. Through keyword search approach research papers are retrieved from the Scopus database. Biblioshiny tool is used to Chronological publication trends, Analysis of countries, regions and affiliations, Journal quality analysis, Citations analysis, Author influence, High frequency words, and Thematic Mapping. VOSviewer is used for bibliographical coupling, and diagrammatic presentation of the results. Total 186 studies selected and retrieved from Scopus database for study. The study has covered the time duration of 30 years i.e. 1992-2024. In total 279 author most of the researches on the topic consist of 2-3 authors, only 17 researches are published with the single author. The year 2022 has been witnessed maximum publications. Moreover, growth related to research publications of biases is witnessing the growth rate of 11.02% yearly. Research papers selected for study are consisting average 63 citations. Most of the researches are conducted in USA; India is at second place in behavioural researches.

Keywords- Overconfidence, herding, optimism, bibliometric analysis, and investor's psychology.

Introduction- Investor's decision making is subject to the behavioural biases. Though, several studies are there still it is relevant among researchers. An investor knows that high returns will lead him towards high risk as well. Still, due the efficacy of biases he commits the investment mistakes (Jain, Walia, Kaur, *et al.*, 2021). Traditional theories of finance postulate investors are rational and the trade-off between risk and return that maximise the profitability (E. Fama, 1970; Bakar and Yi, 2016). Rational behaviour of investor is the foundation of traditional finance. Capital Asset Pricing Model claims if investor behaves rationally, he may receive the higher returns by accepting the higher risk on securities he is currently holding (Sharpe, 1964).

Kahneman, Knetsch and Thaler contradicts, if investor are rational, and they have well defined preferences and choices so stock market anomalies must not exist (Kahneman, Knetsch and Thaler, 1991). Several evidences of irrational behaviour of the investor has been witnessed(Rehman *et al.*, 2017). Psychology of individuals affects their decisions on a great extent and effects the on investment decisions(Virlics, 2013). The learning theories in psychology suggest that decision making is a complex process. It is the application of human behaviour that if the repercussion of external environment, heuristics, bias and emotions. In economic and financial theories assumes investor behave rationally. Controlled behaviour is possible in the laboratory experiments. But in the case of natural environment the conflict will arise as the subject is not programmed to take a specific action. Herbert A. Simon further concludes that usefulness of economic theory assuming rational behaviour is doubtful. An alternative can be considering theories of cognition and perception while preparing these theories(Simon, 1956).

In her work on Efficient Market Hypotheses (E. F. Fama, 1970) stated market efficiency is the informational efficiency of the market. Furthermore, with the spread of information the prices start fluctuating. (Singal, 2006) stated that market efficiency is necessary; an inefficient market leads to market anomalies. Market inefficiency creates speculative bubbles in the market. The dot-com during 1995-2000 investors with a hope of bright future made speculative investment in internet based companies. Stocks were overvalued and by 1999 when such companies started collapsing due to lack of business and in 2000 the bubble got burst.

Behavioural Finance has been the prime interest of researchers from several years(Corzo, Prat and Vaquero, 2014). It helps to study the process of individual's decision making. It has made clear that retail investors and investment advisors as well get affected to the behavioural biases (Jain, Walia, Singh, *et al.*, 2021).

Statman (2014) stated that behavioural finance is not merely a subject it is a collection of story. Moreover, it gives the information of "why investors take a specific decision"? From a long time standard finance and behavioural finance debate whether investors are rational or irrational. Statman further says, that investor is neither rational nor irrational. They behave normal. Furthermore, an investor doesn't have a distinct mind-set while taking investment decisions. Making errors is human nature(Statman, 2014).

Although a rational behaviour refers to alogics in individual's actions butdecisions related to investment are based on the expectations of return. An investor takes decisions on the basis of his past experiences and availability of information. The rationality is a missing element in the investment decisions. From the investor's point of view he has taken a rational decision according to available information(Stålnacke, 2019). Sources of information of information for the household are internet, print media and the personal contact (Shin, Kim and Seay, 2020). The reaction of investor on different market conditions is different.While normal market investor overreacts on the market information this overconfidence leads the market volatility. On the other hand, investor avoid the information while market crash(Mushinada, 2020; Singh and Bahl, 2025). Waiting for the market reaction, preparing the investment strategies according to the investment strategies of others is the common behaviour of investors(Cao and Wang, 2021). Same behaviour is also noticed while investor is trying a new financial product with which they are not much familiar such as crypto currency (Omane-Adjepong *et al.*, 2021). The tendency of taking biased decisions destabilise the financial market (Sachdeva *et al.*, 2021).

Biased investment decisions are the result of availability of contradictory information. On the basis of investor's characteristics education and investment experience are also found responsible of biased behaviour (Ng *et al.*, 2022; Vashishtha *et al.*, 2025).

There are several behavioural biases exists in human psychology. Such biases affect the decision making even in investment decisions as well. In this study we are concentrating of researches that focus on overconfidence, optimism and herd behaviour and their impact on investor's psychology. We have attempted to employ the bibliometric analysis, systematic literature review and content analysis. This research makes an effort to answer following questions-

a) Research trends regarding overconfidence, optimism, herd behaviour and their impact on investor's psychology.
b) To find the countries, authors and institutions made a significant research contribution in topic.
c) To find the new emerging subjects researchers are discovering using the background of topic discussed in point a).

Research Methodology-

This study is an attempt to map the history of three behavioural biases i.e. overconfidence, optimism and herding and their impact on investor's psychology. Certain methods are developed in the last few years to write the review researches. As discussed above Systematic Literature Review (SLR), Content Analysis and Bibliometric Analysis are used in this research. The SLR starts with deciding the keywords and performing the search. Furthermore, relevance of research papers checked by reading every research paper. This is a lengthy process but it increases the reliability of the study.Afterwards, bibliometric analysis is used to pull-out data related to sequential order of publications from leading publishers and sort-out the influential studies. It is a rectified and systematic method of literature review. It is a method of statically and scientifically producing a study from published material (Walsh and Rowe, 2022). Research is a collaborative effort. As a research problem has several dimensions (Subramanyam, 1983).

Additionally, content analysis is used to summarise the study. The process conducted to retrieve the relevant literature for the study is explained underneath.

Database, and keywords selection criteria-

This research is concentrated on the area of impact of overconfidence, optimism and herding behaviour on investor's psychology. The objective of the study is not just to create a pool of research already done. But also to find the research gap and scope for further studies.

The basic theme of the research work was to review the psychology of retail investors. Furthermore, we narrow down it to the overconfidence bias, optimism bias and herding behaviour in the study. The time duration of studies was from 1992-2022. The data mining process was conducted on Scopus database in November 12, 2022. The intent to select Scopus is it is one of the largest repositories of research papers that frequently get updated. In SLR process strategy of elimination was adopted to get the desired result.

Following criteria has been used to finalise the research papers-

1) The search was concentrated on the identified keywords only.
2) Research papers that are published in English language were considered.
3) Journals, research papers were scrutinized to get the research papers of our interest. It was also attempted to make sure relevant research papers must not be ignored (Eduardsen, J., & Marinova, 2020; Jain, Walia, Singh, *et al.*, 2021).

While collecting the key words suggestions and guidance from the previous researchers has been implemented (Chen *et al.*, 2017; Singh and Walia, 2022). Following keywords were used to retrieve the data -"overconfidence", "behavioural finance", "behavioural

biases", "individual investor", "optimism", "optimism bias" "volatility", "herding behaviour", "herd behaviour", "investor behaviour", "demographics", "Financial literacy", "Stock Market". In the early stage of research 186 research papers were retrieved. The time span of the study was not limited by the authors

The criteria used for the selection of the studies was as follows-

a) Only peer reviewed research papers in English language were considered for the study (Jain, Walia, Singh, *et al.*, 2021).
b) Studies that are related to business management and decision making of retail investors are selected for research.

Selection of studies-

There are numerous researches available on Scopus database. After implementing the basic filters approximate 500 papers were selected. After detailed reading 186 research papers were shortlisted. Nevertheless, there is a small chance that a few relevant research papers may not include.

Data analysis

Bibliometric analysis-

This study explores the relationship among the studies. To performbibliometric analysis there are several softwares include BibExcel, CiteSpace, Netdraw, Pajek, Sci2, PoP, RStudio, SITKIS, UCInet, and VOSviewer. Scopus and Web of Science data bases can used to retrieve the research papers. The data for the present study was collected through Scopus database. R and biblioshiny are used to explore the data. VOSviewer is used to present the data in diagrammatic form.

Data synthesis

In combination with systematic literature review and bibliometric analysis this research also provides the data synthesis. This practice helps to identify the subthemes in the main theme. Petticrew and Robert introduced narrative synthesis. It segregates the process into three parts, a) identification of main theme, b) identifying the sub-theme, and c) bringing all findings together(Petticrew, 2006, pp. 164–214). Data synthesis also works as a trend analysis too as it shows innovation in the research area.

Results

Bibliometric analysis

The analysis covers the publication trends, analysis of author's country and affiliation, Journal quality analysis, citation analysis, author's impact, high frequency keywords, thematic mapping and content analysis & research synthesis.

Chronological publication trends

Figure1 displays the growth of publication in the area of overconfidence, optimism and herd behaviour and their impact of retail investors. A relatively flat line with minor fluctuations until 2010, followed by acceleration, including temporary downturns and a steep rise thereafter. Such dynamics are common in bibliometric analyses of emerging fields, were found initially slow adoption gives way to rapid expansion.

Since 1992-2024 the publication rate was 11.02%. Study consists of total 186 researches from 1992 to 2024. A major growth has been witnessed from year 2013, in the year 2024 highest number of publications seen on the subject. Till the year 2014 not much work has been done on this topic.

From 1992 to 2012 (21 years), the average was 1.29 articles per year, with output rarely exceeding 3. This period accounts for only 27 articles (15%) total. In contrast, from 2013 to 2024 (12 years), the average rose to 13.17 articles per year, comprising 158 articles (85% of the total). The change suggests a crucial change from 2013. This is possible due to emerging research advancement, increased research funding, and broader academic

attention. The Compound Annual Growth Rate (CAGR) over full period approximately 11.75%., calculated as $(35/1)^{1/32}$-1, through this metric is influenced by the low initial value and may amplify consistent growth in the early phase.
Furthermore, the regression line was fit, and the coefficient of determination was found as R square = 0.3129. These indicators submit a statistically significant and steady rise in the number of papers published over the review.

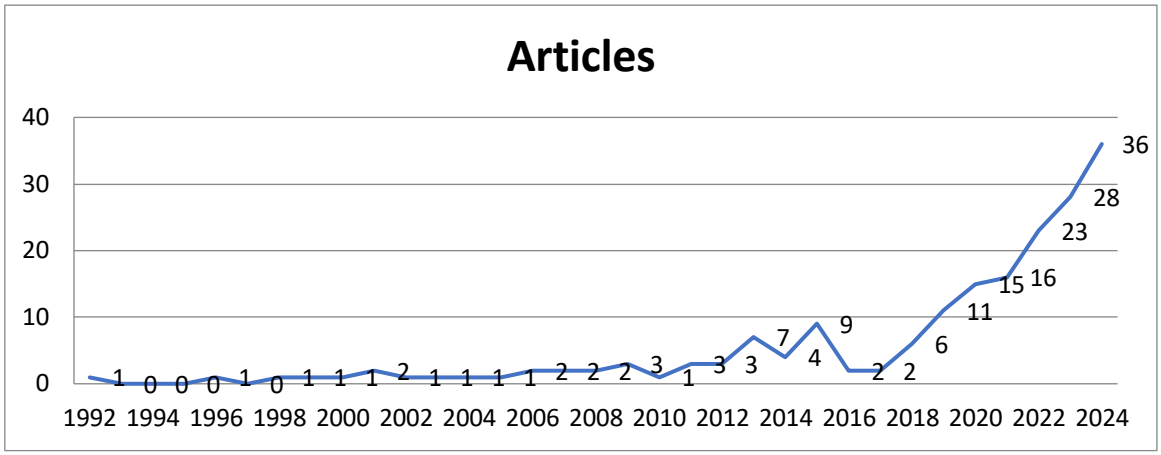


Figure 1 Trends of Publication

Linear Regression

$$y = \beta_0 + \beta_1 x + \epsilon$$

where,
y = articles
x = years
β_1 = slope
β_0 = intercept

Table 1: Regression Statistics

Regression Statistics	
Multiple R	0.559382
R Square	0.312908
Adjusted R Square	0.28065
Standard Error	8.748324
Observations	32

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1080.471	1080.471	14.11769	0.00074
Residual	31	2372.529	76.53318		
Total	32	3453			

The data reveals the transition from minimal to robust publication activity. This pattern may reflect the development of research area to maturity. Potentially driven by technological, societal or policy factors.

Author's Analysis of countries and affiliations

Table 2offers a fascinating insight of global landscape of research focused on interesting topics of investor psychology, especially in the context of overconfidence, optimism and herding bias. At the front of the intellectual endeavour USA leads a stronghold of scholarly abilities. The dominance reflects the nation's deep-routed engagement with understanding the human psychology. Following closely are India and China. Their growing participation in the field emphasizes the deep impact on cognitive distortion on retail investor communities. Furthermore, the presence of UK and Pakistan is also noticeable in the list. Indicating the curiosity of researchers to uncover the malfunctioning of the financial markets.

The fascination of studying psychological phenomenon transcends geographical boundaries. The collaboration between the researchers of these countries often served as a bridge, weaving together the concept of developed and developing economies to create a richer, more comprehensive understanding of investor behavior.USA and India exhibit the robust and vibrant research network with in borders. Unlike USA and India, researchers in UK and China prefer inter country collaborations. A diversity of thoughts and perspectives is emerging by working in international teams. A captivating pattern is emerging post 2015, where a upsurge has been witnessed in the contribution of Asia in the research of investor's psychology.

Table-2 Contribution of countries

Sr.N	Country	Articles	SCP	MCP
1	USA	26	21	5
2	INDIA	19	17	2
3	UNITED KINGDOM	8	6	2
4	CHINA	5	3	2
5	INDONESIA	5	5	0
6	GERMANY	4	2	2
7	GREECE	3	2	1
8	BRAZIL	2	2	0
9	ITALY	2	1	1
10	KOREA	2	2	0

Table 3is an array of top 10 institutions that are creating realm of behavioral finance. University of California (USA) takes the lead in fostering the research in this area. These top 10 intellectual powerhouses standout to uncover the psychology of the investor. Indian Institutions such as India Institute of Management is a testament to its forward thinking approach and rich academic traditions. The global landscape has further enriched the literature of human behaviour in the tumultuous arena of volatile markets. University of Porto hailing from Portugal,and Tunis El Manar University from Tunisia, explored into the topic of optimism bias within investment scenarios. The table 3 has also acknowledged Aligarh Muslim University, Sri Aurobindo College of Commerce and Management, and Universitas Gadjah Mada, all based in India. On the other side of globe, the University of Alicante in Spain and California State University in the United States of America contribute to the intellectual inquiry. Along with above institutions Comsats University Islamabad in Pakistan also share the article counts.

Table 3 Contribution of top 10 organisations

Affiliations	Country	No. of Articles
UNIVERSITY OF CALIFORNIA	United States of America	6
UNIVERSITY OF AVEIRO	Portugal	5
UNIVERSITY OF SFAX	Tunisia	5
ALIGARH MUSLIM UNIVERSITY	India	4
SRI AUROBINDO COLLEGE OF COMMERCE AND MANAGEMENT	India	4
UNIVERSIDAD DE ALICANTE	Spain	4
UNIVERSITAS GADJAH MADA	Indonesia	4
CALIFORNIA STATE UNIVERSITY	United States of America	3
CITY UNIVERSITY	United States of America	3
COMSATS UNIVERSITY ISLAMABAD	Pakistan	3

Journal quality analysis

In the span of three decades, from 1992 to 2024, a remarkable 186 scholarly articles from 54 reputed journals. All are aimed to unravel the complex interplay between human psychology and financial decision-making. Table 4 is a testament of knowledge that unveils the most relevant and illustrious of these journals, each one shimmering with its own unique H-index and citation count.Review of Behavioural Finance has impressive count of 22 research papers, each research work has been accurately crafted and bestowed with the glow of 36 citations.

"Journal of Economic Behavior and Organization," has shared the stage with 18 insightful papers. The "Journal of Asian Finance," with its 15 contributions, showcases the region's growing interest and significant role in the global financial landscape, while the "Economics and Business Journal of Finance," with 13 entries, underscores the multidisciplinary embrace that this fascinating topic has inspired.Through their pages, we witness the tireless endeavor of countless researchers, each one a thread in the intricate tapestry of human knowledge, each one contributing to the grand narrative of our economic lives.

Table 4Most Relevant Sources

Sources	Articles	H Index	Citations
REVIEW OF BEHAVIORAL FINANCE	22	8	36
JOURNAL OF ECONOMIC BEHAVIOR AND ORGANIZATION	13	8	46
JOURNAL OF ASIAN FINANCE, ECONOMICS AND BUSINESS	8	4	44
JOURNAL OF FINANCE	6	6	380
JOURNAL OF FINANCIAL ECONOMICS	4	4	208
REVIEW OF FINANCIAL STUDIES	4	4	114
GLOBAL BUSINESS REVIEW	3	3	13
IIMB MANAGEMENT REVIEW	3	3	6
INTERNATIONAL JOURNAL OF FINANCE AND ECONOMICS	3	1	1
INTERNATIONAL JOURNAL OF ISLAMIC AND MIDDLE EASTERN FINANCE AND MANAGEMENT	3	3	1

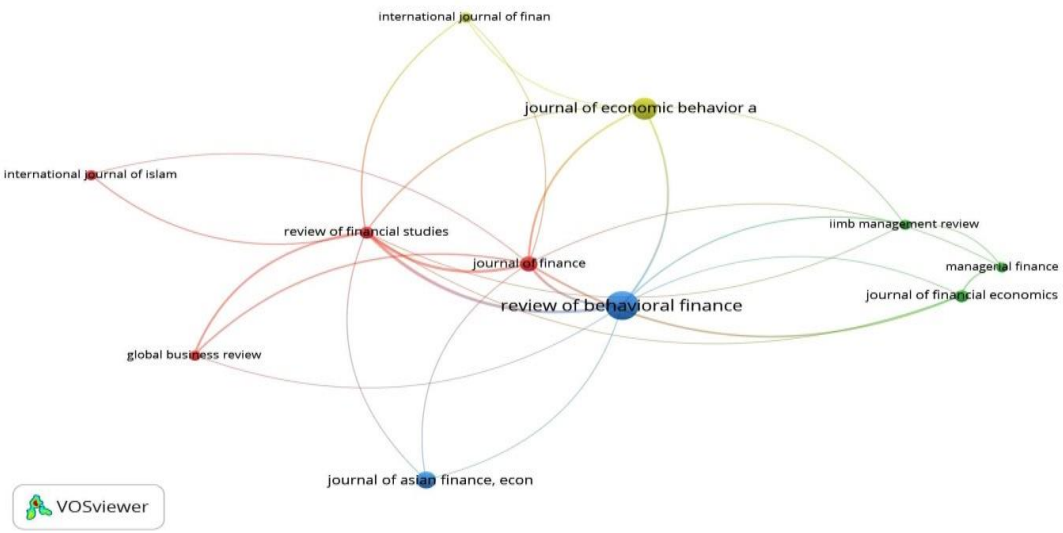
Citations analysis

Citation analysis is technique is used to prove the influence of the research. It evaluates the popularity of a research paper. Citations of a research publication show the popularity of the research and its impact. Table 5 shows the top 10 journals their articles related to the topic. Citations are affected by the time duration of the research work published. An old research paper may have higher citations in comparison of the recent one. This is one of major limitation of the citation analysis. Although, the journals that have made the significant impact in the behavioural research are Journal of Finance, Journal of Financial Economics, The Journal of Finance, American Economic Review, Review of Financial Studies and so on so forth listed in Table 4. Figure 2 demonstrate the citation network among top journals. In connection with table 3 Review of Behavioural Finance has been cited by the most of the authors that have published in other journals. Journal of Finance is also one of the reputed journal and its citations are respectfully considered in other top journals.

Table 5 Top 10 Cited Journals

Sources	**Articles**
JOURNAL OF FINANCE	380
JOURNAL OF FINANCIAL ECONOMICS	208
THE JOURNAL OF FINANCE	187
AMERICAN ECONOMIC REVIEW	119
REVIEW OF FINANCIAL STUDIES	114
ECONOMETRICA	76
JOURNAL OF BANKING AND FINANCE	76
QUARTERLY JOURNAL OF ECONOMICS	70
JOURNAL OF BEHAVIORAL FINANCE	68
JOURNAL OF POLITICAL ECONOMY	65

Figure 2 Citation network



Author impact

Biblioshiny, the web interface is a helpful too to extract the bibliometric data. Table 5 shows the global citations on the Overconfidence, optimism and herd behaviour and its impact on the investor psychology. The highest citation is of research paper "Mutual Fund Herding and the impact on stock prices" authored by Russ Wermerspublished in The Journal of Finance. The research paper is getting annual citations of 31.83.

Table 6 Top ten global citations

Paper	Global Citations	TC per Year
WERMERS R, 1999, J FINANC	764	31.83
GRINBLATT M, 2000, J FINANC ECON	746	32.43
GERVAIS S, 2001, REV FINANC STUD	705	32.05
PENG L, 2006, J FINANC ECON	556	32.71
FROOT KA, 1992, J FINANC	551	17.77
BROWN GW, 2005, J BUS	541	30.06
STATMAN M, 2006, REV FINANC STUD	401	23.59
DANIEL KD, 2001, J FINANC	391	17.77
BARBER BM, 2009, REV FINANC STUD	387	27.64
GRINBLATT M, 2009, J FINANC	333	23.79

High frequency keywords

The analysis process further checks the key words that frequently come in the research papers. List of the key words that are occurred several times in the research papers are listed in the Table 5. Although there are several keywords that are preferred by the authors in research paper but we have selected top 10 keywords. An identical pattern has been seen in the selection of keywords. Maximum keyword that is selected by the is "Overconfidence" with 31 occurrence. "Behavioural Finance" occurred 34 times. Furthermore, "Herding" 25 time, "Herd Behaviour" and "Behavioural Biases" 10 times, "Financial literacy" and "Stock Market" 5 times, "Investment", "Investor Sentiment", and "Optimism" 6, 3 and 3 times respectively.

Table 7 Most Frequent Keywords

Keywords	Number of occurrence
Overconfidence	31
Behavioural Finance	34
Herding	25
Herd Behaviour	10
Behavioural Biases	10
Financial Literacy	5
Stock Market	5
Investment	6
Investor Sentiment	3
Optimism	3

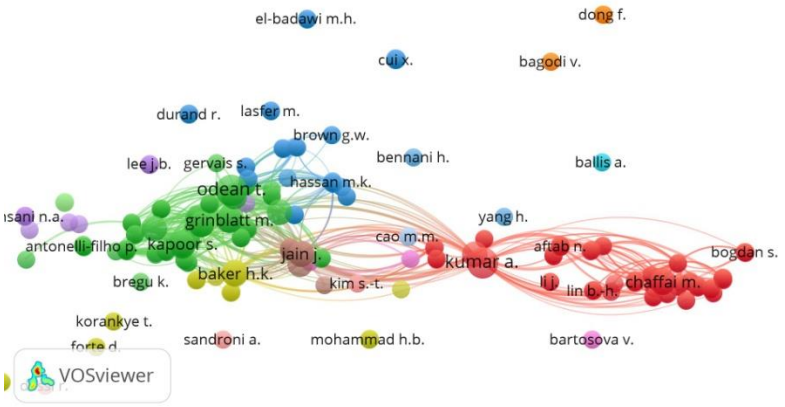
Bibliographic Coupling

It is a powerful tool to inspect the web of intellectual connections in the investor-decision making literature.The research work targeted in the study from the vast repository of SCOPUS. This method allows researcher to weave together a narrative of interlinked ideas by grouping publications that share common citations.To bring these abstract concepts to life, the study employs a visualization crafted with the sophisticated software, VOSviewer. This visual representation manifests as an author-based network graph that is both visually compelling and intellectually illuminating. Each circle within this intricate web symbolizes an author, with the size of the node often correlating with either the breadth of their publication output or the depth of their influence within the network. Authors like Terrance Odean and Alok Kumar, denoted by "odean t." and "kumar a.", are depicted with larger nodes, which signal their substantial impact in the field.

The clusters displayed in the Figure 3 are in red, green, blue, yellow, and purple. These clusters are algorithmically derived and represent sub-themes:

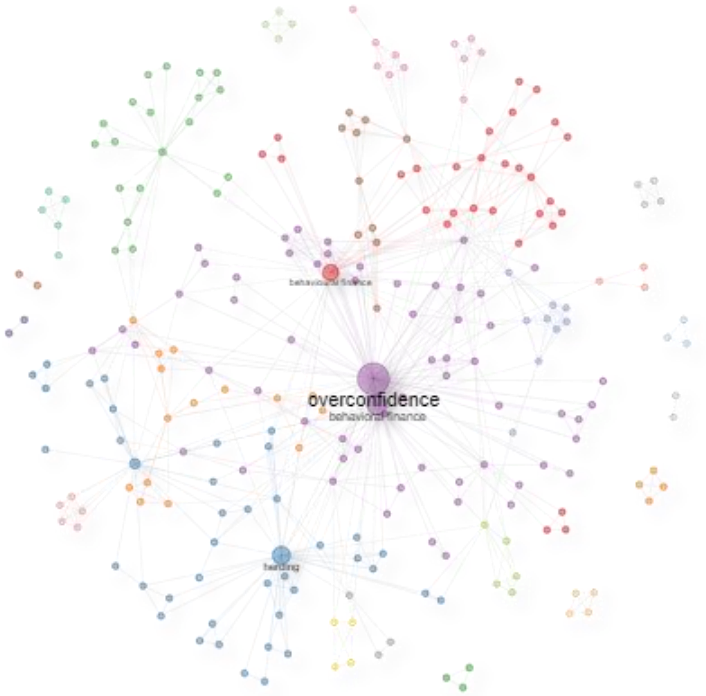
- Green Cluster(e.g., authors like Odean T., Grinblatt M., Gervais S., Lee J.B.)- Likely centres on overconfidence and individual trading behaviour, drawing from shared reference in behavioural finance classics that explore gender difference, excessive trading and financial literacy models.
- Red Cluster (e.g., Kumar A., Aftab N., Chaffai M., Lin B.-H.)- Appear to plus with energy of herding behaviour and optimism in the unrestrained landscapes of emerging or volatile markets. The common thread that ties these authors together from the market anomalies, the transmissible nature of investor sentiment, and the cultural beliefs that underpin individual and collective financial decisions.
- Other clusters (e.g., blue/yellow nodes like Hassan M.K., Yang H., or isolated ones like Dong F.)-The blue and yellow nodes, scattered across the figure, represent the new thinkers such as Hassan M.K. and Yang H., investigating into less charted territories. These explorers optimism bias within the behavioural financeand tracing the interdisciplinary pathways that lead from behavioral economics to the distant lands of heuristics. Their lighter connections hint at the emerging nature of these themes, the peripheral whispers that may one day grow into the next grand narratives of the field.

Figure 3 Bibliographic Coupling



Thematic Mapping

Figure 4 Thematic Mapping



Thematic mapping visually synthesizes the content. It identifies, organize, and illustrate the predominant theme within the body of literature by analyses of co-occurrence of keywords, terms and concepts extracted from publication such as titles, abstracts and keyword lists.

The figure 4 is evidence of centralised network in background, resembling a "knowledge galaxy" where the gravitational algorithm position elements for optimal clarity. Key elements include:

- Central Cluster: The prominent purple/violet hub at the core represents a motor theme i.e. behavioural finance serving as the connecting all sub themes. Its size and density suggest high centrality, indicating it integrates concepts of overconfidence which is repeatedly cited as core biases influencing investor's decisions. The core theme aligns with the findings of the research papers that explains market anomalies and irrational behaviour drawing from influential work Kahneman and Tversky (1979) prospect theory.
- Radiating Arms and Peripheral Clusters: Multi-coloured spokes extended outward in green (top-left, possibly emerging themes in heuristics and cognitive shortcuts), red/orange (top-right, potentially motor themes in herding and market volatility), blue (bottom-right, niche areas like optimism bias in corporate investments), and yellow/pink (bottom-left, basic themes related to financial literacy or demographics).Each arm in the figure forms a small cluster representing interconnected keywords: Larger nodes (red and green) correspond to high frequency terms like overconfidence (40 occurrence) and herding (32 occurrence) positioned in the centre. Smaller nodes indicate the emerging themes such as cryptocurrency, post pandemic optimism reflecting the paper published post 2021. Edge lines vary in thickness and colour showing co-occurrence

strength between clusters imply strong interdisciplinary ties, such as how heuristics underpin overconfidence leading to herding behaviour.

Content analysis research synthesis

Content analysis is a pivotal section of every bibliometric study. It embarks a synthesis of the core theme from the publications from 1992-2024.

- Herding- in behavioural finance, herding manifest prominent in the time of turbulence in the market. Chaturvedi Sharma (2024)has integrated herding with disposition effect revelling through empirical models. Koetsier and Bikker (2021) examined the herd behaviour of the institutional investors by focussing role of social trust. Yuana, Kornitasari and Manzilati (2024); Kumari and Sar (2017); Hoffmann *et al.*(2017) and Kartini and Nahda (2021) found that psychological roots of the herding is deeply in the overconfidence and optimism bias, showing increase during COVID-19. In the 30% of the research papers studied the herding emerged due to overconfidence and optimism.
- Heuristics- Heuristics are he mental shortcuts investor employ to streamline in taking decisions during uncertainties (Suresh G, 2021). The usage of Generative AI(GAI) hasamplified the impact of heuristics on investor psychology. Investor prefers GAI due to trust as it uses data-driven support and predictive analytics. In the 25% of the literature included in the study overconfidence, optimism, and confirmation are captured.
- Prospect theory- The theory was pioneered by Kahneman and Tversky (1979). It illustrates how an investor asymmetrically weighs potential gains and losses relative to a reference point, fostering loss aversion. It further, fuel the biases in the psychology. In 35% of the studies synthesize their interplay with herding and other heuristics. The prospect theory humanizes the markets, it treats the decision as emotional gamble, not just equations. Prompting tools like robo-advisors and AI tools help to recalibrate perceptions for a better outcome.

Discussion and scope of future research

While weaving the threads of bibliometric study of investor's psychology's in-depth study of overconfidence, optimisum and herding. it's a mirror showing human weaknessesin making investment decisions. This study is drawn from the robust dataset of the publications. These publications illuminate how these biases shaped theoretical curiosities into practical forces that shape the market. The publication trends accelerating post 2013, boosting the compound annual growth rate (CAGR) with 11.75%. The surge was not just coincidence but after dot-com bust, 2008 financial crises and COVID-19.

Thematically, the content synthesis—rooted in herding, heuristics, and prospect theory. Herding, appearing in 30% of papers, isn't just blind conformity; it's a social safety net in uncertain times, yet one that often leads to collective pitfalls, as seen in cryptocurrency bubbles where optimism fuels the frenzy. Heuristics, in 25% of studies, reveal our brain's efficiency hacks—like anchoring on past successes—that breed overconfidence, turning calculated risks into reckless gambles. Prospect theory, cited in 35% of the literature, adds depth by explaining the asymmetry of joy and pain: losses sting twice as hard as gains delight, distorting perceptions and intertwining with biases to explain anomalies like the disposition effect. These findings extend beyond academia; they challenge the Efficient Market Hypothesis (E. F. Fama, 1970) by substantiating Kahneman and Tversky (1979) insights, showing that "normal" investors Statman (2014) are predictably irrational, influenced by everything from social media echoes to personal experiences.

In the time frame, extended to 2025, capturing recent surges but present trend misses like AI's role in bias detection.

Conclusion-

While figuring out the bibliometric analysis it was found how overconfidence, herding and optimism distort the investment decisions. Investor's decisions and not neat and rational as explained in the traditional finance. Everyday millions of investors are emerging in the financial markets and their decisions are not just based in the data and charts, but by deeply ingrained psychological tendencies. The study has shown that biases are not isolated but interconnected forces that driven the market and its behavior. By tracing the evolution trends of research identifying the core themes and the contributors. The recent unrest in the world has increase the uncertainty in the financial markets. These uncertainties amplified the biases in investor's psychology. Optimism bias has fueled speculative bubbles in assets like meme stocks, and herd behavior caused massive sell-offs or buying sprees based on social media buzz rather than fundamentals.The practical implications of these findings extend far beyond academic circles, offering tangible value to investors, advisors, and regulators.

Table 8: Gap Analysis and directions for future research

Gap Identified	**Directions for Future Research**
Underrepresented regions (e.g., Africa, Latin America)	Conduct comparative empirical studies on herd behavior in diverse cultural contexts, using mixed-methods to capture local nuances.
Integration of emerging technologies (e.g., AI, blockchain)	Explore how AI algorithms can detect and counteract overconfidence in real-time trading, via experimental simulations.
Post-pandemic and geopolitical effects	Longitudinal analyses tracking optimism bias evolution amid global uncertainties, incorporating sentiment analysis from social media.
Gender, age, and demographic variations	Investigate differential impacts of heuristics on millennial vs. boomer investors, with surveys and behavioral experiments.
Ethical and regulatory implications	Policy-oriented research on mitigating herd-driven bubbles through behavioral interventions, collaborating with financial regulators.
Interdisciplinary links (e.g., neuroscience, sustainability)	Neuro-finance studies using fMRI to map brain activity during prospect theory scenarios, applied to sustainable investing biases.

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