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Bibliometric Analysis of Behavioral Finance

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ABSTRACT

Behavioral finance has emerged as a prominent research field that challenges the traditional assumption of investor rationality by incorporating psychological, cognitive, and emotional factors into financial decision-making. This study aims to map the intellectual structure, research trends, and collaborative patterns within behavioral finance literature through a bibliometric analysis. Data were collected from the Scopus database and analyzed using VOSviewer to examine keyword co-occurrence, overlay visualization, density visualization, co-authorship networks, institutional collaboration, country collaboration, and citation performance. The results reveal that behavioral finance, finance, and decision making constitute the core themes of the field, with strong associations to investor sentiment, behavioral biases, financial literacy, risk perception, and investment behavior. Overlay visualization indicates a recent shift toward technology-oriented topics such as artificial intelligence, machine learning, blockchain, and data mining, reflecting the increasing integration of digital technologies into financial research. The co-authorship and collaboration analyses demonstrate that research activities are concentrated among a limited number of influential authors, institutions, and countries, particularly the United States, China, the United Kingdom, India, and Australia. Citation analysis highlights the enduring influence of seminal works on investor behavior, financial literacy, market efficiency, and social media sentiment. The findings suggest that behavioral finance has evolved into a multidisciplinary and globally connected research domain with expanding opportunities in fintech, digital finance, sustainable investing, and artificial intelligence applications. This study contributes to a comprehensive understanding of the development and future directions of behavioral finance research.

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1. INTRODUCTION

Behavioral Finance is one such field, which combines elements from psychology with classical financial economics in order to understand how the presence of psychological heuristics and biases can affect the way investors make decisions. Unlike classical theories of finance, which assume that people make rational decisions based on optimal choices in an efficient market system,

the theory of behavioral finance questions such assumptions, showing that people make irrational decisions because of their cognitive limitations [1], [2]. Some key literature on the topic includes works by [3], who developed prospect theory in order to understand risk assessment and making decisions. Another landmark work was done by [4], who revealed some anomalies in financial markets, unexplained by the efficient market hypothesis.

Within the last few decades, behavioral finance has emerged as an influential research domain backed up by empirical and experimental work. Notable examples of the contributions to this area of study include the work by [5], [6], who established a significant connection between behavioral phenomena and changes in the prices of assets, market bubbles, and volatility. Behavioral finance is no longer an area limited only to theoretical contributions but also extends to practical aspects that include investments, corporate finance, and public policies. All of these developments would not be possible without technological progress and data availability, which allow conducting more accurate research on investor behaviors.

As more researchers have entered the domain of behavioral finance, a new methodology called bibliometric analysis is becoming popular as a way to map the intellectual structure and trends in research in this discipline. The term "bibliometrics" refers to the use of quantitative methods for analyzing scientific papers, citations, and collaborative relationships. According to [7], bibliometrics offers an objective way of measuring research productivity and influence. As applied to behavioral finance, bibliometrics can provide insight into influential scholars, journals, and the evolution of themes.

The recent improvement in bibliometric software, including VOSviewer and CiteSpace, also strengthens the researchers' capability to represent author networks, institutional connections, and keywords. Bibliometric methods such as co-citation analysis, co-authorship analysis, and keyword clustering help to understand the intellectual structure of behavioral finance studies. Studies conducted in similar disciplines show that bibliometric mapping helps to determine new research trends and declining research fields. It provides a dynamic picture of academic evolution. Bibliometric mapping plays a crucial role in behavioral finance since it helps to trace the application of psychological theories in financial research.

Although there is a burgeoning amount of work done on behavioral finance, there seems to be a gap in terms of systematically understanding the knowledge creation process of this domain. The reason behind this lies in the fact that behavioral finance is a rather fragmented area because of its multidisciplinary nature, receiving contributions from psychology, economics, neurology, and management research. Bibliometric analysis serves as an ideal methodology to solve such issues in knowledge organization and evaluation by systematically aggregating substantial amounts of scholarly literature into discernible patterns.

While behavioral finance has experienced remarkable growth in terms of both theoretical and applied significance, there are no systematic bibliometric analyses of the intellectual structure and development of this discipline. The majority of available studies have considered only individual aspects of this issue or conducted merely qualitative bibliographic surveys, while no comprehensive quantitative bibliometric analysis has been performed. Such a gap in knowledge leads to an incomplete understanding of the main actors, themes, and international collaboration networks in the field under consideration. Besides, the lack of current bibliometric analysis hinders researchers' capacity to reveal new directions and gaps in behavioral finance research. The purpose of this study is to perform a bibliometric study of behavioral finance literature to reveal the intellectual structure, growth trends, and emerging trends of the field.

2. METHODS

This study uses a bibliometric analysis method to systematically investigate the evolution and intellectual structure of behavioral finance literature. Bibliometric analysis is defined as the systematic and statistical analysis of scientific literature using information obtained through publication dates, citations, and keywords. As per the approach suggested by Pritchard (1969), the use of bibliometric analysis in this study will be treated as statistics to understand and map the scientific literature produced on a topic. Data for this study were extracted from academic databases like Scopus and Web of Science, as the sources have an exhaustive database consisting of publications in peer-reviewed journals on economics, finance, and social science subjects. The search was conducted based on a set of terms such as "behavioral finance," "investor behavior," "psychological finance," and "cognitive bias in finance."

To increase data accuracy and quality, an extensive screening process was performed on the gathered data. Specifically, the following data items were filtered out: duplicates, non-English articles, conference papers without full-text versions, and articles outside the scope of research topics. The inclusion criteria consisted exclusively of academic papers in the form of journal articles or reviews. Then the data were imported to bibliometric software applications – VOSviewer, commonly used instruments for visualizing and analyzing scientific networks. Van Eck and Waltman (2010) stated that VOSviewer allows constructing co-authorship, co-citation, and keyword networks while CiteSpace is used for identifying emergent research frontiers and intellectual breakthroughs.

During the analysis phase, various bibliometric techniques were used in order to detect patterns and trends. First, there is the performance analysis which was undertaken to determine the most prolific authors, institutions, journals, and countries that have made an impact in behavioral finance studies. Second, the science mapping approaches were employed whereby the intellectual structure of behavioral finance research and its knowledge base were examined through the use of co-citation and bibliographic coupling analysis. Third, the keyword co-occurrence analysis was done to detect themes within the field, as well as how these themes have developed over time. For example, one may trace changes in research focus from topics such as prospect theory and market anomalies towards behavioral asset pricing and fintech behavioral studies. Further, there were also network visualizations carried out to investigate researcher collaborations on a global level. All this has allowed the researchers to provide a systematic review of behavioral finance research development (Zupic & Čater, 2015).

3. RESULTS AND DISCUSSION

3.1 Keyword Co-Occurrence Network

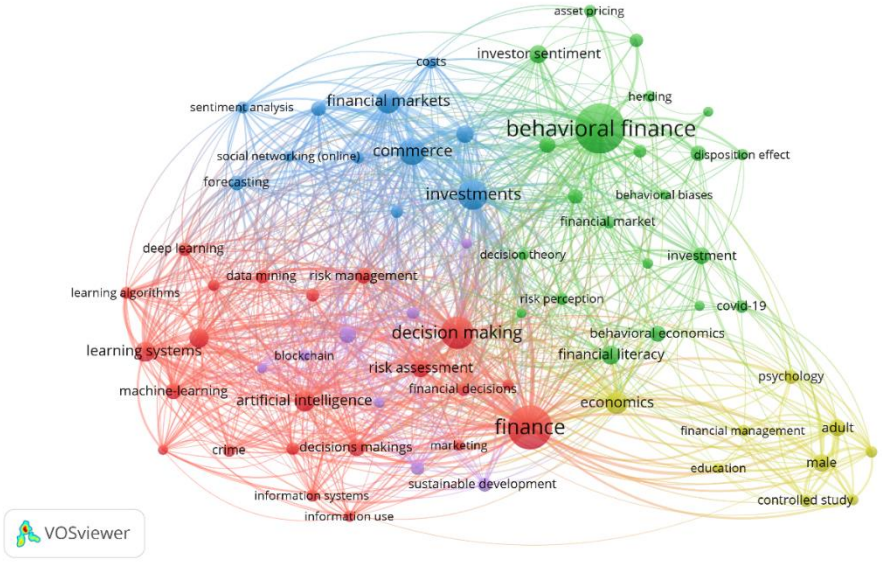

Figure 1. Network Visualization
Source: Data Analysis Result, 2026

According to Figure 1, behavioral finance emerges as the major and dominating theme of the literature due to the size of its node and its connection to many other terms. The green cluster includes investor sentiment, herding, behavioral biases, risk perception, and investment among others, indicating that one of the main interests in behavioral finance involves the investigation of psychological and emotional factors' impact on investors and markets. The green cluster represents the major achievement of behavioral finance in accounting for irrationality in finance using cognitive and emotional biases.

Red clusters capture the increasing relevance of finance together with digital technologies. Technological keywords such as "artificial intelligence," "machine learning," "learning systems," "data mining," and "blockchain" have a strong association with finance and decision-making processes. Such a trend implies that the study of finances involves the application of sophisticated computational methods that would help make predictions regarding financial decisions and behavior and enable understanding financial trends and decisions. Hence, it can be stated that behavioral finance tends to involve a data-driven approach to understanding investor behavior.

This blue cluster denotes the process of incorporating financial markets, business transactions, and information systems in behavioral finance studies. The keywords such as financial markets, business transactions, investments, forecasting, social networking, and sentiment analysis highlight the increased significance of the role played by digital information in influencing investors' decisions. The inclusion of sentiment analysis and social networking reveals that the scholars have started focusing on the influence of online information sources on the investors' sentiments.

Moreover, another key point is the importance of decision making and finance in the study, which can be referred to as bridging nodes linking various research communities. These concepts occupy a key position in the network due to their ability to demonstrate that the process of financial decision-making is still a common challenge for various branches of behavioral finance research. Regardless of whether the studies concern the aspects of psychology, technology, forecasting, or even financial literacy, they try to understand how decisions are made within the financial environment.

The yellow cluster refers to recent research on topics of financial literacy, education, psychology, and demographics.

The keywords include financial literacy, education, psychology, adult, and male, which indicate the increasing attention to factors that affect one's financial decision-making ability. This cluster indicates the trend of investigating ways of fostering financial capability and improving investors' education.

The overlay map highlights the development of behavioral finance research from 2018 to 2024. In earlier research represented by dark blue and purple nodes, there was an emphasis on aspects of behavioral finance like behavioral finance, psychology, adult, male, controlled study, herding, and disposition effect. Such topics have been the center of behavioral finance research in the past because the discipline had always been interested in understanding how psychological and behavioral factors affected investors' decisions. It can be concluded that the conceptual foundations of behavioral finance were anchored in psychology.

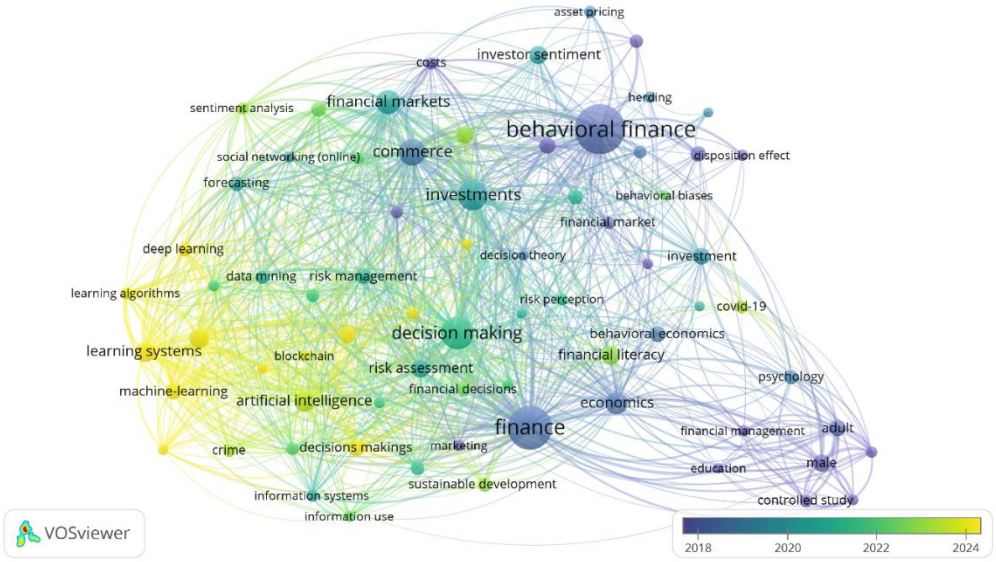

Figure 2. Overlay Visualization
Source: Data Analysis Result, 2026

In this progression, research started moving towards more general uses in the areas of finance, decision-making, investments, financial literacy, economics, and financial markets, depicted in the figure below using green nodes. These concepts can be considered as bridging themes that facilitate the connection between theoretical concepts in behavioral finance literature and applications related to financial management and investing. The prominent place assigned to finance and decision making reflects the fact that these topics can be considered as the main building blocks of the literature. The inclusion of new topics like financial literacy is reflective of emerging interest in this area of study.

However, based on the latest trends represented in yellow circles, we can conclude that the area of behavioral finance is shifting towards technology-based analysis of behaviors. Words like artificial intelligence, machine learning, learning systems, data mining, blockchain, deep learning, and learning algorithms are among the hottest terms at present, indicating the latest research trends. Hence, the current trend shows that behavioral finance is incorporating technological developments into its domain for conducting investigations in the sphere. It can be concluded that the overlay map clearly indicates the transition in the research topic of behavioral finance from pure psychology to the combination of behavioral finance and data sciences.

The density plot depicts those issues which have been investigated to the maximum extent possible in behavioral finance studies, with the densest yellow patches showing the issues that have been explored the most by scholars in the past. Behavioral finance, finance, and decision-making are among the densest issues because it means that they are the crux of the subject area. The issues associated with them such as investments, investor sentiment, financial literacy, behavioral economics, and risk management also appear in the densest regions since they relate to the same subject matter and deal with the psychology behind financial decisions and behavior.

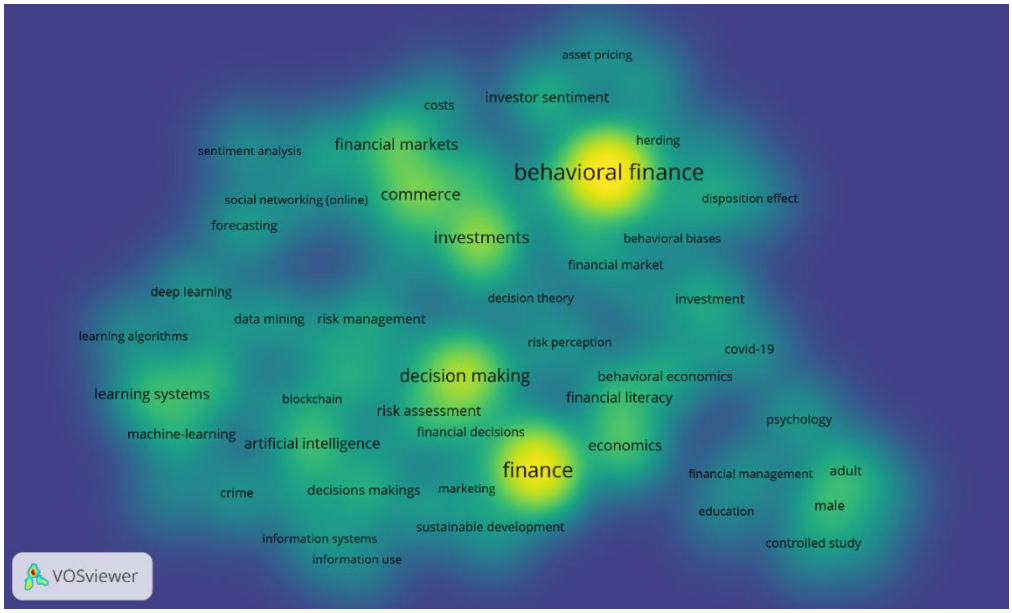

Figure 3. Density Visualization

Source: Data Analysis Result, 2026

By way of contrast, subjects within the lower-density areas, including artificial intelligence, machine learning, blockchain, learning systems, deep learning, and demographically-oriented terms like adult and male, seem to be less common but denote essential research fields. Their appearance means that behavioral finance is progressively moving from a conventional psychological field towards interdisciplinary fields associated with financial technologies and big data analysis and decision support systems. Thus, the density map shows that although investor psychology and decision-making still dominate the literature, there are plenty of possibilities for further investigation into the relationship between behavioral finance and artificial intelligence as well as fintech and computer modeling of finance.

3.2 Co-Authorship Analysis

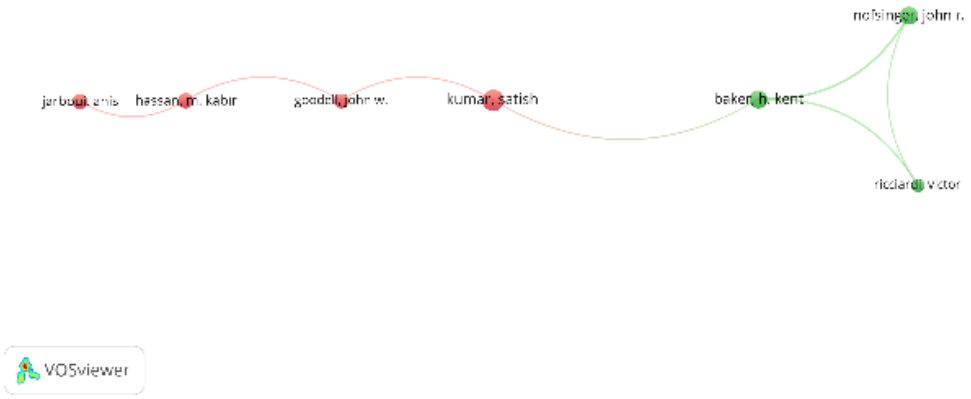

Figure 4. Author Visualization
Source: Data Analysis Result, 2026

In terms of the author co-authorship network, it is important to note that there is relatively little collaboration in this field as far as the author collaboration network is concerned; rather, there exists only a few researchers that are interconnected through their collaborative work. It is clear that there exist two clusters of researchers in this field. First, there exists a group of collaborating researchers including Jahrol Anis, Hassan Zakir, Poodeh Hojat V., and Kumar Satish who have collaborated in some way. Second, there exists a cluster of collaborating researchers that include Baker H. Kent, Nofsinger John R., and Nicolau Victor. What stands out here is the fact that Baker H. Kent seems to be a central node linking these two clusters of collaborating authors together. It is safe to say that collaboration in this data set seems to be limited to just a few researchers; hence there is a need for more international and interdisciplinary collaboration.

Figure 5. Institution Visualization
Source: Data Analysis Result, 2026

Figure 5 reveals that there are only a few collaborating institutions that generate research on behavioral finance, indicating fragmentation and a lack of connectivity in collaboration within this discipline. Some prominent collaborating institutions include National Bureau of Economic Research, University College London, and Michigan State University. According to the graph, University College London appears to be one of the intermediary institutions, connecting several collaborative groups, whereas Michigan State University is also seen as a significant research center associated with a number of collaborating institutions. The relatively linear appearance of the graph implies that collaboration among institutions within behavioral finance takes place among a small number of universities and research centers and does not include global collaboration to any considerable degree. It may thus be inferred that further inter-institutional collaboration within the area, especially on an international level, could prove to be very beneficial for the growth of behavioral finance as a discipline.

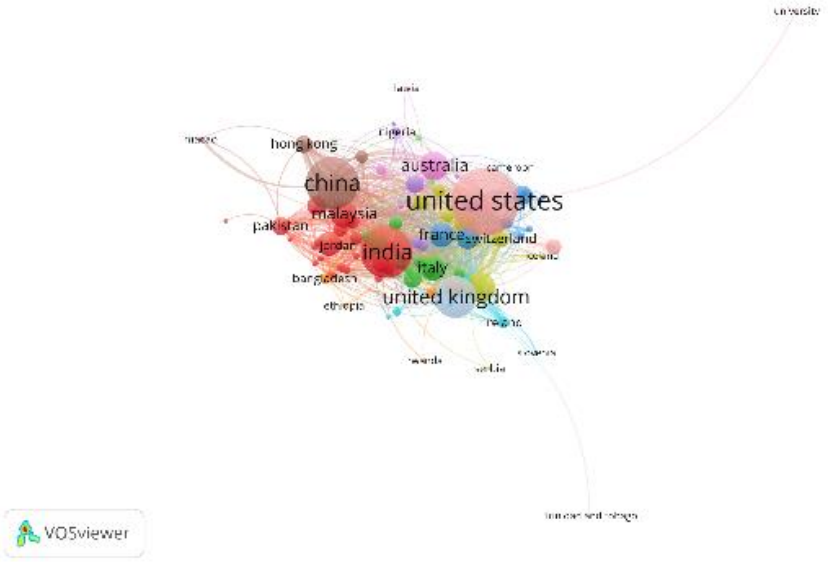

Figure 3. Country Visualization
Source: Data Analysis Result, 2026

Figure 6 shows that the U.S. plays the role of a dominant and highly influential node because it acts as the focal point of scholarly interaction among other countries in this study. It is evident from the relatively large node of the U.S., showing its contribution through many publications and collaboration with other countries. Other contributors to the behavioral finance study are China, UK, India, and Australia, all located close to the center of the network. From their placement, it can be assumed that they are the core group of researchers contributing to this topic.

This graph also indicates wide geographical diversity, spanning across nations from Asia, Europe, Africa, and Oceania. Nations like Pakistan, Hong Kong, Bangladesh, Ethiopia, Ireland, Slovenia, Serbia, Rwanda, and Cameroon are linked with the core structure of collaborations. This shows that the research in behavioral finance is being carried out increasingly on a global level, with these countries contributing towards this core structure of collaboration. However, their small node sizes signify less productivity and collaboration when compared with the core nations.

3.3 Citation Analysis

Table 1. Top Cited Research

Citations	Authors and year	Title
3830	[8]	Twitter mood predicts the stock market
1409	[9]	Toward an understanding of the behavioral intention to use mobile banking
1396	[10]	Value and Momentum Everywhere
1382	[11]	Psychology and economics: Evidence from the field
1341	[12]	Financial literacy, financial education, and downstream financial behaviors
1192	[13]	The adaptive markets hypothesis
1167	[14]	Chapter 18 A survey of behavioral finance
1084	[15]	A longitudinal investigation of personal computers in homes: Adoption determinants and emerging challenges
1077	[16]	From efficient markets theory to behavioral finance
1051	[17]	The psychological consequences of money

Source: Scopus, 2026

The three dominant factors influencing behavioral finance based on the cited literature include market forecasting, psychological background, and decision-making in financial matters. [8] is the highest cited article in behavioral finance which demonstrates the impact of social media sentiment and investor mood on stock market forecasting. [11], [13], [14], [18] have revealed that behavioral finance was formed as an alternative perspective to the shortcomings of efficient market theory with the involvement of psychology, bounded rationality, and adaptive market theories. On the other hand, behavioral finance is not confined to capital markets but includes such areas as financial literacy, mobile banking adoption, personal computer adoption and psychological effects of money management.

4. CONCLUSION

This study suggests that behavioral finance is a well-developed scientific research domain, where multiple ideas borrowed from finance, psychology, economics, information systems and modern innovations are combined. According to the results of the co-occurrence analysis, one can state that behavioral finance, finance, and decision-making are the core ideas within the field under investigation, whereas issues related to the investor sentiment, financial literacy, risk perception, and behavioral biases remain among the major concerns of the scientific community. As for the overlay network, it is worth mentioning that a transition from classical psychological and stock market approaches to technology-related ideas, including artificial intelligence, machine learning, blockchain, data mining, etc. can be observed. It is worth noting that co-authorship and country collaboration analyses have revealed the fact that only a limited number of key scholars, organizations, and countries make the greatest contribution to the scientific discourse. In particular, they include the US, China, UK, India, and Australia, acting as the key nodes in the global research network. Finally, citation analysis has shown the importance of such groundbreaking studies devoted to the issues of investor behavior, market efficiency, financial literacy, and technology adoption.

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