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Navigating the Behavioral Maze: A Bibliometric Analysis of Biases Influencing Investment Decisions

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Abstract
Purpose: The study aims to conduct a bibliometric analysis to provide a comprehensive picture and identify future research directions to enrich the existing literature on behavioural biases.
Design/Methodology/Approach: The dataset comprises 701 articles from the Scopus database from the year 2000 to June 2025. Performance analysis is used to highlight the significant contributors (authors, institutions, countries and journals) and contributions (highly influential articles) in the field of behavioural finance. In addition, network analysis is used to delve into the conceptual and social structure of the research domain.
Findings: The consent review has identified that the last decades, behavioural finance research has sky rocketed in popularity. According to the results, USA, India & Germany are the top 3 countries which are well out in front in this area. The field of behavioural biases is driven by a small number of sources and writers.
Research Limitations/implications: This study extracted data from a single database i.e. Scopus, to ensure standardisation of results. Consequently, future research could broaden the scope of the bibliometric review by incorporating multiple databases.
Originality/Value: The novelty of this research is to provide valuable guidance by evaluating the existing literature and advancing the knowledge base on the conceptual and social structure of behavioural biases.

Keywords: Behavioural Biases, Behavioural Finance, Investment Decision-Making, Heuristics, Bibliometric Analysis.

1. INTRODUCTION

Market efficiency and investor rationality are two important assumptions emphasised by the proponents of standard finance. Financial experts have relied on the efficient market hypothesis, traditional finance theory, and anticipated utility theory for generations to address questions about investment decision-making. Research by Ahmad et al., (2017); Feldman & Lepori, (2016); Kahneman & Tversky, (1979); Shrotryia & Kalra, (2023) shows that investors can be irrational and cause stock market abnormalities including surges and crashes.

When it comes to investment decision-making, traditional financial theories have likewise mostly ignored the impact of human behaviour (Jain et al., 2020). However, there's mounting evidence that financial models can improve their forecasting power by incorporating in investors' psychological and cognitive characteristics (Bondt & Thaler, 1995). Because of this, a brand-new subfield of finance known as "behavioural finance" has emerged (Dhingra et al., 2023)

Evidence of irrational investors' presence in the market is gathered by behavioural finance researchers. Their dominance might hamper the stock markets' and investors' rational functioning as well as their decision-making processes (Bernstein, 1998; Jain et al., 2022; Nofsinger, 2001; Shefrin, 2007) To understand and explain the irrationality of investors, it takes into account human elements such as

emotions and cognitive biases (Dhingra et al., 2023; Jain et al., 2020; Mushinada, 2020). The prospect theory, put forward by Kahneman & Tversky, (1973), is the cornerstone of behavioural finance. People are often risk-averse, say Kahneman & Tversky, (1973). Thus, in their study, Özen & Ersoy, (2019) examined the individual's degree and malleability of risk aversion. Evidence from the field of behavioural finance suggests that people's decision-making is heavily influenced by cognitive biases and heuristics. When making investment decisions in the face of uncertainty, Tversky & Kahneman (1974) were the first to notice the influence of psychological biases. They stated that people's decision-making processes are influenced by cognitive biases and heuristics (Dhingra et al., 2023). According to several financial studies, biases are defined as "systematic mistakes in judgement" (Kahneman & Riepe, 1998), which means that they go against the rules of rational choice and make it impossible for people to get the most out of their money (Sahi, 2017). Anchoring, availability, and representativeness (Tversky & Kahneman, 1974), loss aversion, regret aversion, mental accounting (Kahneman & Tversky, 1979), overconfidence (Odean, 1998), disposition effect (Shefrin & Statman, 1985), home bias (French & Poterba, 1991; Tesar & Werner, 1995), and many more have been identified by researchers as characteristics of investor behaviour (Baker et al., 2018; Chen et al., 2007; Dhingra et al., 2023; Shrotryia & Kalra, 2023). Because of these biases, investors often make poor decisions, accept risks they didn't realise were there, get unexpected results, trade without good reason, and then blame themselves or others when things don't go their way (Kahneman & Riepe, 1998; Sahi, 2017). This exemplifies how behavioural biases are becoming more important when making financial investments. Now is the time to assess its characteristics and the future of research in this area. Nevertheless, prior research in this area has either confined itself to a small number of biases (Costa et al., 2017; Kumar & Goyal, 2015), employed a narrative synthesis method (Jain et al., 2021), or prioritised a single index (Dhingra et al., 2023). Therefore, there is a need for further review studies as present ones are still insufficient.

In recent times, there has been a growth of review research (Costa et al., 2017; Kumar & Goyal, 2015) aimed at enhancing the comprehension of behavioural biases. However, the aforementioned evaluations have predominantly concentrated on certain biases, including confirmation bias, anchoring bias and overconfidence (Costa et al., 2017) and overconfidence, disposition effect, herding, and home bias (Kumar & Goyal, 2015). In their investigation of the literature concerning behavioural biases in investment decision-making, Jain et al., (2021) performed a bibliometric study utilising 212 documents obtained from the Scopus database. A bibliometric study was conducted by (Dhingra et al., 2023) to examine the body of literature about behavioural biases in investment decision-making. The researchers utilised a dataset consisting of 518 articles obtained from the Web of Science database. A variety of bibliometric methodologies were utilised in the study to map the literature and extract insightful information on the historical patterns of publications, the most prolific authors, prominent journals, and key studies (Eduardsen & Marinova, 2020; Jain et al., 2021; Ren et al., 2020; Singh & Walia, 2022) With the following research issues in mind, the current investigation attempts to outline the conceptual framework of the discipline:

RQ1 : What are the prevailing patterns of publishing within the field of behavioural finance?

RQ2 : Which nations, publications, authors, and organisations have made the most significant contributions to the area of behavioural finance?

RQ3 : What is the prevailing and developing concepts within the field of behavioural finance?

RQ4 : What are the potential possibilities for further investigation?

2. RESEARCH METHODOLOGY

2.1 Bibliometric Analysis

Conducting a comprehensive literature review is crucial for the progression of research in any discipline (Batra et al., 2023; Gora et al., 2023; Zupic & Čater, 2015). In contrast to narrative literature studies, which may be susceptible to the researcher's own bias, bibliometric analysis guarantees a "systematic, transparent, and repeatable review process" through its quantitative nature (Zupic & Čater, 2015). By methodically extracting a substantial number of academic papers, a bibliometric methodology improves the impartiality of the literature evaluation. Additionally, it enables the detection of prevailing patterns and prospective domains for investigation (Joshipura & Wats, 2023; Saini et al., 2023). Therefore, it functions as a point of reference for scholars, allowing them to objectively understand the most impactful contributions (Bajaj et al., 2022; Zupic & Čater, 2015). The current investigation employs scientific mapping and performance analysis methodologies to conduct the bibliometric analysis. The contribution of research elements, including authors, source affiliations, and nations, is evaluated using performance analysis. Science mapping identifies prospective research possibilities through the mapping of the knowledge structure (Donthu et al., 2021) This research makes use of the Bibliometrix R package (Aria & Cuccurullo, 2017).

2.2 Data

For the purpose of conducting a literature search, the Scopus database is utilised. Scopus is a widely utilised database for locating scholarly articles related to social science subjects (Aznar-Sánchez et al., 2019; Couckuyt & Looy, 2019; Jain et al., 2021) There are several justifications for selecting the Scopus database to retrieve the literature. The database was searched by the authors utilising a meticulously constructed search string that incorporated investment-related keywords such as "investment decision" OR "investment behaviour" AND behavioural biases-related keywords including "Bias," OR "psychological bias," OR "cognitive bias," OR "heuristic," OR "emotional bias," which were derived from prior research and brainstorming. Through the application of the search string to the titles, abstracts, and keywords, 1252 documents were retrieved in total. (1) The most extensive collection of abstract and citation data (Mugomeri et al., 2017; Zyoud & Fuchs-Hanusch, 2017) (2) Frequency of frequent updates (Borrett et al., 2018) (3) Data processing and debugging flexibility (Aznar-Sánchez et al., 2019). As of 06 June 2025, the documents were reduced to a shortlist using the below search criteria.

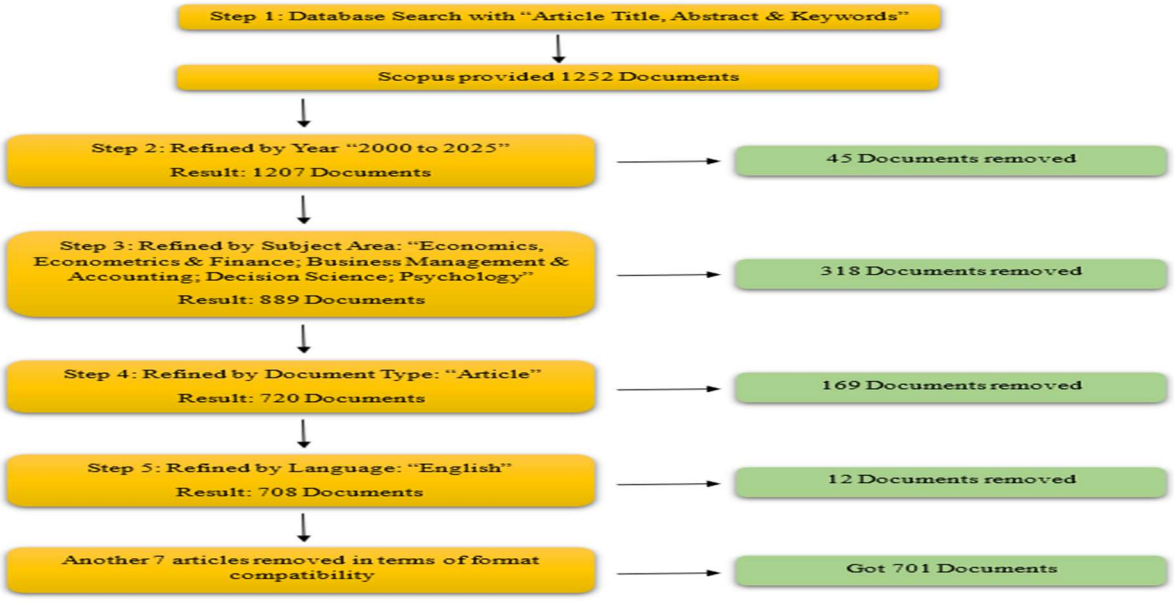

Figure 1: Flowchart for Selection of Documents for Bibliometric Analysis
Source: Author's Compilation

2.2.1 Keywords

The authors conducted a systematic search of the database using a well-designed search string. This search string was created by considering previous literature, brainstorming, and including specific keywords related to behavioural biases such as "Bias," OR "psychological bias," OR "cognitive bias," OR "heuristic," OR "emotional bias." Additionally, the search string included investment-related keywords such as "investment decision" AND "investment behaviour." 1252 documents were found by using the search string on the title, abstract, and keywords.

2.2.2 Time Span

In order to identify trends and viewpoints in the subject of behavioural finance, the data set comprised every publication from 2000 to 2025; in all, 1207 papers were analysed. This ensured that no seminal works were excluded from the dataset.

2.2.3 Subject Area

Subjects such as "Economics, Econometrics, and Finance," or "Business Management and Accounting," or "Decision Sciences," or "Psychology" were incorporated into the search criteria as categories. 889 papers were retrieved during this phase.

2.2.4 Document Types

Proceeding articles were eliminated from the data in order to further refine the information to align with the study goals. The nominated dataset comprised 720 papers, comprising articles only.

2.2.5 Language

The final dataset of 708 papers was obtained by applying the language filter "English" to the texts that had been shortlisted in an earlier step. Bibliographic information pertaining to these papers, including title, authors, abstract, and keywords, was imported into Biblioshiny in BibTeX format for subsequent analysis. The bibliometric mainframe ultimately comprised 701 documents subsequent to data refinement pertaining to work duplication and format compatibility.

3. BIBLIOMETRIC ANALYSIS

3.1 Publication Growth Analysis

The historical expansion of publications within the field of behavioural finance is seen in Figure 2. The data illustrates the annual publication count of research publications spanning the years 2000 to 2025. As seen in the chart, the annual publication of research articles has escalated from two in 2000 to sixty one in 2025. This pervasive effect has been notably apparent since 2009. A minuscule number of scholarly articles were published between 2000 and 2009. The researcher's level of interest in this subject has risen consistently. Considerably more studies have analysed the behavioural features of investors since 2009, which may be indicative of their growing interest in comprehending the global financial crisis. Since 2014, as seen in the picture, around twenty publications have been published annually. Within the 6 months of 2025, the number of publications has reached to 61, yet 6 months are still left in 2025.

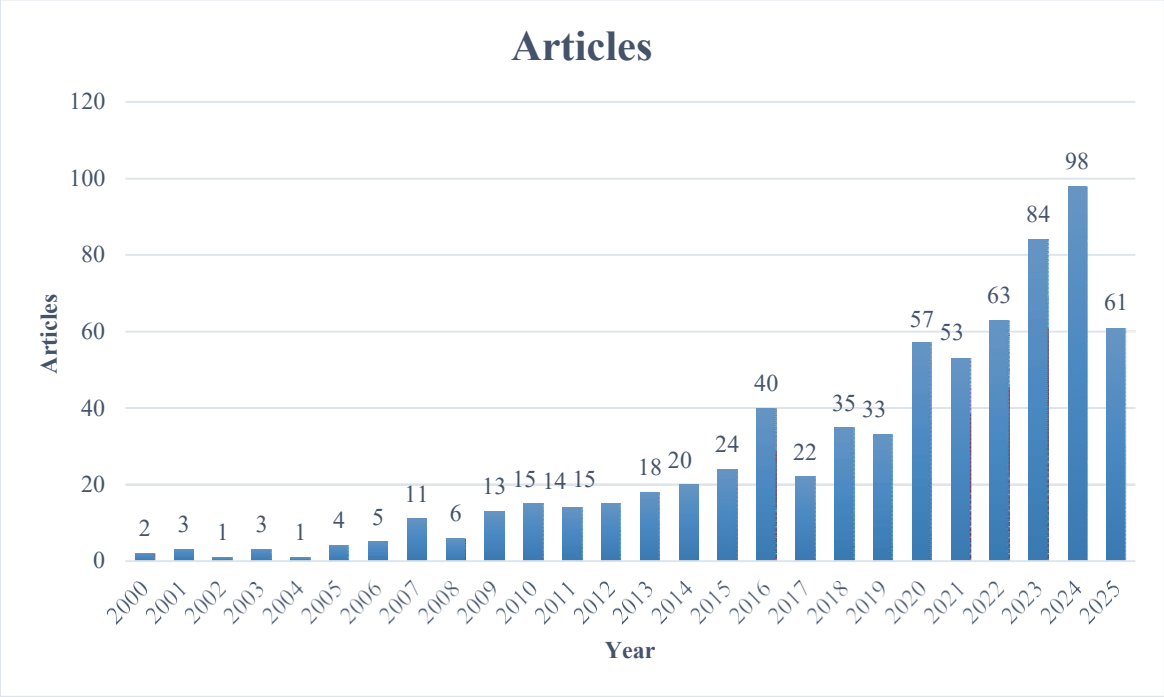

Figure 2: Annual Publication of Articles on Behavioural Finance Research
Source: Author's Compilation

3.2 Prominent Affiliations and Countries for Behavioural Finance Research

In Table 1, the leading contributing affiliations in the field of behavioural biases are shown in order of publication count. The main institutions, each producing nine publications, are the Amity University, Sri Aurobindo College of Commerce & Management, & and Tribhuvan University. This is then followed by eight articles contributed by International Islamic University, Malaysia, Maastricht University. The affiliations comprising the top 25 contributors have authored 141 of the total number of articles in the specified domain.

Affiliation	**Articles**
AMITY UNIVERSITY	9
SRI AUROBINDO COLLEGE OF COMMERCE AND MANAGEMENT	9
TRIBHUVAN UNIVERSITY	9
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA	8
MAASTRICHT UNIVERSITY	8
UNIVERSITY OF CALIFORNIA	7
COMSATS UNIVERSITY ISLAMABAD	6
MANAGEMENT DEVELOPMENT INSTITUTE	6
UNIVERSITY OF PRETORIA	6
BOSTON COLLEGE	5
IQRA UNIVERSITY	5

NOTREPORTED	5
PURDUE UNIVERSITY	5
SOUTHWESTERN UNIVERSITY OF FINANCE AND ECONOMICS	5
THE HONG KONG POLYTECHNIC UNIVERSITY	5
TILBURG UNIVERSITY	5
UNIVERSITY OF ILLINOIS	5
UNIVERSITY OF WÜRZBURG	5
AMERICAN UNIVERSITY	4
ANNA UNIVERSITY	4
CARNEGIE MELLON UNIVERSITY	4
CHUNG-ANG UNIVERSITY	4
COLORADO STATE UNIVERSITY	4
KING FAISAL UNIVERSITY	4
NATIONAL INSTITUTE OF TECHNOLOGY	4

Table 1: Prominent Affiliations in the field of Behavioural Finance
Source: Author's Compilation

The nations with the largest impact on the subject of behavioural finance are listed in Table 2. The United States of America is identified as the most influential nation, boasting 2350 citations. India and Germany follow with 1549 and 787 citations, respectively. These figures emphasise the critical significance that these nations have in furthering the discipline. In contrast, Canada has the highest average number of citations for articles, 47.5, while New Zealand and Israel rank second and third with 47.3 and 39 average citations, respectively.

Country	**TC**	**Average Article Citations**
USA	2350	30.10
INDIA	1549	18.20
GERMANY	787	17.90
UNITED KINGDOM	636	24.50
CHINA	607	10.00
CANADA	570	47.50
PAKISTAN	570	24.80
AUSTRALIA	334	18.60
FRANCE	207	20.70
ITALY	205	22.80
MALAYSIA	196	15.10
KOREA	176	14.70
INDONESIA	168	8.80
ISRAEL	156	39.00
NEW ZEALAND	142	47.30
NETHERLANDS	122	15.20

TURKEY	101	16.80
HONG KONG	97	12.10
SOUTH AFRICA	92	18.40
FINLAND	83	20.80
JAPAN	71	10.10
SWITZERLAND	65	13.00
TUNISIA	61	15.20
AUSTRIA	60	15.00
NORWAY	58	29.00

Table 2: Prominent Countries in the field of Behavioural Finance
Source: Author's Compilation

3.3 Prominent Authors in the field of Behavioural Finance

The study employed the Bibliometrix tool to examine the frequency of text recurrence across different categories of bibliographic data. The author field was extracted from the input data file, and the number of authors' names was determined by an analysis of the total and average number of citations. Table 3 presents a comprehensive summary of the leading contributors in the respective discipline, encompassing their year of first publication (PY Year), total citations (TC), and g-index. Citations function as an indicator of the author's impact within the discipline. Leo Egghe (2006) introduced the g index, which takes into consideration the performance of the author's most popular article. Gupta S has eight articles at the top of the list, while Singh S and Jain J have seven articles. Sharma M has six, and Walia N has five articles, which places them in fourth & fifth places respectively. Following Goyal N. and Kumar S., who each received 370 citations, Shepherd Da emerged as the prominent author in 2001 with 386 total citations and the highest maximum citations per article (386).

Authors	**NP**	**g_index**	**TC**	**PY_start**
GUPTA S	8	8	286	2020
JAIN J	7	7	334	2020
SINGH S	7	7	186	2019
SHARMA M	6	6	41	2014
WALIA N	5	5	255	2020
AHMAD M	5	5	257	2018
LI Y	5	5	26	2023
ASPARA J	4	4	87	2010
FOCHMANN M	4	4	27	2012
GOYAL N	4	4	370	2015
KIM J	4	4	32	2019
KUMAR S	4	4	370	2015
SOOD K	4	4	107	2023
BAKER HK	4	4	62	2017
ALKARAAN F	3	3	143	2006
CHEN Y	3	3	169	2013
HOFFMANN AOI	3	3	80	2014

ISHFAQ M	3	3	41	2021
JAIYEOBA HB	3	3	92	2016
JESSICA VM	3	3	52	2018
KIESEWETTER D	3	3	22	2012
KUMAR A	3	3	110	2013
PANDEY R	3	3	52	2018
CHEN Z	3	3	91	2016
DAS N	3	3	87	2015

Table 3: Prominent Authors in Behavioural Finance Research
Source: Author's Compilation

3.4 Prominent Journals for the Behavioural Finance Research

Table 4 delineates the foremost journals that have influenced the domain of behavioural finance, as determined by total citations, publication volume, and inception year. Qualitative Research in Financial Markets is the preeminent source in this domain, boasting 785 citations across 23 pieces. The Journal of Business Venturing (778 citations) and the Journal of Behavioural Decision Making (390 citations) closely follow, both attaining significant impact despite publishing only three pieces each. Additional significant contributors comprise the Review of Behavioural Finance, the Journal of Financial Economics, and the Journal of Behavioural Finance, which have positioned themselves as essential venues for the advancement of theory and practice in the field.

The chart also reflects the dynamic nature and expanding scope of behavioural finance. Early publications such as the Journal of Business Venturing (2000) and the Journal of Banking and Finance (2003) signify the origins of the discipline, whereas more recent additions like the Journal of Asian Finance, Economics and Business (2020) underscore its growing international reach. The variety of publication platforms — ranging from specialised behavioural finance journals to mainstream finance and interdisciplinary platforms — illustrates the complexity and transdisciplinary essence of the field, highlighting its growing importance and influence in academic literature.

Sources	**TC**	**NP**	**PY_start**
QUALITATIVE RESEARCH IN FINANCIAL MARKETS	785	23	2012
JOURNAL OF BUSINESS VENTURING	778	3	2000
JOURNAL OF BEHAVIORAL DECISION MAKING	390	3	2007
REVIEW OF BEHAVIORAL FINANCE	356	16	2010
JOURNAL OF FINANCIAL ECONOMICS	299	3	2013
JOURNAL OF BEHAVIORAL FINANCE	265	9	2011
ACADEMY OF MANAGEMENT JOURNAL	226	1	2007
INTERNATIONAL SMALL BUSINESS JOURNAL: RESEARCHING ENTREPRENEURSHIP	199	1	2015
SMALL BUSINESS ECONOMICS	175	2	2018
INFORMATION SYSTEMS RESEARCH	165	3	2013
JOURNAL OF CORPORATE FINANCE	159	4	2017

EUROPEAN JOURNAL OF OPERATIONAL RESEARCH	153	4	2012
MANAGEMENT DECISION	152	4	2010
INTERNATIONAL JOURNAL OF BANK MARKETING	144	6	2005
STRATEGIC MANAGEMENT JOURNAL	141	2	2011
INTERNATIONAL JOURNAL OF SCIENTIFIC AND TECHNOLOGY RESEARCH	134	4	2019
JOURNAL OF FINANCIAL AND QUANTITATIVE ANALYSIS	132	2	2006
JOURNAL OF BUSINESS ETHICS	131	2	2009
JOURNAL OF ASIAN FINANCE, ECONOMICS AND BUSINESS	130	5	2020
JOURNAL OF MANAGEMENT STUDIES	128	1	2011
MANAGERIAL FINANCE	126	9	2017
EUROPEAN JOURNAL OF FINANCE	126	6	2005
FINANCIAL MANAGEMENT	123	4	2008
JOURNAL OF BANKING AND FINANCE	122	5	2003
JOURNAL OF FINANCE	122	2	2015

Table 4: Most Productive Sources in Behavioural Finance Research
Source: Author's Compilation

3.5 Prominent Articles in the field of Behavioural Finance

The most significant articles are listed in Table 5 with their TC per year and total citations. The most cited research article in the Journal of Business Venturing is "The Nature of Information and Overconfidence on Venture Capitalists' Decision Making" by Zacharakis & Shepherd, (2001) which pertains to the domain of behavioural finance. It has received 386 total citations. Chen et al., (2007) received 358 total citations in the Journal of Behavioural Decision Making, while David Forlani & John W. Mullins (2000) received 334 citations in the Journal of Business Venturing. In contrast, the research article " Trading Performance, Dispostion Effect, Overconfidence, Representative Bias and Experience of Emerging Market Investors " published Chen et al. (2007) in the Journal of Behavioral Decision Making is ranked first in terms of annual total citations with 18.84. In second place is the article by Jain et al. (2020) "Evaluation of Behavioral Biases Affecting Investment Decision Making of Individual Equity Investors by Fuzzy Analytic Hierarchy Process" in the Review of Behavioral Finance, which has received 18.83 total citations per year.

Documents	Title	Journal	Total Citations	TC Per Year

Andrew L. Zacharakis & Dean A. Shepherd (2001)	The Nature of Information and Overconfidence on Venture Capitalists' Decision Making	Journal of Business Venturing	386	15.44
Chen et al. (2007)	Trading Performance, Dispostion Effect, Overconfidence, Representative Bias and Experience of Emerging Market Investors	Journal of Behavioral Decision Making	358	18.84
David Forlani & John W. Mullins (2000)	Perceived Risks and Choices in Entrepreneurs' New Venture Decisions	Journal of Business Venturing	334	12.85
Myeong Gu Seo & Lisa Feldman Barrett (2007)	Being Emotional During Decision Making - Good or Bad? An Empirical Investigation	Academy of Management Journal	226	11.89
Satish Kumar & Nisha Goyal (2015)	Behavioural Biases in Investment Decision Making - A Systematic Literature Review	Qualitative Research in Financial Markets	204	18.55
Fraser et al. (2015)	What Do We Know About Entrepreneurial Finance and its Relationship with Growth	International Small Business Journal	199	18.09
Caoa et al. (2013)	Can Hedge Funds Time Market Liquidity?	Journal of Financial Economics	148	11.38
Pikulina et al. (2017)	Overconfidence and Investment: An Experimental Approach	Journal of Corporate Finance	147	16.33
Guenther et al. (2018)	Is The Crowd Sensitive to Distance? How Investment Decisions Differ by Investor Type	Small Business Economics	137	17.13
Murnieks et al. (2011)	'I Like How You Think': Similarity as an Interaction Bias in the Investor–Entrepreneur Dyad	Journal of Management Studies	128	8.53
Shah et al. (2020)	Heuristic Biases in Investment Decision-Making and Perceived Market Efficiency: A	Qualitative Research in Financial Markets	126	15.75

	Survey at the Pakistan Stock Exchange			
Jain et al. (2020)	Evaluation of Behavioral Biases Affecting Investment Decision Making of Individual Equity Investors by Fuzzy Analytic Hierarchy Process	Review of Behavioral Finance	113	18.83
Satish Kumar & Nisha Goyal (2016)	Evidence on Rationality and Behavioural Biases in Investment Decision Making	Qualitative Research in Financial Markets,	113	11.30
Fadi Alkaraan & Deryl Northcott (2006)	Strategic Capital Investment Decision-Making: A Role for Emergent Analysis Tools? A Study of Practice in Large UK Manufacturing Companies	The British Accounting Review	107	5.35
Tomer Geva & Jacob Zahavi (2014)	Empirical Evaluation of an Automated Intraday Stock Recommendation System Incorporating Both Market Data and Textual News	Decision Support Systems	106	8.83
Camelia M. Kuhnen (2015)	Asymmetric Learning from Financial Information	The Journal of Finance	105	9.55
Bennouna et al. (2010)	Improved capital budgeting decision making: evidence from Canada	Management Decision	102	6.38
Justine Hastings & Olivia S. Mitchell (2020)	How Financial Literacy and Impatience Shape Retirement Wealth and Investment Behaviors	Journal of Pension Economics & Finance	101	16.83
Park et al. (2013)	Information Valuation and Confirmation Bias in Virtual Communities: Evidence from Stock Message Boards	Information Systems Research	97	7.46
Bardolet et al. (2011)	Corporate Capital Allocation: A Behavioral Perspective	Strategic Management Journal	97	6.47

Katheryn Niles Russ (2007)	The Endogeneity of the Exchange Rate as a Determinant of FDI: A Model of Entry and Multinational Firms	Journal of International Economics	92	4.84
Sahi et al. (2013)	An Exploratory Inquiry into the Psychological Biases in Financial Investment Behavior	Journal of Behavioral Finance	89	6.85
Graham et al. (2017)	Tax Rates and Corporate Decision-making	The Review of Financial Studies	87	9.67
Tjai M. Nielsen Liesl Riddle (2009)	Investing in Peace: The Motivational Dynamics of Diaspora Investment in Post-Conflict Economies	Journal of Business Ethics	87	5.12
Laura Huang & Marcia Frideger (2013)	Political Skill: Explaining the Effects of Nonnative Accent on Managerial Hiring and Entrepreneurial Investment Decisions	Journal of Applied Psychology	86	6.62

Table 5: Top Contributing Documents in the field of Behavioural Finance
Source: Author's Compilation

3.6 Bradford's Law

According to Bradford's Law, which was formulated by S.C. Bradford (Brookes, 1985), a domain is frequently dominated by a restricted number of sources. On the basis of their popularity and the dispersion of published articles, these sources are recognised. This is accomplished by dividing sources into 3 zones, each of which generates almost $1/3^{rd}$ of the total number of publications, and ranking them according to their declining article output. Conversely, as one zone transitions into the next, there is a geometric rise in the quantity of journals in each successive zone. A limited set of sources (Zone 1) publishes the initial one-third of articles, which includes the "core sources" that accelerate the field, in accordance with this law. The remaining one-third of the articles are published by a bigger group of sources (Zone 2), and the largest collection of sources (Zone 3) is responsible for publishing the last one-third. The primary sources located in the initial zone possess extensive expertise in the subject matter. By use of Bradford's Law, the findings in this part examine the fundamental sources in the field of behavioural finance. According to the data presented in Table 6, 232 research articles were published in the first zone, which comprised 38 sources. 238 research articles were published in the second zone, which comprised 115 sources. The remaining 231 research articles were published in the third zone, which comprised 231 sources. Each category comprises about one-third of the research publications, according to these results. In accordance with the findings of Dhingra et al., (2023), this section's results validate that behavioural finance research supports Bradford's Law.

Zones	Source Count	PC	%
Zone 1	38	232	33.10

Zone 2	115	238	33.95
Zone 3	231	231	32.95
Total	**384**	**701**	**100.00**

Table 6: Bradford's Law
Source: Author's Compilation

Scholars recognise that the majority of relevant articles written on the subject may be located in primary sources and ultimately concentrate on the articles contained within these sources. Twenty-eight other publications, including the Journal of Behavioral Finance, Qualitative Research in Financial Markets, Review of Behavioral Finance, and Frontiers in Psychology, are considered important sources in behavioural finance research since they publish the most of relevant studies. The results of these studies align with those of the primary sources that contributed to the field.

3.7 Lotka's Law

Lotka's law, given by (Lotka, 1926), is a bibliometric law used to evaluate the author's scholarly productivity in a particular domain. Lotka's law states that in a given field, 60% of all authors will produce only one paper, 15% of authors will provide two articles, 6.6% of authors will contribute three articles and so on (Dhingra et al., 2023). Figure 3 compares the observed distribution with Lotka's distribution. Current research indicates that 91.5% of authors have published a single article, 6.5% have contributed to the publication of two articles, 1.3% have authored three articles, and so on.

Documents written	N. of Authors	Proportion of Authors
1	1598	0.915
2	113	0.065
3	22	0.013
4	7	0.004
5	3	0.002
6	1	0.001
7	2	0.001
8	1	0.001

Table 7: Lotka's Law
Source: Biblioshiny (R)

It is noteworthy that despite the fact that scholars and researchers have devoted the last fifty years to behavioural finance, the majority of authors (91.5 percent) have authored a single publication, which is far more than the minimum threshold of 60 percent as stipulated by Lotka's Law. In a similar manner, the proportion of authors who have authored two or three works falls short of the criteria established by Lotka's Law. Between observation and projection, the number of writers fluctuates considerably. In accordance with the conclusions drawn by Batra et al., (2023); Dhingra et al., (2023) the results indicate that the scholarly output of the writers in the field of behavioural finance diverges from Lotka's Law. These findings indicate that a limited number of renowned authors are at the forefront of this discipline.

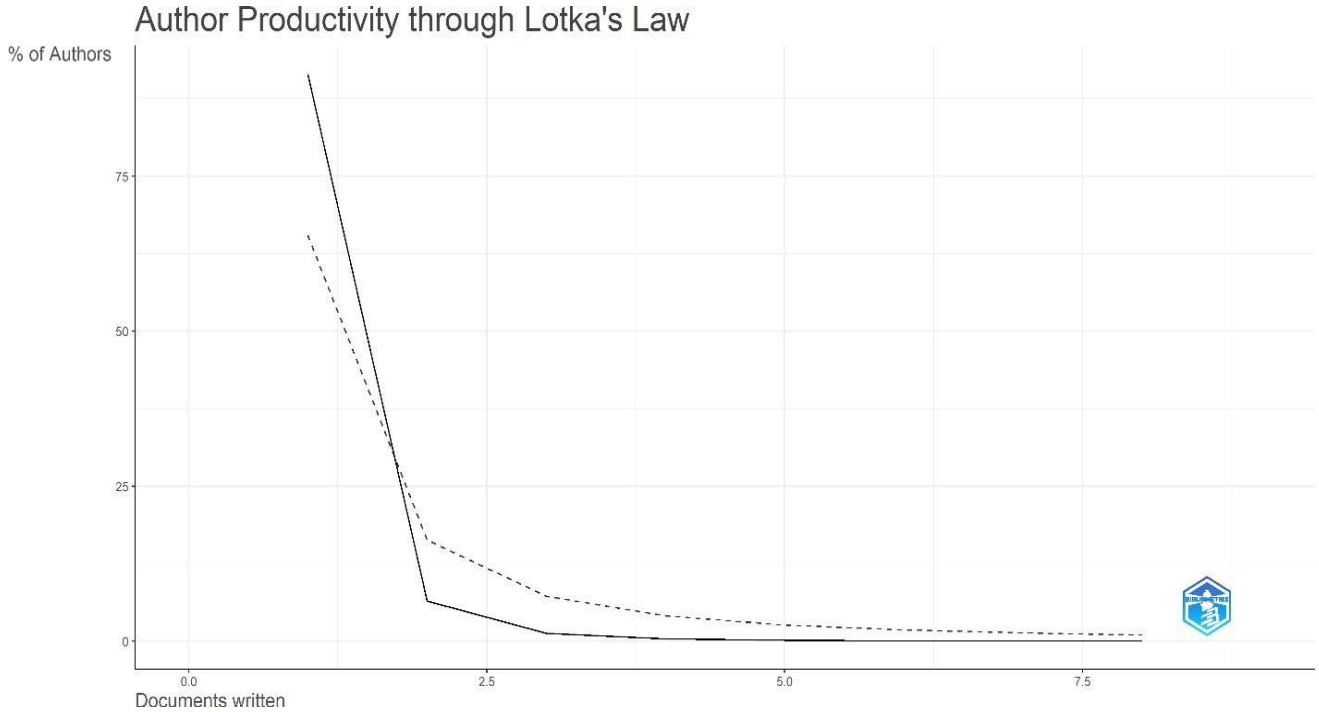

Figure 3: Lotka's Law
Source: Bibioshiny ®

3.8 Three-Field Plot

Illustrated in Figure 4 is an integrated framework of connections between nations (right), sources (left), and affiliations (centre), which is based on the renowned Graphical diagrams. The three-field layout utilises boxes of various shades to symbolise the important components. Connectivity frequencies between boxes are denoted by the height of each box (Abhishek & Srivastava, 2021; Dhingra et al., 2023). The three-field plot offers a detailed visual representation of the relationships among sources (journals), affiliations (universities), and nations in the domain of behavioural finance research. The leftmost column emphasises key journals, including Qualitative Research in Financial Markets, Review of Behavioural Finance, and Journal of Behavioural and Experimental Finance, which have functioned as essential venues for disseminating advancements in this field. These periodicals are affiliated with a variety of academic institutions, such as International Islamic University Malaysia, Amity University, Maastricht University, and Boston College, reflecting substantial global engagement in the production and development of literature. The central column of affiliations highlights the crucial role universities have played in fostering behavioural finance research across diverse institutional contexts.

On the far right, the linkages reach out to the countries that make substantial contributions in this domain. Countries include the USA, India, Malaysia, Pakistan, and the Netherlands clearly emerge as significant centres for academic collaboration and research in behavioural finance. The map distinctly depicts the global scope of this topic, featuring active contributions from both developed and developing countries. Collectively, these connections illustrate the multidisciplinary and international nature of behavioural finance, highlighting its growing importance as a global field of study that unites several academic disciplines and regions.

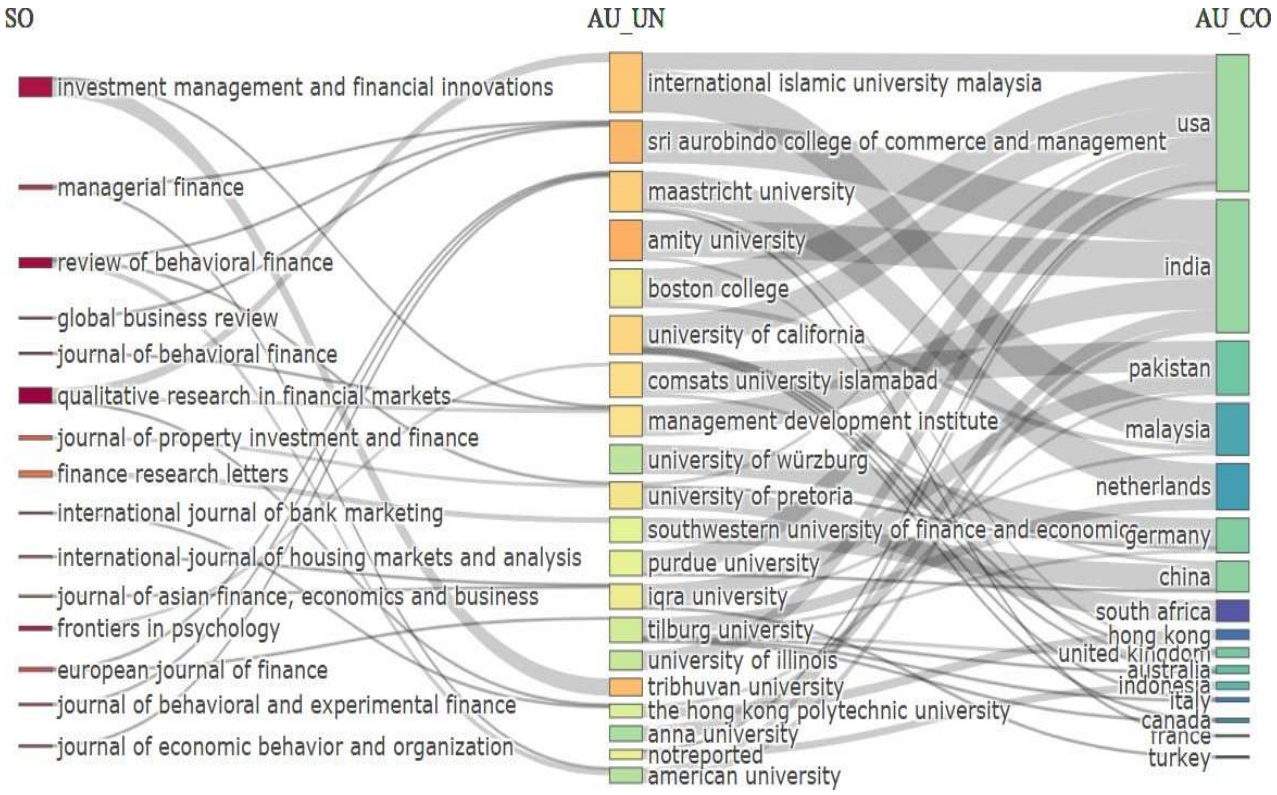

Figure 4: Three field Plot of Sources, Affiliations & Countries
Source: Biblioshiny ®

3.9 Social Structure

Country cooperation, a well-known bibliometric approach, is employed to get an understanding of the social structure and patterns of collaboration among nations (Dhingra et al., 2023; Ghura et al., 2022) This pertains to the intellectual exchanges that propel the scientific domain forward and enhance the quality of study (Joshipura & Wats, 2023; Khatib et al., 2023). The nations' collaboration map in the domain of behavioural finance is illustrated in Figure 5. The range of colours from light blue to dark blue denotes a growth in the quantity of published articles, whilst the absence of publications is represented by the grey colour (Dhingra et al., 2023). The networks of international collaboration are shown by the red lines. The link strength between the United States and China is the strongest, as fifteen publications have been co-authored by writers from these two nations. This is succeeded by a robust network of collaboration between British and American scholars, which has resulted in the co-authorship of eight works. Other nations that actively collaborate are Australia, Canada, Pakistan, Germany, and Hong Kong among others. The data shown in this map illustrates that developed nations have made more contributions to the selected study topic, while developing and underprivileged countries have lagged behind.

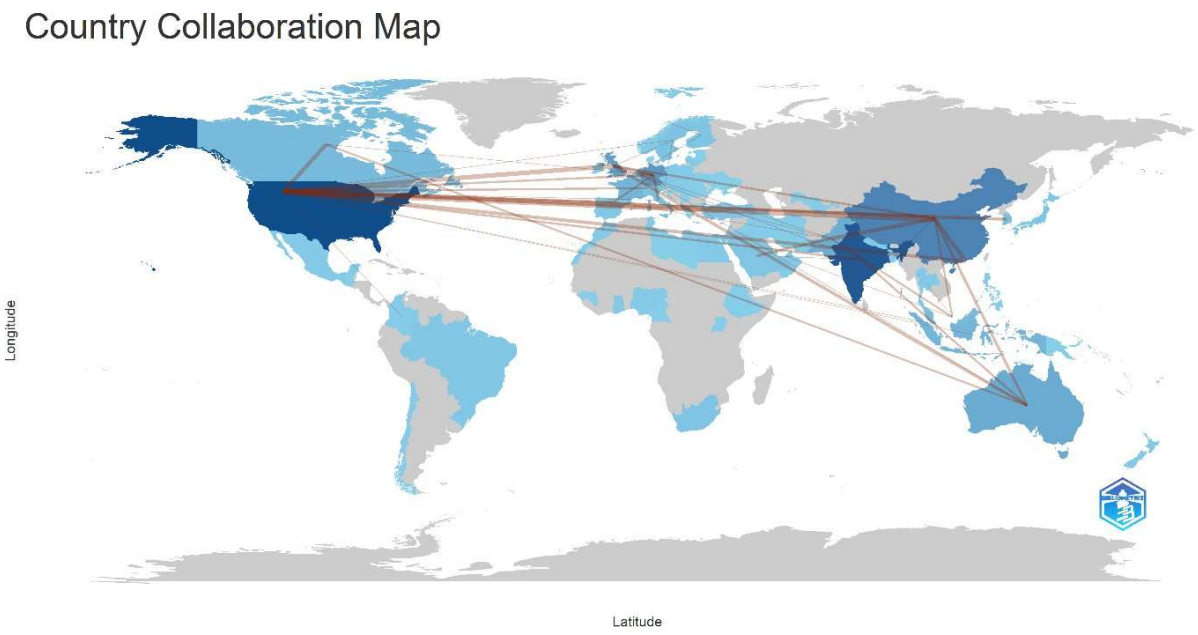

Figure 5: Country Collaboration Map
Source: Biblioshiniy ®

3.10 Word Cloud

Figure 6: Word Cloud
Source: Biblioshiny (R)

The term "investment decisions" was identified 73 times in the articles through an analysis of the keyword frequencies. Subsequently, "behavioural finance," "investment decision," "overconfidence," "behavioural finance," "heuristics," "behavioural biases," "herding," and "decision making" were discussed in that order of importance. The word cloud seen in Figure 6 provides a graphical illustration

of the word frequency throughout the page, as denoted by the word size. It may serve as an approximation for the literary significance of the term. In addition to the aforementioned, it was seen that psychological or behavioural factors such as "heuristics," "overconfidence," "herding," "disposition effect," and "home bias" dominated.

4. CONCLUSION

Behavioural finance has become one of the most important topics for figuring out how people invest, why markets behave strangely, and how psychological and cognitive biases affect financial decisions over the past few decades. This bibliometric review, which is based on a dataset of 701 papers from the Scopus database, gives a systematic and quantitative look at this area of research that is increasing. This review gives a strong and multi-faceted picture of the behavioural finance literature by looking at trends in publications over time, finding the best institutions and countries, highlighting prolific authors and important works, and looking at how academic collaborations are set up.

The results show that there is a clear and growing interest in behavioural finance, as seen by the rise in publications. The journal Qualitative Research in Financial Markets, schools like Amity University (India), Sri Aurobindo College of Commerce and Management (India), and Tribhuvan University (Nepal), and authors like Sanjay Gupta, Jinesh Jain, Goyal N., and Kumar S. have all had a big impact on the conversation. The most cited work is the important piece by Zacharakis and Shepherd (2001) in the Journal of Business Venturing. It looked at how information and overconfidence affect venture capital decision-making. The bibliometric review shows that the United States and India are still quite important, and that scholars in the United States and China work together a lot. The results also fit with Lotka's and Bradford's laws, which means that a small number of sources and authors have a lot of say in this area.

This review is important because it shows how research efforts are not evenly spread out across countries. It shows that established economies are more dominant while emerging and developing nations are less represented. This discrepancy shows that researchers from countries that aren't as well represented need to work together with top institutions and experts in developed countries. Researchers can get to a wider range of ideas, data, and theoretical frameworks by doing this. In the end, this will help the world understand behavioural finance better.

4.1 Future Research Scope

Subsequent investigations in the field of behavioural finance may leverage the insights derived from this analysis while rectifying its limitations to enhance the breadth and profundity of exploration. Researchers should contemplate broadening the database and keyword coverage beyond Scopus to encompass platforms such as Web of Science or EconLit, thus facilitating a more inclusive and thorough literature analysis. Furthermore, qualitative procedures such as comprehensive abstract reviews, manual article screening, and detailed full-text analyses can be utilised to enhance comprehension of the conceptual framework and theoretical foundations of the discipline. Systematic content evaluations of existing studies can reveal prevailing paradigms and theoretical deficiencies, hence fostering the development of novel conceptual frameworks in behavioural finance. Increased emphasis must be placed on the comparatively minimal involvement of researchers from poor countries by actively integrating their case studies, data, and viewpoints. Such initiatives can cultivate a more equitable and comprehensive comprehension of global behavioural finance dynamics and facilitate the advancement of theories and models that encapsulate a varied array of economic and social circumstances.

Future research may gain from investigating multidisciplinary links between behavioural finance and areas such as social marketing, digitalisation, financial literacy, and indebtedness, producing more profound theoretical and practical insights. It is essential to evaluate the relationship between academic research and its practical implementation, highlighting how theoretical advancements might influence financial institutions, regulation, and market dynamics. A concentrated examination of long-term trends, encompassing studies of publishing patterns, theme developments, and collaboration networks, can elucidate the progression of behavioural finance and inform future research objectives. Collectively, these methodologies can foster a more inclusive, significant, and progressive comprehension of behavioural finance, underscoring its importance as a crucial domain of investigation for both academics and professionals.

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