SJISSR Scientific Journal of Innovation and Social Sciences Research

Scientific Journal of Innovation and Social Sciences Research
Cilt: 5 | Sayı: 1 | Haziran 2025
Volume: 5 | Issue: 1 | June 2025

GELİŞMEKTE OLAN PİYASALARDA DAVRANIŞSAL FİNANS: TRENDLER, BOŞLUKLAR VE İŞ BİRLİKLERİ

Tuğçe METİN[1]

Makale İlk Gönderim Tarihi / Received (First): 22.05.2025 **Makale Kabul Tarihi / Accepted:** 21.06.2025

Atıf /Citation: Demir, T. (2025). Behavioral finance in emerging markets: Trends, gaps, and collaborations through. Scientific Journal of Innovation and Social Sciences Research, 5(1), 15-32.

Özet

Bu çalışma, 1999-2025 yılları arasında Web of Science veri tabanında dizinlenen yayınlara dayanarak, Türkiye, Hindistan, Brezilya, Endonezya, Meksika, Güney Afrika ve Polonya olmak üzere yedi gelişen ekonomideki davranışsal finans literatürünün bibliyometrik analizini sunmaktadır. VOSviewer yazılımı kullanılarak, ortak yazarlık ağları, anahtar kelime birlikteliği haritaları ve atıf temelli göstergeler analiz edilmiş; üretken yazarlar, önde gelen kurumlar ve başlıca tematik eğilimler belirlenmiştir. Bulgular, Brezilya'nın akademik ağda baskın bir rol oynadığını, ardından Hindistan ve Güney Afrika'nın geldiğini ve uluslararası iş birliklerinin arttığını göstermektedir. Finansal okuryazarlık, davranışsal önyargılar ve yatırımcı duyarlılığı etrafında kümelenmiş tematik yapılar tanımlanırken; ruh sağlığı, makine öğrenimi ve belirsizlik gibi yükselen konular da dikkat çekmektedir. Alan, artan bir disiplinler arası iş birliğini göstermekteyse de nöro-finans, kültürel belirleyiciler ve dijital finansal davranış gibi konularda önemli boşluklar bulunmaktadır. Bu çalışma, davranışsal finansın yalnızca gelişmiş ekonomiler bağlamında değil, gelişen pazarlar çerçevesinde de analiz edilmesinin önemine vurgu yapmakta ve araştırmacılar, eğitimciler ile politika yapıcılar için çeşitli iç görüler sunmaktadır. Gelecek araştırmaların, finansal davranışın karmaşık dinamiklerini farklı sosyoekonomik bağlamlarda yakalayabilmek adına karşılaştırmalı ve disiplinler arası yaklaşımlar benimsemesi teşvik edilmektedir.

Anahtar Kelimeler: Davranışsal Finans, Gelişmekte Olan Ekonomiler, Bibliyometrik Analiz, Finansal Karar Alma.

BEHAVIORAL FINANCE IN EMERGING MARKETS: TRENDS, GAPS, AND COLLABORATIONS THROUGH

Abstract

This study presents a bibliometric analysis of the behavioural finance literature in seven emerging economies Türkiye, India, Brazil, Indonesia, Mexico, South Africa, and Poland based on publications indexed in the Web of Science database from 1999 to 2025. Using VOSviewer software, co-authorship networks, keyword co-occurrence maps, and citation-based indicators were analysed to identify prolific authors, leading institutions, and major thematic trends. The findings indicate that Brazil plays a dominant role in the scholarly network, followed by India and South Africa, with increasing international collaborations. Thematic clusters centred around financial literacy, behavioural biases, and investor sentiment were identified, alongside emerging topics such as mental health, machine learning, and uncertainty. While the field demonstrates growing interdisciplinary, critical gaps remain in areas such as neuro-finance, cultural determinants, and digital financial behaviour in emerging markets. The study emphasizes the importance of analysing behavioural finance beyond the context of developed economies and offers insights for researchers, educators, and policymakers. Future research is encouraged to adopt comparative and interdisciplinary approaches to capture the complex dynamics of financial behaviour in diverse socioeconomic settings.

Keywords: Behavioral Finance, Emerging Economies, Bibliometric Analysis, Financial Decision Making.

[1] Lec. Dr., Kahramanmaraş Sütçü İmam University, Pazarcık Vocational School, tugcekaracevirgen@ksu.edu.tr, ORCID: 0000-0002-6304-0320

1. Introduction

Behavioral finance is an interdisciplinary approach that examines financial decision-making not solely through rational assumptions, but also by incorporating psychological, cognitive, and emotional factors (Shleifer, 2000; Barberis & Thaler, 2003; Thaler, 2005). The field has evolved in response to the inability of classical financial models to explain market anomalies and irrational investor behaviour (Ritter, 2003; Hirshleifer, 2015). The cognitive biases and judgment errors introduced by Tversky and Kahneman (1974) and Kahneman and Tversky (1979) demonstrated that investor behavior often deviates systematically from rational expectations, thereby necessitating a theoretical framework that integrates insights from psychology. Scholars such as Shefrin (2002) and Montier (2002) have contributed to the methodological development of behavioral finance by systematically categorizing cognitive and emotional biases (e.g., overconfidence, loss aversion, mental accounting) and by proposing structured frameworks that explain how these biases affect financial decision-making in real-world settings.

In recent years, behavioral finance has become a central paradigm that challenges the universal applicability of rationality in financial decision-making. During the COVID-19 pandemic, events such as the surge of individual investors on platforms like Robinhood and the abrupt price spikes of GameStop shares gained widespread attention and were interpreted through the lens of behavioural finance (Pagano et al., 2021; Barber et al., 2022). These examples underscore not only the theoretical relevance of behavioral finance but also its real-world applicability, demonstrating how psychological and emotional factors influence financial markets during periods of pandemic-induced volatility and systemic uncertainty.

However, a significant portion of the behavioral finance literature remains concentrated in the context of developed economies (Statman, 2008; Pompian, 2012; Stolper and Walter, 2017; Statman, 2019). In contrast, emerging markets exhibit unique financial systems, cultural dynamics, and levels of financial literacy that can fundamentally alter the manifestation and intensity of behavioral biases (Kumar et al., 2022; Gaur & Bhargava, 2024). In these settings, investment decisions are influenced not only by economic variables but also by psychological determinants such as risk perception, access to information, and trust in financial institutions. As such, a comprehensive understanding of investor behavior in emerging economies holds the potential to fill critical gaps in the literature and inform policy development at the local level (Costa et al., 2019; Paule-Vianez et al., 2020).

This study aims to explore how the behavioral finance literature has evolved within the context of emerging economies. A bibliometric analysis was conducted using VOSviewer software on academic publications indexed in the Web of Science (WoS) database between 1999 and 2025, as WoS offers comprehensive and high-quality coverage of peer-reviewed literature, and VOSviewer is widely used for mapping co-authorship networks and thematic structures in bibliometric research. The countries selected for analysis Türkiye, India, Brazil, Indonesia, Mexico, South Africa, and Poland were chosen

based on their classification as prominent emerging economies with increasing participation in global financial markets, as well as their growing academic output in the field of behavioral finance. This selection ensures both geographical diversity and relevance to the study's aim of examining financial behavior beyond the context of developed countries. These nations also represent economies undergoing financial and institutional transformation, which provides a valuable comparative basis for examining behavioral dynamics across different cultural and regulatory settings (World Bank, 2023).

Using co-occurrence mapping, keyword clustering, and authorship network visualizations, this study presents a comprehensive overview of thematic trends and collaborative structures within the behavioral finance literature in these countries. By offering an alternative perspective to the dominance of developed-country-focused research, this paper seeks to contribute to a more balanced and inclusive understanding of behavioral finance. Furthermore, it offers insights that may prove valuable for scholars, practitioners, and policymakers interested in local investor behavior and financial decision-making in emerging markets. Furthermore, this study contributes to the literature by systematically mapping the evolution of behavioral finance research in emerging economies a context that remains underexplored despite its growing relevance. By identifying leading contributors, research gaps, and emerging interdisciplinary themes (e.g., mental health, artificial intelligence, and neuro-finance), the paper provides a foundation for future studies to engage with culturally contextualized and policy-relevant aspects of financial decision-making in these regions.

2. Theoretical Background

Behavioral finance emerged as a response to the limitations of traditional finance theories, which assume that individuals are rational agents who make decisions based on full information and consistent preferences (Thaler, 1980; Shiller, 2003; Tekin 2018a). Classical models such as the Efficient Market Hypothesis (Fama, 1970) and Expected Utility Theory (Von Neumann & Morgenstern, 1944) dominated financial thinking for decades. However, repeated anomalies in real-world markets such as speculative bubbles, overreactions, and underreactions challenged these assumptions and opened the way for a new, interdisciplinary approach that integrated insights from psychology, sociology, and neuroscience.

At the core of behavioral finance lies the idea that investors are not always rational and that their decisions are influenced by cognitive biases, emotions, and social factors. Pioneering work by Kahneman and Tversky (1979) on Prospect Theory laid the foundation for understanding how people evaluate risk and uncertainty. Prospect Theory, which has become one of the most widely cited theories in behavioral finance, posits that individuals value gains and losses differently, leading to loss aversion a tendency to prefer avoiding losses more than acquiring equivalent gains. This psychological insight contradicts the symmetry assumed in Expected Utility Theory and has been validated across a range of financial decision-making contexts (Barberis et al., 2001).

Thaler (1980), widely regarded as one of the founding figures of behavioral finance, introduced the concept of mental accounting, which describes how individuals categorize and treat money differently depending on arbitrary distinctions, such as its source or intended use. This framework helps explain why consumers may simultaneously carry credit card debt while maintaining savings accounts or why they are more likely to spend money received as a gift than their own earned income. Thaler's (1999) mental accounting theory challenged the fungibility of money a core principle of neoclassical economics and highlighted the compartmentalization of financial behavior in everyday life.

Building on these foundational ideas, Shefrin and Statman (1985) proposed the behavioral life-cycle hypothesis, suggesting that individual saving and consumption patterns are affected not only by intertemporal preferences but also by self-control problems and mental framing. According to this model, individuals use mental accounts to allocate their wealth into three categories current income, current assets, and future income which are treated with varying degrees of resistance to spending. This segmentation of wealth has significant implications for understanding consumer credit behavior, retirement planning, and financial well-being.

Over time, behavioral finance has evolved into a multifaceted theoretical framework that incorporates psychological and cognitive factors to explain various persistent market anomalies such as overreaction, underreaction, loss aversion, and herding behavior that traditional finance models often fail to account for (Daniel et al., 1998; Barberis & Thaler, 2003; Tekin, 2018b). Shleifer (2000) emphasized that irrational investors and their biases can lead to persistent mispricing's in financial markets, especially when arbitrage is limited. He argued that limits to arbitrage such as transaction costs, risk, and synchronization problems prevent rational traders from correcting price deviations, thereby allowing behavioral biases to affect asset prices in systematic ways.

One of the key contributions of behavioral finance has been the categorization of cognitive biases that drive financial decisions, particularly through the distinction between heuristic driven errors and systematic judgment deviations. These include heuristics such as overconfidence (Barber & Odean, 2001), anchoring (Tversky & Kahneman, 1974), representativeness (Kahneman & Tversky, 1979), and availability (Tversky & Kahneman, 1973), which lead to predictable patterns of deviation from rational decision-making. Overconfident investors tend to overestimate the precision of their knowledge, leading to excessive trading and lower net returns. Anchoring effects occur when individuals fixate on an initial reference point such as a stock's historical high price, analysts' forecasts, or initial public offering values and insufficiently adjust their subsequent judgments or estimates considering new information (Tversky & Kahneman, 1974). In financial contexts, this bias contributes to persistent mispricing, resistance to updating valuations, and excessive market volatility, especially in reaction to earnings announcements or macroeconomic shocks.

Moreover, behavioral finance underscores the role of emotions—including fear, overconfidence, regret, and ambiguity aversion—in shaping financial decisions, particularly under conditions of risk and uncertainty (Statman, 2005). Lo's (2005) Adaptive Markets Hypothesis integrates rational and behavioral approaches by suggesting that market participants are guided by evolutionary forces that blend cognitive limitations with trial-and-error learning. In this view, investor behavior adapts over time to changing market environments, leading to cycles of irrational exuberance and panic. Lo's theory bridges the gap between efficient market thinking and behavioral anomalies, providing a dynamic perspective on financial behavior.

An essential behavioral concept particularly relevant to consumer behavior is the "pain of paying," first systematically explored by Prelec and Loewenstein (1998). This concept refers to the psychological discomfort associated with the act of making a payment, especially in immediate and salient contexts. Raghubir and Srivastava (2008) empirically demonstrated that the method of payment significantly alters perceived pain levels: participants in their study exhibited up to 30% higher willingness to pay when using credit cards instead of cash. This effect was attributed to the reduced immediacy and vividness of parting with money when payment is abstracted, thereby lowering the psychological pain of paying. This theory has been supported by neuro-economic studies showing that certain brain regions associated with pain are activated when individuals are confronted with financial loss or high prices (Knutson et al., 2007).

Another domain within behavioral finance that has gained prominence is the role of personality traits in shaping financial behavior. Research utilizing the Five-Factor Model suggests that traits such as conscientiousness, neuroticism, and openness are associated with varying patterns of saving, spending, and risk-taking (Costa & McCrae, 1992; Brown & Taylor, 2014). For example, individuals high in conscientiousness tend to exhibit more disciplined financial behavior, while those high in neuroticism may respond more emotionally to financial stress.

Cultural and social influences also play a vital role in behavioral finance, especially in global or cross-cultural studies. Hofstede's (1980) dimensions of national culture such as individualism vs. collectivism, uncertainty avoidance, and long-term orientation affect financial attitudes and decision-making styles across societies. Studies have shown that cultural values influence risk tolerance, saving behavior, and investment preferences (Chui et al., 2010). Thus, behavioral finance extends beyond individual cognition by offering insights into macro-level financial behavior, referring to aggregate economic actions such as national saving rates, collective investment tendencies, and culturally driven risk perceptions that emerge across populations. The theoretical landscape of behavioral finance is characterized by a rich integration of psychological, social, and emotional variables that challenge the assumptions of traditional economic models. From foundational work in Prospect Theory and mental accounting to contemporary applications involving payment pain, personality, and cultural differences, behavioral finance continues to expand our understanding of economic behavior in complex, real-world

contexts. As financial markets become increasingly global and digitized, the relevance of behavioral insights grows ever more significant. This is especially evident in areas such as algorithmic trading, digital payment systems, and fintech platforms, where investor psychology and cognitive biases continue to influence financial outcomes despite technological advancements (Lo, 2005; Thaler, 2015).

In the context of emerging economies, the relevance of behavioral finance becomes even more pronounced. Unlike developed markets, emerging economies are often characterized by higher levels of market inefficiencies, limited financial literacy, institutional instability, and greater susceptibility to socio-cultural influences. These characteristics have been widely documented in empirical studies that highlight the structural and behavioral challenges faced by emerging markets (La Porta et al., 1998; Demirgüç Kunt & Levine, 2008; Klapper et al., 2015). These conditions create fertile ground for behavioral biases to shape financial decision-making among individuals, households, and even policymakers. Furthermore, rapid digitalization, informal financial practices, and the transition from cash-based to cashless systems introduce new dimensions to the experience of financial decision-making particularly regarding consumption behavior, savings, and the psychological costs associated with payment. Understanding these behavioral dynamics is essential for designing inclusive financial policies, promoting sustainable economic behavior, and fostering financial resilience in emerging market contexts (Demirgüç Kunt et al., 2008; Klapper et al., 2015). As such, behavioral finance not only offers explanatory power but also policy relevance in addressing the unique challenges and opportunities present in developing regions.

3. Methodology

This study conducts a bibliometric analysis of peer-reviewed publications in behavioral finance, with an emphasis on chosen emerging economies as defined by established global indices (e.g., IMF, MSCI). Bibliometric analysis is a systematic method that allows the quantitative evaluation of academic literature by applying mathematical and statistical techniques to publications and citations (Egghe & Rousseau, 2002; Donthu et al., 2021). This method enables researchers to identify the development trends, leading contributors, collaboration networks, and thematic structures within a selected scientific field (Tague-Sutcliffe, 1992; Glänzel & Czerwon, 1996). The dataset for this study was retrieved from the Web of Science (WoS) Core Collection, covering the years 1999 to 2025. The starting point of 1999 was chosen because it marks the beginning of a noticeable increase in behavioral finance publications, reflecting its emergence as a distinct subfield. The endpoint of 2025 includes the most recent available publications at the time of data retrieval. Bibliometric analysis was selected as the methodological approach due to its ability to provide a comprehensive, objective, and reproducible overview of scientific developments, particularly useful for mapping the evolution of research fields across countries and institutions (Donthu et al., 2021). A total of 11,917 publications indexed under the keyword “behavioral finance” were initially identified. From this pool, 2,593 publications affiliated with the following seven emerging economies were selected for analysis: Türkiye, India, Brazil, Indonesia, Mexico, South Africa,

and Poland. These countries were chosen based on three main criteria. Firstly, publication volume, each country had a minimum of 150 WoS-indexed publications related to behavioral finance between 1999 and 2025, ensuring sufficient data for robust analysis. Second one regional diversity, the selection represents diverse geographical regions e.g., Türkiye (Eurasia), India (South Asia), Brazil (South America), Indonesia (Southeast Asia), Mexico (North America), South Africa (Sub-Saharan Africa), and Poland (Eastern Europe) to enable cross-regional comparisons. Last one is thematic relevance, preliminary keyword analysis confirmed that the selected countries contributed actively to core behavioral finance themes such as risk perception, investor psychology, and financial literacy, making them representative of emerging market dynamics.

To process and analyse the data, bibliometric mapping techniques were applied using the VOSviewer 1.6.20 software. VOSviewer has been widely utilized in bibliometric studies across disciplines, including finance and economics, due to its capacity to generate intuitive and high-quality visualizations of citation, co-authorship, and keyword networks (Van Eck & Waltman, 2010; Zupic & Čater, 2015). The analysis included keyword co-occurrence, co-authorship, bibliographic coupling, and co-citation networks (Van Eck & Waltman, 2010). Through these mapping techniques, the study visualizes the thematic clusters, academic collaboration structures, and intellectual foundations of behavioral finance literature across the selected countries. This approach not only offers quantitative insights but also provides a visual representation of the knowledge structure within the field (Aria & Cuccurullo, 2017; Koç & Karabınar, 2021). Accordingly, the research follows both descriptive and exploratory orientations. In addition to identifying dominant topics and collaboration patterns, the bibliometric analysis also contributes to uncovering existing research gaps and highlighting promising avenues for future studies in the context of behavioral finance in emerging markets.

4. Data Analysis and Findings

In the analysis conducted through the Web of Science (WoS) database using the keyword “behavioral finance,” the first step involved examining the most prolific and most cited authors among studies originating from the selected seven countries.

To obtain a comprehensive perspective without applying strict filters, the analysis included all authors who had published at least one paper and received at least one citation. This inclusive threshold was intentionally chosen to avoid prematurely excluding early-career researchers or authors from emerging academic systems, where publication and citation rates tend to be lower than in developed countries. It also allowed for the mapping of a broader and more representative network of contributors within the selected emerging economies. Table 1 presents the findings related to the most prolific authors, the most cited authors, and those with the strongest total link strength.

Table 1. Author's Document, Citation and Total Strength List

Rank	Authors	Documents	Authors	Cite	Authors	Total Link Strength
1	Rosemberg, D. B.	33	Cieciuch, J.	1783	Rosemberg, D. B	207
2	Garcia-Cairasco, N.	23	Lonnqvist, J. E.	1783	Lima, R. R.	193
3	Canzian, J.	21	Schwartz, S. H.	1783	Savegnago, L.	150
4	Toscano, A. E.	20	Vecchione, M.	1783	Canzian, J.	142
5	Passos, I. C.	19	Beierlein, C.	1783	Quevedo, J.	138
6	Bonan, C. D.	19	Davidov, E.	1589	Passos, I. C.	132
7	Lima, R. R.	18	Demirutku, K.	1589	Garcia-Cairasco, N.	117
8	Savegnago, L.	17	Dirilen Gümüş, Ö.	1589	Rohde, L. A.	116
9	Quevedo, J.	16	Fischer, R.	1589	Tovo-Rodrigues, L.	111
10	Manhaes-de-Castro, R.	16	Konty, M.	1589	Toscano, A. E.	111

Table 1 presents the leading contributors to the behavioral finance literature in the selected seven emerging economies, based on three key bibliometric indicators: number of publications, citation count, and total link strength. Out of a total of 9,232 authors identified in the dataset, the top 10 authors in each category are listed (the top 10 threshold was selected as it provides a widely accepted and interpretable benchmark in bibliometric research, allowing for a focused yet representative overview of the most influential contributors without overwhelming the analysis with excessive detail). In terms of research productivity, Rosenberg, D. B. ranks first with 33 publications, followed by Garcia-Cairosco, N. (23 publications) and Canzian, J. (21 publications), reflecting their sustained contributions to the literature. Regarding citation impact, authors such as Cieciuch, J., Lounqvist, J. E., and Schwartz, S. H. have each received 1,783 citations, indicating their strong academic influence. A second cluster including Davidov, E., Demirutku, K., and Dirilen Gümüş, Ö. each received 1,589 citations, underscoring their intellectual significance. In terms of co-authorship network strength, Rosenberg, D. B. again stands out with a total link strength of 207, followed by Lima, R. R. (193) and Savergnago, L. (150), suggesting their central positions within collaborative structures. This multidimensional analysis reveals that while some authors excel in publication volume, others distinguish themselves through citation impact or collaborative connectivity. Notably, Rosenberg, D. B. demonstrates consistent prominence across all three dimensions, whereas authors like Cieciuch, J. and Lounqvist, J. E. though less prolific in the selected countries exhibit considerable global scholarly influence through high citation counts.

Table 2. Organizations Document, Citation and Total Strength List

Rank	Organizations	Documents	Organizations	Cite	Organizations	Total Link Strength
1	The University of Sao Paulo	162	The University of Sao Paulo	1116	The University of Sao Paulo	88
2	The Federal University of Pernambuco	43	The Federal University of Pelotas	493	The Federal University of Santa Maria	26
3	The Federal University of Santa Maria	40	Pontifical Catholic University of Rio Grande do Sul	318	The Federal University of Pernambuco	20
4	The Federal University of Pelotas	38	The Federal University of Santa Maria	299	The Federal University of Pelotas	16
5	The Federal University of Sao Paulo	28	The Federal University of Pernambuco	238	The Federal University of Rio Grande do Norte	16
6	The Federal University of Rio Grande do Norte	27	The Federal University of Rio Grande do Norte	235	The Federal University of Sao Paulo	15
7	The Federal University of Santa Catarina	25	The Federal University of Rio Grande do Sul	200	The Federal University of Minas Gerais	14
8	Pontifical Catholic University of Rio Grande do Sul	18	Indian Institute of Management Lucknow	198	Pontifical Catholic University of Rio Grande do Sul	13
9	The Federal University of Minas Gerais	18	The Federal University of Pampa	182	The Federal University of Rio Grande do Sul	12
10	The Federal University of Rio Grande do Sul	17	Symbiosis International Deemed University	174	The University of Brasilia	12

Based on the criterion of having at least one publication and one citation, a total of 710 organizations were identified in the dataset (this inclusive threshold was intentionally adopted to capture a broad and representative range of institutions contributing to the field, particularly in the context of emerging economies where institutional publication and citation rates tend to be more modest compared to those in developed countries). Table 2 presents the top 10 institutions in terms of publication count, citation impact, and total link strength. The University of Sao Paulo stands out as the leading institution in all three dimensions, with the highest number of publications (162), the greatest number of citations (1116), and the strongest total link strength (88). Following this, The Federal University of Pernambuco ranks

second in both document count (43) and citations (493), while also demonstrating a strong presence in terms of network connectivity (link strength = 26). Other prominent institutions include The Federal University of Santa Maria and The Federal University of Pelotas, each contributing significantly to both publication output and citation impact. Notably, The Federal University of Rio Grande do Sul appears multiple times across the different metrics, reflecting its active role in the research network. The presence of Indian institutions such as the Indian Institute of Management Lucknow and Symbiosis International Deemed University among the top-cited organizations highlights the growing global diversity of contributions in the field of behavioral finance. These findings suggest that Brazilian institutions play a dominant role in shaping the scholarly landscape of behavioral finance, both in terms of productivity and scholarly influence.

Table 3. Country List

Rank	Country	Documents	Cite	Total Link Strength
1	Brazil	1,544	14,722	1,208
2	USA	422	7,988	1,169
3	England	158	3,707	640
4	Australia	118	3,375	483
5	Canada	126	3,257	479
6	Germany	99	4,909	472
7	China	88	2,929	457
8	India	404	6,458	444
9	Italy	44	4,127	337
10	Spain	67	2,211	328

The data in Table 3 help create the country connectivity map in Figure 1.

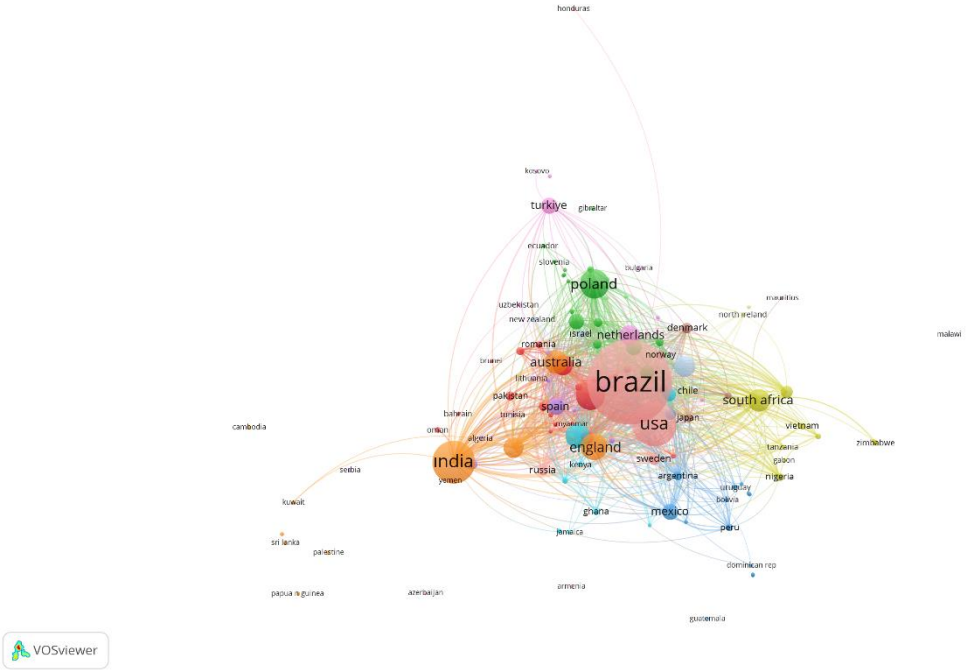

Figure 1. Country Map of Collaboration

In the country-level co-authorship analysis, a full counting method was applied, and countries with at least one publication and one citation were included. This low threshold was intentionally chosen to reflect the full spectrum of international contributors, particularly from emerging economies where behavioral finance scholarship is still developing. To prevent inflated results and ensure meaningful interpretation of collaboration strength, documents co-authored by more than 25 countries were excluded. This cut-off was guided by previous bibliometric studies (e.g., Zupic & Čater, 2015) and empirical observation of disproportionately high total link strength values in hyper-collaborative publications, which tend to overstate actual bilateral or regional cooperation. As illustrated in Figure 1 and detailed in Table 3, Brazil stands out as the most prominent country in the behavioral finance research network, with the highest number of documents, citations, and total link strength. The United States and England also appear as central actors in the collaboration map, followed by countries such as India, South Africa, and Poland, highlighting an increasingly geographically and institutionally diversified research environment in the field of behavioral finance. It is important to note that although the original dataset focused on seven developing countries, the co-authorship map reflects a broader network by including all countries that have collaborated with those focal nations. For example, if a study from India includes co-authors from the United States, or if a Polish researcher works with a German colleague, both the United States and Germany will be represented in the network. This methodological characteristic highlights the interconnected and transnational nature of scientific production in behavioral finance.

Moreover, the visualization reveals a meaningful integration between developed and developing countries, with major economies such as the USA, England, Germany, and Canada frequently appearing in co-authored publications alongside emerging markets like Brazil, India, South Africa, and Türkiye. This suggests not only the globalization of behavioral finance research but also the rising visibility and scientific contribution of developing countries within international scholarly collaborations.

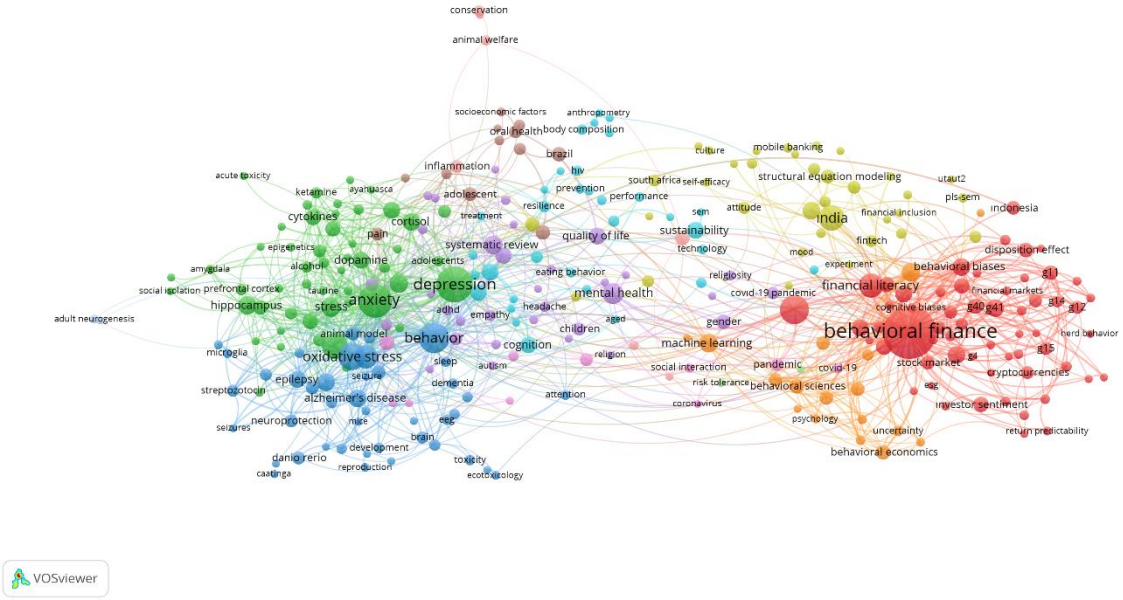

Figure 2. Keywords Map

Figure 2 illustrates the co-occurrence network of author keywords in the behavioral finance literature. The analysis was based on keywords that appeared in at least five different documents, resulting in a total of 305 keywords. This threshold was selected following established practices in bibliometric research, where a minimum occurrence of 3 to 10 is commonly used to ensure both relevance and clarity in network visualizations (e.g., Aria & Cuccurullo, 2017; Donthu et al., 2021). Setting the threshold at five strikes a balance between inclusiveness and interpretability, allowing the identification of meaningful thematic clusters without overloading the map with low-frequency or idiosyncratic terms. The visualization reveals distinct thematic clusters that reflect the interdisciplinary and evolving nature of behavioral finance research. The most prominent cluster, represented in red, centres around the core concept of behavioral finance, which appears as the most frequently used keyword (n=186, total link strength=281). This cluster includes related terms such as financial literacy, behavioral biases, cognitive biases, stock market, investor sentiment, and cryptocurrencies, indicating a strong focus on the psychological underpinnings of individual financial decision-making and market behavior. Terms like disposition effect, herd behavior, and return predictability also suggest a growing interest in micro-level financial behavior within both traditional and digital financial ecosystems.

One of the notable thematic clusters in the keyword co-occurrence network is the orange cluster, which bridges behavioral finance with emerging methodological and technological approaches. Keywords

such as machine learning, behavioral sciences, uncertainty, and pandemic highlight the integration of computational models and real-world disruptions (e.g., COVID-19) in the analysis of financial behavior. This cluster reveals how behavioral finance has increasingly incorporated data-driven techniques, such as machine learning algorithms, sentiment analysis, big data analytics, and neural network modeling, to better understand decision-making under conditions of risk and ambiguity. These approaches enable researchers to analyse large-scale behavioral datasets, detect hidden patterns, and simulate complex investor responses to uncertain environments.

A notable green and blue region of the map, on the other hand, is dominated by health-related keywords, including depression (n=89), anxiety (n=77), oxidative stress (n=50), behavior, and mental health. These clusters reflect a significant body of research intersecting behavioral science with neuroscience, psychology, and medicine. The presence of terms like memory, hippocampus, stress, and Alzheimer's disease suggests an interdisciplinary overlap, where behavioral patterns are examined through both cognitive and biological lenses.

In the yellow cluster, we observe a strong emphasis on keywords such as sustainability, quality of life, performance, and financial inclusion, along with country-level terms like India, Indonesia, and South Africa. While the co-occurrence of these terms does not necessarily confirm a direct engagement with development practices within the behavioral finance framework, their collective presence suggests an emerging thematic intersection between financial behavior and broader socioeconomic concerns. This cluster may reflect a growing interest in the application of behavioral finance to issues such as inclusivity, technological access, and well-being in the context of emerging economies.

Finally, the light brown and purple clusters contain diverse terms such as prevention, resilience, religiosity, and gender, which point to the broader sociocultural and demographic dimensions of behavioral research.

Overall, the co-occurrence map in Figure 2 provides a comprehensive overview of the conceptual structure of behavioral finance. It reveals the field's interdisciplinary breadth spanning finance, psychology, neuroscience, and public health while also highlighting its responsiveness to technological, societal, and global developments. The diversity of clusters confirms that behavioral finance is not only a domain of economic theory but also a versatile framework applied across contexts to understand complex human behavior.

4. Discussion and Conclusion

This study offers a comprehensive bibliometric overview of the behavioral finance literature in seven emerging economies Türkiye, India, Brazil, Indonesia, Mexico, South Africa, and Poland between 1999 and 2025. Through co-authorship, keyword co-occurrence, and citation analyses, it uncovers the structural, thematic, and collaborative dynamics shaping scholarly activity in this field. The findings reveal that countries such as Brazil, India, and South Africa have become increasingly visible

contributors, both in terms of academic output and international collaboration. Brazil, particularly emerged as a central hub, demonstrating the highest productivity, citation impact, and total link strength.

The keyword co-occurrence analysis provides critical insight into the conceptual landscape of behavioral finance within these contexts. Core themes such as financial literacy, behavioral biases, investor sentiment, and stock market behavior dominate the literature, underscoring a persistent focus on the psychological dimensions of individual financial decision-making. In addition, the presence of clusters associated with depression, anxiety, mental health, and neuroscience reflects the field's interdisciplinary expansion into cognitive science and public health. Another cluster connects behavioral finance with machine learning, uncertainty modeling, and pandemic effects, signalling the growing integration of data-driven methods and real-world disruptions into financial behavior analysis.

Despite these promising developments, several gaps and limitations remain. While the literature in developed countries has increasingly engaged with advanced methodologies such as neuro-finance, algorithmic decision-making, and biometric tracking, these themes are relatively underexplored in the context of emerging markets (Statman, 2019; Gaur & Bhargava, 2024). Additionally, sociocultural constructs like trust in financial institutions, religiosity, gender, and financial resilience are present but not systematically theorized or compared across countries. This suggests an opportunity for future research to further contextualize behavioral finance theories by incorporating local cultural, institutional, and psychological dynamics.

The study's findings also have practical policy and educational implications. Understanding behavioral biases and decision heuristics in emerging economies can support the development of targeted financial literacy programs, especially in societies where formal financial education is limited and informal financial behavior is widespread. To evaluate the effectiveness of such financial literacy programs, concrete indicators such as improvements in financial knowledge assessments, increased formal savings participation, and reduced over-indebtedness rates may be monitored. For instance, the Presidential Circular on "Financial Literacy Day" published in the Official Gazette No. 32903 on May 17, 2025, highlights the importance of reducing citizens' vulnerability to financial manipulation due to low literacy levels, particularly in Türkiye. These national efforts underscore the need for empirically grounded tools to assess the behavioral and economic outcomes of educational interventions. Insights from behavioral finance can be utilized to design behaviourally informed interventions, such as nudges and choice architectures, to promote saving, investment, and responsible borrowing behaviours.

From a methodological standpoint, the analysis highlights the value of bibliometric techniques in identifying thematic trends, research gaps, and collaboration patterns. It demonstrates that while behavioral finance is becoming more inclusive and global in scope, further effort is needed to balance the geographic and thematic representation of emerging markets in the literature.

While previous bibliometric studies in the field of behavioral finance have provided valuable insights into the evolution of research themes, author productivity, and citation structures, they have predominantly focused on global or developed market contexts (e.g., Tekin, 2018a; Costa et al., 2019; Paule-Vianez et al., 2020; Bharati, 2021). Other studies such as Bhatia et al. (2023) and Gaur and Bhargava (2024) have extended the analysis by mapping thematic clusters or exploring citation networks, yet they often treat emerging markets as part of broader aggregated datasets without specific attention to their unique socioeconomic and institutional dynamics. In contrast, this study offers a geographically focused bibliometric analysis exclusively targeting seven emerging economies Turkey, India, Brazil, Indonesia, Mexico, South Africa, and Poland thereby uncovering context-specific research trends, collaboration patterns, and thematic developments. By narrowing the scope to emerging markets and incorporating underexplored dimensions such as mental health, digital behavior, and cultural constructs, this study contributes a more localized and inclusive perspective to the evolving landscape of behavioral finance research.

In conclusion, this study contributes to the behavioral finance literature by offering a structured and visualized understanding of how the field has evolved in emerging economies. It broadens the literature's scope by drawing attention to underexplored emerging-market contexts and advocating for more culturally and economically inclusive approaches to understanding financial behavior. Future studies could benefit from adopting comparative multi-country designs that not only explore behavioral patterns within emerging markets, but also systematically contrast them with developed economies to reveal context-specific dynamics and universal behavioral regularities. Moreover, deeper integration of neuroscience, digital finance, and sociocultural analysis will ensure that behavioral finance continues to grow as a multidimensional and globally relevant discipline.

References

Aria, M., & Cuccurullo, C. (2017). Bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, *11*(4), 959–975. https://doi.org/10.1016/j.joi.2017.08.007

Barber, B. M., Huang, X., Odean, T., & Schwarz, C. (2022). Attention-induced trading and returns: Evidence from Robinhood users. *The Journal of Finance, 77,* 3141-3190. https://doi.org/10.1111/jofi.13183

Barber, B.M., & Odean, T. (2001) Boys will be boys: Gender, overconfidence, and common stock investment. *Quarterly Journal of Economics*, *116,* 261-292. https://doi.org/10.1162/003355301556400

Barberis, N., & Thaler, R. (2003). A survey of behavioral finance. In G. M. Constantinides, M. Harris, & R. M. Stulz (Eds.), *Handbook of the Economics of Finance* (Vol. 1, pp. 1053–1128). Elsevier.

Barberis, N., Huang, M., & Santos, T. (2001). Prospect theory and asset prices. *Quarterly Journal of Economics*, *116*, 1-53. http://dx.doi.org/10.1162/003355301556310

Bharati, S. (2021). A Bibliometric Analysis of behavioral finance and behavioral accounting. *American Business Review, 24*(2), 198-230. https://doi.org/10.37625/abr.24.2.198-230

Bhatia, A., Chandani, A., Divekar, R., & Neeraja, B. (2023). *Behavioral finance: A bibliometric analysis.* In: Joshi, A., Mahmud, M., Ragel, R.G. (eds) *Information and Communication Technology for Competitive Strategies* (ICTCS 2022). ICTCS 2022. Lecture Notes in Networks and Systems, vol 623. Springer, Singapore. https://doi.org/10.1007/978-981-19-9638-2_69

Brown, S., & Taylor, K. (2014). Household finances and the 'Big Five' personality traits. *Journal of Economic Psychology, 45,* 197–212. https://doi.org/10.1016/j.joep.2014.10.006

Chui, A., Titman, S., & Wei, K. (2010). Individualism and momentum around the world. *The Journal of Finance, 65,* 361-392. https://doi.org/10.1111/j.1540-6261.2009.01532.x

Costa, D. F., Carvalho, F. M., & Melo Moreira, B. C. (2019). Behavioral economics and behavioral finance: a bibliometric analysis of the scientific fields, *Journal of Economic Surveys*, *33*(1), 3-24. https://doi.org/10.1111/joes.12262

Costa, P. T., & McCrae, R. R. (1992). The five-factor model of personality and its relevance to personality disorders. *Journal of Personality Disorders, 6*(4), 343–359. https://doi.org/10.1521/pedi.1992.6.4.343

Daniel, K., Hirshleifer, D., & Subrahmanyam, A. (1998) Investor psychology and security market under- and overreactions. *The Journal of Finance*, *53,* 1839-1885. https://doi.org/10.1111/0022-1082.00077

Demirgüç Kunt, A., & Levine, R. (2008). Finance, financial sector policies, and long-term growth. *World Bank Policy Research Working Paper Series*, 4469.

Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021), How to conduct a bibliometric analysis: An overview and guidelines, *Journal of Business Research, 133*, 285-296. https://doi.org/10.1016/J.Jbusres.2021.04.070

Egghe, L., & Rousseau, R. (2002). Co-citation, Bibliographic coupling and a characterization of lattice citation networks. *Scientometrics*, *55*(3), 349–361. https://doi.org/10.1023/A:1020458612014

Fama, E. (1970). Efficient capital market: A review of theory and empirical work. *Journal of Finance*, *25,* 382 - 417. https://doi.org/10.2307/2325486

Gaur, K., & Bhargava, V. (2024). Landscape of behavioral finance: A bibliometric analysis. *International Journal of Research and Analytical Reviews, 11*(3), 327-348. https://doi.org/10.1729/Journal.41772

Glänzel, W., & Czerwon, H. J. (1996). A new methodological approach to bibliographic coupling and its application to the national, regional and institutional level, *Scientometrics*, *2*, 195-221. https://doi.org/10.1007/bf02093621

Hirshleifer, D. (2015). Behavioral finance. *Annual Review of Financial Economics*, *7*, 133–159. https://doi.org/10.1146/annurev-financial-092214-043752

Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. CA: Sage.

Kahneman, D., & Tversky, A. (1979) Prospect theory: An analysis of decision under risk. *Econometrica: Journal of the Econometric Society, 47,* 263–291. https://doi.org/10.2307/1914185

Klapper, L., Lusardi, A., & van Oudheusden, P. (2015). Financial literacy around the world: Insights from the Standard & Poor's ratings services global financial literacy survey. *Standard & Poor's, Global Financial Excellence Center (GFLEC),* World Bank.

Knutson, B., Rick, S., Wimmer, G. E., Prelec, D., & Loewenstein, G. (2007). Neural antecedents of the endowment effect. *Neuron*, *58*, 814-822. http://doi.org/10.1016/j.neuron.2008.05.018

Koç, A., & Karabınar, S. (2021). Bibliometric Analysis of international scientific studies in accounting education and Turkey's position. *Journal of Academic Research and Studies*, *13*(24), 181-195. https://doi.org/10.20990/kilisiibfakademik.715885

Kumar, S., Rao, S., Goyal, K., & Goyal, N. (2022). Journal of behavioral and experimental finance: A bibliometric overview. *Journal of Behavioral and Experimental Finance*, *34*(C). https://doi.org/10.1016/j.jbef.2022.100652

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1998). Law and finance. *Journal of Political Economy*, *106*(6), 1113–1155. https://doi.org/10.1086/250042

Lo, A.W. (2005). Reconciling efficient markets with behavioral finance: The adaptive markets hypothesis. *Journal of Investment Consulting*, *7*, 21-44.

Montier, J. (2002). Darwin's mind: The evolutionary foundations of heuristics and biases. *Working Paper*. http://dx.doi.org/10.2139/ssrn.373321

Shiller, R. J. (2003). From efficient markets theory to behavioral finance. *Journal of Economic Perspectives, 17,* 83-104. https://doi.org/10.1257/089533003321164967

Statman, M. (2005). Normal investors, then and now. *Financial Analysts Journal*, *61*(2), 31–37. https://doi.org/10.2469/faj.v61.n2.2713

Statman, M. (2008). Countries and culture in behavioral finance. *CFA Institute Conference Proceedings Quarterly,* 38-44.

Statman, M. (2019). Behavioral finance, the second generation. World Scientific Book Chapters, in: *Behavioral Finance the Coming of Age*, 3-21. https://doi.org/10.1142/9789813279469_0001

Stolper, O.A., & Walter, A. (2017). Financial literacy, financial advice, and financial behavior. *J Bus Econ, 87*, 581–643. https://doi.org/10.1007/s11573-017-0853-9

Pagano, M. S., Sedunov, J., & Velthuis, R. (2021). How did retail investors respond to the COVID-19 pandemic? The effect of Robinhood brokerage customers on market quality. *Finance Research Letters*, *November 2020*, 101946. https://doi.org/10.1016/j.frl.2021.101946

Paule-Vianez, J., Gómez-Martínez, R., & Prado-Román, C. (2020). A bibliometric analysis of behavioural finance with mapping analysis tools. *European Research on Management and Business Economics*, *26*(2), 71–77. https://doi.org/10.1016/j.iedeen.2020.01.001

Pompian, M. M. (2012). Behavioral finance and investor types: Managing behavior to make better investment decisions. *John Wiley & Sons.* https://doi.org/10.1002/9781119202417

Prelec, D., & Loewenstein, G. (1998). The red and the black: Mental accounting of savings and debt. *Marketing Science, 17*(1), 4–28. https://doi.org/10.1287/mksc.17.1.4

Raghubir, P., & Srivastava, J. (2008). Monopoly money: The effect of payment coupling and form on spending behavior. *Journal of Experimental Psychology: Applied, 14*(3), 213–225. https://doi.org/10.1037/1076-898X.14.3.213

Ritter, J.R. (2003). Behavioral finance. *Pacific-Basin Finance Journal*, *11,* 429-437. https://doi.org/10.1016/S0927-538X(03)00048-9

Shefrin, H., & Statman, M. (1985). The disposition to sell winners too early and ride losers too long: Theory and evidence. *The Journal of Finance*, *40,* 777-790. https://doi.org/10.1111/j.1540-6261.1985.tb05002.x

Shefrin, H. (2002). *Beyond greed and fear: Understanding behavioral finance and the psychology of investing*. Oxford Univ. Press.

Shleifer, A. (2000). Inefficient markets: An introduction to behavioral finance. *Oxford University Press*. https://doi.org/10.1093/0198292279.001.0001

Tague-Sutcliffe, J. (1992). An introduction to informetric. *Information Processing & Management 28*(1), 1–3. http://dx.doi.org/10.1016/0306-4573(92)90087-G

Tekin, B. (2018a). Behavioral finance as the human dimension of finance in the context of cognitive bias and heuristics: A literature review and compilation study. *International Journal of Human Studies*, *1*(2), 131–156. https://doi.org/10.35235/uicd.462794

Tekin, B. (2018b). The impact of overconfidence on corporate financial decisions in the context of behavioral corporate finance. *ELK's International Journal of Finance*, *9*(4), 59–90. https://doi.org/10.32951/mufider.421268

Thaler, R.H. (1980). Toward a positive theory of consumer choice. *Journal of Economic Behavior and Organization*, 1, 39-60. https://doi.org/10.1016/0167-2681(80)90051-7

Thaler, R. H. (1999). Mental accounting matters. *Journal of Behavioral Decision Making, 12*(3), 183–206. https://doi.org/10.1002/(SICI)1099-0771(199909)12:3<183::AID-BDM318>3.0.CO;2-F

Thaler, R. H. (2005). *Advances in behavioral finance,* Volume II. Princeton University Press. https://doi.org/10.1515/9781400829125

Thaler, R. H. (2015). *Misbehaving: The making of behavioral economics.* W. W. Norton & Company.

Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, *185*, 1124-1131. https://doi.org/10.1126/science.185.4157.1124

Tversky, A., & Kahneman, D. (1973). Availability: A heuristic for judging frequency and probability. *Cognitive Psychology, 5*(2), 207–232. https://doi.org/10.1016/0010-0285(73)90033-9

World Bank. (2023). *Global economic prospects: Slow growth, rising risks*. Retrieved June 10, 2025, from https://openknowledge.worldbank.org/server/api/core/bitstreams/2baabfb0-d076-444b-9564-7935afab5ada/content.

Van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics,* 84, 523-538. https://doi.org/10.1007/s11192-009-0146-3

Von Neumann, J., & Morgenstern, O. (1944). *Theory of games and economic behavior.* Princeton University Press.

Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. *Organizational Research Methods, 18*(3), 429–472. https://doi.org/10.1177/1094428114562629