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BIBLIOMETRIC ANALYSIS OF VALUE AT RISK IN ISLAMIC PORTFOLIO: TRENDS, GAPS, AND FUTURE DIRECTIONS

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ABSTRACT
This study explores trends, intellectual structures, and thematic evolution in the literature on Value at Risk (VaR) for Islamic portfolios, identifying research gaps and proposing future directions. Using bibliometric analysis, it synthesizes 311 articles from the Scopus database (2005–2024) through Biblioshiny in RStudio and VOSviewer, focusing on publication trends, influential authors, affiliations, and thematic structures. The findings reveal steady growth in VaR literature for Islamic portfolios, with a 3.53% annual growth rate and contributions from 677 authors. Key contributors include Hammoudeh S., Mensi W., and institutions like International Islamic University Malaysia and Prince Sultan University. Thematic analysis highlights advanced methodologies such as GARCH and wavelet analysis, enhancing Islamic finance approaches. Thematic evolution shows a shift from foundational Islamic finance topics to complex analyses of volatility spillovers and dynamic connectedness. The study identifies nine research clusters and recommends integrating ESG considerations, improving risk management, and strengthening portfolio diversification. This research offers valuable insights for practitioners and policymakers in Islamic finance, underscoring the importance of tailored risk assessment tools. It provides a roadmap for scholars to address gaps, particularly in adapting conventional VaR methods to align with Islamic principles. To the authors' knowledge, this is the first comprehensive bibliometric analysis on VaR in Islamic portfolios, significantly contributing to the literature by mapping intellectual landscapes and offering actionable future research directions.

1. INTRODUCTION

Value at Risk (VaR) has become one of the foundational pillars in financial risk management frameworks, primarily due to its capability to quantitatively measure potential losses at specified confidence levels, such as 95% or 99% (Lechner & Ovaert, 2010). As a quantile-based tool, VaR simplifies complex risk profiles into a single, easily interpretable figure, making it highly valuable for risk managers in navigating dynamic markets (Berkelaar et al., 2002; Li, 2015). The integration of VaR into financial sector regulations and risk assessment protocols further underscores its relevance and utility in managing market volatility (Bakar & Rosbi, 2019; Hendarti, 2024).

However, despite the rapid development of VaR applications in conventional finance, its exploration within Islamic finance remains significantly limited. Islamic finance, grounded in Shariah principles, prohibits elements such as *riba* (interest), *gharar* (excessive uncertainty), and *maysir* (speculation), thereby creating unique characteristics in its financial instruments (AlShattarat & Atmeh, 2016; Habibi & Rusgianto, 2021). The risk profiles produced by profit-sharing mechanisms, such as Mudarabah and Musharakah contracts, often exhibit non-normal return distributions, which traditional VaR models are not fully equipped to address (Ismal, 2010; Nugraheni & Alimin, 2020). Conventional VaR methodologies, which assume normal distribution of returns, frequently fail to capture the complexities inherent in these Islamic financial instruments (Kok et al., 2014; Othman, 2023).

Islamic financial institutions also face additional challenges, such as displaced commercial risk (DCR) and Shariah non-compliance risk, which require tailored risk management approaches (Archer et al., 2010; Hayat et al., 2019). While Islamic capital markets and Shariah-compliant assets continue to grow, the literature on VaR applications in this context remains dominated by studies focusing on Shariah compliance, financial literacy, or investment behavior, with limited exploration of advanced risk management tools like VaR (Dewi & Ferdian, 2021; Fauzi, 2024).

This study aims to address this gap by providing a more comprehensive review of VaR applications in Islamic finance. It also seeks to answer the following key research questions:

RQ1: What are the factors influencing the literature on VaR in Islamic portfolios?

RQ2: What is the intellectual structure of the literature on VaR in Islamic portfolios?

RQ3: What are the thematic trends in the literature on VaR in Islamic portfolio?

RQ4: What are the research gaps and future directions related to VaR in Islamic portfolios?

This study not only contributes to identifying developments, trends, and gaps in the literature but also provides strategic guidance for practitioners and policymakers in developing more effective risk management frameworks that align with Shariah principles. To support this analysis, the study will employ a bibliometric approach to map the literature related to this research theme, analyze publication patterns, inter-research relationships, and dominant keywords. The findings from this analysis are expected to clarify the intellectual development in this field and provide a clear direction for future research.

2. METHODOLOGY

The data for this bibliometric review were collected from Scopus, the largest and most trusted multidisciplinary database owned by Elsevier, which has been widely utilized in previous studies (Alshater et al., 2020; Wahyudi, 2023). Scopus was selected for its extensive coverage of peer-reviewed literature across various disciplines, including Islamic finance, and for its credibility compared to alternatives such as Web of Science, which has limited coverage of Islamic finance literature, and Google Scholar, which often includes lower-quality documents (R. Hasan et al., 2020; Kuanova et al., 2021). This choice is further supported by Scopus's ability to provide access to journals relevant to Islamic finance, facilitating an in-depth analysis of trends, key themes, and research gaps in the field (Mustapha et al., 2020; Qudah, 2023; Rusydiana, 2021). Thus, Scopus is an ideal choice to ensure the quality and relevance of this review, particularly in addressing the need for further exploration of **Value at Risk (VaR)** in Shariah-compliant investment instruments, an area with limited existing research (Biancone et al., 2020; Ekananda & Syahrivar, 2023).

Researcher intervention is often required to filter manuscripts that do not align with the research objectives. The Scopus database was accessed using a variety of keywords relevant to the research focus, namely: “Value at Risk” OR “VaR” AND “Islamic” OR “Sharia” OR “Islamic Indices.” The search yielded a total of 204 documents, which were then refined through filters and restrictions. The search query applied to narrow down the results was:

TITLE-ABS-KEY ("Value at Risk" OR "historical simulation" OR "Volatility spillover" OR "Model-Building Approach" OR "COPULA" OR "Quadratic Model" OR "Multivariate-GARCH-DCC" OR "GARCH" OR "Principal Component Analysis" OR "monte carlo simulation" OR "stress testing" OR "back testing" AND "Islamic" OR "sharia" OR "slamic Indices" OR "Islamic stock market") AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (LANGUAGE ,

"English")) AND (LIMIT-TO (SUBJAREA , "ECON") OR LIMIT-TO (SUBJAREA , "BUSI") OR LIMIT-TO (SUBJAREA , "SOCI") OR LIMIT-TO (SUBJAREA , "MATH"))

The filtering process resulted in 311 documents, all of which were English-language articles. These documents were manually reviewed to ensure their relevance to the research objectives. This selection process aimed to focus the review on high-quality literature directly related to the application of Value at Risk in the context of Islamic portfolio management.

Subsequently, the CSV file exported from Scopus was processed using Biblioshiny in RStudio and VOSviewer to remove duplicates and visualize key bibliographic information. This process yielded 311 unique articles as the final sample. The bibliometric analysis involved evaluating general performance metrics (e.g., publication trends, leading authors, and key sources) as well as network analysis (e.g., bibliographic coupling and co-authorship). This analysis enabled the identification of distinct research clusters based on frequently occurring keywords, paving the way for a more in-depth content analysis in the discussion of results.

3. RESULT AND DISCUSSIONS

This study conducts a bibliometric analysis spanning the period from 2005 to 2024, as illustrated in Table and Figure 1. Over this timeframe, 311 documents were identified from various sources, reflecting an annual growth rate of 3.53%. The highest number of articles was published in 2020, totaling 38. This trend highlights a significant rise in literature focusing on **Value at Risk (VaR)** and Islamic portfolio management, particularly over the past decade.

Table 1. Descriptive statistics for bibliometric data

Description	Criteria	Results
Main Information About Data	Timespan	2005:2024
	Sources (Journals, Books, etc)	139
	Documents	311
	Annual Growth Rate %	3.53
	Document Average Age	5.58
	Average citations per doc	18.03
Document Contents	Keywords Plus (ID)	216
	Author's Keywords (DE)	926

Authors	Authors	677
	Authors of single-authored docs	30
Authors Collaboration	Single-authored docs	33
	Co-Authors per Doc	2.95
	International co-authorships %	43.41
Document Types	article	311

Source: Biblioshiny Output in RStudio (Created by the authors, 2024)

During the early period (2005–2012), the number of publications was extremely low, averaging fewer than two articles per year. Notably, 2012 recorded no publications at all. However, the trend began to rise in 2013 with five articles, followed by a more significant increase in 2017, eventually reaching a temporary peak of 38 articles in 2020. While publication numbers remained high after 2020, they showed a slight decline through 2023. A drastic decrease was observed in 2024 and 2024, with only two articles published in each year.

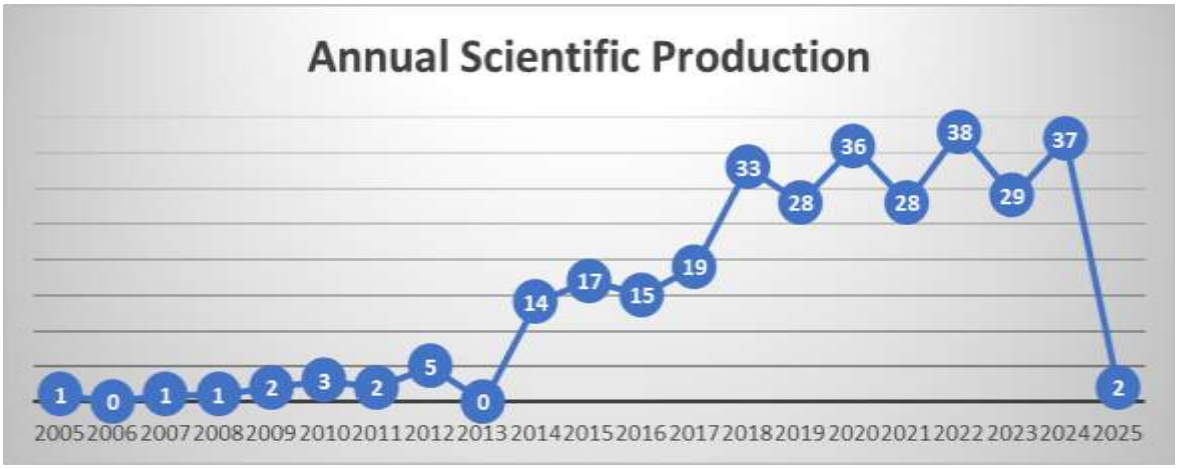

Figure 1. Annual publications
Source: Biblioshiny Output in RStudio (Created by the authors, 2024)

Table 1 presents the descriptive statistics of the bibliometric data. The average age of the documents is 5.58 years, with an average of 18.03 citations per document, indicating a significant impact within the academic literature. Contributions came from 677 authors, with most documents reflecting collaborative efforts, averaging 2.95 authors per document. Approximately

43.41% of the articles resulted from international collaborations, highlighting the interdisciplinary and global approach in studies related to Value at Risk (VaR) and Islamic portfolio management.

3.1. Most Influential Authors, Affiliation, Countries, and Journals

Figure 2 highlights the most influential authors in research related to Value at Risk (VaR) and Islamic portfolio management, with Hammoudeh S leading with 14 articles, followed by Mensi W with 12 articles, and both Shahzad SJH and Majdoubi W contributing 8 articles each. Other notable contributors include Al-Yahyaee KH and Banna AS (7 articles each), as well as Hasani N and Ghorbel A (6 articles each). Additionally, authors such as Jawadi F, Mandoubi N, and Rehman MU each contributed 5 articles. With a total of 677 authors and 43.41% of articles involving international collaborations, this research underscores the pivotal role of authors in expanding the academic literature on VaR and Islamic portfolio management.

Figure 3 illustrates that International Islamic University Malaysia (IIUM) and Prince Sultan University are the most productive affiliations in research on VaR and Islamic portfolio management, each contributing 18 publications. Other significant contributors include the University of Sussex, Sultan Qaboos University, and Al Imam Mohammad Ibn Saud Islamic University, followed by Universitas Indonesia and several other institutions. This data reflects the interdisciplinary and international nature of this research, with active participation from institutions across various countries.

Table 2 shows that this study draws from 139 journal sources, reflecting the extensive scope of literature related to Value at Risk (VaR) and Islamic portfolio management. The *International Journal of Islamic and Middle Eastern Finance and Management* ranks first with 22 articles, followed by the *Journal of Islamic Accounting and Business Research* with 16 articles, and the *Pacific Basin Finance Journal* with 12 articles. Other notable contributors include the *Research in International Business and Finance*, *Borsa Istanbul Review*, and the *Journal of Islamic Monetary Economics and Finance*, each contributing more than 10 articles. This diversity of academic sources highlights the multidisciplinary nature of research in this field

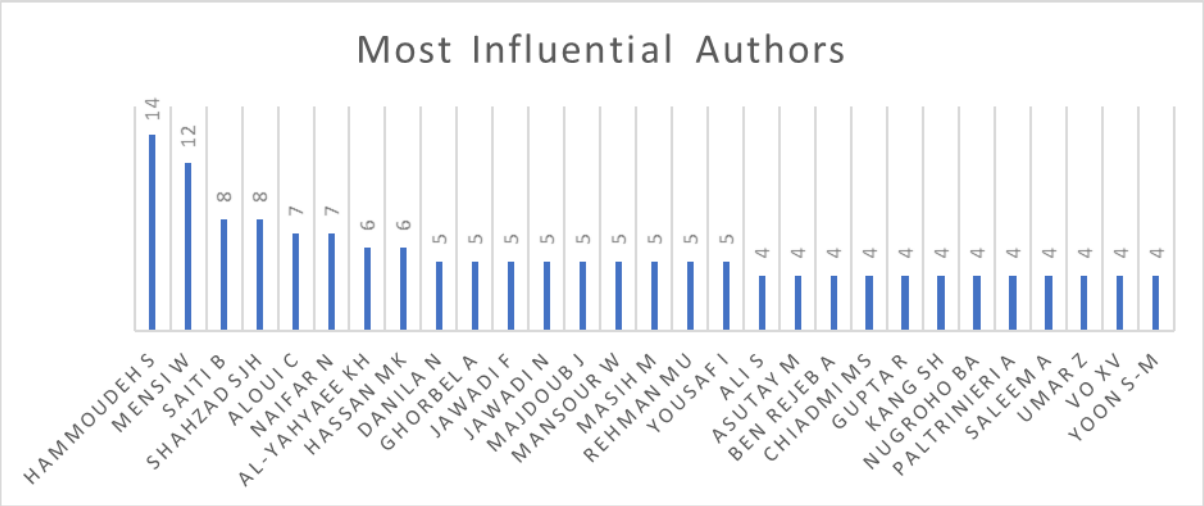

Figure 2. Most Influential Authors
Source: Biblioshiny Output in RStudio (Created by the authors, 2024)

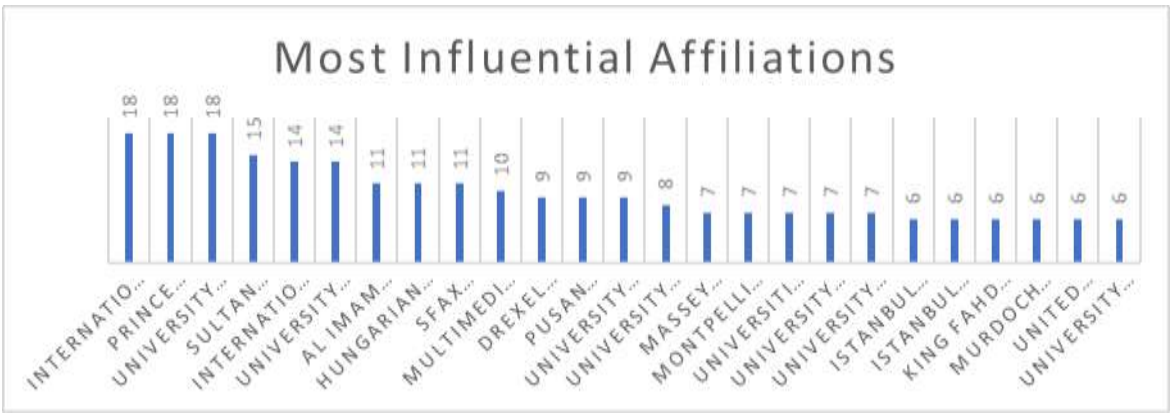

Figure 3. Most Influential Affiliations

Source: Biblioshiny Output in RStudio (Created by the authors, 2024)

Table 2. Most Relevant Journals

Sources	Articles
International Journal Of Islamic And Middle Eastern Finance And Management	22
Journal Of Islamic Accounting And Business Research	16
Pacific Basin Finance Journal	12
Research In International Business And Finance	11
Borsa Istanbul Review	10
Journal Of Islamic Monetary Economics And Finance	10

Source: Biblioshiny Output in RStudio (Created by the authors, 2024)

Figure 4 reveals that Malaysia leads research contributions with 33 publications, followed by Tunisia (29 publications) and Saudi Arabia (28 publications). Non-Muslim-majority countries such as the United States (16 publications), France (15 publications), and South Korea (11 publications) also make significant contributions. This demonstrates that research on **Value at Risk (VaR)** in the context of Islamic portfolio management is both global and interdisciplinary, involving contributions from both Muslim-majority and non-Muslim-majority countries.

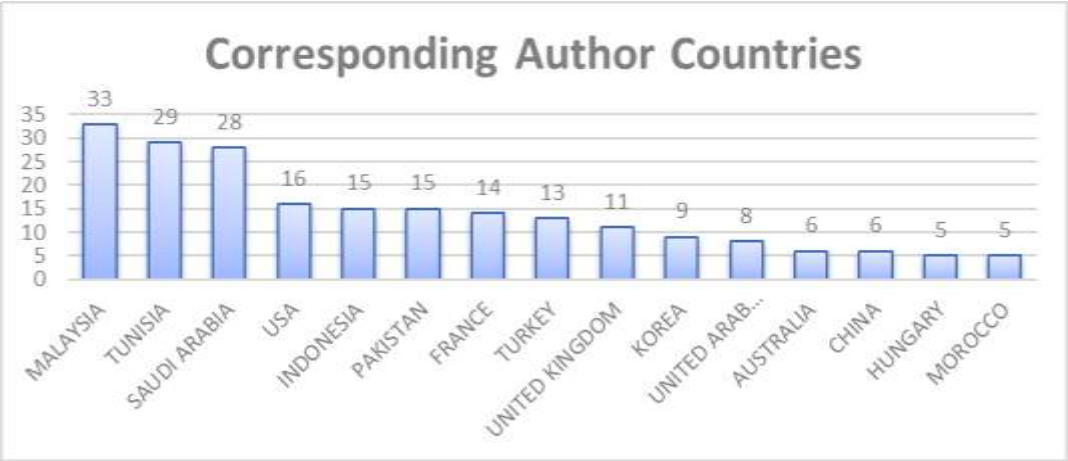

Figure 4. Top Corresponding Author Countries
Source: Biblioshiny Output in RStudio (Created by the authors, 2024)

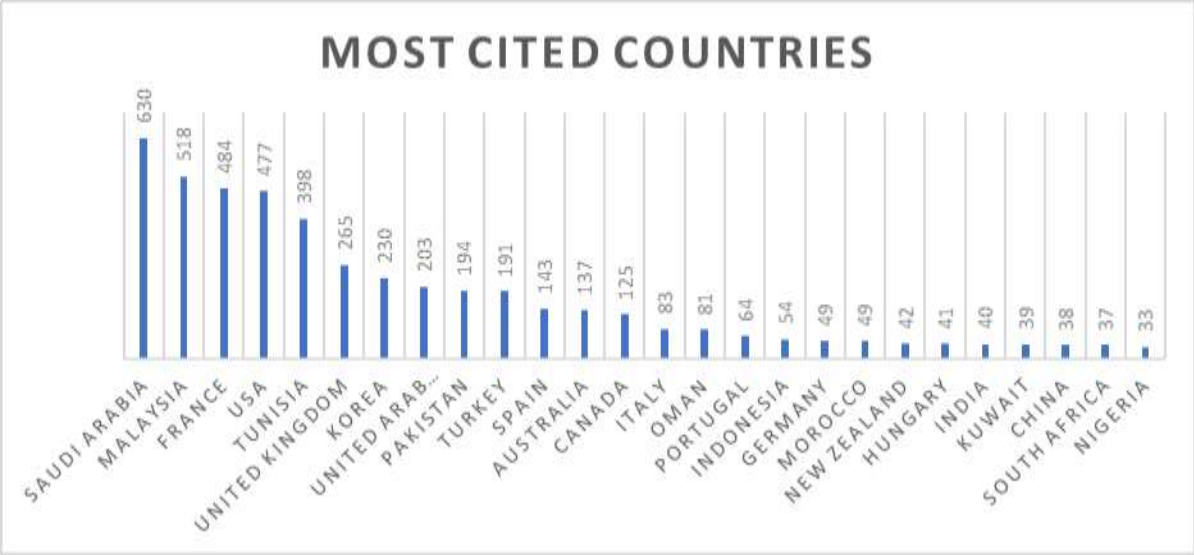

Figure 5. Top Cited Countries
Source: Biblioshiny Output in RStudio (Created by the authors, 2024)

Figure 5 illustrates that Saudi Arabia and Malaysia dominate the citation count with 630 and 518 citations, respectively, followed by France (484), Tunisia (477), and the United Kingdom (398). Non-Muslim-majority countries such as the United Kingdom, Spain, and France also make significant contributions, reflecting the global recognition of research on Value at Risk (VaR) in Islamic portfolio management. This indicates that the field engages academics from diverse geographical and cultural backgrounds, underscoring its interdisciplinary and international nature.

3.2. Keywords and Thematic Analysis

Figure 6 presents a word cloud visualizing the most dominant keywords in the literature related to **Value at Risk (VaR)** and Islamic portfolio management. The term "Islamic finance" emerges as the most prominent keyword, reflecting the central focus of this literature on Islamic finance as a whole. Additionally, keywords such as "value at risk," "sukuk," "volatility," "Islamic banking," and "Islamic stock market" frequently appear, highlighting significant attention to risk management, Shariah-compliant financial instruments, and Islamic stock markets.

Other relevant keywords include "financial crisis," "portfolio diversification," "volatility spillover," and "connectedness," which underscore research themes ranging from market risk to portfolio diversification within an Islamic context. Global issues such as "COVID-19" also appear as a key keyword, reflecting the pandemic's impact on this body of literature. Furthermore, terms like "safe haven," "GARCH," "Islamic indices," and "systemic risk" indicate diverse methodological approaches and focal areas in this research. The word cloud emphasizes the multidisciplinary nature and global relevance of literature addressing VaR and Islamic portfolio management.

Figure 6. World Cloud
Source: Biblioshiny Output in RStudio (Created by the authors, 2024)

Based on the thematic map (Figure 7), research on **Value at Risk (VaR)** in the context of Islamic portfolios can be categorized into four main groups. The **Motor Themes**, located in the upper-right quadrant, include topics such as *Value at Risk*, *Volatility*, *Islamic Index*, and *DCC-GARCH*. These themes exhibit high relevance and advanced development, representing the core and primary focus of the literature. Research on these topics is well-established, emphasizing the importance of risk management and volatility in the context of Islamic finance.

In the upper-left quadrant, the **Niche Themes**—such as *Dual Banking System*, *Financial Risk Spillovers*, and *Stock Markets*—reflect specialized topics with deep development but limited integration with the main themes. These areas are suitable for focused, in-depth research, although their overall scope may be narrower within the broader context.

The **Basic Themes**, located in the lower-right quadrant, include foundational topics such as *Islamic Finance*, *Sukuk*, *Islamic Banking*, and *Hedging Effectiveness*. These themes are highly relevant but require further development to become more impactful. They serve as the foundation for advancing the literature on VaR and Islamic portfolio management.

Meanwhile, the lower-left quadrant features **Emerging or Declining Themes**, such as *Wavelet Analysis*, *Stress Testing*, and *Monte Carlo Simulation*. These topics currently exhibit low relevance and development. They may represent emerging areas with significant potential for future exploration or declining themes that are losing prominence in the literature.

This thematic map highlights the diverse research landscape, offering insights into established, emerging, and underexplored areas within VaR studies in the Islamic finance context.

In the upper-left quadrant, the **Niche Themes**—such as *Dual Banking System*, *Financial Risk Spillovers*, and *Stock Markets*—represent specialized topics with deep development but limited integration with the core themes. These areas are well-suited for focused and in-depth research, although their scope may be more limited within the broader context.

The **Basic Themes**, located in the lower-right quadrant, encompass foundational topics like *Islamic Finance*, *Sukuk*, *Islamic Banking*, and *Hedging Effectiveness*. These themes hold high relevance in the research but require further development to achieve greater significance. They serve as the building blocks for advancing the literature on VaR and Islamic portfolio management.

Meanwhile, the lower-left quadrant highlights the **Emerging or Declining Themes**, such as *Wavelet Analysis*, *Stress Testing*, and *Monte Carlo Simulation*. These topics currently exhibit low relevance and development. They can be considered as new research areas with significant potential for further exploration or as themes that may be losing attention within the literature

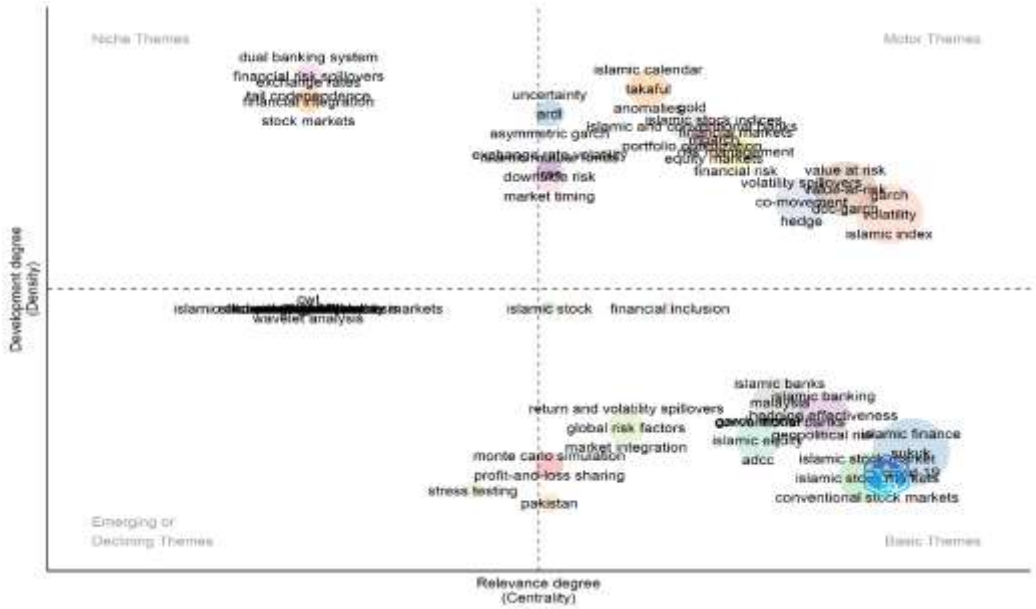

Figure 7. Thematic Map
Source: Biblioshiny Output in RStudio (Created by the authors, 2024)

Figure 8 illustrates the thematic evolution of research on Islamic finance from 2006–2020 to 2021–2024, highlighting shifts in focus and emerging trends in the literature. During the 2006–2020 period, research primarily centered on foundational themes such as *Islamic finance*, *Islamic banking*, *systemic risk*, *Islamic equity*, and *volatility*, with *Islamic finance* standing out as the dominant theme, serving as a foundation for the development of the literature. The emphasis on *systemic risk* and *volatility* reflected a focus on financial stability and market dynamics within Islamic finance during this time.

In the 2021–2024 period, research themes shifted toward more specific and contextual issues, including global impacts like COVID-19, which emerged as a significant new theme. Additionally, *Value at Risk (VaR)* gained prominence, reflecting a growing interest in risk management within Islamic portfolios. Other themes, such as *emerging markets*, *macroeconomics*, and *dual banking system*, indicate an expansion of research into the context of emerging markets and the interaction between Islamic and conventional financial systems. Despite these new directions, themes like *Islamic banking* and *Islamic stock* remain relevant, underscoring a continued focus on Islamic financial instruments and institutions.

Figure 8. Thematic Evolution

Source: Biblioshiny Output in RStudio (Created by the authors, 2024)

3.3. Network Analysis

Bibliographic coupling serves as the foundation for the first network analysis in this study. It suggests that the relatedness of two articles is determined by the number of references they share, enabling the identification of prevalent discourse themes among scholars. Figure 9 illustrates the collaborative activities among authors in research on **Value at Risk (VaR)** and Islamic portfolio management. Based on the co-authorship analysis, seven main clusters represent interconnected groups of collaborating authors. The total link strength is 56, indicating a significant level of collaboration among researchers. The largest cluster is led by **Hammoudeh, Shawkat**, and **Mensi, Walid**, who emerge as central figures with strong connections to numerous other authors. Additionally, researchers such as **Naifar, Nader**, and **Aloui, Chaker** play crucial roles in collaborative research, forming their own clusters while maintaining connections to various other scholars.

Co-authorship analysis examines collaborative relationships among authors, institutions, and countries, as reflected in their social networks. Figure 10 highlights the network of international collaboration in research on **Value at Risk (VaR)** and Islamic portfolio management, with Malaysia positioned as the central hub. Malaysia's strong connections to countries such as Indonesia, Australia, and the United Kingdom underscore its dominant contribution to this field. Tunisia and France also play significant roles, with extensive links to the United States, United Arab Emirates, and Turkey. The United States features a diverse network involving countries in the Middle East, Asia, and Europe. Additionally, Pakistan and Indonesia expand the network through collaborations with countries like Qatar, Oman, and New Zealand. Other nations, including China, Italy, and South Korea, make smaller yet notable contributions, maintaining their connections within the broader collaborative network.

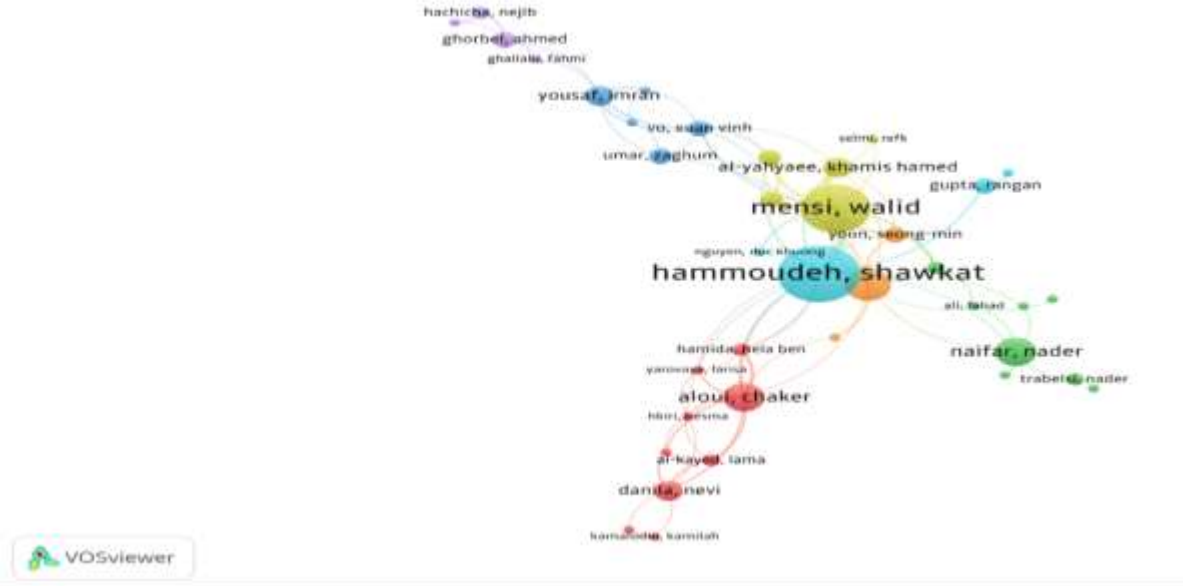

Figure 9. Co-Authorship by Authors
Source: VOSViewer Output (Created by the authors, 2024)

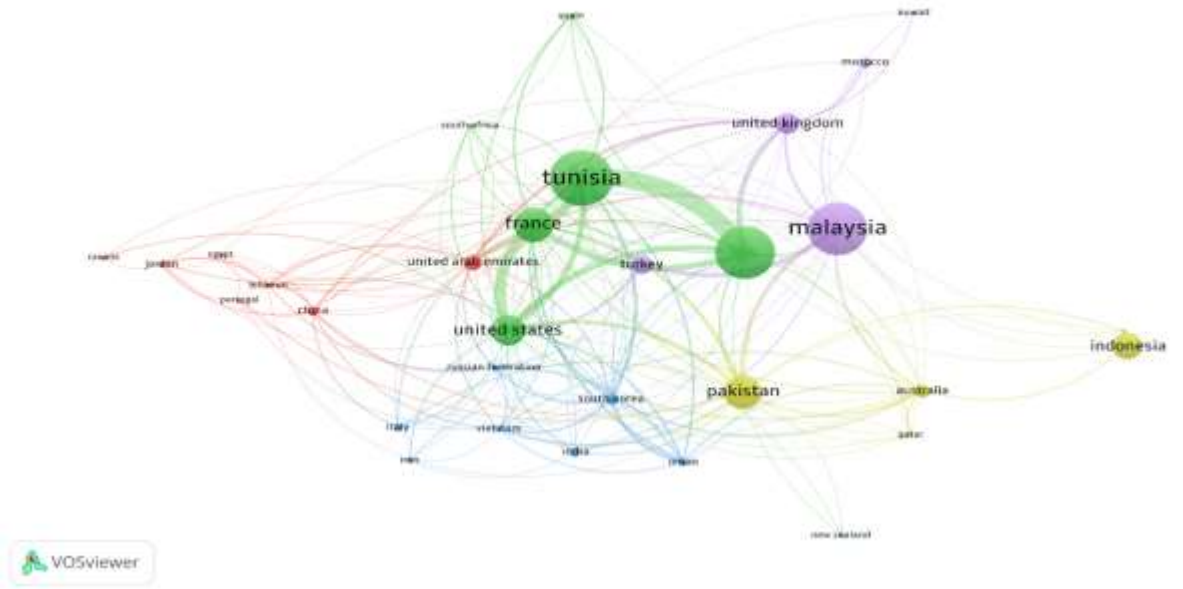

Figure 10. Collaboration World Network
Source: VOSViewer Output (Created by the authors, 2024)

Table 3 summarizes the most-cited articles in the literature related to Value at Risk (VaR) and Islamic portfolio management, highlighting the connections between documents based on citation counts. The most-cited article is authored by Fredj Jawadi, Nabila Jawadi, and Waël

Louhichi (2014), with 183 citations. This study evaluates the performance of conventional and Islamic stock indices in Europe, the United States, and globally during the 2008–2009 global financial crisis using the CAPM-GARCH and CAPM-EGARCH models. The second most-cited article is authored by Shawkat Hammoudeh et al., published in the Pacific-Basin Finance Journal, with 167 citations. This research analyzes the dynamic dependence between global Islamic equity indices and conventional markets using the copula model.

Table 3. Most Cited Authors

	Author	Title	Metodologi	Context	Journal	Total Citations
1	Fredj Jawadi, Nabila Jawadi, Waël Louhichi (Jawadi et al., 2014)	Conventional and Islamic Stock Price Performance: An Empirical Investigation	Performance is evaluated using performance ratios (Sharpe Ratio, Roy Ratio, and Treynor Ratio) as well as CAPM-GARCH and CAPM-EGARCH models to capture dynamic risk volatility.	Both conventional and Islamic indices across three major regions—Europe, the United States, and the World—are assessed in the context of the 2008–2009 global financial crisis.	International Economics, Volume 137, 2014, Pages 73-87	183
2	Shawkat Hammoudeh, Walid Mensi, Juan Carlos Reboredo, Duc Khuong Nguyen (Hammoudeh et al., 2014)	Dynamic Dependence of the Global Islamic Equity Index with Global Conventional Equity Market Indices and Risk Factors	This approach involves static and dynamic copulas and marginal models based on TGARCH.	The analysis is conducted on the global Islamic equity index (Dow Jones Islamic Market Index) alongside conventional equity market indices from Asia, Europe, and the United States.	Pacific-Basin Finance Journal, 2004	167
3	Frankie Chau, Rataporn Deesomsak, Jun Wang (Chau et al., 2014)	Political Uncertainty and Stock Market Volatility in the Middle East and North African (MENA) Countries	This study focuses on the impact of political uncertainty stemming from the Arab Spring on stock market volatility in MENA countries (Bahrain, Kuwait, Oman, Egypt, Jordan, and Lebanon).	The GARCH (Generalized Autoregressive Conditional Heteroskedasticity) approach is employed to measure market volatility.	*International Financial Markets, Institutions and Money*, Vol. 28 (2014), halaman 1–19.	164

	Author	Title	Metodologi	Context	Journal	Total Citations
4	Jihed Majdoub, Walid Mansour (Majdoub & Mansour, 2014)	Islamic Equity Market Integration and Volatility Spillover Between Emerging and US Stock Markets	This study focuses on Islamic equity markets in five emerging countries (Turkey, Indonesia, Pakistan, Qatar, and Malaysia) as well as the United States.	Statistical methods, including BEKK-MGARCH, CCC (Constant Conditional Correlation), and DCC (Dynamic Conditional Correlation), are employed to analyze volatility and dynamic correlations among these markets.	*North American Journal of Economics and Finance*, 2014.	143
5	Syed Jawad Hussain Shahzad, Román Ferrer, Laura Ballester, Zaghum Umar (Shahzad et al., 2017)	Risk Transmission Between Islamic and Conventional Stock Markets: A Return and Volatility Spillover Analysis	This study analyzes risk transmission between global Islamic equity markets and three major conventional stock markets (the United States, the United Kingdom, and Japan) using data from July 1996 to June 2016.	The VAR-based spillover index approach, developed by Diebold and Yilmaz (2012), is utilized for this analysis.	*International Review of Financial Analysis*, 2017.	143
6	Buerhan Saiti, Obiyathulla I. Bacha, Mansur Masih (Saiti et al., 2014)	The Diversification Benefits from Islamic Investment During the Financial Turmoil: The Case for the US-Based Equity Investors	This study compares conventional and Islamic stock indices across regions such as Japan, GCC, Indonesia, Malaysia, and Taiwan.	It employs the Dynamic Conditional Correlation (DCC)-MGARCH approach to evaluate the dynamic correlation relationships between conventional and Islamic stock indices.	*Borsa Istanbul Review*, 2014.	124
7	Syed Jawad Hussain Shahzad, Walid Mensi, Shawkat Hammoudeh, Mobeen Ur Rehman, Khamis H. Al-Yahyaee (Shahzad et al., 2018)	Extreme Dependence and Risk Spillovers Between Oil and Islamic Stock Markets	This study focuses on the relationship between global oil prices and Islamic stock markets across various regions, including the global Islamic market, the US,	It measures risk using VaR (Value at Risk), CoVaR (Conditional Value at Risk), and ΔCoVaR to analyze risk spillover effects.	*Emerging Markets Review*, 2017	105

	Author	Title	Metodologi	Context	Journal	Total Citations
			the UK, Japan, and the Islamic financial sector.			
8	Walid Mensi, Shawkat Hammoudeh, Juan Carlos Reboredo, Duc Khuong Nguyen (Mensi et al., 2015)	Are Sharia Stocks, Gold and U.S. Treasuries Hedges and Safe Havens for the Oil-Based GCC Markets?	This study focuses on Shariah-compliant stock markets in GCC countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and UAE).	It employs a vine copula approach to evaluate multivariate relationships and extreme risk dependencies. Risk measures such as Value at Risk (VaR), Expected Shortfall (ES), and Semivariance are used to assess the effectiveness of assets as portfolio hedges.	*Emerging Markets Review, 2015*	103
9	Chaker Aloui, Shawkat Hammoudeh, Hela Ben Hamida (Aloui et al., 2015)	Co-movement Between Sharia Stocks and Sukuk in the GCC Markets: A Time-Frequency Analysis	This study focuses on the interactive relationship between Shariah-compliant stock returns and sukuk yields in GCC (Gulf Cooperation Council) markets.	It employs the wavelet squared coherence method to analyze the time-frequency relationship between Shariah-compliant stocks and sukuk. Additionally, Value at Risk (VaR) analysis is conducted for combined Shariah-compliant stock-sukuk portfolios in GCC countries.	*Journal of International Financial Markets, Institutions and Money, 2014.*	92
10	Walid Mensi, Mobeen Ur Rehman, Debasish Maitra, Khamis Hamed Al-Yahyaee, Ahmet Sensoy (Mensi et al., 2020)	Does Bitcoin Co-Move and Share Risk with Sukuk and World and Regional Islamic Stock Markets? Evidence Using a Time-Frequency Approach	This study encompasses various regions, including Asia-Pacific, Europe, the United States, Japan, and Canada.	It measures risk using Value at Risk (VaR) based on the wavelet coherence and cross wavelet transform (XWT) approaches to evaluate the impact of price movements on portfolios.	*Research in International Business and Finance, 2020.*	76
11	Sheela Sundarasen, Kamilah Kamaludin, Izani Ibrahim (Sundarasen et al., 2023)	The Impact of COVID-19 Pandemic on the Volatility of Conventional and Islamic Stock Indexes: A	This research focuses on the impact of the COVID-19 pandemic on the volatility of conventional and	It employs Morlet's wavelet method to analyze stock volatility levels before and during the COVID-19 pandemic.	*Journal of Islamic Accounting and Business Research, Vol. 14 No. 4, 2023.*	

	Author	Title	Metodologi	Context	Journal	Total Citations
		Comparative Study on ASEAN and GCC Countries	Sharia stock indices in ASEAN countries (Malaysia, Indonesia, Singapore, Thailand, the Philippines) and GCC countries (Kuwait, Saudi Arabia, Oman, UAE, Qatar), comparing them to the pre-pandemic period.			
12	Bayu Adi Nugroho (Nugroho, 2023)	The Stability of Islamic Cryptocurrencies and Copula-Based Dependence with Alternative Crypto and Fiat Currencies	This study explores the dependency relationships between Islamic gold-backed cryptocurrencies and major fiat currencies (Euro, Japanese Yen, and British Pound).	The vine copula architecture (C-Vine and D-Vine) is employed to measure dependency within multivariate probability distributions, with marginal distributions estimated using the GJR-GARCH model.	*ISRA International Journal of Islamic Finance, Volume 15, Number 2, 2023.*	
13	Fahmi Ghallabi, Imran Yousaf, Ahmed Ghorbel, Yanshuang Li (Ghallabi et al., 2024)	Time-Varying Risk Spillovers Between Renewable Energy and Islamic Stock Markets: Evidence from the Russia-Ukraine Conflict	This study explores the upward and downward risk transmission between the global renewable energy markets and Islamic stock markets in six countries: Japan, Kuwait, Malaysia, Turkey, India, and Canada, during the Russia-Ukraine conflict (2015–2022).	Risk analysis is conducted using Conditional Value at Risk (CoVaR) with a VAR-ADCC-GARCH model.	*Pacific-Basin Finance Journal, 2024.*	
14	Muhammad Mahmudul Karim, Abu Hanifa Md. Noman, M. Kabir Hassan, Asif Khan, Najmul	Volatility Spillover and Dynamic Correlation Between Islamic, Conventional,	This article examines the direct impact of the COVID-19 pandemic on volatility and	The study employs the MGARCH-DCC approach to estimate volatility and dynamic correlations	*International Journal of Islamic and Middle Eastern Finance and Management,*	

Author	Title	Metodologi	Context	Journal	Total Citations
Haque Kawsar (M. M. Karim et al., 2024)	Cryptocurrency and Precious Metal Markets During the Immediate Outbreak of COVID-19 Pandemic	dynamic correlations between Islamic and conventional stock markets, cryptocurrencies, and precious metals (gold and silver) across various investment horizons, before and after the WHO's pandemic declaration on March 11, 2020.	between assets and utilizes wavelet analysis (MODWT and CWT).	*Volume 17, No. 4, 2024.*	

Source: Created by authors, 2024

The third position is held by the article by Frankie Chau et al. (2014) with 164 citations, which examines the impact of Arab Spring political uncertainty on MENA stock market volatility using a GARCH approach. Another notable article by Jihed Majdoub and Walid Mansour (143 citations) investigates the integration of Islamic equity markets in emerging countries and the U.S. using the MGARCH model, while Syed Jawad Hussain Shahzad et al. (143 citations) explores risk transmission between Islamic and conventional stock markets with a VAR-based spillover index approach.

Other significant works include Buerhan Saiti et al. (124 citations), which highlights the diversification benefits of Islamic investments during crises, and Walid Mensi et al. (76 citations), which evaluates the relationship between Bitcoin, sukuk, and Islamic stock markets using a time-frequency approach. These studies emphasize the importance of diverse methodologies in understanding the dynamics of Islamic markets and risk management amidst global challenges.

Recent research on Value at Risk (VaR) in Islamic finance highlights a variety of contexts and innovative methodological approaches, offering profound insights into risk dynamics and their application in Islamic finance. During the COVID-19 pandemic, studies by Sheela Sundarasen et al. (2023) and Muhammad Mahmudul Karim et al. (2024) utilized methods such as Morlet's wavelet analysis and MGARCH-DCC to analyze volatility and dynamic correlations between markets. These approaches effectively reveal the pandemic's impact on the stability of Islamic finance, which is characterized by unique features such as prohibition of *riba* and low leverage.

In the context of geopolitical conflicts, Fahmi Ghallabi et al. (2024) applied VAR-ADCC-GARCH and CoVaR models to evaluate risk transmission between renewable energy markets and Islamic stock markets. These methods successfully identified asymmetric risk spillovers, offering significant implications for managing Islamic portfolio risks amid geopolitical instability. Additionally, Bayu Adi Nugroho (2023) employed vine copula and GJR-GARCH models to analyze dependency relationships between gold-backed Islamic cryptocurrencies and fiat currencies, providing unique insights into diversification potential within Islamic financial markets.

These findings demonstrate that advanced VaR calculation methods, such as wavelet analysis, MGARCH-DCC, CoVaR, and vine copula, are highly relevant for application in Islamic finance. These methods enable analysis of volatility, risk dependencies, and unique market dynamics in Islamic finance, which differ significantly from conventional financial systems. Consequently, these approaches enhance risk management, portfolio diversification, and the stability of Islamic financial systems, particularly amidst evolving global challenges.

Table 4 presents the most influential authors in VaR and Islamic portfolio management research based on their H-index. Hammoudeh S leads the list with an H-index of 13, followed by Mensi W (H-index 9) and Shahzad SJH (H-index 8), reflecting their substantial contributions to the literature. Other impactful authors include Naifar N and Saiti B (H-index 7), as well as Aloui C (H-index 6). Emerging scholars such as Al-Yahyaee KH, Hassan MK, Mansour W, and Masih M, each with an H-index of 5, alongside newcomers like Yousaf I (H-index 5) and Ali S (H-index 4), demonstrate growing influence in the field.

Table 4. Author impact

Author	H_Index	G_Index	M_Index	TC	NP	PY_start
Hammoudeh S	13	14	1.08333333	890	14	2014
Mensi W	9	12	0.75	641	12	2014
Shahzad Sjh	8	8	0.88888889	424	8	2017
Naifar N	7	7	0.58333333	185	7	2014
Saiti B	7	8	0.58333333	249	8	2014
Aloui C	6	7	0.54545455	332	7	2015
Al-Yahyaee Kh	5	6	0.625	245	6	2018
Hassan Mk	5	6	0.55555556	240	6	2017
Mansour W	5	5	0.41666667	187	5	2014
Masih M	5	5	0.41666667	290	5	2014
Yousaf I	5	5	1.25	87	5	2022

Ali S	4	4	0.57142857	67	4	2019
Ben Rejeb A	4	4	0.44444444	93	4	2017

Source: Biblioshiny Output in RStudio (Created by the authors, 2024)

Table 5 highlights the impact of leading journals in research on Value at Risk (VaR) and Islamic portfolio management, based on their H-index. The *Pacific Basin Finance Journal* demonstrates the highest impact with an H-index of 10, followed by the *Borsa Istanbul Review* and the *International Journal of Islamic and Middle Eastern Finance and Management*, each with an H-index of 9. The *Research in International Business and Finance* records an H-index of 8, while the *Journal of International Financial Markets, Institutions and Money*, *Journal of Islamic Accounting and Business Research*, and *Quarterly Review of Economics and Finance* each have an H-index of 7, reflecting significant influence within the literature. Additionally, *Applied Economics* holds an H-index of 6, followed by the *North American Journal of Economics and Finance* with an H-index of 5.

Table 5. Source Impact

Source	H_Index	G_Index	M_Index	TC	NP	PY_start
Pacific Basin Finance Journal	10	12	0.833	536	12	2014
Borsa Istanbul Review	9	10	0.75	333	10	2014
International Journal Of Islamic And Middle Eastern Finance And Management	9	13	0.529	191	22	2009
Research In International Business And Finance	8	11	0.381	383	11	2005
Journal Of International Financial Markets, Institutions And Money	7	9	0.583	443	9	2014
Journal Of Islamic Accounting And Business Research	7	13	0.438	178	16	2010
Quarterly Review Of Economics And Finance	7	8	0.875	184	8	2018
Applied Economics	6	9	0.545	176	9	2015
North American Journal Of Economics And Finance	5	5	0.417	281	5	2014

Source: Biblioshiny Output in RStudio (Created by the authors, 2024)

3.4. Research Streams and Future Research Direction

Cartography analysis was conducted to discern current research trends based on keyword occurrences in the papers' titles and/or abstracts. The analysis identified 103 keywords forming nine distinct clusters, which will be further examined through content analysis.

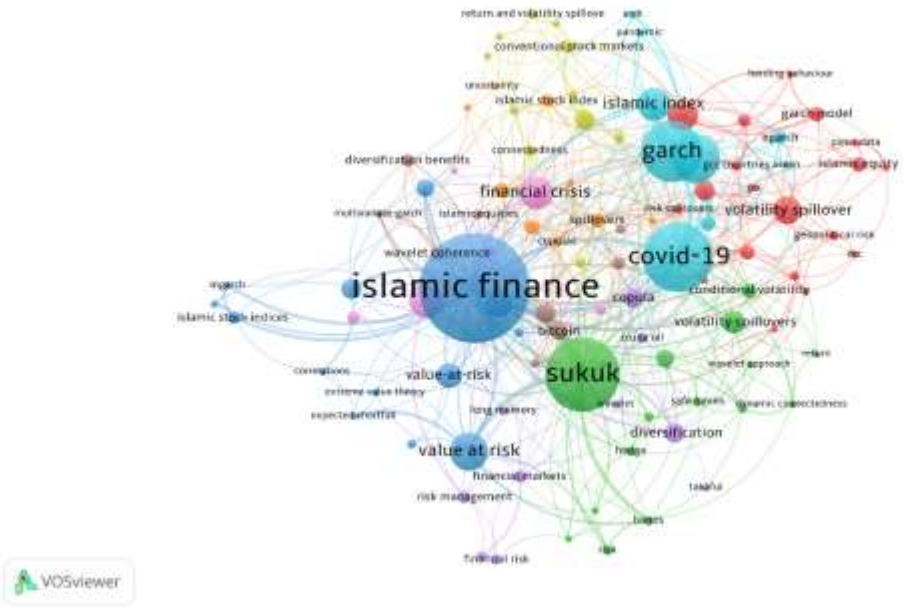

Figure 11. Keyword Occurrence
Source: VOSViewer Output (Created by the authors, 2024)

Figure 11 illustrates a visualization of keyword occurrences in research related to **Value at Risk (VaR)** and Islamic portfolio management, forming nine clusters comprising a total of 103 items. The keyword *"Islamic Finance"* dominates as the primary theme, reflecting the overall focus of the literature on Islamic finance. Other significant keywords, such as *"Sukuk"*, *"Value at Risk"*, *"GARCH"*, and *"Volatility Spillover"*, highlight an emphasis on risk management, market stability, and volatility within the Islamic context.

Global themes, such as *"COVID-19"*, along with modern methodological approaches like *"Wavelet Coherence"* and *"Dynamic Connectedness"*, indicate the literature's adaptation to global challenges and analytical innovations. This structure demonstrates that the literature on VaR and Islamic portfolio management encompasses a wide range of themes, from risk management to the influence of global factors, while also underscoring opportunities for further exploration in this field

3.4.1. Cluster Analysis 1: Dynamics of Islamic Finance and Geopolitical Risks

Cluster 1 focuses on key themes in research related to **Value at Risk (VaR)** and Islamic finance, emphasizing market dynamics, geopolitical risks, and innovations in Islamic financial instruments. Geopolitical instability significantly impacts Islamic markets and volatility (Rabbani, 2023). During periods of heightened uncertainty, herding behavior—where investors follow collective decisions without in-depth analysis—often emerges (Ghorbel et al., 2014; Hamid et al., 2019; Medhioub & Chaffai, 2018; Medhioub & Chaffai, 2019). n this context, Islamic financial instruments such as sukuk play a crucial role as hedging tools, demonstrating their effectiveness during periods of high volatility. Advanced models like ADCC and DCC reveal how risk spillovers between Islamic indices and regional markets influence portfolio management strategies (Al-Nassar, 2023).

Sukuk also show significant potential as stabilizing assets in Islamic portfolios. Multivariate GARCH approaches provide insights into the dynamic correlations between sukuk and other asset classes, indicating sukuk's ability to act as a buffer against market shocks (Bhuiyan et al., 2019; Hassan et al., 2018; Mensi et al., 2017; Shahzad et al., 2017). Additionally, quantile regression approaches capture the specific impacts of market conditions on sukuk performance, highlighting lower volatility compared to conventional bonds, particularly during economic stress periods (Baig et al., 2022; Ben Rejeb, 2017; Mirza et al., 2022).

Thus, Cluster 1 underscores the importance of ongoing research to understand the complex relationships between VaR, geopolitical risks, and Islamic financial instruments. The integration of advanced models like ADCC, DCC, and quantile regression is essential for creating more adaptive and effective risk management strategies. Future research should further explore the effectiveness of sukuk as safe-haven assets and identify opportunities to enhance the resilience of Islamic portfolios amid the ever-changing global financial landscape.

3.4.2. Cluster Analysis 2: Portfolio Optimization and Safe Haven in Islamic Finance

Cluster 2 examines the dynamics of volatility, market connectivity, and portfolio optimization in Islamic finance, particularly during global crises such as the COVID-19 pandemic. The relationships among assets such as sukuk, bonds, and Sharia-compliant equities are central to this analysis, with a focus on concepts like volatility spillover, co-movement, and conditional volatility. Research highlights the significant role of Islamic financial assets, particularly sukuk, as

safe havens and hedging tools during periods of instability (Nasreen et al., 2020). Analytical methods such as wavelet analysis and time-varying parameter VAR (TVP-VAR) (Ali et al., 2024; Bhuiyan et al., 2019; Nasreen et al., 2020; Rabbani, 2023; Uddin et al., 2018; Ukwuoma, 2023) are frequently employed to explore time-scale-dependent asset relationships, providing insights for investors to optimize their portfolio strategies.

The concept of volatility spillover is particularly relevant for understanding the impact of market shocks across regions (Benlagha & Mseddi, 2019; M. M. Karim et al., 2024). Al-Nassar (2023) demonstrates that the intensity of volatility spillovers varies across crises, emphasizing the need for more dynamic risk management strategies (Abuzayed & Al-Fayoumi, 2021; Al-Nassar, 2023). This aligns with findings by Aloui et al. (2015), who used the Markov switching model to analyze the relationship between Sharia-compliant equities and sukuk, revealing that these assets may exhibit behaviors similar to conventional assets during high-volatility periods (Aloui et al., 2015). Wavelet analysis methodologies enable researchers to delve into the multiscale dynamics of asset relationships, aiding in the identification of optimal diversification strategies (Ukwuoma, 2023).

In the context of portfolio optimization, Sharia-based diversification is crucial for shielding portfolios from high volatility. Sukuk and Sharia-compliant equities have proven effective in enhancing portfolio stability during market stress (Saiti et al., 2014; Tronzano, 2023; Yousaf et al., 2021, 2022). As the global financial landscape continues to evolve, further research is needed to explore market connectivity and robust diversification strategies. Such approaches can help strengthen the competitiveness and resilience of Islamic finance amidst global uncertainties.

3.4.3. Cluster Analysis 3: Portfolio Diversification and Risk Management in Islamic Finance

Cluster 3 emphasizes the importance of portfolio diversification, risk management, and quantitative evaluation in Islamic finance. In the context of global markets characterized by uncertainty, measuring extreme risks such as **Value at Risk (VaR)**, expected shortfall, and extreme value theory becomes essential. VaR quantifies potential losses in Islamic assets, such as sukuk and Sharia-compliant equities, at a specific confidence level, while expected shortfall provides a more comprehensive perspective on risk exposure during market stress (Afuecheta et al., 2024; Muteba Mwamba et al., 2017; Yan et al., 2022). Advanced models like **DCC-GARCH** and **MGARCH** facilitate the analysis of dynamic relationships among assets, offering critical insights

into volatility spillovers and time-varying correlations between Islamic instruments (Habibi & Rusgianto, 2021; Hachicha et al., 2022; Raza et al., 2019).

Sharia-based portfolio diversification emerges as a primary strategy to enhance portfolio stability during global crises. Research demonstrates that a combination of Islamic financial instruments, such as sukuk and Sharia-compliant equities, can maximize returns while minimizing risk (Ismal, 2014; Saiti et al., 2014). This approach not only aligns with the ethical principles of Islamic finance but also improves portfolio resilience against market volatility. Furthermore, rigorous quantitative evaluations using tools like VaR and DCC-GARCH provide empirical evidence of the performance of Islamic instruments under various market conditions.

Cluster 3 highlights the critical role of integrating extreme risk measures and portfolio diversification strategies to address the challenges of global uncertainty. Future research should expand the application of advanced models to evaluate risk, explore dynamic relationships between Islamic and conventional markets, and develop adaptive diversification frameworks aligned with Sharia principles.

3.4.4. Cluster Analysis 4: Market Integration and Dynamic Connectivity in Islamic Finance

Cluster 4 explores the interconnections between Islamic and conventional financial markets, focusing on market connectivity, integration, and volatility dynamics, particularly in the context of global risk factors. Research indicates that Islamic markets are often influenced by volatility originating from conventional markets, reflecting asymmetric relationships. For instance, shocks in conventional markets can spill over into Islamic markets, underscoring the need for close monitoring of volatility spillover effects. Advanced models such as DCC and DCC-GARCH are frequently employed to capture the time-varying dynamic relationships between these two market types (Naifar, 2018; Naifar et al., 2016; Trabelsi, 2019; Trabelsi & Naifar, 2017).

Market integration is another key theme, with studies showing that Islamic stock markets do not always exhibit increased cointegration with conventional markets during global financial crises. Karim et al. (2010) revealed that Islamic stock markets maintained a certain level of independence from conventional markets during the 2007 crisis, making them an attractive option for investors seeking protection from systemic risks (B. A. Karim et al., 2010; M. M. Karim et al., 2024). On the other hand, the volatility dynamics of Islamic markets are also influenced by external factors such as commodity prices. Mensi et al. (2017) found that fluctuations in gold and

oil prices affect aggregate risk and volatility in Islamic equities, emphasizing the importance of understanding broader economic contexts (Mensi et al., 2017).

The implications of these interconnections and volatility dynamics suggest that investors must adopt a holistic approach to risk management. By incorporating insights from research on returns and volatility spillovers, portfolio managers can develop more effective diversification strategies that not only mitigate global market fluctuation risks but also align with Shariah principles. Future research should focus on identifying factors that moderate volatility spillovers between Islamic and conventional markets, particularly during periods of crisis. Additionally, further exploration is needed into how market integration impacts the efficiency of Islamic portfolios and the development of models capable of accurately predicting the effects of global risks on Islamic market performance.

3.4.5. Cluster Analysis 5: Risk Management and Diversification in Islamic Finance

Cluster 5 focuses on risk management and portfolio diversification within Islamic finance, emphasizing the interplay between Islamic assets and global market factors, such as crude oil prices. As a major driver of economic activity in many Islamic countries, fluctuations in oil prices significantly impact Islamic equity indices and overall market performance. Research indicates that volatility transmission between Islamic and conventional equity markets leaves Islamic markets not entirely insulated from global economic shocks (Nazlıoğlu et al., 2015; Rehman et al., 2024). Robust risk management strategies are essential to anticipate external market impacts on the stability and performance of Islamic portfolios.

Methodologies such as copula and wavelet analysis have been extensively utilized to examine the relationships between Islamic financial assets, including Sharia-compliant equities and takaful. Copula enables researchers to understand the dependency structure between assets, while wavelet analysis provides insights into time-varying relationships (Billah et al., 2024; Braiek et al., 2022; Braiek & Ben Said, 2024; Naifar et al., 2016). The concept of long memory, reflecting the persistence of risk in Islamic equity indices, underscores the need for in-depth risk evaluations to capture the complex dynamics of the market (Dewandaru et al., 2015; Nasr et al., 2016; Rehman et al., 2020). These approaches enhance the development of effective risk management frameworks within the Islamic finance context.

Portfolio diversification in Islamic finance is another critical theme, with the unique characteristics of Sharia-compliant assets creating opportunities for ethical diversification. Islamic indices often outperform conventional indices during both crisis and non-crisis periods, demonstrating the effectiveness of Islamic assets as hedging tools (ALI, 2021). Furthermore, risk management guidelines from the Islamic Financial Services Board (IFSB) emphasize the need for prudent risk management practices by Islamic financial institutions to enhance their portfolio resilience (Rosman & Rahman, 2015). Future research could deepen the analysis of the relationship between crude oil prices and Islamic equity indices using approaches like copula to understand correlations under various market scenarios. Additionally, exploring the efficiency and role of takaful as a risk management tool could provide new insights for the Islamic finance industry. Wavelet-based approaches could further analyze the long-term relationships between Islamic assets and global risk factors, aiding in the development of more effective diversification strategies.

3.4.6. Analisis Cluster 6: Volatilitas Pasar Keuangan Islami di ASEAN Selama Pandemi COVID-19

Cluster 6 explores the volatility of Islamic and conventional financial markets in ASEAN during the COVID-19 pandemic, focusing on the global crisis's impact on Islamic stock indices and the methodologies used to analyze market responses to economic pressures. The pandemic caused significant spikes in volatility, exacerbating existing vulnerabilities in financial markets. Studies indicate that Islamic markets demonstrated greater resilience than conventional markets during the crisis, exhibiting lower volatility levels (Chowdhury et al., 2021). The characteristics of Islamic finance, such as risk-sharing and ethical investment practices, are believed to be key factors mitigating the negative effects of external shocks.

Methodologies such as GARCH, EGARCH, and ARCH have been widely applied to analyze market volatility during the pandemic. For instance, Mirza et al. (2022) found that Islamic equity funds exhibited more stable performance compared to conventional funds (Mirza et al., 2022), while research by Mzoughi et al. (2022) corroborates the finding that Islamic markets tend to be less volatile during economic stress. Additionally, fluctuations in crude oil prices, a significant global factor, greatly impacted ASEAN financial markets (Mzoughi et al., 2022). Hasan et al. (2022) highlighted that Islamic markets uniquely responded to oil price shocks, suggesting that both

local and global economic conditions simultaneously influence these markets (Md. B. Hasan et al., 2022).

Future research could delve deeper into the differences in volatility patterns between Islamic and conventional indices in the ASEAN region during the pandemic and other global crises. Employing more advanced volatility models, such as GARCH-MIDAS, may help identify the impact of macroeconomic variables on Islamic indices. Additionally, exploring the correlations between ASEAN markets and global markets during the pandemic using dynamic approaches could provide further insights into market integration.

3.4.7. Cluster Analysis 7: Dependency Structure and Systemic Risk in Islamic Financial Markets

Cluster 7 examines the interrelationships and risks between Islamic and conventional financial markets, focusing on risk contagion, spillovers, and systemic risks. Research indicates that Islamic markets are not entirely independent of conventional markets, as volatility and risk can be transmitted between them. For instance, Nazlıoğlu et al. (2015) highlighted significant risk transfers between global conventional equity markets and Islamic equity markets, revealing that Islamic markets are also vulnerable to global dynamics (Nazlıoğlu et al., 2015). These findings challenge earlier assumptions that Islamic markets are isolated from conventional markets, emphasizing the need for a deeper understanding of market interdependencies.

Methodologies such as copula analysis are particularly relevant in this cluster as they allow for the evaluation of non-linear relationships and risk dependencies between markets. Copula provides a framework to understand how extreme events in one market can impact another, particularly during financial crises (Yılmaz et al., 2015). Systemic risk is a primary concern since interconnected markets can exacerbate shocks and lead to widespread financial instability. Şensoy (2016) noted that although Islamic markets exhibit lower systemic risks compared to conventional markets, they remain susceptible to contagion effects during crisis periods (Şensoy, 2016).

The concept of tail dependence is also crucial for understanding the distribution of extreme risks between Islamic and conventional markets. Abuzayed and Al-Fayoumi (2021) identified that tail dependence between these markets indicates the potential for extreme events in one market to affect the other (Abuzayed & Al-Fayoumi, 2021). Additionally, global factors such as crude oil prices significantly influence risk dynamics between Islamic and

conventional markets, especially in the Gulf Cooperation Council region (Mezghani & Boujelbène, 2018). Future research should focus on developing risk models capable of more accurately evaluating extreme dependencies and systemic risks, identifying specific spillover mechanisms, and exploring strategies to mitigate the impact of global factors on the stability of Islamic markets. This approach will be instrumental in strengthening the resilience of Islamic financial systems against global economic shocks.

3.4.8. Cluster Analysis 8: Diversification, Investor Sentiment, and Dynamics in Islamic Finance

Cluster 8 explores the roles of portfolio diversification, investor sentiment, and the interconnections between Islamic financial assets and alternative assets, such as Bitcoin. Portfolio diversification is a core strategy in risk management, with Islamic financial instruments offering unique opportunities to mitigate risk due to adherence to Shariah principles. Research by Saiti and Noordin (2018) demonstrated that Islamic equities provide significant diversification benefits, particularly in emerging markets, enhancing portfolio stability during economic uncertainty (Saiti & Noordin, 2018).

Investor sentiment significantly influences Islamic financial market dynamics, with investment decisions and asset prices often driven by emotional factors or specific events. Febrianto (2023) identified that investor sentiment during Ramadan impacts stock performance in Islamic markets, highlighting the importance of understanding these sentiments for optimal investment strategies (Febrianto, 2023). Additionally, Bitcoin, as an alternative asset, has garnered attention from investors as a potential diversification tool. Xu (2022) found that Bitcoin could serve as a hedge against traditional equity markets during market stress, although its compliance with Shariah principles remains debated (Xu, 2022). Advanced methodologies such as DCC-GARCH and wavelet coherence are frequently employed to evaluate inter-asset relationships. The DCC-GARCH model facilitates the analysis of dynamic correlations between Islamic equities and Bitcoin, while wavelet coherence reveals more complex temporal relationships (Bahloul et al., 2023). These studies underscore the importance of understanding how Islamic financial assets and cryptocurrencies can complement each other within portfolios.

Future research could further explore the diversification benefits offered by Islamic assets and cryptocurrencies, including Bitcoin, during periods of high volatility. Employing approaches such as wavelet coherence to analyze the dynamic relationships between these assets across

various time horizons could provide deeper insights. Additionally, investor sentiment towards Islamic assets and cryptocurrencies could be a critical area of focus, particularly in assessing how shifts in sentiment influence market performance and portfolio strategies.

3.4.9. Cluster Analysis 9: Bank Stability and the Impact of Financial Crises on Islamic and Conventional Finance

Cluster 9 focuses on comparing the stability of Islamic and conventional banks, emphasizing the impact of financial crises and the methodologies employed to analyze changes in bank performance during such periods. Research indicates that Islamic banks tend to be more resilient to market volatility compared to conventional banks, primarily due to Shariah principles prohibiting riba (interest) and emphasizing risk-sharing. For example, Farooq and Zaheer (2015) found that Islamic banks exhibited stronger credit and asset growth during the 2008–2009 financial crisis than their conventional counterparts. These findings support the notion that the unique structure of Islamic banks provides them with a degree of protection from systemic risks affecting conventional banks (Farooq & Zaheer, 2015).

Methodologies such as GARCH models are commonly utilized to evaluate the volatility and risks faced by banks. Sorwar et al. (2016) demonstrated that Islamic banks have lower risk profiles during periods of market stress, reinforcing the perception of their resilience to systemic failures (Sorwar et al., 2016). However, the concept of structural breaks reveals that while Islamic banks may experience relatively lower impacts during financial crises, weaknesses in risk management practices can lead to greater declines in profitability (Khalifah & Jaafar, 2017). This analysis underscores the need to strengthen risk management frameworks in Islamic banks to better withstand future shocks. Future research should focus on developing dynamic risk models that account for the unique structure of Islamic banks, exploring the effectiveness of Shariah-based strategies during global crises, and evaluating the interaction between systemic risk and structural changes in the Islamic banking sector.

4. CONCLUSION

This study provides an in-depth analysis of the literature on Value at Risk (VaR) in Islamic portfolios through a bibliometric analysis spanning the period from 2005 to 2024. The analysis identified 311 documents from various sources, with an annual growth rate of 3.53% and

contributions from 677 authors. Based on the findings, several key points are summarized to address the research questions.

The main aspects influencing this field include the application of advanced methodologies, such as GARCH models, wavelet analysis, and copula techniques, to measure volatility, risk dependencies, and market dynamics. Furthermore, the unique characteristics of Islamic financial instruments, such as sukuk and Sharia-compliant stocks, along with issues of Sharia compliance, are crucial elements in risk management. These instruments demonstrate potential to address global market volatility while adhering to Sharia principles.

The intellectual structure of this literature is dominated by significant international collaboration, with Malaysia, Tunisia, and Saudi Arabia as the leading contributors. Influential authors such as Hammoudeh S, Mensi W, and Shahzad SJH are recognized for their substantial contributions, while institutions like the International Islamic University Malaysia and Prince Sultan University emerge as prominent affiliations. Key journals, including the *International Journal of Islamic and Middle Eastern Finance and Management* and the *Pacific Basin Finance Journal*, serve as primary publication platforms, highlighting the importance of cross-border collaboration in advancing this research domain.

Thematic trends in the literature reveal an evolution from foundational topics, such as Islamic finance and sukuk, to more complex approaches, including wavelet analysis and DCC-GARCH models. The Thematic Map categorizes the literature into four main clusters: motor themes, niche themes, basic themes, and emerging themes, encompassing topics such as Value at Risk, volatility, and the Islamic financial system. Thematic Evolution highlights a shift in research focus from financial stability and systemic risk in earlier periods to global issues such as the impact of the COVID-19 pandemic and market risk management in the last decade.

Nevertheless, the literature exhibits significant gaps, particularly in integrating Sharia principles with relevant VaR models. The analysis of nine research clusters identifies substantial opportunities for further exploration, such as Islamic portfolio diversification, market connectivity, risk management during global crises, and the integration of sustainability indicators like ESG. Future research should explore novel approaches to optimizing Islamic portfolio performance amidst global uncertainties, including leveraging Sharia-based instruments as safe havens and developing methodologies to assess systemic risks.

This study makes a significant contribution by mapping trends, gaps, and developmental directions in the literature on VaR in Islamic portfolios. By identifying the intellectual structure, thematic trends, and future research directions, the findings provide a strategic foundation for further inquiry while supporting the development of resilient and sustainable Islamic financial practices in the face of global challenges.

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