Aiming For The Future Of Bibliometric Forecast Research In Fraud Prevention: A Review Of Digital Economy Exploration

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Abstract

Received: 28 September 2023	*This study aims to analyze and map the main research streams, research development, and further research directions in fraud prevention studies systematically. Using bibliometric analysis to analyze fraud prevention articles in the Scopus database based on preliminary data from 1985-2022 where there are 772 documents processed through VOSviewer software version 1.6.19. The study concluded that fraud prevention is a topic of international interest. Article by Rezaee. (2005), and an article in the Managerial Auditing Journal. Certain keywords, such as whistleblowing system, culture, management integrity, reputation, and blockchain technology provide a potential focus for future research.*
Revised: 1 Desember 2023	
Accepted: 30 Desember 2023	

Keywords: *Bibliometric Forecast; Research; Digital Economy*

INTRODUCTION

Fraud that occurs in business entities certainly damages and hinders the achievement of the goals set by the organization. This is a challenge for all parties of the organization in detecting and preventing fraud from being addressed and avoided from occurring. However, Handling Fraud in an Organization requires high commitment from all parties and is assisted by adequate mechanisms or systems in supporting fraud prevention (Gunasegaran et al., 2018; Rifai &; Mardijuwono, 2020).

This is also evidenced by a survey conducted by ACFE related to fraud cases that have occurred so far, where it is stated that each company has suffered a loss of 5% of the revenue it receives due to fraud that occurs in the company. In addition, it was also explained that fraud detection is mostly carried out by employees, who provide information related to fraud that occurs in the company (ACFE, 2022). Therefore, how important it is for every organization to develop an adequate supervisory framework accompanied by system mechanisms that support fraud reporting (Cross, 2018, 2019).

Prevention of fraud within the scope of a corporation is very important to support their financial performance. The process of implementing good corporate governance principles

(GCG) is an effort that applies a humane approach to prevent fraud. The application of good corporate governance principles certainly places strict supervision in a company (Juhandi et al., 2020), where this is carried out by the board of commissioners (Board of Commissioners), audit committee (AC), and internal audit unit or IAU (Halbouni et al., 2016). All three have complementary roles in an effective organizational structure in preventing fraud.

Fraud prevention will also be more effective if it is equipped with an adequate system and technology approach, which is characterized by how the company establishes adequate and effective controls. Internal control is one of the means used in ensuring that there is no conflict of interest in the actions taken by a person. Supervision carried out by the Board of Commissioners, the achievement of AC and IAU also still has limitations (Mirinaviciene, 2014), where there is still a chance of no fraud detected in the internal audit process (Rashid et al., 2022). This threat can be overcome by implementing a whistleblowing system in an organization allowing strict supervision from all parties to prevent fraud.

The regulator has also established several important rules in supporting fraud prevention in both aspects. The Financial Services Authority (OJK) has established important rules related to public corporate governance mechanisms in supporting adequate supervision of each company, which is regulated in POJK No. 21 of 2015. In addition, regulations have also been established regarding the whistleblowing system which has been regulated since 2008 by the National Committee on Governance Policy in guidelines related to the Whistleblowing System (WBS).

The purpose of this study is, first, to analyze and map the existing research flow systematically. In the literature on fraud prevention, then, second, systematically analyze and map the development of research in the field of fraud prevention by determining, countries, institutions, authors, and networks in this field. Third, try to analyze systematically and chart the best direction for further research. It successfully identified key research areas, gaps, emerging trends, and patterns in previous research by mapping how global discussions about fraud prevention are unfolding. In addition, it is also hoped that researchers in Indonesia can also use this information to guide their own research on fraud prevention, considering that there are still many areas of research that are still clearly needed based on the results of this study.

This research uses bibliometric analysis which is used to answer the following research questions:

Q1: Based on which publication sources have contributed the most articles on the topic of fraud prevention?

Q2: Which articles are the most influential and most relevant in fraud prevention research

studies?

Q3: Which country has the most influence and raised the topic of fraud prevention in scientific research?.

METHODS

This study used data obtained from the Scopus database, with two considerations: (1) the Scopus database is most widely used in bibliometric research; (2) when compared to Web of Science (WoS) databases, Scopus databases have a much wider scope (Strozzi et al., 2017). Scientific articles published from 2005 to 2023 are downloaded from the Scopus data-base with the keyword "Fraud Prevention".

The data obtained were then analyzed using bibliometric methods through the VOSviewer 1.6.19 program. Bibliometric network analysis was performed with five metrics: *citation,* co-cita tion*, bibliographic coupling, co-occurrence,* and *co-authorship.* Citation analysis is an analysis that the author uses to provide an overview of the impact and influence of a work or author in his field of knowledge. Co-citation *analysis* is a science mapping technique that assumes frequently cited publications together have thematic similarities. The benefit of using *co-citation* analysis is that in addition to finding the most influential publications, you can also find thematic clusters. *Co-citation* analysis was performed in the author's unit using the full counting method. A consideration of *co-citation* analysis in the author's unit is that one author should be cited 5 times. Thus, out of 8,983 authors, 218 authors meet a minimum of 5 citation threshold criteria.

Furthermore, bibliographic merging is a scientific mapping technique used based on the assumption that two publications that have the same reference also have similar content. This technique is useful for analyzing the relationship between publication citations and for understanding periodic problems or developments of current themes in the field of research (Donthu et al., 2021). The consideration of combining bibliographies in document units is the minimum number of document citations = 1, so that out of 117 documents, 90 meet the threshold. The selected visualization parameters are the same as the citation analysis parameters. Co-occurrence *techniques* are used to explore existing or future relationships between topics within a research area by focusing on the written content of the publication. Network *keyword co-occurrence* is done in the author unit, using keywords that are limited to a minimum of 8 occurrences. It generates a total of 323 keywords. The selected visualization parameters are the same as the citation analysis parameters.

Finally, *co-authorship techniques* are used to examine social interactions or relationships

between authors and their affiliations and their impact on the development of the research field (Donthu et al., 2021). The *co-authorship* network is carried out in the author unit and country with several parameters, namely the collaboration network between authors selected in at least one research article. In this analysis the authors did not set a threshold number, which means the researcher had at least one article. *Co-authorship* networks from countries affiliated with selected authors who have at least one article between 2005 and 2023. The selected visualization parameters are the same as the citation analysis parameters. To visualize bibliographic data graphically, this study used VOSviewer software to analyze network relationships between different units of analysis. VOSviewer was chosen for this study because of its ability to create maps based on network data, bibliographic data, and text data as well as its ability to support all file types. The file used for visualization in VOSviewer is in CSV format and contains bibliographic information of the article.

RESULT AND DISCUSSIONS

Based on the initial data search on Scopus, there were 772 documents discussing fraud prevention from 1985-2022, then there were also 123 articles and 118 journals, from some of these journals some of the most popular journals discussing fraud prevention include: Based on **figure 1** obtained information *that the Managerial Auditing* Journal is the journal that publishes the most articles on the topic of fraud prevention with a total of 7 (seven) articles, the *International Journal of Scientific And Technology Research* follows with 4 (four) articles, then *Australasian Accounting, Business And Finance Journal, International Journal Of Financial Research, Issues In Accounting Education, Journal Of Internet Banking And Commerce, Security Journal* with 3 (three) articles each. *The Journal Of Financial Reporting* is the most recent journal to publish on this topic. These data are presented in **Figure 1** below:
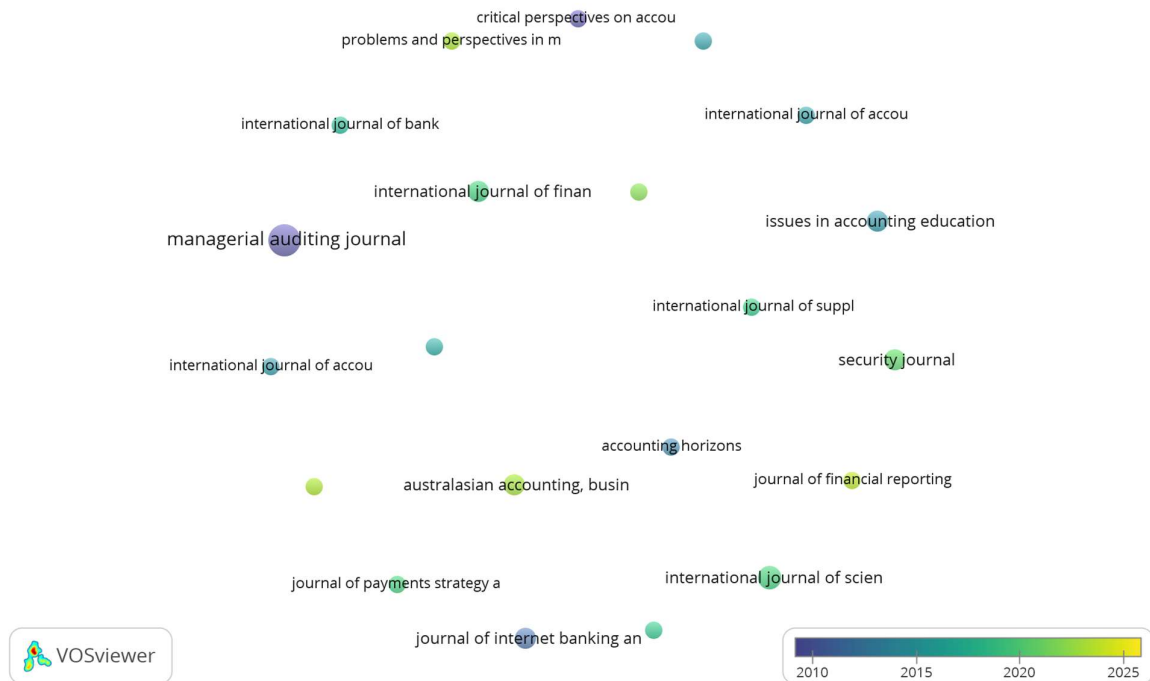
Figure 1. Publication Source

Based on **Figure 2** which is a display of citation results based on the unit of analysis containing an article written by Rezaee (2005) widely cited by other articles. Thus, the article is considered the most relevant, quality, and influential article to be used as a reference in the field of fraud prevention studies where this article discusses financial statement fraud which is a serious threat to *market participants*' confidence in audited and published financial statements, besides that this article also highlights factors that can increase the likelihood of report fraud Finance then becomes the focus of attention of corporate governance participants (Board of Directors, Audit Committee, Top Management Team, Internal Auditors, External Auditors, and Regulatory Bodies) in creating strategies for prevention and detection.

The *co-citation* analysis of the cited authors resulted in the formation of four clusters represented by four different colors; these data are presented in **Figure 2** below:
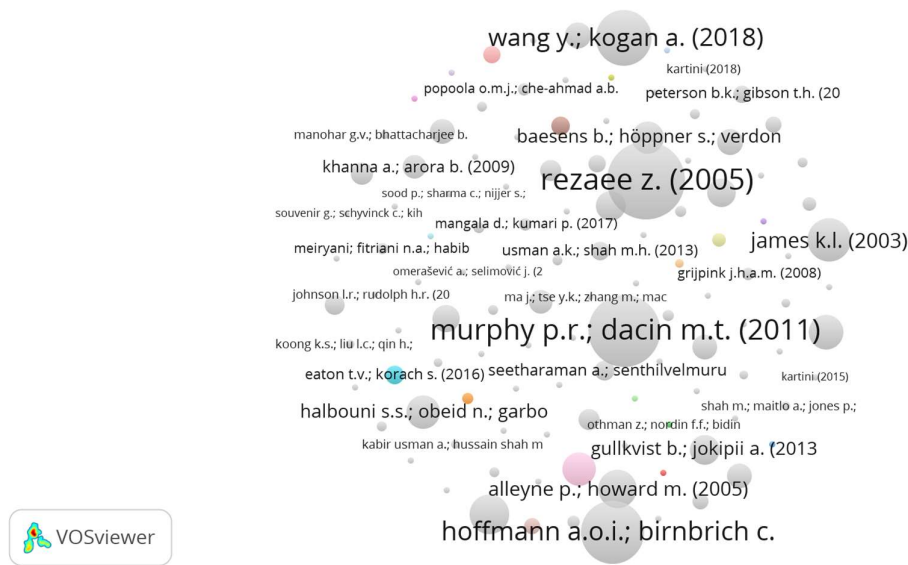
Figure 2. *Citations*

Based on **Figure 3** showing the co-citation pattern of 8,983 authors, there are 218 authors cited at least 5 times by the study, in the research sample there are at least 7 (seven) clusters in this co-citation analysis .

Cluster 1 (in red) represents the work of the 59 most cited authors and is one of the largest clusters. Of the 59 authors, Chen Y. emerged as the most cited source. Cluster 2 (in green) includes 56 authors, with the most prominent author in this group being Albrecht C.C. Cluster 3 (in blue) consists of 42 authors, in this group Albrecht W.S. appears as the most cited author. Cluster 4 (in yellow) includes 29 authors, with the most prominent author in this group being Vasarhelyi M.A. Cluster 5 (in purple) consists of 17 authors, in this cluster Spink J. emerges as the most cited author. Cluster 6 (in light blue) includes 8 authors, with the most prominent author in this group being Button M. and the last one is cluster 7 (orange) consisting of 5 authors and the most cited is Alshurafat H. This data is presented in **Figure 3** below:
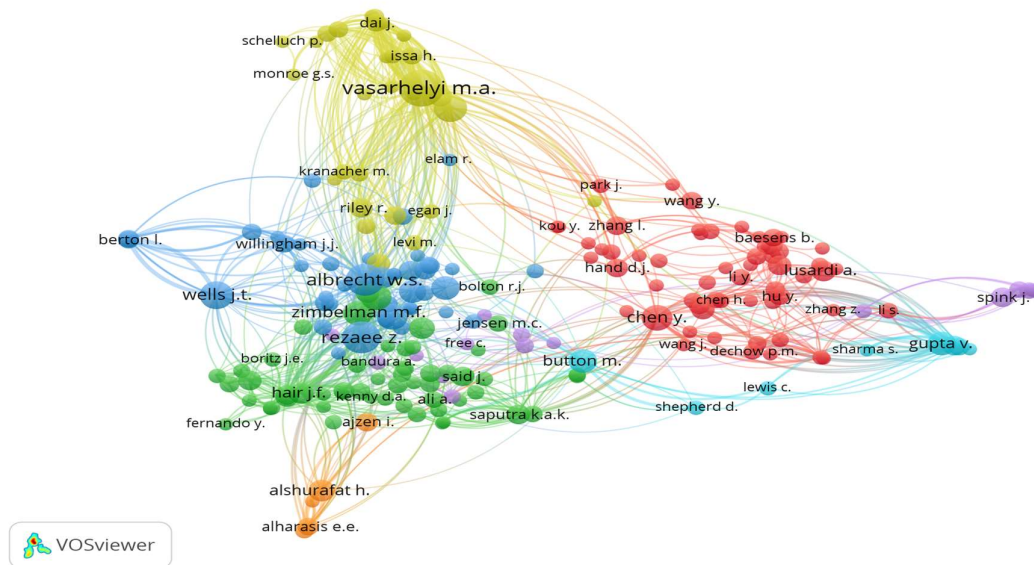
Figure 3. *Co-citation of Cited Authors*

Figure 4 shows a pattern of combining bibliographic articles with cluster brief descriptions. based on the results of the analysis of 117 articles using VOS Viewer grouped into 11 (Eleven) clusters and there are 3 largest clusters, namely Cluster 4 by Rezaee (2005) with the title of the article "*Causes, consequences, and deterence of financial statement fraud*" cited 240 times, then Cluster 8 by Murphy P.R.; Dacin M.T (2011) with the title of the article "*Psychological pathways to fraud: understanding and preventing fraud in organizations*" quoted 204 times, and Kuster 9 by Hoffmann A.O.I.; Birnbruch C. (2012) with the title of the article "*The impact of fraud prevention on bank-customer relationships An empirical investigation in retail banking*" which is cited 156 times, this data is presented in **Figure 4** below:
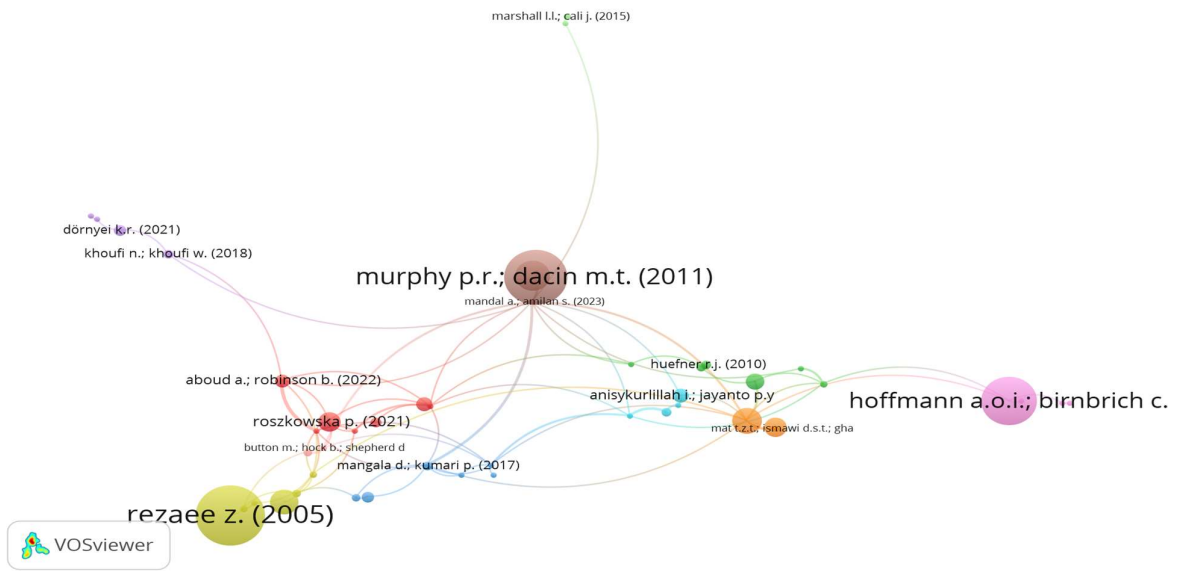
Figure 4. *Bibliographic Coupling of Documents*

Figure **5** shows that "fraud prevention" is a widely studied concept followed by "draud detection". The term fraud prevention emerged as the author's most used keyword with 32 events and was followed by the term fraud detection with 8 events. The analysis yielded a total of 323 keywords grouped into 32 clusters. Each cluster is represented by a different color with a total link strength of 1045, these data are presented in **the following Figure 5** :
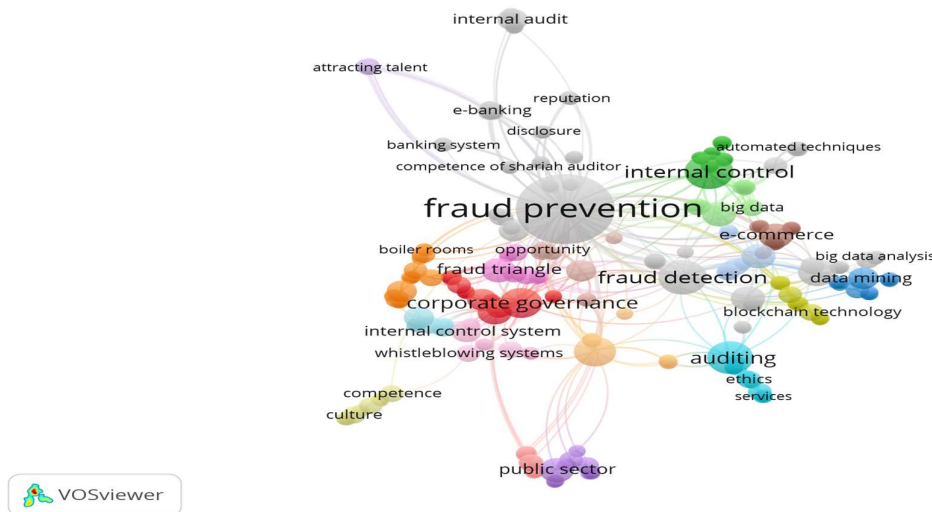
Figure 5. *Co-occurrence of Author's Specific Keyword*

Based on **Figure 6** it can be seen that keywords that can be a deferrer for further research are reflected through VOSviewer visualization, words represented in faded green with a small size indicate terms that have not been studied much, such as the words whistleblowing system, culture, management integrity, reputation, blockchain technology, and others. This is a potential direction for further research. Next, a network of *co-authorships* is conducted to determine the amount of collaboration between authors, organizers, and countries. Collaborative research produces research articles of much better quality, these data are presented in **Figure 6** below:
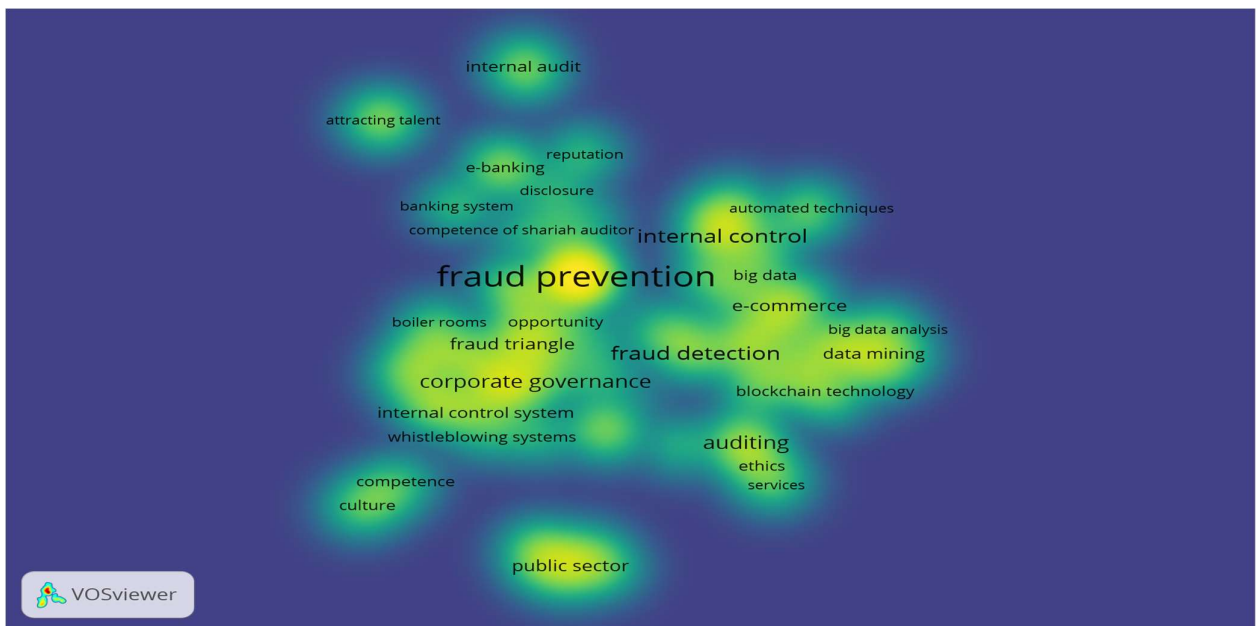

Figure 6. *Co-occurrence of Author's Specific Keyword*

Figure **7** shows a network of collaborations between authors in at least one research article. From the results of the analysis visualized in **Figure 7** resulted in a total of 116 authors and 116 clusters. Rezaee Z (2005) is the most cited author at 240 times, this data is presented in **Figure 7** below:
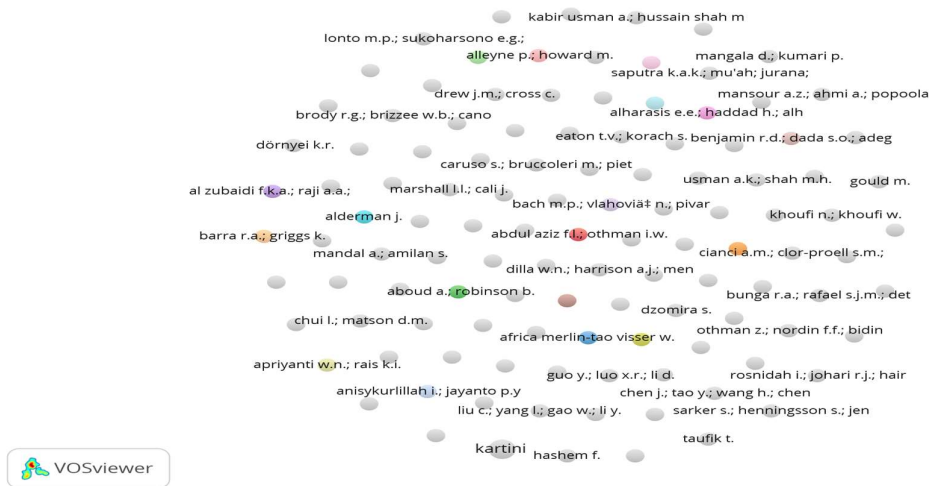
Figure 7. *Co-Authorship of Author's Specific Keyword*

Figure **8** shows a *co-authorship* network of author-affiliated countries that published at least one article and was cited once, the analysis yielded as many as 20 countries. The United States emerged as the most published country with a total of 28 articles with a total of 13 link strength, and is directly related to several countries including; France, China, Indonesia Belgium. Then for the country of Indonesia published as many as 21 articles with a total of 4 link strengths, this data is presented in **Figure 8** below:

Figure 8. *Co-authorship* Network of Author Affiliated Countries.

CONCLUSION

The results showed that the *Managerial Auditing Journal* is the journal that publishes the most articles on the topic of fraud prevention with a total of 7 (seven) articles with the topic raised in the study is fraud prevention, and the topic of fraud prevention is also very interesting to researchers in this case evidenced by that in this biographic analysis information was obtained that Rezaee (2005) was the author of the most cited article by Other articles in this field, while articles are written. Other widely cited publication articles outlined in figure 4 by cluster are: Cluster 8 by Murphy P.R.; Dacin M.T (2011) with the title of the article "*Psychological pathways to fraud: understanding and preventing fraud in organizations*" quoted 204 times, and Kuster 9 by Hoffmann A.O.I.; Birnbruch, C. (2012) with the title of the article "*The impact of fraud prevention on bank-customer relationships: An empirical investigation in retail banking*" which was cited 156 times. Then for the country that is considered the most influential and produces a lot of research on the topic of fraud prevention is the United States emerging as the most country that publishes articles with a total of 28 articles with a total of 13 link strengths, and is directly related to several countries including; France, China, Indonesia Belgium. Then for the Indonesian state published as many as 21 articles with a total of 4 strenght links.

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