

A bibliometric analysis of corruption in the public sector

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Abstract: This study aims to systematically analyze and map main research streams, research development, and further research direction in corruption studies. It uses bibliometric analysis to analyze 759 articles in the Scopus database from 2011 to 2020 through the software VOSviewer version 1.6.17. It concludes that public sector corruption is a topic of interest internationally. Articles by Chan et al. (2011), Williams and Shahid (2016), and articles in the Journal of Financial Crime are the main reference sources. Certain keywords, such as management, regulation, tax evasion, health care, and investment provide a potential focus for research in the future.

Keywords: Corruption; Sector; Public; Bibliometric

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Introduction

Corruption is a unique crime and a global threat (Nuswantara & Maulidi, 2020). It is also the most common and detrimental fraud in Indonesia (ACFE Indonesia Chapter, 2020). The organizations most disadvantaged by corruption are those in the government sector, both at the central and regional levels. The losses suffered by the state due to corruption over the five-year period from 2015 to 2020 have continued to increase, while the number of corruption cases pursued and the number of corruption suspects prosecuted by law enforcement has decreased (Alamsyah, 2020). This indicates that the supervision of government budget management is becoming weaker every year. This poor governance leaves the government sector as a 'goldmine' for perpetrators of fraud and corruption. In fact, good governance free from corruption, collusion and nepotism is the hope of all Indonesian people (Muttiarni, 2021).

Kamus Besar Bahasa Indonesia (2021) defines corruption as an attempt to misappropriate or misuse state money for personal gain. Corruption also refers to the abuse of public office or authority for personal gain through bribery, extortion, nepotism, and embezzlement (Fisman & Golden, 2017; Siddique & Ghosh, 2014). Corruption itself, according to Singleton and Singleton (2010) is marked by behavior patterns where employees of an organization collaborate with other individuals illegally. This is carried out clandestinely outside the organization in question and is usually characterized by conflicts of interest, bribes, illegal gratuities, and economic extortion. In defining this concept, (Fisman & Golden, 2017) also emphasize that corruption usually occurs in conditions which give rise to ethical problems which result in greater willingness by individuals to behave corruptly. Corruption in the public sector involves state officials using state facilities on behalf of private individuals and their interests, or acts of power which deviate from the rules set by the state and in turn lead to state losses (Deni, 2010; Faisal, 2018). The law on criminal acts of corruption states that corruption occurs when any person intentionally violates the law by abusing state money, or public money to enrich themselves in a manner which results in state financial losses or the state economy (Sofhian, 2020).

The rise of corruption in Indonesia seems difficult to eradicate and deeply rooted. In some ways, it appears that it is a violation of the law which has now become a habit (Yanti, 2021). As noted by Bihamding (2018), the emergence of increasing corruption despite the spirit of reform and transparency promoted by the government is a striking irony. There is a plethora of research on corruption. For example, research published by Matulesy et al. (2021); Nugraha and

Etikariena (2021); Putri and Yanti (2020); and Yanti (2021) analyzed the triggering factors which led to corrupt behaviour from individuals working in the public sector. This empirical study is an important enrichment of the knowledge base in this field. However, an objective and inclusive analysis of this pool of knowledge must still be carried out in order to inform future research, policy, and practice.

A number of bibliometric analyses of corruption have already been carried out. A study conducted by Uribe-Toril et al. (2019) reviewed 180 articles on the topic of corruption and entrepreneurship from 2019 to 2020 using the Scopus database. Bahoo (2020) completed a review of research on corruption in the banking sector based on 819 articles from ISI Web of Knowledge (ISI WOK) from 1969 to 2019. Sforza et al. (2020) conducted a review of corruption research in the health sector based on 80 articles from the Scopus and Ebsco databases from 2006 to 2017. Zhai et al. (2021) used a research sample of 542 articles on corruption in the construction sector from the Web of Science from 2000 to 2020. Finally, Bahoo et al. (2021) conducted a bibliometric analysis of corruption in the economic sector with a sample of 4,488 articles from the ISI Web of Knowledge (ISI WOK) from 1968 to 2019. These studies have a number of limitations and suggestions for further research. The Scopus database is preferred as a data source because it has a coverage almost 60% greater than the Web of Science (WoS) and ISI Web of Knowledge (ISI WOK) databases (Bahoo, 2020; Bahoo et al., 2021; Zhai et al., 2021). The number of published articles and the period of publication must also be considered in further research due to the limitations in these respects in the studies of Sforza et al. (2020) and Uribe-Toril et al. (2019). On this basis, a re-mapping of corruption research is a necessary endeavor given the rampant nature of the phenomenon of corruption today and the limitations in the previous research which has been undertaken using this methodology.

This research is in some ways a replication of previous research conducted by Bahoo (2020); Bahoo et al. (2021); Sforza et al. (2020); Uribe-Toril et al. (2019); and Zhai et al. (2021) who conducted a literature review study and bibliometric analysis of corruption. The difference between this research and previous research lies in the source of the article database, the period of the article sample, and the use of article keywords. This study aims to conduct a bibliometric analysis study using the keywords “corruption” and “public sector”. The use of these keywords is motivated by the increasing number of corruption cases occurring in the public sector: from 271 in 2019, to 444 in 2020. This is according to an independent survey agency in Indonesia undertaken by Indonesia Corruption Watch (Alamsyah, 2020).

The purpose of this research is, firstly, to systematically analyze and map the current research flows in the literature on corruption in the public sector, then, secondly, to systematically analyze and map the development of research in the field of corruption in the public sector by determining the major journal articles, countries, institutions, authors, and networks in this field. Thirdly, it seeks to systematically analyze and map the best direction for further research. It succeeds in identifying key research areas, gaps, emerging trends, and patterns in previous research. By mapping the manner in which the global discussion regarding corruption in the public sector is unfolding, this study facilitates the development of strategies for preventing and eradicating corruption by looking at the manner in which this has occurred in other countries. These methodologies for prevention of corruption can be considered for adoption in Indonesia. Researchers in Indonesia can also use this information to guide their own research into corruption, given the many areas of research which are still clearly required based on the outcome of this study.

Methods

This study uses data obtained from the Scopus database, with two considerations: (1) the Scopus database is the most widely used in bibliometric research; (2) when compared with the Web of Science (WoS) database, the Scopus database has a much larger scope (Strozzi et al., 2017). Scientific articles published from 2011 to 2020 were downloaded from the Scopus database using the keywords “corruption in the public sector”. The search using these keywords was then limited

to the title, abstract, and keywords. The document type was limited to English articles only. The information related to the collection using the keywords identified was as follows (Figure 1).

759 document results

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TITLE-ABS-KEY (corruption AND in AND public AND sector) AND (LIMIT-TO (PUBYEAR, 2020) OR LIMIT-TO (PUBYEAR, 2019) OR LIMIT-TO (PUBYEAR, 2018) OR LIMIT-TO (PUBYEAR, 2017) OR LIMIT-TO (PUBYEAR, 2016) OR LIMIT-TO (PUBYEAR, 2015) OR LIMIT-TO (PUBYEAR, 2014) OR LIMIT-TO (PUBYEAR, 2013) OR LIMIT-TO (PUBYEAR, 2012) OR LIMIT-TO (PUBYEAR, 2011)) AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (LANGUAGE, "English")) AND (LIMIT-TO (SRCTYPE, ""))
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Figure 1. Article Selection and Evaluation Criteria

The data obtained were then analyzed using the bibliometric method via the VOSviewer 1.6.17 program. The bibliometric network analysis was carried out with five metrics: citation, co-citation, bibliographic coupling, co-occurrence, and co-authorship. Citation analysis is a basic technique in scientific mapping. It is based on the assumption that citations reflect the intellectual relationships between publications that are formed when one publication cites another publication (Donthu et al., 2021). Therefore, by using citations, the researcher can analyze the most influential publications in the research area under study to gain an understanding of the intellectual dynamics in that field. The unit of analysis chosen in conducting citation analysis is the unit document with the minimum number of document citations = 0; so that of 759 documents, 759 meet the threshold. The selected visualization parameters consist of a scale = 1.00; variation of the label in the form of a circle with a size of 0.50; max length = 30; line variation size = 0.50 with a maximum line = 1000.

Co-citation analysis is a science mapping technique that assumes publications frequently cited together have thematic similarity. The benefit of using co-citation analysis is that, apart from finding the most influential publications, you can also find thematic clusters. Co-citation analysis was carried out in the writer's unit using the full counting method. The consideration of co-citation analysis in the author's unit is that one author must be cited 20 times. Thus, out of 33740 authors, 139 authors met the minimum 20 citation threshold criteria. The selected visualization parameters are the same as the citation analysis parameters.

Next, bibliographic merging is a scientific mapping technique used based on the assumption that two publications that share common references are also similar in content. This technique is useful for analyzing the relationship between publication citations and for understanding periodical issue or the development of current themes in the research field (Donthu et al., 2021). The merging of bibliographies is carried out in document units using the full counting method. The consideration of merging bibliography in document units is that the minimum number of document citations = 1, so that of 759 documents, 618 meet the threshold. The selected visualization parameters are the same as the citation analysis parameters.

The co-occurrence technique is used to explore existing or future relationships between topics within the research area by focusing on the written content of the publication itself. The keyword co-occurrence network was carried out in the author's unit, while keywords were limited to at least five occurrences. This resulted in a total of 73 keywords. The selected visualization parameters are the same as the citation analysis parameters.

Finally, the co-authorship technique was used to examine the 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's unit and country with several parameters, namely the collaboration network between authors is selected in at least one research article. In setting the threshold number, researchers must have collaborated on at least one article and cited it at least 50 times between 2011 and 2020. The co-authorship networks from countries affiliated with the authors were selected that had at least one

article between 2011 and 2020. The threshold is applied to a minimum of ten citations from a country, making a total of 72 countries. The selected visualization parameters are the same as the citation analysis parameters.

To visualize bibliographic data graphically, this study uses 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 the bibliographic information of the article.

Results and Discussion

The development of publications on “corruption in the public sector” in 2011-2020 is in Figure 2.

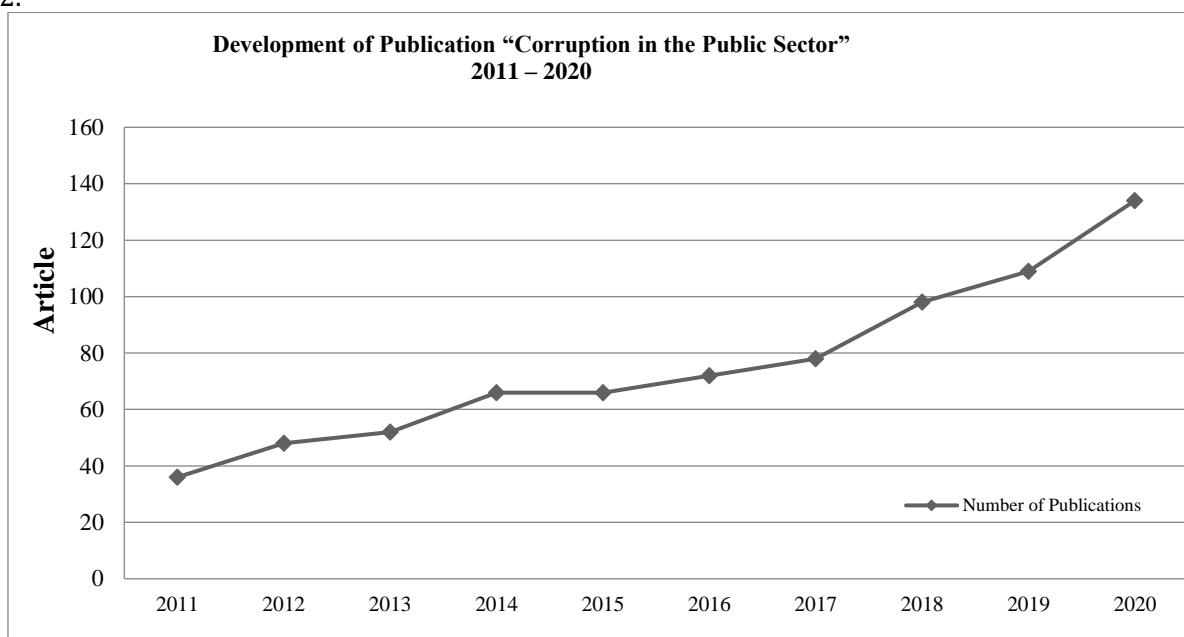


Figure 2. Development of Publication “Corruption in the Public Sector” 2011-2020

Based on Figure 2, it can be seen that over a period of ten years from 2011 the publication of articles discussing corruption in the public sector has increased significantly every year. This suggests that the topic is a relevant one, and of interest to researchers.

The ten most prolific authors in this field are presented in the Table 1.

Table 1. Ten Most Prolific Writers

No.	Writer	Article
1.	Chan, A.P.C.	8
2.	Williams, C.C.	8
3.	Prabowo, H.Y.	6
4.	Said, J.	6
5.	Alam, M.M.	5
6.	Johari, R.J.	5
7.	Le, Y.	5
8.	Charron, N.	4
9.	Fazekas, M.	4
10.	Graycar, A.	4

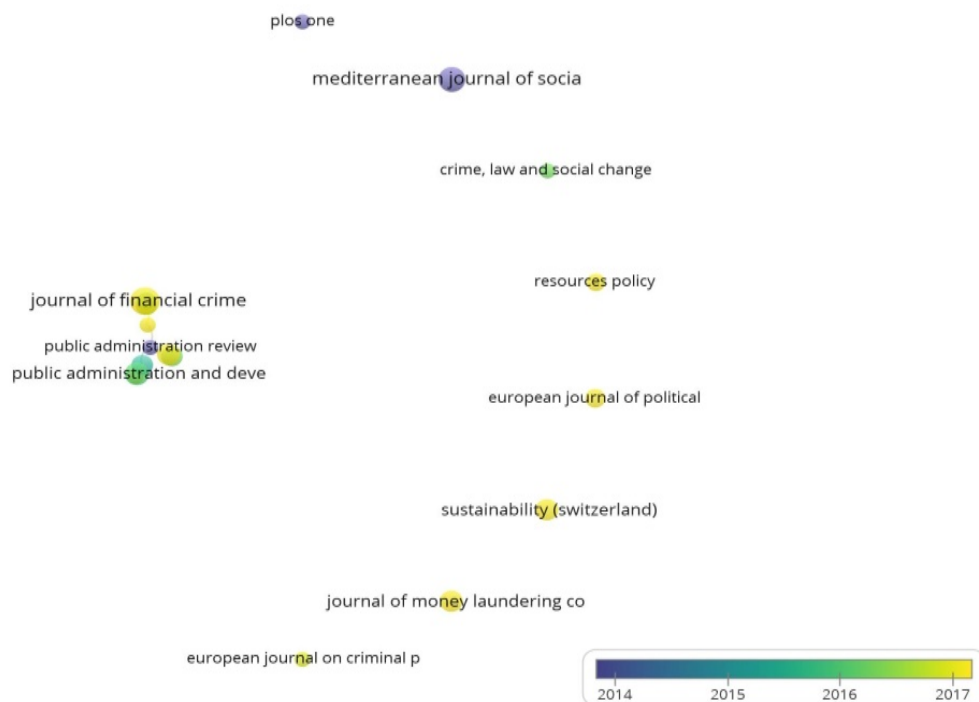
Chan et al. (2011) and Williams & Shahid (2016) have conducted the most research on the topic of corruption in the public sector, with both having published a total of eight articles.

The information gathered on the subject area of research on corruption in the public sector is presented in the Table 2.

Table 2. Research Subject Areas

No.	Subject Area	Article
1.	<i>Social Sciences</i>	485
2.	<i>Economics, Econometrics, and Finance</i>	235
3.	<i>Business, Management, and Accounting</i>	215
4.	<i>Arts and Humanities</i>	84
5.	<i>Environmental Science</i>	69
6.	<i>Medicine</i>	67
7.	<i>Engineering</i>	45
8.	<i>Decision Sciences</i>	26
9.	<i>Computer Science</i>	23
10.	<i>Energy</i>	19

Based on the collected Scopus database, articles on corruption in the public sector have been extensively researched in the social sciences area, with a total of 485 articles published. The Journal of Financial Crime is the journal that publishes the most articles on the topic of corruption in the public sector with fifteen articles, the Mediterranean Journal of Social Sciences follows it with twelve articles, the journal of Public Administration and Development with ten articles, then the International Review of Administrative Sciences, the Journal of Money Laundering Control, and Sustainability Switzerland each with nine articles. The International Journal of Public Sector Management, the Journal of Business Ethics, and Public Integrity each have eight articles, and the European Journal of Political Economy published seven articles in this field. The Journal of Financial Crime, the European Journal of Political Economy, Sustainability Switzerland, and the Journal of Money Laundering Control are the journals which published on this topic most recently. This data is presented in Figure 3:

**Figure 3.** Sources of Publication

The next topic of interest is the affiliation of these researchers. MARA University of Technology is a significant source of research on corruption in the public sector. The country generating the most research in this field is the United States, with a total number of publications of 121 articles (Figure 4). Some of these articles include:

- a. "Procurement issues in Malaysia" by Hui et al. (2011) discusses the perceptions of the two main stakeholders in the procurement system namely contractors and procurement officers regarding issues such as accountability, transparency, corruption, integrity, and cronyism

related to the public procurement system in Malaysia. The research was conducted through interviews over a period of nine months in 2007. The findings produced include a conclusion that a problems that contractors often complain about is the rampant interference from outside parties and the impact of cronyism on the manner in which contracts are awarded due to malpractice and non-compliance with procurement system policies and procedures. By procurement officers,

- b. "Public Accountability System: Empirical Assessment of the Public Sector of Malaysia" by Alam and Said (2015) analyses Malaysian public sector accountability practices in response to a recent report from the Auditor General that revealed corruption, weakness, and lack of control in asset management in the public sector. Around 87.3% of respondents indicated that the institution where the respondent works generally applied accountability practices appropriately. However, in administrative and diplomatic services, education, and medical or health services this number fell below the average of the total
- c. "On self-selection of the corrupt into the public sector" by Banerjee et al. (2015) found that prospective government employees are more involved in corruption than prospective employees in the private sector, even though corruption is equally prevalent in both sectors.
- d. "Tax evasion, tax corruption, and stochastic growth" by Célimène et al. (2016) presented a continuous-time stochastic growth model to study the effects of tax evasion and tax corruption on the level and volatility of private investment and public spending, both of which are growth factors. the evasion outcome for the private sector is not necessarily viewed as a burden. Equity market performs here have the same role as a policy of tax exemption. In societies in which the share of private investment in percentage of GDP is growing, in which tax cheaters usually choose to shelter the proceeds of their illegal activities from the official financial institutions, and in which the productivity of public spending is often low, tax evasion and tax corruption may contribute to the development of private capital if people find an opportunity to invest the proceeds of their illegal activities in equity markets.
- e. "Realizing sustainable development goals via online integrity framework disclosure: Evidence from Malaysian and Indonesian local authorities" by Joseph et al. (2019) examines the extent to which disclosure of integrity framework information on Malaysian and Indonesian local authority's websites uses the principle of coercive isomorphism. Indonesian local authorities are more proactive in implementing integrity initiatives, which translates into greater reporting as they are influenced by external coercive forces: legitimacy, public visibility, public sector reform, and institutional support structures. This article uses the institutional theory of isomorphis as a coercive mechanism that improves understanding of the disclosure of integrity framework. To build upon this work, future studies may need to develop newer disclosure lists by conducting pilot studies by country. More detailed analysis through interviews to gain a greater understanding of the reasons for the information being disclosed or not being disclosed would likely also prove beneficial in future research.



Figure 4. Citation of Country

This information about the MARA University of Technology and the United States should be a stimulus for Indonesian researchers to be more motivated to publish work on corruption in the public sector. While corruption cases are rife in Indonesia, not many studies have been published in international reputable journals. Studies from Indonesia that have been successfully published include:

- a. "Building anti-corruption compliance through national integrity system in Indonesia (a way to fight against corruption)" by Lukito (2016) discusses the National Integrity System among all public or government institutions and private institutions. The National Integrity and Anti-Corruption Compliance System is an important tool to prevent financial crime and seeks to provide new perspective in all public and private institutions through its implementation in all business activities. Business people also play an important role in developing a good and sustainable business environment in Indonesia. Encouraging the National Integrity System in every business sector is a way to achieve the ultimate goal, which is to strengthen economic competitiveness
- b. "De-normalizing corruption in the Indonesian public sector through behavioral re-engineering" by Prabowo et al. (2017) discusses the best approach to reducing corruption in the Indonesian public sector. This article uses three behavioral theories, namely Schematic Theory, Corruption Normalization Theory, and Moral Development Theory. The normalization of corruption in Indonesia is a legacy of the New Order regime which shaped the schemata of society, organizations, and individuals in Indonesia. The patrimonial leadership style, especially in local government, has resulted in increased rent-seeking activity in the decentralized system. Three decades of a systematic normalization of corruption in Indonesia's public sector can only be reversed through a lengthy and systematic de-normalization initiative. To design the best intervention measures, decision-makers must first identify the factors that make up the three pillars of normalization: institutionalization, rationalization, and normalization. Measures such as periodic review of operational procedures, the appointment of leaders with good morals, and anti-corruption education programs can all be part of a multifaceted strategy to undermine the pillars of normalization
- c. "Forgetting corruption: unlearning the knowledge of corruption in the Indonesian public sector" by Prabowo et al. (2018) shows that the main factor behind the regeneration of corruption over time in the Indonesian public sector is the fact that corruption has become a part of the conversion of knowledge in Indonesian public institutions for so long that erasing it has become engrained in these institutions. This article relies solely on documentary analysis to highlight trends in behavioral problems around knowledge conversion in the Indonesian public sector, so future research should include interviews with corruption perpetrators and local leaders to gain a more accurate view of how knowledge conversion plays a role in the growth and regeneration of corruption in the Indonesian public sector
- d. "Why people commit public procurement fraud? The fraud diamond view" by Rustiarini et al. (2019) provides frameworks for regulators, auditors, and other employees to use in recognising the characteristics and nature of fraud antecedents based on the 'fraud diamond theory'.
- e. "Reinvigorating the human instrument: An exploratory study on the potential use of CAQDAS in qualitative evaluation of corruption prevention in Indonesia" by Prabowo (2020) explores the potential of computer-assisted qualitative data analysis software (CAQDAS) to support qualitative evaluations of corruption prevention initiatives, especially those focused on behavioral change. This article applies the principles of qualitative inquiry to lay the groundwork for the development of an effective tool for evaluating behavior-oriented corruption prevention initiatives in Indonesia. The limitation of this article is that it only relies on documentary analysis in assessing the evaluation measures of corruption prevention in Indonesia. Further studies should seek to conduct in-depth interviews with anti-corruption evaluators, especially from state anti-corruption institutions.

Next, the display of the citation analysis results based on the document analysis unit is presented in Figure 5.

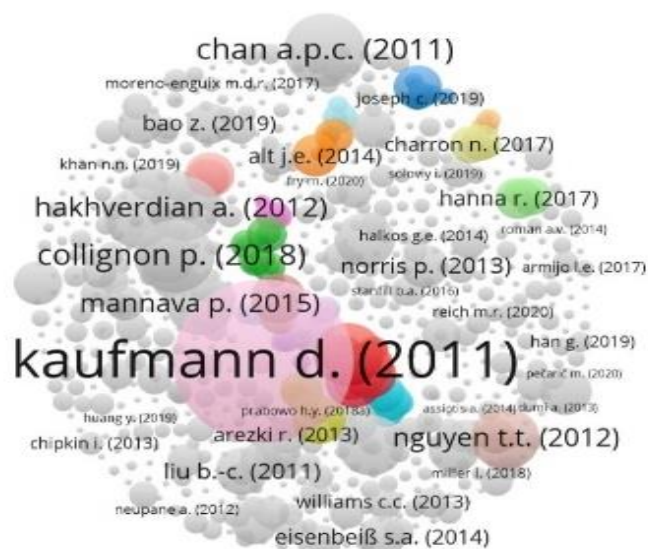


Figure 5. Citations

An article written by Kaufmann and Vicente (2011) is widely cited by other articles. Thus, the article is considered the most relevant, high quality, and influential article to be used as a reference in the field of studies on corruption in the public sector despite its relative age. This is because this article summarizes the methodology of the Worldwide Governance Indicators (WGI) project and provides an analysis of related issues. WGI has covered more than two hundred countries and territories, measuring six dimensions of governance starting in 1996. WGI discusses Accountability, Political Stability, Violence/Terrorism, Government Effectiveness, Quality of Regulations, Rule of Law, and Corruption Control. Aggregate indicators are based on several hundred individual baseline variables, drawn from various available data sources. The data reflects a survey of respondents' perceptions of public, private, and NGO governance around the world. This article explicitly reports on the margin of error that accompanies each country's estimates. Besides Kaufmann and Vicente (2011) articles written by Chan et al. (2011); Collignon et al. (2018); and Hakhverdian and Mayne (2012), are also highly influential in this field of study and widely cited by other authors in the network. The co-citation analysis of the cited authors resulted in the formation of four clusters represented by four different colors. Figure 6 shows the co-citation patterns of the 139 authors who were cited at least 20 times by the study in the study sample.

Cluster 1 (in red) represents the work of the 48 most cited authors and is one of the largest clusters. Of the 48 authors, Tanzi V. emerged as the most cited source. Cluster 2 (in green) includes 34 authors, with the most prominent author in this group being Shleifer A. Cluster 3 (in blue) consists of 29 authors, in this group Svensson J. emerged as the most cited author. Cluster 4 (in yellow) includes 28 authors, with the most prominent authors in this group being Kaufman D., Williams C.C., and Schneider F.

Based on bibliographic aggregation, thematically similar articles have been grouped. The results of the analysis of 618 articles using the VOS Viewer were grouped into four clusters. Figure 7 shows the pattern of combining bibliographic articles with a brief description of the cluster.

Cluster 1: This cluster shows the relationship between causes and vulnerability to corruption in the public sector. Cluster 1 is red and is the largest cluster with 232 articles. The most cited article in this group is "Investigating the Causal Relationships between Causes of and Vulnerabilities to Corruption in the Chinese Public Construction Sector" by Le et al. (2014) which was quoted 88 times.

Cluster 2: This cluster shows the relationship between corruption and economic growth for private companies and state-owned enterprises (BUMN). Cluster 2 is green and is the second-largest cluster with 151 articles. The most cited article in this group is "Corruption, growth, and

governance: Private vs. state-owned firms in Vietnam” by Nguyen T.T. (2012) and was quoted 122 times.

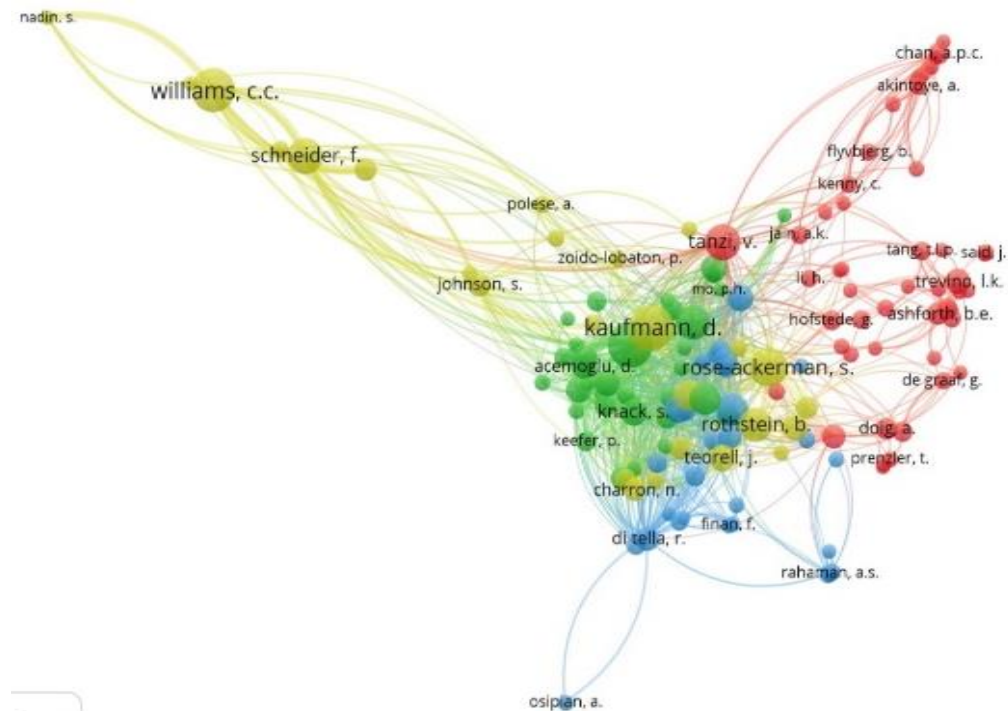


Figure 6. Co-citation of Cited Authors

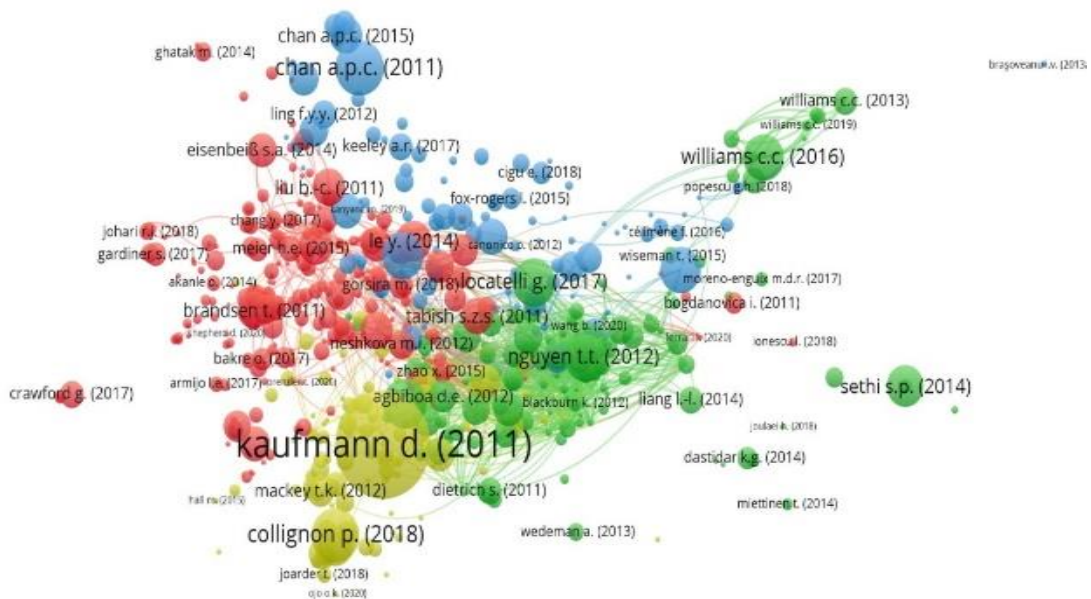


Figure 7. Bibliographic Coupling of Documents

Cluster 3: This cluster shows the process of identifying, assessing key risks, and selecting appropriate risk mitigation for project implementation between the private and public sectors. Cluster 3 is blue and is the third-largest cluster with 118 articles. The most cited article in this group is "Empirical Study of Risk Assessment and Allocation of Public-Private Partnership Projects in China" by Chan et al. (2011) and was quoted 175 times.

Cluster 4: This cluster shows the relationship between Worldwide Governance Indicators and corruption. Cluster 1 is yellow and has 117 articles. The most cited article in this group is "The Worldwide Governance Indicators: Methodology and Analytical Issues" by Kaufman D. (2011) which was quoted 840 times.

Figure 8 visualizes the author's frequently used keyword co-occurrence network.

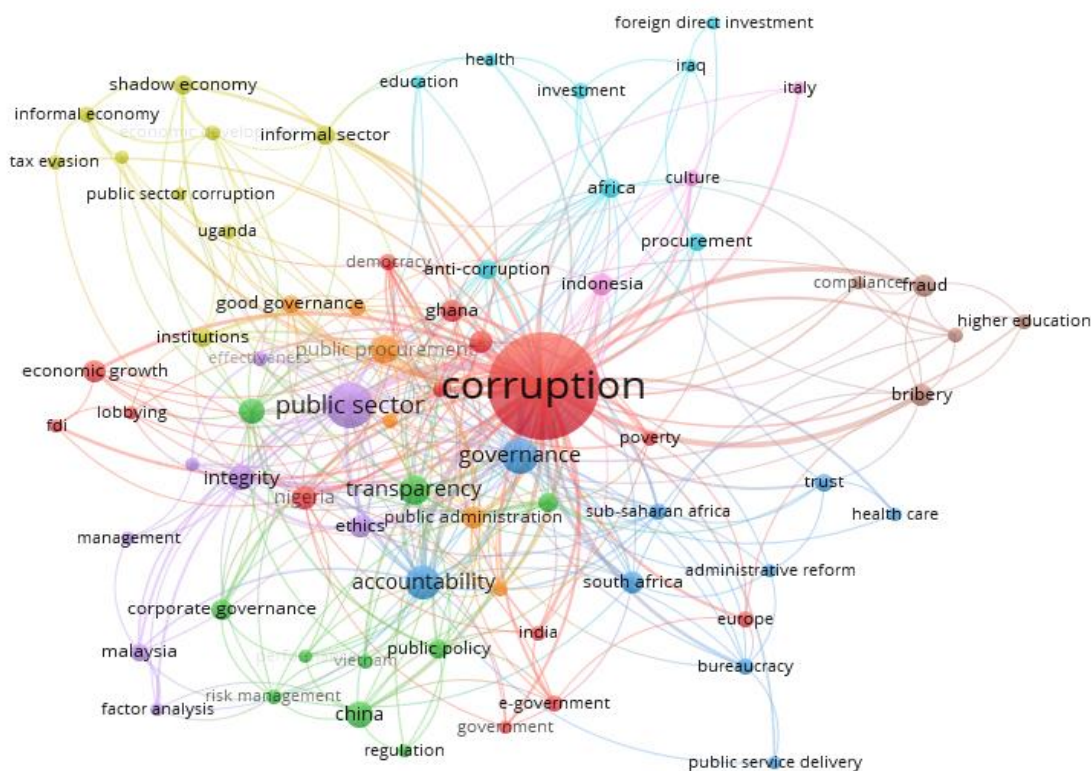


Figure 8. Co-occurrence of Author's Specific Keyword

Figure 8 shows that "corruption" is a widely studied concept and is followed by "public sector". The term corruption appears as the author's most used keyword with 279 occurrences and is followed by the term public sector with 52 occurrences. The analysis resulted in a total of 73 keywords grouped into 9 clusters. Each cluster is represented by a different color with a total link strength of 701. The author's keyword analysis offers several useful insights including: (1) Corruption in the public sector is a topic that is still very much of interest to researchers; (2) The keyword corruption is often related to the terms accountability, transparency, governance, bribery, culture, and tax evasion; (3) Corruption can also occur in the not-for-profit sector; and (4) Corruption has also been found in many different parts of the world including China, Europe, Africa, Iraq, Italy, Uganda, and Indonesia.

The keywords that can be an opportunity for further research are reflected in the following visualization of the VOSviewer overlay (Figure 9). Based on Figure 9, it can be seen that the words represented in faded green with small sizes indicate terms that have not been studied much, such as the words management, regulation, tax evasion, health care, investment, and others. This is a potential direction for further research. Furthermore, a co-authorship network was conducted to determine the number of collaborations between authors, organizations, and countries. Collaborative research produces research articles of much better quality. Figure 10 shows the collaboration network between authors in at least one research article.

The analysis results visualized in Figure 9 produce a total of 108 authors grouped into 33 clusters represented by different colors. Chan et al. (2011) formed the largest collaboration network of writers with a total of 23 articles compiled together and included in Cluster 1 in red.

Figure 11 shows the co-authorship network of countries affiliated with the author who published at least one article between 2011 and 2020. A threshold was applied to a minimum of 10 citation counts from a country resulting in a total of 72 countries. The United States emerged as the country with the highest total link strength among all countries. There is no relationship between countries like Iran, Brunei Darussalam, and Cameroon. On the other hand, there is a strong collaboration network among countries such as the United Kingdom, Australia, Germany, China, Italy, Nigeria, India, Bangladesh, and Ukraine.

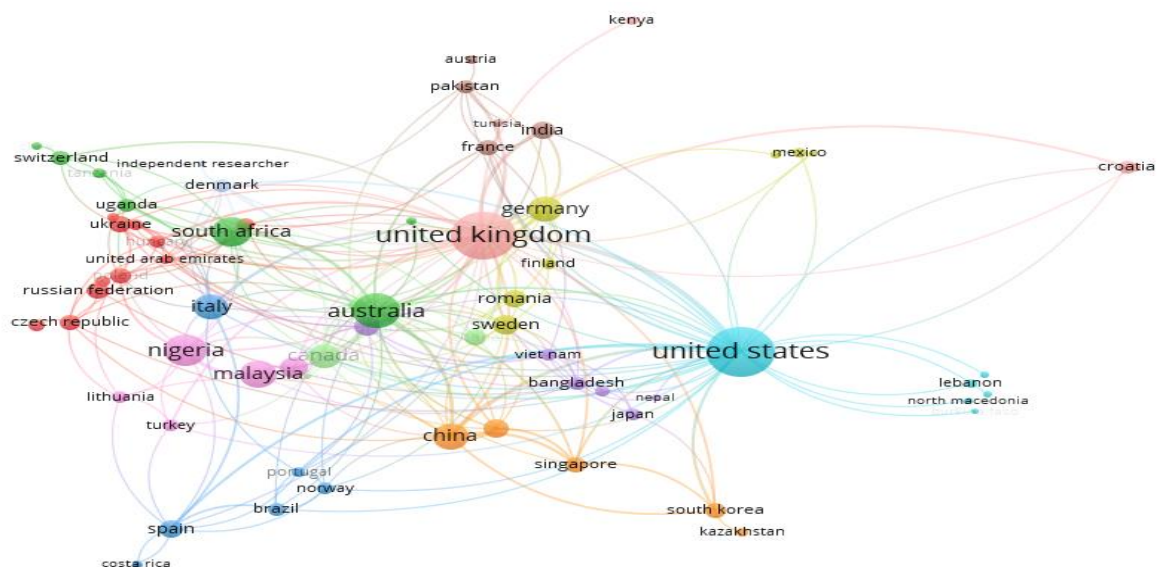


Figure 11. Co-authorship Network of Author Affiliated Countries

Conclusion

The results show that the topic of corruption in the public sector is still very much of interest to researchers. Chan et al. (2011), and Williams & Shahid (2016) are the most prolific authors of articles in this field, while the articles written by Kaufmann and Vicente (2011) is an article that is widely cited by other articles. Other widely cited publication articles outline: how to understand the relationship between causes and vulnerability to corruption in the public sector Le Y (2014); the relationship between corruption and economic growth for private companies and state-owned enterprises (BUMN) by Nguyen and van Dijk (2012); how to identify, assess key risks, and mitigate appropriate risks for project implementation between the private and public sectors by Chan et al. (2011). The keywords that can be an opportunity for further research to be used as research topics are terms such as management, regulation, tax evasion, health care, and investment. The literature of this study is limited to the Scopus database only and does not include conference publications, editorials, or book chapters of further review, so research on corruption in the public sector indexed by Scopus may be more extensive than the authors' keywords capture. Thus, future research can access several different databases such as Google Scholar, Proquest, IEEE Explore, Dimensions API, and ABI/Inform. Future research studies can also use manual keyword searches to find suitable studies in the existing literature. Future research studies may also benefit from other stated bibliometric tools such as Bib excel, HistCite, and Gephi for better visualization results and a comprehensive overview. Despite the aforementioned limitations, this article does provide a comprehensive overview of corruption research in the public sector which we hope will expand and advance research on this topic.

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