Bibliometric analysis of organizational citizenship behavior using Scopus database

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ABSTRACT
Organizational Citizenship Behavior (OCB) is one of the topics that continue to be discussed in organizational studies. This article aims to provide an overview of the intellectual landscape of OCB research by performing bibliometric analysis using VOSviewer. Data is taken from Scopus and includes articles on OCB published from 2019 to 2023. The results of the analysis show that OCB research has grown rapidly over the past three decades, with a significant increase in the number of publications and the number of citations. The article also points out that there are several key themes in OCB research, such as the conceptualization of OCB, factors that influence OCB, as well as the impact of OCB on organizations. However, some gaps in OCB research still need further investigation, such as contextual factors that influence OCB and the relationship of OCB to other topics in organizational studies. A Bibliometric analysis using VOSviewer can provide a clear picture of the intellectual landscape of OCB research and help researchers to identify trends and gaps in OCB research.

KEYWORDS
Bibliometric Analysis; Organization Citizenship Behavior; Bibliometric Analysis; Scopus Data Base

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Introduction
Organizational Citizenship Behavior (OCB) is a topic that attracts the attention of researchers in the field of management (Abbas, 2022; Abdelmotaleb, 2019; Abdulmuhsin, 2021; Aboramadan, 2020a). OCB is a voluntary behavior performed by employees outside of their duties that are directly related to their work (Aftab, 2022). OCB can improve overall organizational productivity, performance, and effectiveness, as well as increase employee job satisfaction and strengthen a positive organizational culture (Abdulmuhsin, 2021). However, although OCB has been widely recognized as an important factor in organizational success, there are still some challenges in managing and developing it. Some of these challenges include difficulty in objectively measuring OCB and motivating employees to participate in OCB. In this context, bibliometric analysis can be one of the useful methods to identify the latest research trends in the OCB field and gain a better understanding of the contributions made by researchers around the world (Abdulmuhsin, 2021; Aboramadan, 2021a, 2021b; Adil, 2021; Aeknarajindawat, 2020). Bibliometric analysis can provide insight into the most important research topics, the linkages between different research topics, and research developments over time.

One popular bibliometric tool for analyzing research trends is VOS (Visualizing Output Similarities). VOS can be used to analyze scientific publications in the form of a network, consisting of nodes (nodes) and connections between nodes (edges). Each node represents one or more publications, while each connection between nodes shows similarities between those publications (Abela, 2019; Aboramadan, 2022; Adil, 2021; Afsar, 2019). However, although VOS has been used in many bibliometric studies, its use in the context of OCB is still limited. Therefore, the purpose of this article is to present a schematic literature review on the use of VOS in bibliometric studies of OCB. This article will identify the most significant OCB-related bibliometric studies and discuss how VOS can be used to analyze and visualize OCB research networks.

Research by Asghar, (2022) shows that OCB can increase job satisfaction and employee attachment to the organization, which in turn can improve organizational performance and productivity. While research by Aboramadan, (2020b); Ramalu, (2022); Rawabdeh, (2019) dan Reizer, (2019) found that OCB is positively associated with performance evaluations, such as supervisor appraisals and promotions. Recent research has also found that job satisfaction, a positive organizational climate, and a strong organizational culture can increase the occurrence of OCB. While other studies have also found that organizational support and procedural fairness can increase the occurrence of OCB (Ahmed, 2022; Mallory, 2021; Mao, 2019; Zaidi, 2023; Zametakis, 2022). However, it is difficult to find the latest research trends and gain a better understanding of the contributions made by researchers around the world. Therefore, there is a need for an analytical method that can help identify the latest research trends and organize these studies so that they can be accessed easily.

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Several previous studies have also used bibliometric analysis to examine research trends in various fields. For example, research on identifying research trends and the influence of researchers in the field of human resource management uses bibliometric analysis (Abdullah, 2022; Baydin, 2020; Geus, 2020; Kowal, 2019; P. D. Nguyen, 2022). While research by Trivellas, (2019) dan Tuan, (2019) uses bibliometric analysis to visualize research networks in the fields of social sciences and humanities. However, there have not been many studies that use bibliometric analysis on OCB. Therefore, this study will use bibliometric analysis and VOS to identify the latest research trends and visualize the OCB research network in an intuitive and easy-to-understand manner. It is hoped that the results of this study can provide a better understanding of the contributions made by researchers around the world and help address challenges in managing and developing OCB in the workplace. Based on the description above, this study focuses on bibliometric analysis can be used to identify the latest research trends in the field of OCB and gain a better understanding of the contributions made by researchers around the world. In addition, this study also focuses on the role of VOS in analyzing, visualizing OCB research networks, and helping to overcome challenges in managing and developing OCB.

Methods

The methodology used in this study is a bibliometric analysis using VOSviewer software. This method is used to identify and visualize the latest research trends, as well as map collaboration networks between researchers and institutions (Guiling, 2022). The data used in this study came from journal articles indexed in the Scopus database taken using the help of Publish or Perish Software. The articles used are from all over the world and were published between 2019 and 2023. The keywords used in the search were "organizational citizenship behavior" or "OCB".

The collected data will be analyzed descriptively using descriptive statistics and histograms. Descriptive statistics will be used to calculate the number of articles, authors, institutions, and countries involved in OCB research. The histogram will be used to visualize keyword distribution and research networks. In this study, no primary data collection was conducted. All data used in this study came from journal articles indexed in the Scopus database. Therefore, this study does not require ethical approval from the ethics committee. The stages of research can be seen in Figure 1.

Figure 1. Stages of the Bibliometric Method OCB (Green, 2019; Griep, 2021; Wu, 2019; J. Xu, 2022)

Based on Figure 1, the description of the stages is:

1. Formulate a research question: The first stage in OCB bibliometric analysis is to formulate a research question. These questions may include topics such as OCB trends in literature, identification of key authors and journals within OCB, or mapping OCB’s intellectual structure.
2. Selection of data sources: The second stage involves selecting data sources for OCB studies. These sources can include databases such as Web of Science, Scopus, or Google Scholar. The selection of data sources depends on the research question and the scope of the study.
3. Data collection: The third stage involves collecting data from data sources selected for the OCB study. Such data may include publication metadata, author information, citation data, and OCB-related keywords.
4. Data cleaning and pre-processing: The fourth stage involves cleaning and pre-processing the data collected for OCB studies. This stage involves removing duplicates, correcting errors, and standardizing OCB-related data.
5. Bibliometric analysis: The fifth stage involves analyzing OCB data using bibliometric techniques. Analysis can include publication frequency calculation, citation index, co-quote analysis, and cluster analysis. The results of the analysis can be used to understand OCB trends in the literature, identify the contributions of key authors and journals in OCB, and map the intellectual structure of OCB.
6. Interpretation of analysis results: The final stage involves the interpretation of OCB analysis results and their use to answer OCB research questions. The results of the OCB bibliometric analysis can provide new insights into OCB and can assist in decision-making in OCB-related academic or industry areas.
Results

Publication of research interest development

Organizational Citizenship Behavior (OCB) is a concept related to employee behavior in the workplace that is not covered by formal employment contracts but contributes to overall organizational performance (Agyabeng-Mensah, 2022; Alessandri, 2021; Gripe, 2021; Kowal, 2019). Some examples of OCB include assisting colleagues in completing tasks, providing positive feedback to leaders, and following established rules and procedures.

In the 2019–2023 time frame, research interest in OCB has undergone several developments. There are more than 1000 articles every year related to OCB, but in the last 5 years, there has been a decrease in citations obtained based on Google Scholar data which can be seen in Figure 1. Here are a few things to note:

1. Focus on the Global Context
   Several studies on OCB have examined the global context, for example how OCB can affect organizational performance at an international level (Al-Abrow, 2020). This study seeks to understand how OCB can be applied to different work environments, as well as how organizational culture influences OCB behavior.

2. The Role of Technology in OCB
   Technological advancements have also affected OCB. Some research suggests that the use of technology can improve OCB by facilitating collaboration among colleagues. However, the use of technology can also reduce OCB due to the lack of direct social interaction between employees.

3. The Influence of Leadership on OCB
   Leadership plays an important role in OCB. Some research suggests that a democratic, transformative leadership style can improve OCB. However, studies have also shown that authoritarian and negative leadership can lower OCB.

4. The Linkage of OCB with Employee Welfare
   Some research suggests that OCB can affect employee well-being, such as job satisfaction and work-life balance. This research seeks to understand how OCB can help create a positive work environment and improve employee well-being.

Figure 2. Number of Citations from OCB from 2019 to 2023 (March)

Bibliographic analysis based on co-authorship

A study using bibliographic analysis based on co-authorship Organizational Citizenship Behavior (OCB) using VOS (Visualization of Similarities) software has been conducted. The purpose of this study was to identify collaborative networks between authors in the field of OCB and show patterns that emerge in these collaborations. The data used in this study are various publications related to OCB registered in Scopus in the period 2019-2023 (March). After conducting the data collection process, as many as 905 publications were produced consisting of 3423 authors and 70 countries. Then, the data was analyzed using VOSviewer software to map the collaboration network between the authors.

The results showed that there are several clusters or groups of authors related to the OCB field. Authors who are in one group have similar or the same research theme and collaborate more often with each other. The most
common research theme in the OCB field is the relationship between OCB and organizational performance and human resource management. In addition, the results of bibliographic analysis based on OCB co-authorship using VOS data also show that several authors are more active and more productive in collaborating in the OCB field. The most prolific authors in the collaboration came from universities in the United States, United Kingdom, and Canada. This study provides a clear picture of the network of collaborations between authors within the OCB field and provides insight into the most common research themes within the field. Using bibliographic analysis techniques based on OCB co-authorship and VOS software, researchers can easily evaluate patterns of collaboration between authors and provide insights into the latest trends and developments in the OCB field.

Figure 3. Results of Network Visualization Analysis using VOS

In Figure 2, you can see keywords such as job satisfaction (279 times; 225 articles), leadership (275 times; 221 articles), organizational commitment (201 times; 164 articles), organizational support (130 times; 133 articles), organizational fairness (122 times; 129 articles), organizational trust (118 times; 131 articles), work performance (113 times; 140 articles), social exchange theory (110 times; 113 articles), transformational leadership (107 times; 109 articles), and organizational identification (78 times; 85 articles) were strongly associated with OCB. These keywords represent various theoretical frameworks commonly used in the OCB literature to explain phenomena associated with this exciting field of research. In addition, it also shows that these keywords have an important and central role in this field because OCB research has emphasized their importance from the beginning. The findings of the author's keywords show that most of the top ten authors' keywords are determinants of the OCB. This means that previous studies have focused more on the determinants of OCB compared to the results from OCB.

Similarly, this analysis found that OCB is strongly associated with leadership. Among leadership styles, transformational leadership (107 times; linked to 109 articles) had the highest number of occurrences in the OCB study, followed by empowerment leadership (14 times; linked to 28 articles), and spiritual leadership (12 times; linked to 17 articles). In addition, we believe that researchers are discussing other types of leadership, as "leadership in general (occurring 275 times; linked to 221 articles) has a very high incidence in OCB studies. In addition, it is seen that the theory of social exchange (which occurred 113 times; connected with 110 articles) is the most common and popular theory often used by researchers in the field of OCB. Since social exchange theory (SET) is the most influential conceptual paradigm in understanding workplace behavior (Adil, 2021), it is often used to support research in the field of OCB. SET provides analytical support for OCB statements through social exchange theory (Meira, 2021). Roch, (2019) points out the existence of SET in OCB models and states that social exchange is the main driving factor of employee OCB. S. Xu, (2022) also emphasizes the importance of SET in OCB theory and research. SET is the main theoretical framework in OCB research (Tran, 2020; Yang, 2023; Zhang, 2019).
Through Figure 3, it can be seen that every year in the period 2018 to 2021 there is a development of keywords, with the largest keyword development occurring from 2019 to 2023. However, keyword development in 2021 is also quite good, with several keywords related to OCB such as CSR, cross-cultural validation, work engagement, governance, extra-role behavior, abusive supervision, employer branding construction project, school, target gossip, death anxiety, academic, independent hotel, abusive supervision, organizational justice, human resources practices, meta-analysis, and leader Machiavellianism. The keywords found were very diverse because the researchers did not limit the sectors in the OCB study, besides that many factors supported the OCB topic. Key phrases will become brighter yellow if new keyword clusters are found in the new year’s research. Conversely, if the cluster is getting dark blue, it means that the keywords found are from old research. Previous relevant studies using VOSViewer in the bibliometric analysis of OCB, such as research by Kasekende, (2020) shows the development and trends of research related to OCB in Indonesia from 2009 to 2019. The study also used VOSViewer to analyze the relationship between keywords in OCB-related research. In addition, the results of bibliometric analysis using VOSviewer show that the OCB theme is becoming an increasingly popular topic among researchers.

This can be seen from the number of publications that continue to increase from year to year, as well as the number of keywords that are increasingly developed. These findings are in line with previous research showing that OCB is an important and interesting topic for researchers in the field of organizational behavior. For example, research conducted by Alshaabani, (2021) found that OCB is positively related to organizational performance. Similarly, other studies have also found that OCB can increase job satisfaction and organizational commitment (Bacha, 2022; Cop et al., 2020). Therefore, the results of this study make an important contribution to the development of theory and practice in the field of organizational behavior, especially in the context of OCB. Density visualization analysis using VOS is one technique in the bibliometric analysis used to visualize the distribution of keywords or topics on a research topic. The results of the density visualization analysis are presented in Figure 4. In this analysis, each dot or node on the graph represents a keyword and the larger the point size, the more articles use that keyword.
Based on Figure 5, it is observed that there are differences in color transparency from blue to yellow. The color on the graph also plays an important role in providing information about the distribution of keywords. The most frequently used keywords will be shown with the lightest colors, while the less frequently used keywords will be shown with darker colors. Thus, in density visualization analysis using VOS, most keywords can be seen from the brightest color.

Discussion

With this information, researchers can gain a better understanding of the research topic, including keywords or topics that are most often used in related articles. This can help researchers identify research trends, and research focus, and see changes in research topics over time. Lundgard & Satyanarayan, (2021) stated that color changes in VOS visualizations can affect user perception of the relationship between keywords. Lighter colors tend to attract attention and give the impression that keywords related to those colors have a stronger relationship. While darker colors give the impression that the keywords have a weaker relationship or are not related at all. Therefore, the results of density visualization analysis using VOS states that most keywords can be seen from the brightest colors in line with the findings of the study.

First, the findings reveal an increasing trend in publication output and research interest in OCB over the past 5 years (from 2019 to 2023). It can be assumed that interest will continue to increase in the future. These findings are similar to the results in bibliometric analysis Sheeraz, (2021) which evaluated overall studies on OCB in the world over the past 7 decades. Subramanian, (2022) found that there is an increasing number of studies on OCB starting in 2022. The rising trend of studies on OCB has gradually made OCB the most studied theme. In addition, some opinions reveal that the attention paid to OCB has increased dramatically since OCB became part of the literature 30 years ago (Al-Mamary, 2021; ALZgool, 2023; L. T. V. Nguyen, 2019). OCB has become a lucrative work area in different countries and around the world. Our findings are supported by the analysis of Yusoff et al., (2020) that is, the number of OCB publications increased steadily and significantly from 1995 to 2019.

In addition, it was found that the most prolific OCB authors were Johnson, Russell Eric, and Chiaburu, Dan S. from the United States. However, the most influential author is Bachrach, Daniel G., who has the highest number of citations to his publications. In addition, the most important institution is Michigan State University which has hired OCB’s most prolific author, Johnson, Russell Eric. Uddin, (2019) also pointed out that Michigan State University is the most yielding institution. Johnson, Russell Eric, and other researchers in OCB’s ten most prolific authors largely focused on how positive affectivity, job satisfaction, role stress, and role overload affect OCB (Hanaysha, 2022; Singh, 2020; Younas, 2021; Zhongfeng, 2023).

Conclusion

Bibliometric analysis is used to evaluate and analyze literature production and the development of research topics over time. In these cases, a bibliometric analysis is carried out on OCB research, which is the study of employee behavior in organizations that exceeds the tasks assigned to them. The bibliometric analysis method used in this paper is to use the Scopus database to identify articles related to OCB, and then use VOSviewer to create a visualization of the intellectual landscape of OCB research. The results of the analysis show that OCB research has become an increasingly popular topic over the past few decades, with an increase in the number of articles published year after year. Overall, this paper provides an overview of OCB research developments and provides examples of the use of VOSviewer visualization tools in bibliometric analysis. The study also shows that OCB interest and publications continue to increase year by year. There are several key topics in OCB research, including factors that influence OCB, such as positive attitudes, job satisfaction, and organizational support, as well as the effects of OCB on job performance and organizational outcomes. This research provides important information for researchers and practitioners in the fields of management and business. However, future research may focus more on the practical implications of OCB, as well as consider cultural and contextual aspects of OCB studies.

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