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A bibliometric analysis of servant leadership for future research

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ARTICLE INFO	ABSTRACT
	Introduction/Main Objectives: This study is to provide a wider bibliometric literature review on servant leadership (SL). **Background Problems**: SL requires a comprehensive review of existing studies. Looking for potential topics is one way to develop knowledge in SL by using bibliometric studies. **Novelty:** This paper is to fill in the gaps by providing an extensive bibliometric analysis of the literature related to SL. **Research Methods**: We analyzed 368 articles published from January 1, 2011 until July 12, 2021, a 10 year period. Articles were taken from the Scopus database. We have tried to classify articles using VOSviewer software. **Finding/Results:** The bibliometric analysis is done to identify the development in the total number of SL publications, SL articles mostly cited, top journals in SL research, most productive authors in SL research, most countries publishing SL research, and subject area of SL publications. SL studies were classified into nine clusters. From each cluster, the trend shows that SL studies are mostly done on terms that have many occurrences and link strengths. From the overlay visualization analysis for the new year, opportunities for future research such as perceived organizational support, psychological capital, work engagement, life satisfaction, and emotional intelligence for SL emerge. **Conclusion:** This article is the second servant leadership bibliometric study with a different database and complements the first. This article explores the development of servant leadership research. Some of the keywords found using VosViewer become opportunities for future research.

1. Introduction

Until the 21st century, academics and practitioners have always paid more attention to servant leadership (SL) (Langhof & Güldenberg, 2020). SL has become an integral part of the international academic world in recent years (Gašková, 2020). SL research is popular in countries like United State (Lo et al., 2020; Sims, 2018). However, SL has started to mushroom in other countries in the world such as China, India, United Kingdom, Spain, and so on (Zhao et al., 2016; Wang et al., 2018; Kashyap & Rangnekar, 2016; Varela et al., 2019; Rodríguez-Carvajal et al., 2019).

Some researchers have compared which is better SL or transformational leadership (Allen et al., 2016; Andersen, 2018; Krishnan et al., 2019; Otto et al., 2021; C. Sims et al., 2021; VanMeter et al., 2016; Jit et al., 2016; Muhammad & Sari, 2021). SL focuses on serving subordinates, customers and the organization whereas transformational leadership focuses on organizational goals (Allen et al., 2016; VanMeter et al., 2016; Tjahjono et al., 2018). SL and transformational leadership are often compared to which one is better suited to a highly competitive business environment, undergoes rapid change, requires risk-taking, and involves a careful balance between organizational and individual goals (Andersen, 2018; Otto et al., 2021; D Van Dierendonck et al., 2014; Yasir & Mohamad, 2016).

SL research was conducted in a wide variety of organizations with ever-changing environments, such as business, financial institutions, education, hospitality, and health (Allen et al., 2016). One of the differences between the difference between SL and transformational leadership is that SL emphasizes the psychological needs of followers as a goal for the leader and places organizational goals as secondary, while transformational leadership prioritizes organizational goals by aligning individual goals (Dirk Van Dierendonck, 2011).

Previous research related to SL with this type of meta-analysis and systematic literature review has been widely carried out by Gui et al. (2020); Hoch et al. (2018); Lee et al. (2019); McCune Stein et al. (2020); Zhang et al. (2019); Eva et al. (2019); Langhof & Güldenberg (2020); Parris & Peachey (2013). However, SL bibliometric research is lacking. Mustamil and Najam (2020) have conducted bibliometric research on SL with the recommendation that researchers further explore SL research areas in the social sciences. That is, SL still requires a comprehensive review of existing studies. Looking for potential topics is one way to develop knowledge in SL by using bibliometric studies.

Studies on SL are divided into three types of research. First, research on the development of the SL concept. Both studies measure empirical evidence of the relationship of SL with several other variables. Third research on literature review (Eva et al., 2019). Based on our search, we found a bibliometric analysis conducted by Mustamil and Najam (2020) who explored SL articles from the Web of Science (WoS) databases. This is the trigger for us to continue our bibliometric analysis with different sources. The aim of this paper is to fill in the gaps by providing an extensive bibliometric analysis of the literature related to servant leadership to answer the following questions: 1. How are SL articles classified, includes number of SL publications, most cited SL publications, top journals for SL

publications, and top authors in SL publications?; 2. What are the trends in SL research? Research topics that are heavily researched?; 3. What are the future SL topics that provide opportunities for further research?

The systematics of this paper in part 1 presents an overview of the SL literature based on previous research and research objectives. Section 2 presents a literature review of several bibliometrics. Section 3 describes the methodology used in bibliometric analysis. Section 4 presents the results on the analysis using VOSviewer and discussions. Section 5 presents the conclusions and suggestion.

2. Literature Review

The concept of SL was first introduced by Greenleaf in 1970. SL is a leadership style which is based on the premise that leaders who are good at motivating followers are those who put the needs of their followers above their own personal needs (Greenleaf, 1970). Servant Leadership (SL) explains how leaders focus on serving others, providing solutions to team problems, developing followers, and motivating by giving trust to members (Allen et al., 2016). Some researchers have also evaluated several SL measurement or dimensions (Gui et al., 2020).

Different experts mention different dimensions of SL. The dimensions of the Servant Leadership Scale (SLS) are empowerment, accountability, standing back, humility, authenticity, courage, interpersonal acceptance, and stewardship (D. van Dierendonck & Nuijten, 2011). The dimensions of SL are interpersonal support, building community, altruism,

egalitarianism, moral integrity (Reed et al., 2011). The dimensions of SL-28 are conceptual skills, empowering, helping followers grow and succeed, putting followers first, behaving ethically, emotional healing, creating value for the community (Robert C. Liden et al., 2008) and simplified to SL-7 (R C Liden et al., 2015). Dimensions of the Servant Leadership Behavior Scale 6 items (SLBS-6) are voluntary subordination, authentic self, covenantal relationship, responsible morality, transcendental spirituality, and transforming influence (Sendjaya et al., 2019). Empowerment, helping followers grow and succeed, and putting followers first are the main themes that emerge.

SL research is still in demand in addition to other leadership style research from conceptual and empirical. Studies on SL are still promising and the results showed consistency and positive results (Hoch et al., 2018; Zhang et al., 2019; McCune Stein et al., 2020). Several bibliometric studies have been conducted on the topic of leadership. We obtained 8 bibliometric articles namely Vogel and Masal (2015) researching public leadership bibliometrics; Žiaran et al. (2015) researching the bibliometrics of humility and modesty in leadership; Tal and Gordon (2016) researching current leadership bibliometrics; Tal and Gordon (2018) researching intellectual leadership bibliometrics Leonardo da Vinci; Scheffler and Brunzel (2020) researching destructive leadership bibliometrics; Tal and Gordon (2020) researching leadership bibliometrics as an autonomous research field; Marques (2021) researching bibliometrics of public service motivation and leadership; and last Yousaf et al. (2021) examined bibliometrics of emotional intelligence as shown in table 1.

Mustamil and Najam (2020) have conducted bibliometric research on SL with the recommendation that researchers further explore SL research areas in the social sciences.

Table 1. Bibliometric research on leadership

Author	Title
Vogel and Masal (2015)	Public Leadership: A review of the literature and framework for future research
Žiaran et al. (2015)	Humility and modesty in leadership - A bibliometric perspective
Tal and Gordon (2016)	Leadership of the present, current theories of multiple involvements: a bibliometric analysis
Tal and Gordon (2018)	Intellectual Leadership of Leonardo da Vinci: A Bibliometric Study
Mustamil and Najam (2020)	Servant Leadership: A bibliometric Review
Scheffler and Brunzel (2020)	Destructive leadership in organizational research: a bibliometric approach
Tal and Gordon (2020)	Leadership as an Autonomous Research Field: A Bibliometric Analysis
Marques (2021)	Research on Public Service Motivation and Leadership: A Bibliometric Study
Yousaf et al. (2021)	Emotional Intelligence: A Bibliometric Analysis and Implication for Future Research

Research on SL has an increasing trend from year to year and using a new bibliometric conducted by Mustamil and Najam (2020) with a WoS database provides suggestions for further exploring the area of servant leadership research in the social sciences. This research is the second with the hope of contributing to the methodology for conducting bibliometrics on the theme of servant leadership, highlighting effective methods for thematic mapping, and visualizing and viewing new research topics holistically. We conclude by offering suggestions for future research.

The bibliometric method began to be carried out from literature studies in the library using the application of mathematics and statistics (Nicholas & Ritchie, 1978; Pritchard, 1969). The bibliometric method can be used to count the number of publications, the number of citations, and the grouping of research (Moed et al., 1985). Bibliometric research is generally used in quantitative studies of articles, journals, books or other types of written communication (Heersmink et al., 2011). Bibliometric research is a bibliographic research of scientific activities to present scientific concepts contained in an article seen from the keywords that appear and the documents cited (Tupan et al., 2018).

One of the softwares that can be used is VosViewer which can visualize three different visualizations namely network, overlay, and density. (van Eck & Waltman, 2010). Bibliographic databases such as Google Scholar, Scopus, DOAJ, JSTOR, and others can be used to collect articles for further review (Aguillo, 2012).

3. **Method, Data, and Analysis**

This study presents the bibliometric analysis for SL from the scopus database. In accordance with the research objectives to map studies that discuss the topic of servant leadership. The source of the data sought is the Scopus database (www.scopus.com). The literature search was limited to articles published in 2011 to 2021. The search was completed on July 12, 2021. A search for the keyword "servant leadership" with the query TITLE-ABS-KEY (servant AND leadership) found 1,591 articles.

Then according to the inclusion specified by the query TITLE-ABS-KEY (servant AND leadership) AND (LIMIT-TO (PUBSTAGE , "final")) AND (LIMIT-TO (PUBYEAR , 2021) OR 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 (EXACTKEYWORD , "Servant Leadership")) AND (LIMIT-TO (LANGUAGE , "English")) AND (LIMIT-TO (SRCTYPE , "j")) AND (LIMIT-TO (SUBJAREA , "BUSI") OR LIMIT-TO (SUBJAREA , "SOCI") OR LIMIT-TO (SUBJAREA , "PSYC") OR LIMIT-TO (SUBJAREA , "ARTS") OR LIMIT-TO (SUBJAREA , "ECON")) obtained 368 articles. Articles are excluded if any of the five criteria are not met.
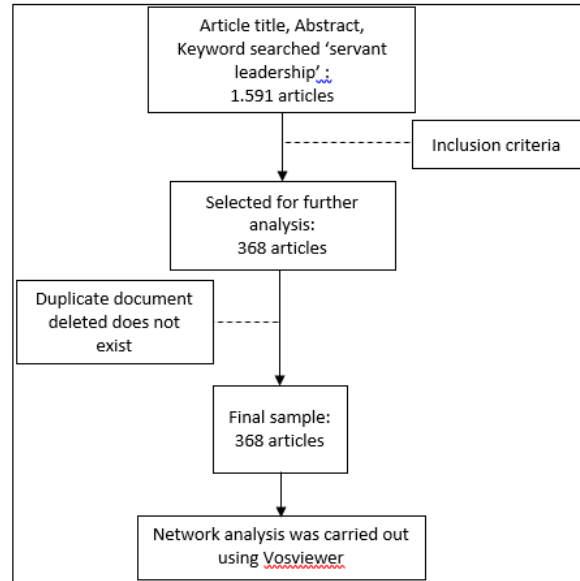
Figure 1. Design of study

Table 2. Inclusion criteria

No	Criteria
1	Article published from 2011 until July 12, 2021.
2	Article type.
3	Articles are written in English.
4	Published in peer-reviewed journals.
5	Subject area: a. Business, managemet and accounting; b. Social sciences; c. Psychology; d. Arts and Humanities; e. Economics, Econometrics and Finance.

4. **Result and Discussion**

4.1. **Number of Servant Leadership Publications**

The growth of servant leadership publications in 2011-2021 has experienced a significant increase. The growth development of servant leadership publications indexed by the highest Scopus occurred in 2020 reaching 69 articles (18.75%). In 2021 until July 12, 2021, there will be 48 articles that still have the potential to increase. The full growth of servant leadership publications can be seen in Table 3.

Table 3. Servant Leadership Publication Year

Year	Conceptual	Empirical	Review	Total
2021*	3	44	1	48
2020	5	60	4	69
2019	5	47	3	55
2018	10	46	2	58
2017	5	21	0	26
2016	6	25	3	34
2015	3	20	0	23
2014	3	15	0	18
2013	3	12	1	16
2012	5	8	1	14
2011	1	6	0	7
Total	**49**	**304**	**15**	**368**

Notes: * based on scopus in July 12, 2021

The growth development of servant leadership publications based on Table 3 shows that in 2011-2021 there has been a significant increase. The most articles in 2020 were 69 articles. Then followed by 2018 (58 articles), 2019 (55 articles), and 2021 to 12 July 2021 (48 articles).

Figure 2. Distrubtion of SL Article Types
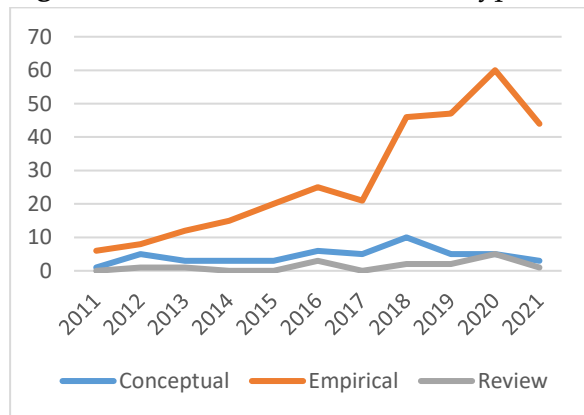
Based on figure 2, the types of servant leadership research articles are categorized into three. First, there are 49 conceptual papers. Both are categorized as 304 empirical papers with structural equational modeling. The third category is a literature review of 15 articles with meta-analysis and systematic review. Figure 2 illustrates the trend in the number of empirical papers reflecting the rapidly growing attention of servant leadership research. The number is very significant from 2018 until the writing of this

paper. While conceptual papers tend to be low, it does not show the saturation of the search for servant leadership theory. Then the literature review on servant leadership has also increased in the last few years.

4.2. Most Cited of SL Publications

Table 4. shows the top 10 most cited articles sourced from the Scopus database. The most cited article in a journal published in 2011 by Schaubroeck et al and recorded to have 414 citations. Schaubroeck et al. (2011) explored servant leadership influencing team performance through influence-based trust and team psychological security. The next two articles on the literature review or meta-analysis conducted by Hoch et al. (2018) had 285 citations where his research compared three types of leadership, namely authentic, ethical and serving, while Parris & Peachey (2013) had 272 citations where his research on the literature reviews the topic of servant leadership. Table 4. shows the article on the topic of servant leadership as a reference in this decade's research. This has made the topic of servant leadership still the subject of discussion by researchers around the world. The number of citations have shown the magnitude of the scientific impact of an article.

Table 4. The 10 most cited SL articles

Title & Author	Citation
Cognition-Based and Affect-Based Trust as Mediators of Leader Behavior Influences on Team Performance (Schaubroeck et al., 2011)	414
Do Ethical, Authentic, and Servant Leadership Explain Variance Above and Beyond Transformational Leadership? A Meta-Analysis (Hoch et al., 2018)	285
A Systematic Literature Review of Servant Leadership Theory in Organizational Contexts (Parris and Peachey, 2013)	272
Antecedents of Team Potency and Team Effectiveness: An Examination of Goal and Process Clarity and Servant Leadership (Hu and Liden, 2011)	251
Servant Leadership: A systematic review and call for future research (Eva et al., 2019)	177
Servant leaders inspire servant followers: Antecedents and outcomes for employees and the organization (Hunter et al., 2013)	177
Same difference? Exploring the differential mechanisms linking servant leadership and transformational leadership to follower outcomes (Van Dierendonck et al., 2014)	171
Does servant leadership foster creativity and innovation? A multi-level mediation study of identification and prototypicality (Yoshida et al., 2014)	158
Linking servant leadership to individual performance: Differentiating the mediating role of autonomy, competence and relatedness need satisfaction (Chiniara and Bentein, 2016)	148
Servant leadership: Validation of a short form of the SL-28 (Liden et al., 2015)	132

Figure 3. Visualizes the most cited servant leadership articles and the relationship between articles if there are citations between articles. The bigger the circle, the more citations to the article. Can be visualized articles written by Schaubroeck et al. (2011) having the largest circle means that it has been cited the most by other authors and is linked to several other articles written by other authors such as Yoshida et al. (2014), Neubert et al. (2016), Liden et al. (2015),

Liden (2012), Chiniara & Bentein (2016), Van Dierendonck et al. (2014), Eva et al. (2019), De Clercq et al. (2014), Newman et al. (2017), van Dierendonck & Patterson (2015), dan Parris & Peachey (2013).

Figure 3. The most cited SL article
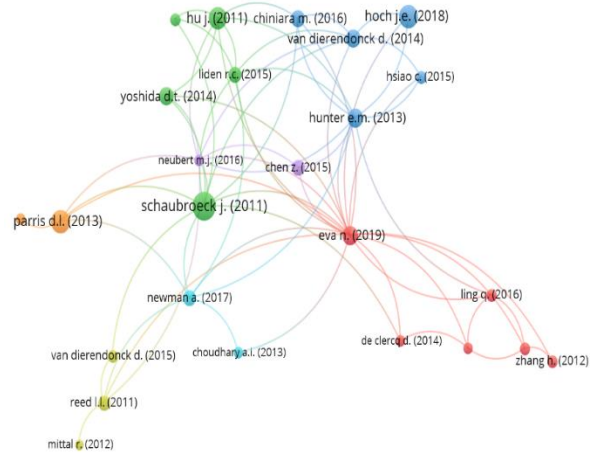
4.3. Top Journals for SL Publications

Based on the search results on Scopus obtained 368 articles that meet the criteria. From this number, it is known that the most articles were published in the journal *Leadership and Organization Development Journal* (25 articles). The top 14 journals that publish servant leadership research can be seen in table 5.

Figure 4. Journal in the number of articles
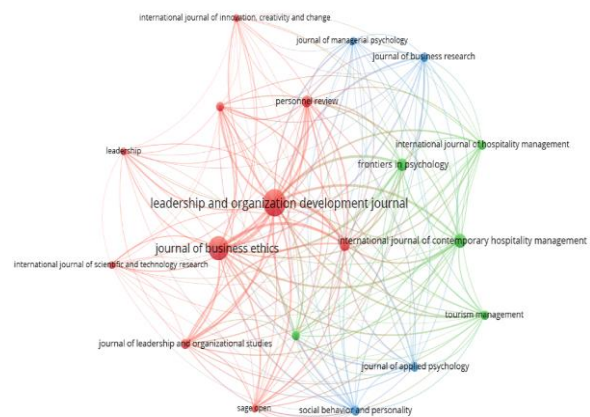
Based on table 5 and Figure 4, it is known that after the *Leadership and Organization Development Journal* and the *Journal of*

Business Ethics there are other journals that publish servant leadership papers, namely the *International Journal of Contemporary Hospitality Management* (9 articles), *Leadership Quarterly* (8 articles), *Frontiers in Psychology* (8 articles), *Personnel Review* (7 articles), *Journal of Leadership and Organizational Studies* (6 articles), *Social Behavior and Personality* (6 articles), *Journal of Applied Psychology* (5 articles), *Tourism Management* (5 articles), *Journal of Business Research* (5 articles), *International Journal of Hospitality Management* (5 articles), *European Journal of Work and Organizational Psychology* (5 articles), and *Sustainability* (5 articles).

Table 5. Top Journals for Servant Leadership

Rank	Journal	Articles	CiteScore	Quartile	Publisher	Country
1	*Leadership and Organization Development Journal*	25	4.1	Q1	Emerald	United Kingdom
2	*Journal of Business Ethics*	21	9.0	Q1	Springer Nature	Netherlands
3	*International Journal of Contemporary Hospitality Management*	9	9.3	Q1	Emerald	United Kingdom
4	*Leadership Quarterly*	8	13.2	Q1	Elsevier	United States
5	*Frontiers in Psychology*	8	3.5	Q2	Frontiers Media S.A.	Switzerland
6	*Personnel Review*	7	3.8	Q2	Emerald	United Kingdom
7	*Journal of Leadership and Organizational Studies*	6	4.8	Q1	SAGE	United States
8	*Social Behavior and Personality*	6	1.4	Q3	Society for Personality Research	New Zealand
9	*Journal of Applied Psychology*	5	12.3	Q1	APA	United States
10	*Tourism Management*	5	16.5	Q1	Elsevier	United Kingdom
11	*Journal of Business Research*	5	9.2	Q1	Elsevier	United States
12	*International Journal of Hospitality Management*	5	9.4	Q1	Elsevier	United Kingdom
13	*European Journal of Work and Organizational Psychology*	5	5.7	Q1	Taylor & Francis	United Kingdom
14	*Sustainability*	5	3.9	Q1	MDPI	Switzerland

4.4. Top Authors in SL Publications Leadership Style within Each Generation

The productivity of the top 10 servant leadership researchers in 2011-2021 indexed by Scopus shows that Van Dierendonck, D. has 12 articles, Sendjaya, S. has 8 articles, Liden, R.C. has 8 articles, Eva, N. has 7 articles, Karatepe, O.M. has 7 articles, Bande, B. has 6 articles, Ruiz-Palomino, P. has 6 articles, Kwan, H.K. has 6 articles, Aboramadan, M. has 5 articles, and Sousa, M. has 5 articles as table 6.

Table 6. Top Authors in SL during 2011-2021

Author	Country	Articles
Van Dierendonck, D.	Netherlands	12
Sendjaya, S.	Australia	8
Liden, R.C.	United States	8
Eva, N.	Australia	7
Karatepe, O.M.	Turkey	7
Bande, B.	Spain	6
Ruiz-Palomino, P.	Spain	6
Kwan, H.K.	China	6
Aboramadan, M.	Italy	5
Sousa, M.	Portugal	5

4.5. Development Map of SL by Country

The most contributing countries to the publication of servant leadership research results are the United States, China, Spain, United Kingdom, Australia, Turkey, Netherlands, India, Canada, and Malaysia. Figure 5 shows that the thicker the yellow color, the more publications of servant leadership there are.

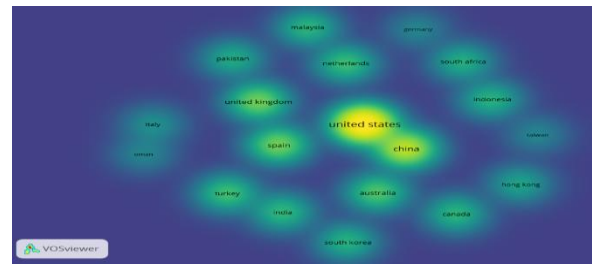**Figure 5.** Development Map of SL by Countries

Figure 6 shows that based on the bibliographic coupling of countries, the research topic of servant leadership is divided into 5 clusters. Cluster 1 in red consists of 11 countries, namely United States, China, Spain, United Kingdom, Australia, Canada, Indonesia, South Africa, Netherlands, Pakistan, and Malaysia. Cluster 2 is green and consists of 4 countries, namely India, Turkey, Italy, and Oman. Cluster 3 in blue consists of 2 countries, namely Germany and Taiwan. Cluster 4 is yellow and consists of 1 country, namely Hong Kong. Cluster 5 is purple, consisting of 1 country, namely South Korea.
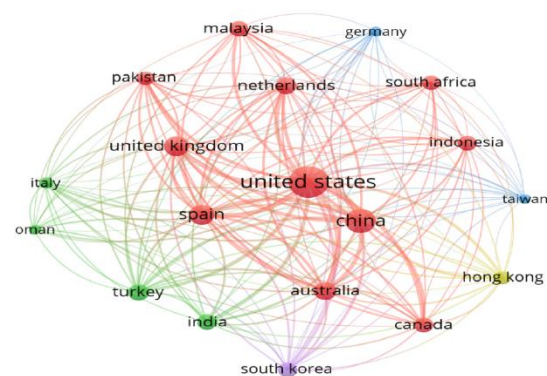
Figure 6. Bibliographic Coupling of Countries

Figure 6 shows that based on the bibliographic coupling of countries, the research topic of servant leadership is divided into 5 clusters. Cluster 1 in red consists of 11 countries, namely United

States, China, Spain, United Kingdom, Australia, Canada, Indonesia, South Africa, Netherlands, Pakistan, and Malaysia. Cluster 2 is green and consists of 4 countries, namely India, Turkey, Italy, and Oman. Cluster 3 in blue consists of 2 countries, namely Germany and Taiwan. Cluster 4 is yellow and consists of 1 country, namely Hong Kong. Cluster 5 is purple, consisting of 1 country, namely South Korea.

4.6. Development Map Based on Keywords

By using Vosviewer, one can classify keywords in servant leadership research into different groups. The analysis used is co-occurrence to visualize the network of keywords that appear. Co-occurence analysis can classify keywords into different groups. The size of the circle indicates the weight of the event. The larger the circle, the greater the occurrence rate of the keyword. The same color indicates that the keywords are in the same group, which can be seen in table 7.

Dataset taken from Scopus based on the title and servant leadership abstract was then extracted into Vosviewer, the type of co-occurrence analysis, the author's unit of keyword analysis, the full count method with the minimum number of occurrences set at 5, we got 1029 keywords and 46 items met threshold. General words as many as 5 keywords were issued, namely higher education, china, hotel employees, quantitative, hotel industry. Nine clusters are identified here.

The keywords in each cluster represent the stream of servant leadership research. From the co-occurrence analysis based on keywords, 9 clusters were obtained. Each cluster has a different color in the order of red, green, blue, yellow, purple, light blue, orange, brown, and finally pink. Each cluster has terms that often appear equipped with link strength.

Figure 7 shows the first red cluster consisting of 11 items, with the most frequent terms being 'servant leadership' (368 occurrences), 'work engagement' (16). The second green cluster has 6 items with the most frequent terms being 'transformational leadership' (26 occurrences), 'ethical leadership' (11). The third blue cluster has 5 items with the most frequently occurring term being 'psychological empowerment' (10). The fourth yellow cluster has 5 items with the most frequently appearing terms being 'job satisfaction' (24), 'organizational commitment' (12). The fifth purple cluster has 4 items with the most frequently occurring term being 'leadership' (35). The sixth cluster in light blue has 4 items with the term that often appears is 'trust' (9). The seventh orange cluster has 3 items. The eighth brown cluster has 2 items with the most frequently occurring terms 'organizational citizenship behavior' (11), and 'performance' (8). Finally, the pink ninth cluster has 1 item. This explanation answers the second research question., what is the trend of SL research.

Some terms that often appear are 'servant leadership', 'work engagement', 'transformational leadership', 'ethical leadership', 'psychological empowerment', 'job satisfaction', 'organizational commitment', 'leadership', 'trust', 'organizational citizenship behavior', and 'performance' as shown in Figure 7.

Table 7. Keyword Clusters

Cluster	Keywords	Occurrences	Total link strength
Cluster 1 (11 items)	Servant leadership	368	368
	Work engagement	16	33
	Life satisfaction	6	14
	Emotional intelligence	6	13
	Turnover intentions	6	12
	Service climate	6	9
	Perceived organizational support	5	13
	Psychological capital	5	12
	Service performance	5	10
	Proactive personality	5	10
	Customer orientation	5	6
Cluster 2 (6 items)	Transformational leadership	26	64
	Ethical leadership	11	30
	Authentic leadership	9	29
	Spiritual leadership	7	23
	Scale development	6	19
	Strategic leadership	5	15
Cluster 3 (5 items)	Psychological empowerment	10	20
	Engagement	7	20
	Employee Creativity	6	7
	Commitment	5	9
	Humility	5	7
Cluster 4 (5 items)	Job satisfaction	24	43
	Organizational commitment	12	21
	Organizational culture	8	23
	Organizational performance	6	12
	Ocb	5	8
Cluster 5 (4 items)	Leadership	35	66
	Leadership development	9	17
	Ethics	7	14
	Gender	6	15
Cluster 6 (4 items)	Trust	9	14

	Psychological safety	5	9
	Organizational identification	5	9
	Turnover intention	5	7
Cluster 7 (3 items)	Leader-member exchange	6	14
	Leadership style	5	11
	Public service motivation	5	8
Cluster 8 (2 item)	Organizational citizenship behavior	11	18
	Performance	8	14
Cluster 9 (1 item)	Employee engagement	5	6

Figure 7. Occurrence Author Keywords
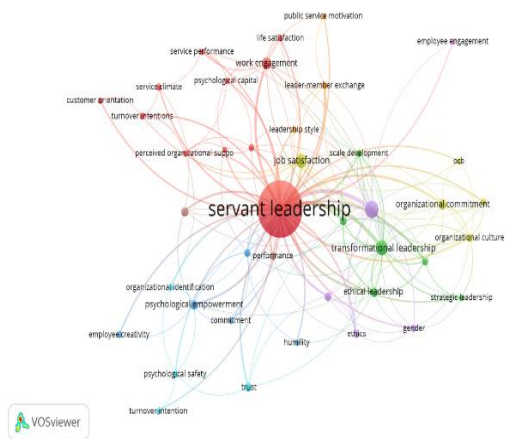
Terms that rarely appear from the 9 clusters above are 'life satisfaction', 'emotional intelligence', 'turnover intention', 'service climate', 'perceived organizational support', 'psychological capital', 'proactive personality', 'employee creativity', 'humility', 'psychological safety', 'public service motivation' and 'employee engagement'. Some terms that appear infrequently may be examined further with future research. Various topics can be developed based on the term.

From the first cluster, there are several terms that rarely appear, such as 'life satisfaction', 'emotional intelligence',

'turnover intentions', 'service climate', 'perceived organizational support', 'psychological capital', and 'proactive personality'. From the second cluster because the terms that appear have link strength, they are not taken. From the third cluster several terms that rarely appear, such as 'employee creativity', and 'humility'. From the fourth cluster has the strength of the link then it is not taken. From the fifth cluster has the strength of the link then it is not taken. From the sixth cluster several terms that rarely appear, such as 'psychological safety', and 'turnover intention'. From the seventh cluster, the term that rarely appears is 'public service motivation'. From the eighth cluster has the strength of the link then it is not taken. From the ninth cluster, the term that rarely appears is 'employee engagement'. Some words that rarely appear are triggers for future research. This explanation answers the third research question.

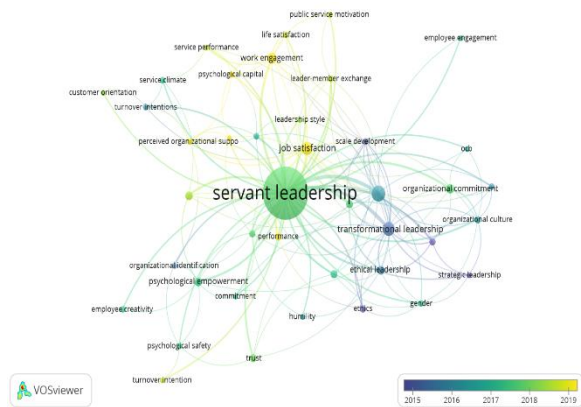**Figure 8.** Overlay Visualization Keywords

Figure 8 overlay visualization analysis shows keywords that previously appeared until now became a trend of discussion. A yellow circle indicates a newer year. Yellow keywords include 'perceived organizational support', 'psychological capital', 'work engagement', 'life satisfaction', and 'emotional intelligent'. Therefore, it becomes an opportunity for future research on these keywords.

Answering the third question will be based on future research. Our findings highlight that servant leadership mediated perceived organizational support can reduce turnover intention (Huning et al., 2020). However, some organizations view employee turnover as a strategic opportunity to maintain a competitive advantage. Therefore, it is necessary to explore further with future research because employees may leave due to various reasons, such as lack of communication or ambiguity in work and personal life. In addition, the combination of servant leadership with perceived organizational support can build organizational culture characteristics (Kim et al., 2020). Since it is still hard to apply the results to the industry and the organization as a whole, it is still a good idea to do more research on servant leadership with perceived organizational support.

In addition to the perceived organizational support mentioned above, another mediating variable is psychological capital. Researchers are showing an increased interest in psychological capital (Clarence et al., 2021). Psychological capital becomes a mediator for servant leadership. In future studies, examining high-performance work practices as potential antecedents will add to our knowledge of antecedents of psychological capital (Bouzari & Karatepe, 2017). Psychological capital consists of self-efficacy, optimism, hope, and resilience in the face of obstacles and problems encountered (Luthans et al., 2007).

Servant leadership increases work engagement, especially at high levels of goal congruence and social interaction (De Clercq et al., 2014). Other research shows that servant leadership can increase job involvement mediated by job resources (Coetzer et al., 2017). Other research has also shown that servant leadership can increase work engagement mediated by motivating language (Rabiul & Yean, 2021). Servant leaders highly value the contributions of their followers in the hope that they are involved in the given work and are likely to spend more energy on work. Some of these studies provide consideration of opportunities for further research.

Servant leadership is positively related to life satisfaction mediated by job involvement (Chughtai, 2018). Servant leadership plays a role in increasing life satisfaction mediated through career satisfaction (Latif et al., 2021). Servant leadership is positively related to life satisfaction, mediated by positive workplace effects (Li et al., 2018). Some of the studies above show that servant leadership serves as a catalyst for individual life satisfaction from a global perspective. However, to assess this generalizability, further investigation is

needed. The concept of life satisfaction also needs to be reviewed in terms of its overlap with subjective well-being.

Research has been conducted investigating emotional intelligence as an antecedent of different dimensions of servant leadership (Barbuto et al., 2014). Emotional intelligence is a way to reduce work-related stress, which is a barrier these days. However, emotional intelligence in the workplace is still a potential field of study (Bande et al., 2015). Future research on servant leadership can use the factors we found above as a starting point.

5. Conclusion and Suggestion

This bibliometric study reviewed a data set of 368 articles selected from 1,591 articles according to the specified criteria related to Servant Leadership. Articles collected from Scopus.com in 2011 – 2021. Scopus publications on the highest SL in 2020 were 69 articles (18.75%). The Leadership and Organization Development Journal publishes the most SL articles. The author with the most SL articles is Van Dierendonck, D. United States is the highest country in SL articles. Most subject area of SL are business, management and accounting.

Co-occurrence analysis of research keywords SL found 9 clusters. Terms that often appear indicate that the topic has been widely researched and has become a research trend, while terms that rarely appear include 'life satisfaction', 'emotional intelligent', 'perceived organizational support', 'psychological capital', 'proactive personality', 'employee creativity', 'humility' and 'psychological safety' have not been explored much into the future research agenda. This means that the bibliometric

approach used in this study provides direction for further studies in developing SL research.

Some of the limitations of this study are the bibliometric servant leadership research conducted for the second time after Mustamil and Najam (2020). Some of the commonly researched keywords are not explained in more detail. Articles are visualized using Vosviewer only from July 2011 to July 2021. Unused databases such as Google Scholar, JSTOR, and the Directory of Open Access journals.

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