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GOVERNMENT EMPLOYEE SKILL: A BIBLIOMETRIC ANALYSIS OF THE SCOPUS DATABASE

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ABSTRAK

This analysis uses bibliometric analysis to examine 921 important documents from the Scopus database with a particular theme. These publications tend to become more prevalent over time. The writers Gutberlet, J., and Morais, I.p., are influential. The most influential nation is Spain. With 395 citations, the article with the biggest impact was Demanding Work: The Paradox of Job Quality in the Affluent Economy. This study discovered that 12169 links backed 1246 keywords by identifying a keyword network comprising 929 articles. The uniqueness of this research is that it suggests future studies on the social and solidarity economy to support legislation aimed at improving the abilities of public servants.

Keywords: Bibliometric; Employe; Government; Skill; VOSviewer.

I. PRELIMINARY

This study uses the terms government, employment, and skills, all intimately tied to how well the government serves its people. The quality of these public services will be significantly influenced by the level of knowledge of government employees. One thing that affects how effective government is is the standard of public services.

Government officials are beginning to pay attention to public services about ethical employment, social cohesion, and the economy. (Decent Work and the Social and Solidarity Economy Sixth Item on the Agenda International Labour Office, Geneva, n.d.).

The quality of the public sector workforce is calculated as a percentage of the total workforce. These ratios reveal details about the size of the government in a particular nation and, in some cases, the range of services offered to its citizens. For instance, the Organization for Economic Cooperation and Development (OECD) has released its 2017 Government Overview Report, which includes data on the proportion of employment in the public sector across all OECD members. Table 1 shows the positions of the 15 OECD member nations.

Table 1**.** Government Employment as a Percentage of Total Employment (OECD)

Rank	Country	Government Employment as a Percentage of Total Employment, 2015
1	Norway	30.0
2	Denmark	29.1

3	Sweden	28.6
4	Finland	24.9
5	France	21.4
6	Canada	18.2
7	Greece	18.0
8	United Kingdom	16.4
9	Spain	15.7
10	United States	15.3
11	Italy	13.6
12	Turkey	12.4
13	Germany	10.6
14	South Korea	7.6
15	Japan	5.9

It can be challenging to compare and contrast various political structures in governance. It is impossible due to differences in thought and methodologies used to compare the two types of governments. All nations, rich and poor, consider good governance their primary criterion. It is noteworthy that the countries with the finest governance rankings also rank similarly or almost similarly on lists like the most prosperous nation, the happiest population, the most globally competitive nation, and the richest nation. Happy people. The UK-based Legatum Institute has released one such ranking.

Table 2**.** Top 25 Legatum Index Government Ranking 2017

No	Country	Legatum Index Government Ranking
1	Switzerland	1
2	New Zealand	2
3	Denmark	3
4	Sweden	4
5	Finland	5
6	Luxembourg	6
7	Canada	7
8	Norway	8

9	United Kingdom	9
10	Australia	10
11	United States	11
12	Netherlands	12
13	Singapore	13
14	Ireland	14
15	Austria	15
16	Germany	16
17	Belgium	17
18	Iceland	18
19	Japan	19
20	France	20
21	Malta	21
22	Hong Kong	22
23	Estonia	23
24	Chile	24
25	Cyprus	25

*) World Ranking per year

2. RESEARCH METHODOLOGY

This research was carried out using descriptive research methods through a bibliometric analysis approach (Donthu et al., 2021) to analyze the scientific literature for a total of 701 articles in the Scopus database. Various disciplines have used bibliometric methods, which are applied in multiple countries on various topics (Bornmann et al., 2015), (Zacca-González et al., 2014), among other things, to reveal development, influencers, and further details on various relevant domains (Devos & Menard, 2019), (Dong et al., 2019), (Khan et al., 2021), (Merediz-Solá & Bariviera, 2019), (Olczyk, 2016). This research emphasizes more numerical data or numbers processed through statistical methods in descriptive analysis to obtain a meaningful overview of the research topic. The data collected in this study includes all metadata provided in articles and scientific literature sources stored in the Scopus database. The description of the methodology of this study can be seen in Figure 1.

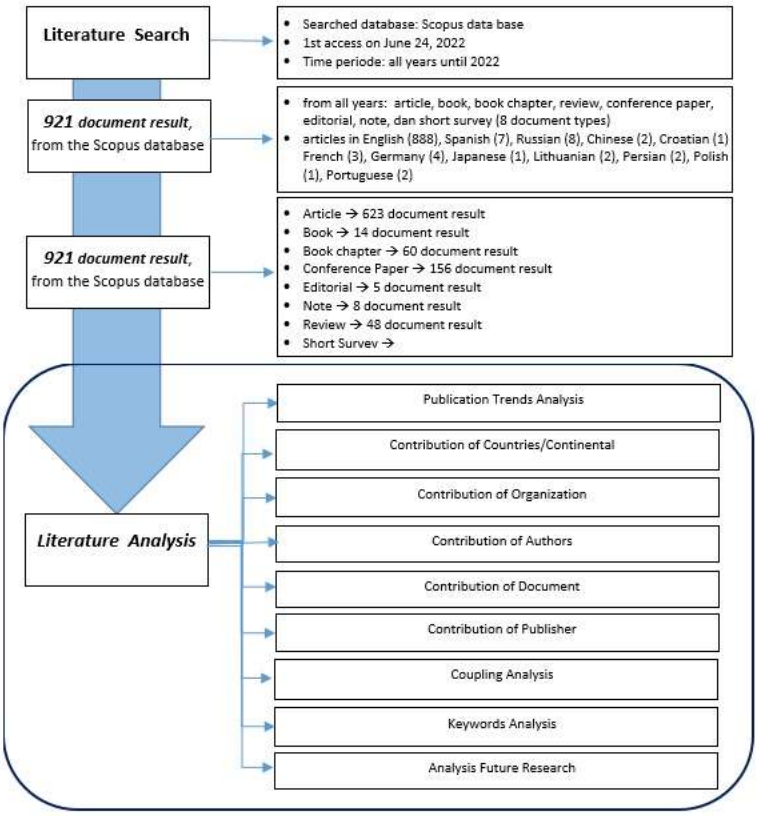

Figure 1. Retrieval Process

The selection of the Scopus database in this study is based on the consideration that this database has a higher number of indexed scientific publication documents than other similar databases. This study uses a bibliometric analysis methodology, so the analysis also uses excel software and VOSviewer to analyze trends and visualize research results. The Scopus database and VOSviewer software were used to present and analyze the collected data. VOSviewer software can create maps based on network data and visualize and explore maps (Mugabushaka et al., 2022).

The scientific literature data used in this study was taken from the Scopus database on June 24, 2022. The search technique employs a search operation with boolean operators that comprise TITLE-ABS-
KEY (government AND employee AND skill).

The analysis data, which was found in 921 articles from the Scopus database, was used to find relevant articles that discuss implementation issues and the idea of government employee skills in the context of developing and improving the skills of government employees to realize the quality and effective public services. Literature data were collected by article titles, abstracts, and keywords of documents published in all years up to 2022. The primary indicators of scientific publication data, such as the distribution of journals, influential journals, influential nations, ringing articles cited, the average number of articles, and average citations per year, are used to analyze the general trend of scientific publications. Author. The final part of this research explores and visualizes citation networks among journals, author networks between nations, and keyword networks that occur together using the software programs VOSviewer, Mendeley, and Excel.

The novel aspect of this research is the provision of data and information on trends from the research literature that examines government, employees, and skills to support ideas, ideas, and

policy recommendations in development programs that support the implementation of public services that satisfy every citizen.

3. RESULTS AND DISCUSSION

3.1. Trend Publication analysis

It is clear from the 921 documents in the Scopus database that were examined for this study that the article that was initially published in 1974 was titled *A performance correlate of personal control beliefs in an organizational context* (Heisler, 1974), receiving as many as 17 citations for a piece of writing by Heisler W.J. This article explores the relationship between success in government occupations and the number of promotions, pay raises, awards received, current wage, and class disparity. The small number of publications from 1974 to 1993 (for 19 years), which only reached 39 documents or an average of only two papers per year, is indicative of the fact that publications related to government, employees, and skills initially did not get a place to be discussed and discussed in the scientific arena. Numerous publications about government, employees, and skills started appearing in 1994 (7 articles). Publications have generally increased significantly since 1994. Figure 2 illustrates the pattern of rising and falling publication numbers.

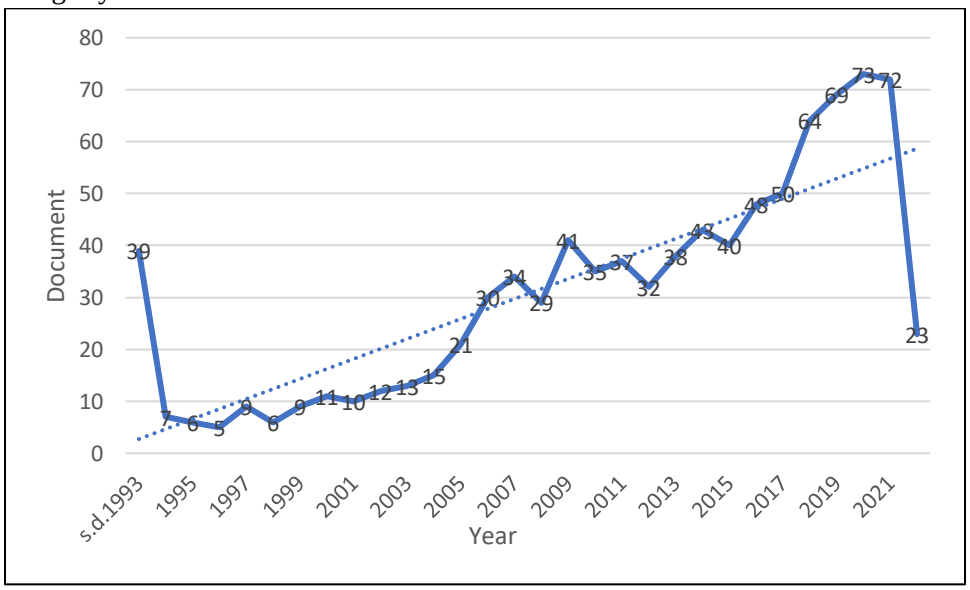

Figure 2. Publication Trends Related to government, employee, and skills

From 1974 to 2022, publications on government, employees, and skills have increased. 1997, 2004, 2005, 2006, 2007, 2009, 2009, 2011, 2013, 2014, 2016, 2017, 2018, 2019, and 2020 had a substantial surge in publications. In 1996, 1998, 2001, 2008, 2010, 2012, 2015, and 2021, the number of publications fell below the previously published. Since the number of publications for the new year won't be known until the end of December 2022, the pattern of publications for 2022 has not been examined.

It is probable that the number of publications will continue to rise in the upcoming years given the trend of rising publishing numbers.

3.2. Contribution of Country/Continent

According to the Scopus database's bibliometric metadata, the author's 89 countries of origin were discovered to have contributed to the research theme of "government," "employee," and "skill." In addition, a VOSviewer study revealed that 11 nations contributed the most to publications, with

20 or more papers out of the 89 countries (Table 3).

Table 3. The Top 11 Contributions of Countries

No	Country	Article	%
1	United States	206	22,37
2	United Kingdom	121	13,14
3	Australia	72	7,82
4	South Africa	49	5,32
5	India	46	4,99
6	Malaysia	42	4,56
7	Canada	24	2,61
8	China	23	2,50
9	Indonesia	21	2,28
10	Germany	20	2,17
11	Russian Federation	20	2,17

According to Table 3 above, the United States ranked first among countries that contributed to articles, contributing 206 documents (22.37%), followed by the United Kingdom with 121 papers (13.14%), Australia with 72 documents (7.82%), South Africa with 49 documents (5.32%), India with 46 documents (4.99%), Malaysia with 42 documents (4.56%), Canada with 24 documents (2.61%), and China with 23 papers (2.50%). (2.17 per cent).

With 206 papers, the United States has contributed the most, showing that compared to other nations in this research, academics and publishing authors in the United States take the issues of government, employees, and skills more seriously.

Table 3's graph illustrates how the state's involvement works with the government, employee, and skills research areas.

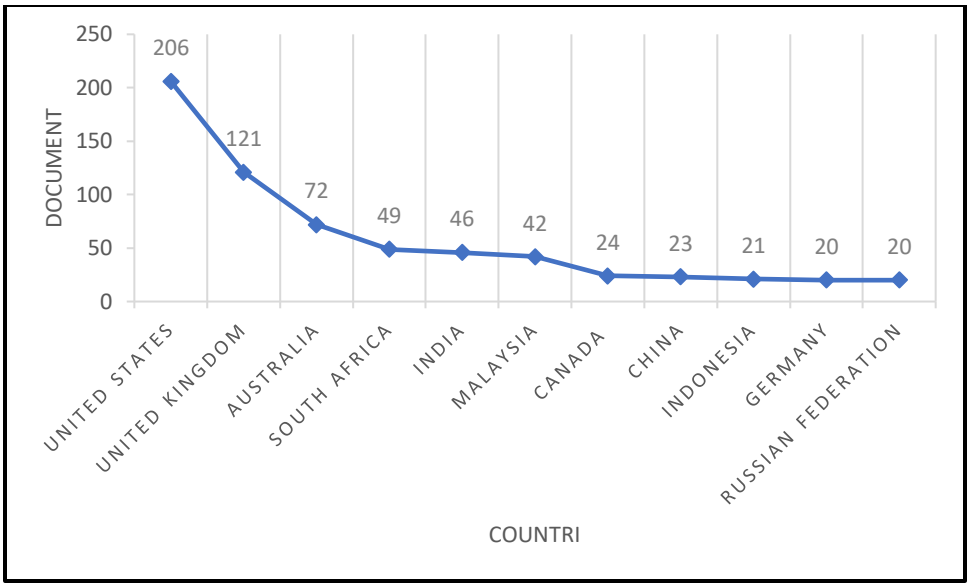

Figure 3. Contribution of Countries

When viewed from the locations of the countries on the five continents (*5 Continent World Map* Set *Vector Download*, n.d.) of the 89 countries that contributed to the publication, they were further grouped into Continental Regions, which resulted in 3 countries (6.38%) Africa continent, America continent as many as ten countries (21.28%), Asia Continent as many as six countries (12.77%), Continent Australia as many as two countries (4.26%), and Continental Europe as many as 20 countries (42.55%), can be seen in Figure 4.

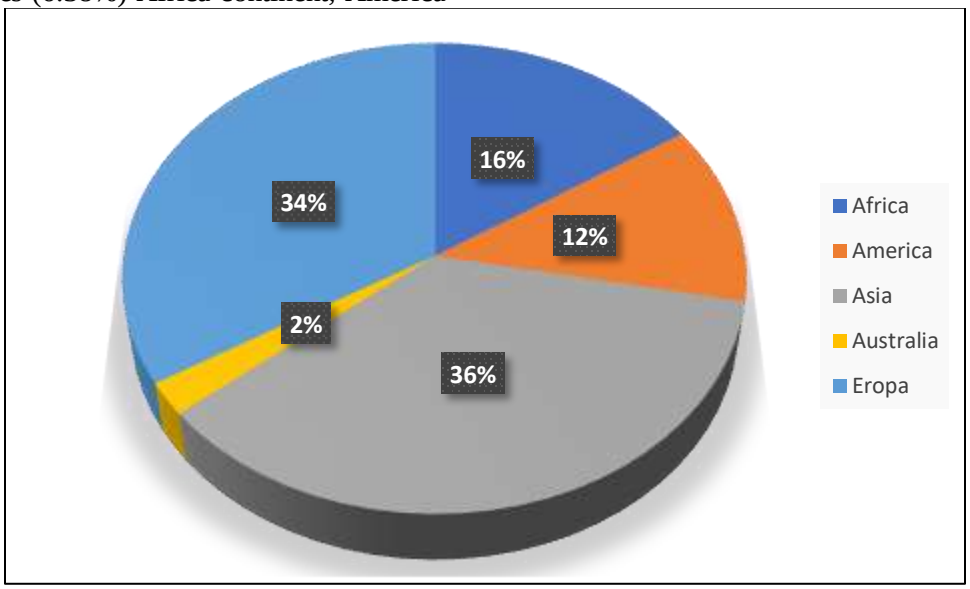

Figure 4. Contribution of Continantal

Regarding the number of nations in each continent, it appears that authors from Asia and Europe predominate in publications compared to authors from other continents in the categories of "government," "employee," and "skill" (America, Africa, and Australia). Compared to other nations in the Americas, Africa, and Australia, countries in Asia and Europe have more publications on this research theme. Both developing nations on the Asian continent and developed nations on the European continent are concerned about the issue of government employment skills.

There are still a lot of opportunities to do comparable or more advanced research in nations other than the 11 countries, according to data on the number of publications from these countries.

3.3. Contribution of Organization

Furthermore, 1500 organizations from the author who had a significant impact on writings about "government," "employees," and "skills" were represented among the 921 documents in this analysis. Because multiple Authors from various universities contribute to a single article, the number of Author organizations may exceed the number of pieces. Only three of the 1500 Author groups produce three or more documents, making their contributions the greatest. By creating five documents from authors affiliated with the Organization and receiving 150 citations, the University of London, United Kingdom, is the most significant author organization. It is followed by the University of Pennsylvania, Philadelphia, with three documents and 17 citations, and the Association of States and Territorial Health Officials, United States, with three papers and 39 medals. Table 4 lists the three institutions.

Table 4. The Most 3 Influential Institutions

No	Organization		Documents	Citations	Total Link Strength
1	University of London, United Kingdom	5	140	12	
2	University of Pennsylvania, Philadelphia	3	17	26	
3	Association of states and Territorial Health Official, United States	3	39	6	

Regarding the total number of citations among the three author organizations, the author from the University of London, United Kingdom, not only created the most publications but also accrued the most medals, totalling 140 from 5 works. Following in second place with 39 citations from 3 papers is the author from the Association of States and Territorial Health Official in the United States, followed by the University of Pennsylvania, Philadelphia, with 17 citations from 3 articles.

The University of Pennsylvania, Philadelphia, received the total link strength—26 out of the three articles—followed by the University of London, United Kingdom, which received 12 full links, and the three Association of States and Territorial Health Officials, United States, which each received six total links.

According to the statistics of the organizations included in this publication, there are still very few organizations with sufficient documentation. Therefore, there are still many chances for groups other than the three to publish related or follow-up works.

3.4. Contribution of Author

Two thousand one hundred ninety-seven authors contributed to publications in this Scopus database among the 921 articles in this study. This publication's enormous author roster is made feasible by the presence of a single piece authored by numerous authors, such as the article titled *Implementation of Care Management: An Analysis of Recent AHRQ Research* (Tomoaia-Cotisel et al., 2018) written by 25 authors, the

article titled *Projected impacts of climate change on marine fish and fisheries* (Hollowed et al., 2013) written by 22 authors, the article entitled *Implementation of a pharmacy-led virtual academic detailing program at the US Veterans Health Administration* (Himstreet et al., 2022) written by 17 authors, and the article titled *Designing systematic conservation assessments that promote effective implementation: Best practice from South Africa* (Knight et al., 2006) written by 16 authors. Through the use of the VOSviewer application, it was also discovered that 12 of the 2197 authors had written three or more articles, including 1) Napathorn, C., who wrote six documents and received 24 citations; 2) Coffield, F., who wrote three documents and received 94 citations; 3) Edward, S., who wrote three documents and received 94 citations; 4) Finlay, I., who wrote three documents and received 94 citations; 5) Hodgson, A. wrote three documents and received 94 citations; 6) Spours, K. wrote three documents and received 94 citations; 7) Steer, R. wrote three documents and received 94 citations; 8) Frolova, E.V. wrote three documents and received eight citations; 9) Rogoch, O.V. wrote three documents and received eight citations; 10) Balzli, C.E., who wrote three documents and received three citations; 111) Green, F., who wrote three documents and received 426 citations; and (12) Kim, S., who wrote three documents and received 184 citations (Table 5).

Table 5. The Most 7 Influential Author

No	Author	Document	Citations	Quality of Paper	Total Link Strength
1	Napathorn, C.	6	24	4,00	0
2	Coffield, F.	3	94	31,33	15
3	Edward, S.	3	94	31,33	15
4	Finlay, I.	3	94	31,33	15
5	Hodgson, A.	3	94	31,33	15
6	Spours, K.	3	94	31,33	15
7	Steer, R.	3	94	31,33	15
8	Frolova, E.V.	3	8	2,67	3
9	Rogoch, O.V.	3	8	2,67	3
10	Balzli, C.E.	3	3	1,00	0
11	Green, F.	3	426	142,00	0
12	Kim, S.	3	184	61,33	0

Table 5 shows that Napathorn, C., the Author, made the largest contribution to publications on government, employees, and skills by creating six documents and accumulating 115 citations. The author of the 12 authors with the most citations, Gutberlet, J., only received 24; Gre, F., who received 426, received the most. In other words, Gree, F. (142.00), who also lost against Kim, S., produced inferior paper to that of Napathorn, C. (61.33).

Additionally, out of the 2197 authors, 15 authors received the most citations, totalling 166. (Table 6).

Table 6. The Most 15 Hight Citations

No	Author	Citations	Dokumen	Total Link Strength
1	Hollowed, A.B.	166	1	21
2	Holt, J.	166	1	21
3	Ito, S.-I.	166	1	21
4	King, J.R.	166	1	21
5	Loeng, H.	166	1	21
6	Mackenzie. B.R.	166	1	21
7	Mueter, F.J.	166	1	21
8	Okey, T.A.	166	1	21
9	Peck, M.A.	166	1	21
10	Radchenko, V.I.	166	2	0
11	Rice, J.C.	166	1	2
12	Schirripa, M.J.	166	1	2
13	Yamanaka, Y.	166	1	2
14	Yatsu, A.	166	1	0
15	Ting, Y.	166	1	15

When compared to the other six authors (Coffield, F., Edward, S., Finlay, I., Hodgson, A., Spours, K., and Steer, R.), Napathorn, C. has a total link strength of zero out of the 12 most influential authors, whereas the other six have a real link strength of fifteen.

Additionally, out of the 2197 authors, 26 had the greatest total link strength, 26 (Table 7).

Table 7**.** The Most 26 Hight Total Link Strength

No	Author	Total Link Strength	Article	Citations
1	Kim, S.	24	1	184
2	Berry, C.A.	24	1	12
3	Brunker, C.P.	24	1	12

4	Calman, N.S.	24	1	12
5	Cronholm, P.F.	24	1	12
6	Day, R.L.	24	1	12
7	Donahue, K.E.	24	1	12
8	Driscoll, D.L.	24	1	12
9	Farrel, T.W.	24	1	12
10	Fatters, M.D.	24	1	12
11	Gabbay, R.A.	24	1	12
12	Genevro, J.L.	24	1	12
13	Horrison, M.I.	24	1	12
14	Hauser, D.	24	1	12
15	Holtrop, J.S.	24	1	12
16	Magil, M.K.	24	1	12
17	Mcallister, J.W.	24	1	12
18	Mcginley, E.L.	24	1	12
19	Mehta, S.N.	24	1	12
20	Reid, R.J.	24	1	12
21	Rogriguez, H.P	24	1	12
22	Scammon, D.L.	24	1	12
23	Solberg, L.I.	24	1	12
24	Tai-Seale, M.	24	1	12
25	Tomoaia,-Cotisel, A.	24	1	12
26	Wise, C.G.	24	1	12

It appears that there are still a small number of authors that can be considered to be productive based on the author's data that produced the paper. As a result, there are still plenty of chances for writers to create sophisticated or connected published articles.

3.5. Contribution of Document

The 921 documents in this study are into different categories in Table 8 based on the document type.

Table 8. Contribution of Document

No	Type Document	Document	%
1	Article	623	67,64

2	Book	14	1,52
3	Book Chapter	60	6,51
4	Conference Paper	156	16,94
5	Editorial	5	0,54
6	Note	8	0,87
7	Review	48	5,21
8	Short Survey	7	0,76

In addition, 11 documents with more than 100 citations were found through the VOSviewer study (Table 8). While four papers earned over 250 trophies, one of them was the one titled "*Demanding work: The paradox of job quality in the affluent economy*" (Green, 2013) written by Green, F., which had 395 citations, was followed by a document titled "Industry expectations of new engineers: A survey to assist curriculum designers" (Lang et al., 1999) which had 262 citations, then a document titled "Application of Social Learning Theory to Employee Self-Management of Attendance" (Frayne & Latham, 1987), and then a paper titled "Israeli women entrepreneurs: An examination of factors affecting performance" (Lerner et al., 1997). Table 8 displays the top 11 documents in terms of citations.

Table 8. Top 12 Articles With The Most Citations

No	Title	Author	Type Doc	Year	Citation	QoP/Y
1	Demanding work: The paradox of job quality in the affluent economy	Green F.	Book	2013	395	43,89
2	Industry expectations of new engineers: A survey to assist curriculum designers	Lang J.D., et. Al.	Review	1999	262	11,39
3	Application of Social Learning Theory to Employee Self-Management of Attendance	Frayne C.A., Latham G.P.	Article	1987	254	7,26
4	Israeli women entrepreneurs: An examination of factors affecting performance	Lerner M., Brush C., Hisrich R.	Article	1997	253	10,12
5	Projected impacts of climate change on marine fish and fisheries	Hollowed A.B., et al.	Article	2013	166	18,44
6	Facing up to the challenge: Why is it so hard to develop graduate attributes?	Green W., Hammer S., Star C.	Article	2009	163	12,54

7	Job longevity as a situational factor in job satisfaction.	Katz R.	Article	1978	162	3,68
8	Designing systematic conservation assessments that promote effective implementation: Best practice from South Africa	Knight A.T., et al.	Review	2006	157	9,81
9	Determinants of job satisfaction of federal government employees	Ting Y.	Article	1997	135	5,40
10	The outcome of a supported employment scheme for high-functioning adults with autism or Asperger syndrome	Mawhood L., Howlin P.	Article	1999	131	5,70
11	Emiratisation: Drawing UAE nationals into their surging economy	Al-Ali J.	Article	2008	113	8,07

QoP/Y=Number of Citation divided by Document Age

*) TC/Y = The number of citations divided by the age of the article

Table 9 above demonstrates that the article with the title "Demanding work: The paradox of job quality in the affluent economy" has the greatest QoP/Y of the 11 writers and has the highest Total Citation of 395 citations, or with a QoP/Y of 43.89, was published in 2013 (9 years ago).

According to the document type, articles, conference papers, book chapters, and reviews make up the majority of documents in publications. Therefore, there are still chances to publish various kinds of materials.

Two hundred seventy-seven publishers contributed to the 921 published articles evaluated in this study. Of the 277 publishers, 15 published more than ten articles, including Emerald Group (110), Routledge (61), SAGE Publication (51), Springer International Publishing (43), Taylor and Francis Ltd. (40), Elsevier Group (as many as 27), Wiley-Blackwell Publishing Ltd. (as many as 22), BioMed Central Ltd. (18 documents), Researchgate (18 papers), Institute of Electrical and Electronics Engineers (18 documents), and Institute of Electrical and Electronics Engineers (17 documents) (Table 9).

3.6. Contribution of Publisher

Table 9. The Top 6 Most Influential Publisher

No	Publisher	Article	%	Cite Score (2021)	SJR (2021)	SNIP (2021)
1	Emerald Group	110	11,94	3.0	NA	0.944
2	Routledge	61	6,62	2.3	0.519	1.387
3	SAGE Publications Inc	51	5,54	3.3	0.577	1.316
4	Springer Group	43	4,67	0.4	0.104	0.068

5	Taylor and Francis Ltd	40	4,34	4.4	0.715	1.313
6	Elsevier Group	27	2,93	5	0.664	1.310
7	Wiley-Blackwell Publishing Ltd	22	2,39	3.3	2.128	2.949
8	BioMed Central Ltd.	18	1,95	3.9	0.997	1.516
9	Researchgate	18	1,95	NA	NA	NA
10	Institute of Electrical and Electronics Engineers Inc.	16	1,74	6.7	0.927	1.326
11	IEEE	15	1,63	4.8	0.940	1.673
12	John Wiley and Sons Ltd	14	1,52	3.2	0.565	0.991
13	Oxford University Press	14	1,52	7.7	3.811	3.503
14	Lippincott Williams and Wilkins	13	1,41	3.3	1.057	1.176
15	Inderscience Publishers	12	1,30	1.3	0.287	0.515

The publisher's International Standard Serial Number tracks CiteScore, SJR, SNIP, and publisher h-index data (ISSN). CiteScore is a rating system based on the ratio of the journal's annual average number of citations to the number of papers it has published over the previous three years. A journal's SJR is a metric that measures the weighted average number of sources obtained each year for each article that the journal has published over the previous three years. SNIP is a contextual citation measure that goes beyond counting citations to illustrate how well-known a journal is. The h-index, meanwhile, displays the number of Author pieces that were each cited more than three times.

Table 9 shows that the Emerald Group, which produced 110 publications (11.94 per cent) of the 921 documents examined in this study, is the most significant publisher.

According to data on publisher productivity, there are still a lot of publishers who only produce a small number of documents. Therefore, publishing-related articles with an unsuccessful publisher are still possible.

3.7. Bibliographic Coupling Analysis

Based on bibliographic coupling, analysis is carried out to obtain a more realistic picture of the research topic under current conditions (Zhao & Strotmann, 2008). Four units of analysis—Author, Organization, Document, and Country—are discussed in this study's use of bibliometrics.

3.7.1. Couplings Analysis by Author

A network of 79 authors was obtained by coupling analysis by the author using the min number of parameters per document of an author up to 2, which was then divided into 5 clusters, as shown in Figure 5. Cluster 1 is red (10 items), Cluster 2 is "green" (9 items), Cluster 3 is mint blue (7 items), Cluster 4 is yellow (5 items), and Cluster 5 is purple (3 items).

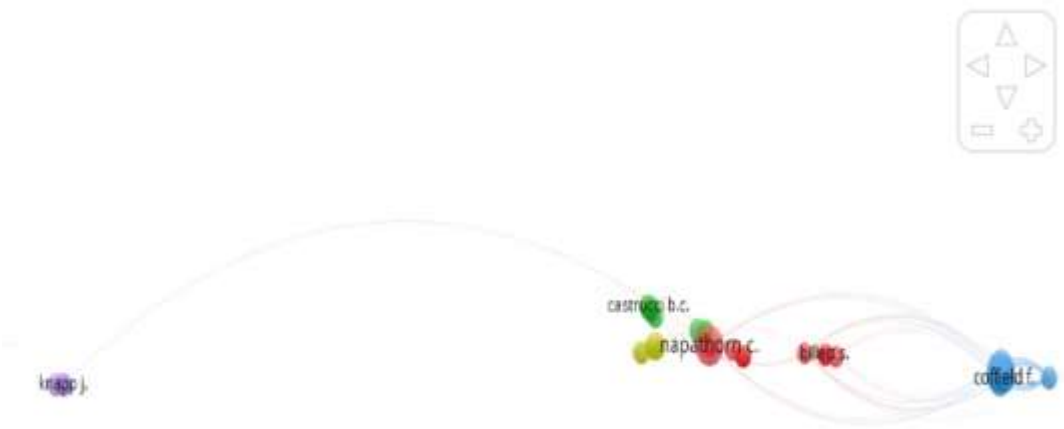

Figure 5. Bibliographic coupling by Authors

Figure 5 shows Cluster 1 and the other 4 clusters have a significant association. Only Cluster 1, Cluster 4, and Cluster 5 were strongly correlated with Cluster 2, while Cluster 3 did not correlate. There are just two clusters that are significantly related: 1 and 3. The connections between Clusters 1 and 2 and Cluster 4 are substantial. Clusters 1 and 5 are significantly correlated.

3.7.2. Couplings Analysis by Organizational

A network of 24 organizations was created by coupling analysis using the min number parameter per author's document of up to 2, which is then divided into 4 clusters as shown in Figure 6. Cluster 1 is red (5 items), Cluster 2 is green (3 items), Cluster 3 is mint blue (2 items), and Cluster 4 is yellow (25 items).

Figure 6. Bibliographic coupling by Organization

As seen in Figure 6 above, Cluster 1 only significantly interacts with Cluster 2 and Cluster 4 and does not interact with Cluster 3. Cluster 2 has no association with Cluster 4 and only has a substantial relationship with Cluster 1 and 3. There was no association between Cluster 1 and Cluster 4, while Cluster 3 only had a significant relationship with Cluster 2. There was no association between Cluster 2 and Cluster 3, while Cluster 4 only had a substantial relationship with Cluster 1.

3.7.3. Couplings Analysis by Document

A network of 299 documents was obtained through coupling analysis using the minimum number of an author's records per document up to 6. These documents are grouped into 17 clusters, with the highest 6 clusters (consisting of 13 items or more) being Cluster 1 is red (18 items), Cluster 2 with green identity (14 things), Cluster 3 purple-blue (13 items), Cluster 4 yellow (13 items), Cluster 5 light purple (13 items), and Cluster 6 mint blue (13 items), as Figure 7.

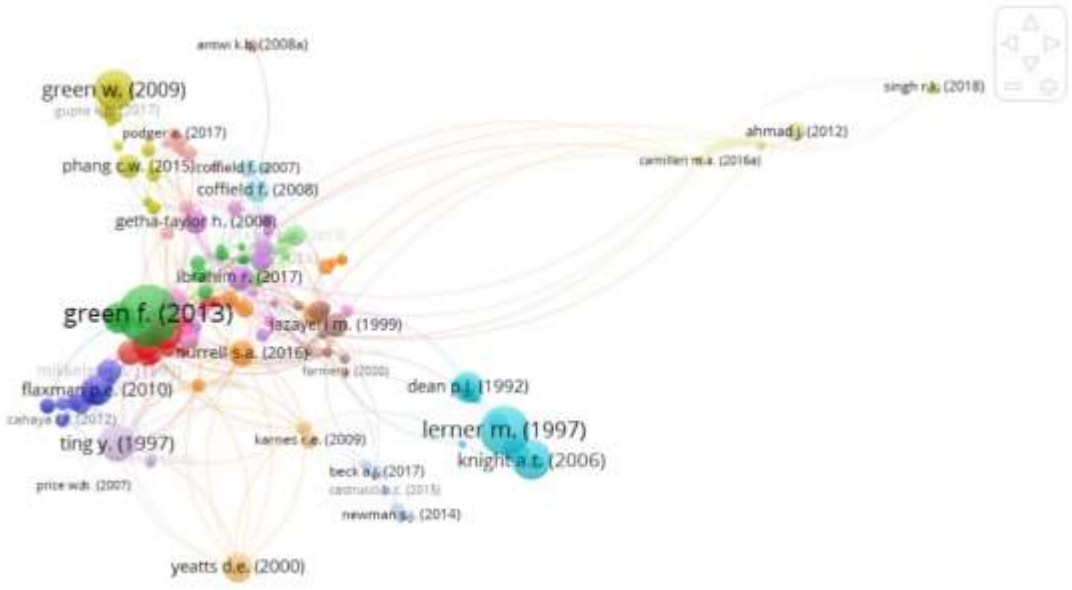

Figure 7. Bibliographic coupling by document

As seen in Figure 7 above, there is a strong correlation between every cluster in the document network and every other cluster. In Figure 8, there are four main clusters. Cluster 2 has the identity "Green, F. (2013)" and has a paper titled *Demanding Work: The Paradox of Job Quality in the Affluent Economy*. Cluster 6 has the identity "Lerner, M. (1997)" and has a paper titled *Israeli Women Entrepreneurs: An Examination of Factors Affecting Performance*, and Cluster 4 has the identity "Green, W. (2009)" and has a paper titled *Facing up to the challenge: Why is it so hard to develop graduate attributes?*.

3.7.4. Couplings Analysis by Nation

A network of 54 countries was created by coupling analysis by country using the minimum number of parameters per author's document up to 3, which is divided into 8 clusters. The highest 3 clusters (consisting of 10 items or more) are Cluster 1 is red (15 items), Cluster 2 with green identity (14 things), and Cluster 3 with blue-purple (10 items), which can all be seen in Figure 8.

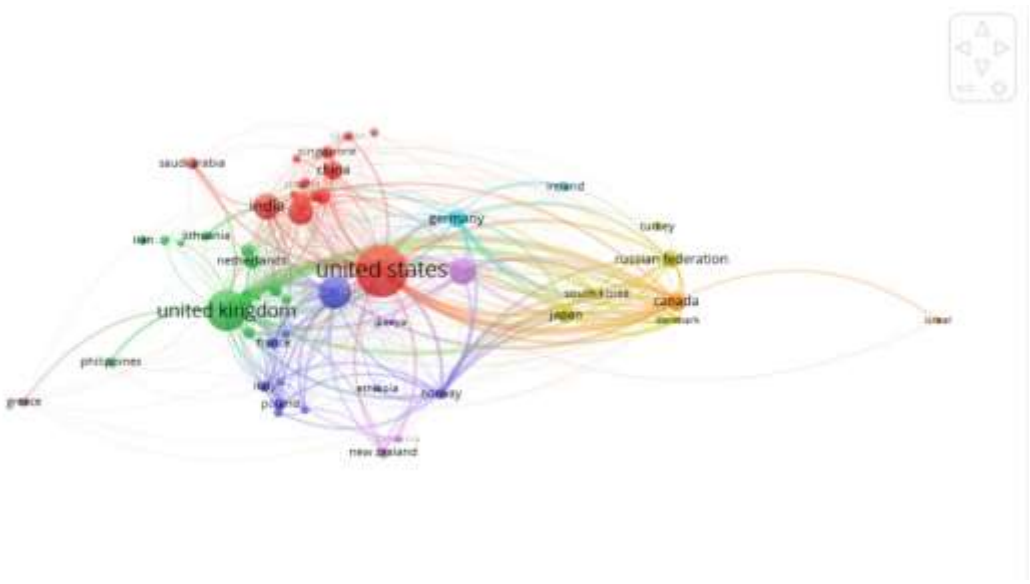

Figure 8. Bibliographic coupling by country

According to Figure 8 above, no single cluster in the country's network has no substantial relationship with any other grouping.

3.8. Keyword research

There are a total of 4658 keywords in the 921 published papers concerning "government," "workers," and "skills" available through VOSviewer. In Figure 9, Cluster 1 is red (136 items), Cluster 2 is green (55 items), Cluster 3 is blue and purple (50 items), Cluster 4 is yellow (37 items), Cluster 5 is light purple (22 items), and Cluster 6 is mint blue (2 things), which are all produced by setting five times the minimum amount of keywords.

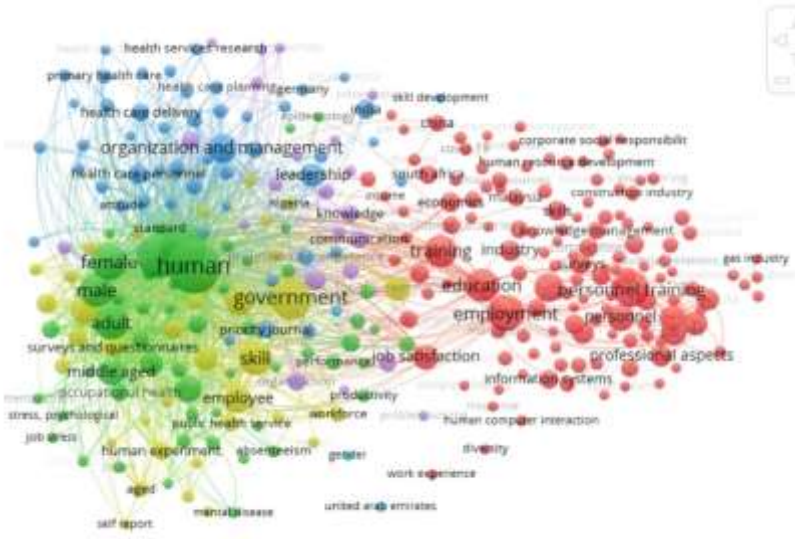

Figure 9. Network Visualization Co-occurrence Keywords

Four of the six Clusters—namely, the following four—have circular visuals and descriptions that stand out more than those of the other Clusters.

Cluster 1 is red and contains multiple distinct keyword networks and the important keywords "employment" and "personnel training." This keyword cluster includes the following terms:

awareness, business, computer literacy, curriculum, digital skills, diversity, e-learning, efficiency, employees, gas industry, human capital, human resources, income, industry 4.0, insurance, job analysis, labour market, personnel, skills, students, employment, teaching, urban area, and workplace learning.

1. The "human" identity of Cluster 2 is green. It consists of the following keywords: adult, employer, female, human, information processing, internet, mental health, male, job stress, mental stress, motivation, policy-making, productivity, psychology, review, satisfaction, social support, standard, statistics, and young adult.
2. The "government" term is part of Cluster 4, highlighted in yellow. It includes the following keywords: ageing, behaviour, clinical article, local government, manager, human resources, perception, procedures, retirement, self-report, skill, worker, workforce, and trade union.
3. The third cluster, identified as "organization management," is blue and has the following keywords: leadership, nurse, doctors, priority journal, standards, attitude, career, competence, development, health care, and interview.

The size of the circle and the names of the keywords that are used the most frequently in this publication are shown in Figure 9 above. These keywords include human, government, employment, personnel training, female, and organization management.

Visualization Overlay Keywords for co-occurrence as in Figure 10.

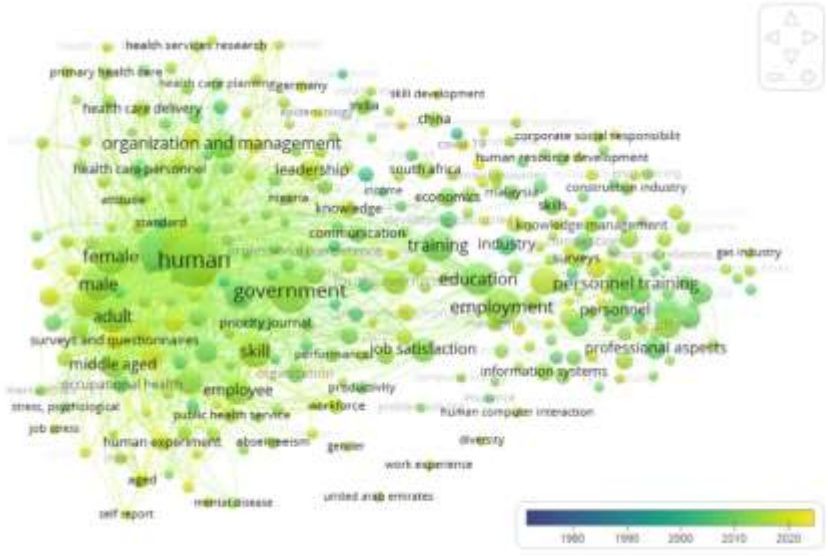

Figure 10. Overlay Visualization

Figure 10 demonstrates that following 2010 to 2022, publications relating to government, employees, and skills were primarily published. This period is distinguished by the predominance of bright hues (greenish-yellow) in all existing circle symbols. The circle's colour—darker (blue) for older publications and yellower (more luminous) for younger ones—denotes the age of the respective journals, respectively.

Density Visualization Co-occurrence Keywords as Figure 11.

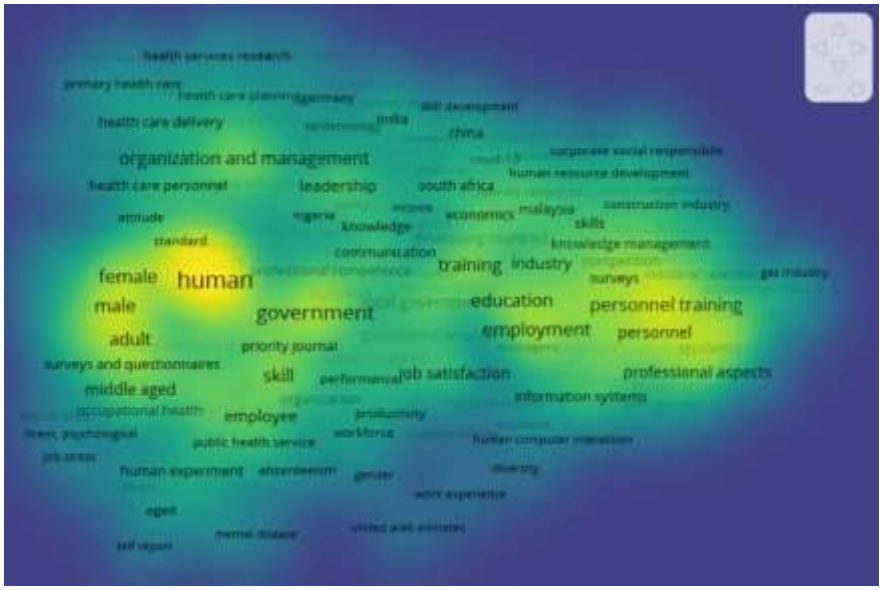

Figure 11. Density Visualization

Figure 11 shows that until 2022, publications with the keywords human, male, female, adult, employment, government, personnel training, personnel, education, and skills predominated. These articles are highlighted in yellow. (bright) and distinctive writing triumphs over other terms.

Future Research and Analysis

The 921 documents included in this study contain 4658 keywords using Vosviewer. Of the 4658 keywords, 4246 were only detected less than four times (occurrence), with information on 3621 keywords only showing up once, as many as 521 keywords with only two occurrences, and as many as 200 keywords with only three occurrences. Only 412 terms have four or more occurrences.

Accident, greening, happiness, leisure, assurance, river, rivers, social parameters, well-being, data users, digital global, metric system, sensors, space optics, control, distribution, electricity, instruments, meters, reading, methods, brainstorming, call centre, drug safety, pharmacists, access, odds ratio, risk, child health, adjustment, caregivers, clinician, college, morbidity, mortality, welfare, criminals, and electricity are some of the keywords that only appear once.

Abortion, contraception, programs, complications, emotion, health centre, pharmacist, prediction, history, authority, occupation, philosophy, exercise, reliability, hospitals, community, indicators, legislation, memory, city, cognition, reflection, design, guidelines, funding, ecosystem, intervention, evolution, validity, security, workers, morale, mentors, clustering, strategies, benefits, hotels, big data, cases, certification are some keywords that appear twice.

Utilization, poverty, staff training, trends, smoking, follow-up, automation, incentive, narrative, accreditation, nutrition, regulations, model, note, surveying, job market, ageing, profitability, consultation, ergonomics, data privacy, student, university, environment, planning, stakeholder, exhibitions, quality, apprentices, pension, contracts, retention, volunteer, migration, empowerment, lecture, and graduate are a few keywords that appear three times.

It is clear from the description above that there are still a lot of keywords being used in research or publications up until the year 2022 that have not been investigated further. Therefore, it can be concluded that there is still a great deal of room for additional research on some research topics utilizing keywords that appear to be very minimally related to government, employee, and skills. Figure 12 shows several keywords that

could still be investigated further in subsequent studies.

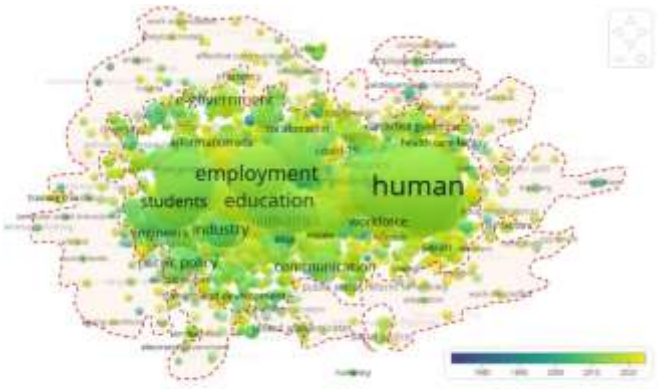

Figure 12. Research opportunities with keywords that have been used

4. CONCLUSION

It is clear from the study of 921 publications on government, employees, and skills that the author did not devote much time to these topics between 1974 and 1993. Only since 1994 have authors and publishers paid close attention to writings on the subjects of this research, as seen by the rise of publications through 2021. In publications relating to "government," "employee," and "skills," the Asian continent, which is primarily populated by developing nations, plays a very dominant role, indicating that the topic of government employment skills has received significant attention in countries on the continent. The amount of articles an author produces for publication does not guarantee how many citations they will receive. Additionally, the number of sources an article receives does not depend on how long it has been published. In publications about government, employees, and skills, Green F., the most influential author from the United Kingdom, has not been followed by other authors from that nation or other countries on the European Continent, so the continent's contribution is still less than that of nations in the Asian Continent.

There have been several studies conducted on government, employees, and skills. Still, it turns out that many of these studies have not been followed up with additional research, leaving many opportunities for a new study to further the analysis of the research that has already been done. Naturally, this creates possibilities for the application of additional research in all nations.

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6. COMPETING INTERESTS

We, the authors, had no competing interests when we were working on this piece, either among ourselves or other people involved.

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