

Effects of the Job Satisfaction on the Employees Fluctuation – An in-Depth Bibliometric Analysis

Mihaela Denis GĂLĂȚANU¹

Abstract

The aim of this analysis is to develop and identify the trends in the study of the effects of work satisfaction on the fluctuation of human resources, as they appear in the Scopus database.

The analysis performs an in-depth bibliometric analysis of the literature in the field on the application, identification, network structure and theoretical framework of employee fluctuation.

It aims to provide an assessment of studies in the literature in the field on the fluctuation of human resources published between 1957-2023, answering to the research questions:

Q1: How „productive” is research on the fluctuation of employees referring to the number of publications and citations?

Q2: Which authors and publications brought most significant contributions to this study?

Q3: Which countries brought most significant contributions to this study?

Considering the above mentioned research questions, the objectives of this study are to investigate the level of success of studies on employee fluctuation in terms of number of publications and citations, to identify the most prolific relevant researchers and to identify the countries which contributed the most to the study of employee fluctuation.

Keywords: *job satisfaction, employee fluctuation, number of citations.*

JEL classification: M54.

DOI: 10.24818/RMCI.2023.5.745

1. Methodology for carrying out the bibliometric research

To carry out the analysis, we have used only data extracted from the Scopus database. We have used the key words „employee fluctuation” needed to extract the data on December 20th, 2022. Figure 1 shows the main steps taken to extract the data used in carrying out the analysis.

So, we took into account all articles published in English on this topic between 1957-2022. Also, we considered the articles published in conference volumes, book chapters, books, reviews and working papers.

¹ Mihaela Denis Gălățanu, Alexandru Ioan Cuza University of Iași, Faculty of Economics and Business Administration, mihaelad.galatanu@yahoo.com

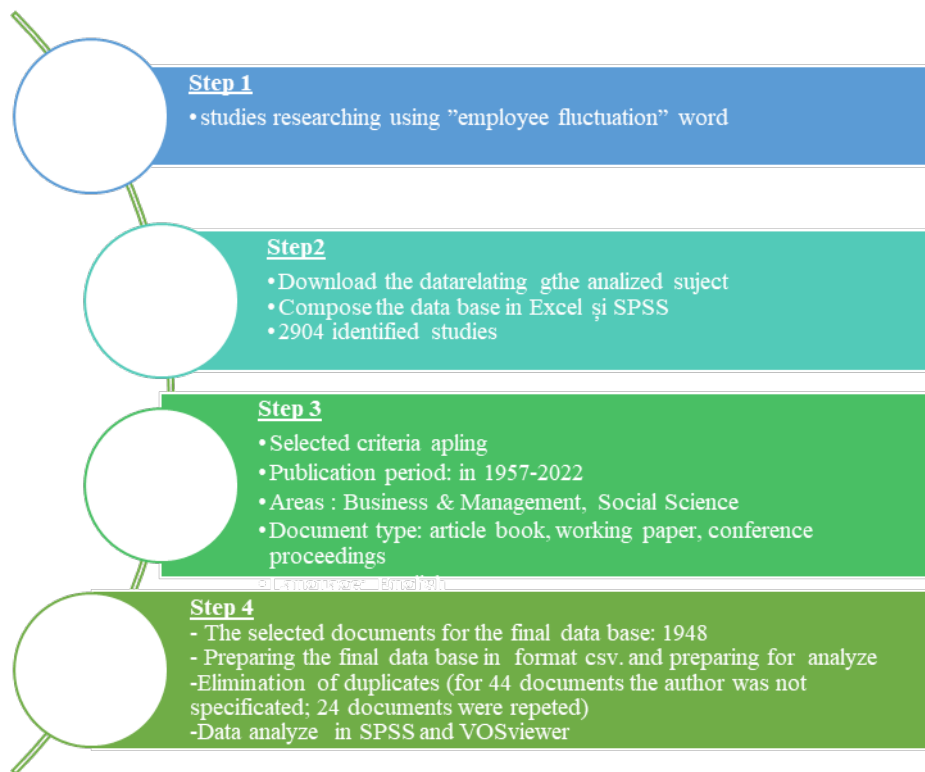


Figure 1. Steps taken to extract data used for making the analysis

2. Results and discussion

2.1 Results of trends regarding article publication and citations

Table 1 is a synthesis of the results of studies researching employee fluctuation. The results show that there were 1880 (TP) publications in the studied period. Out of which, 1629 are articles, 101 book chapters, 150 reviews (systematic of meta-analyses). The body of documents contains 93411 references.

Results of studies researching employee fluctuation

Table 1

Bibliometric Indicators	Values
Total number of publications registered after avoiding the duplicates (TP)	1880
<i>Articles</i>	<i>1629</i>
<i>Reviews</i>	<i>150</i>

Bibliometric Indicators	Values
<i>Book chapters</i>	101
Perioada de timp analizată (ani)	47
Number of publications with a single author	336
Number of publications with more than one author	1544
Total number of referencies	93411
Total number of citations (TC)	50494
Average number of citations/ publications (TC/TP)	26.69
Number of publications for a single author	348
Number of the total key words	3480

Source: Author's research

Regarding the number of citations, the results in Table 1 show that the documents included into our databased had 50494 citations (TC). We observed an average of 26.69 citations per document. There are 348 single-author documents. The database documents contain in total 3480 key words.

The graph in Figure 2 shows an upward trend in the publication of articles on employee fluctuation.

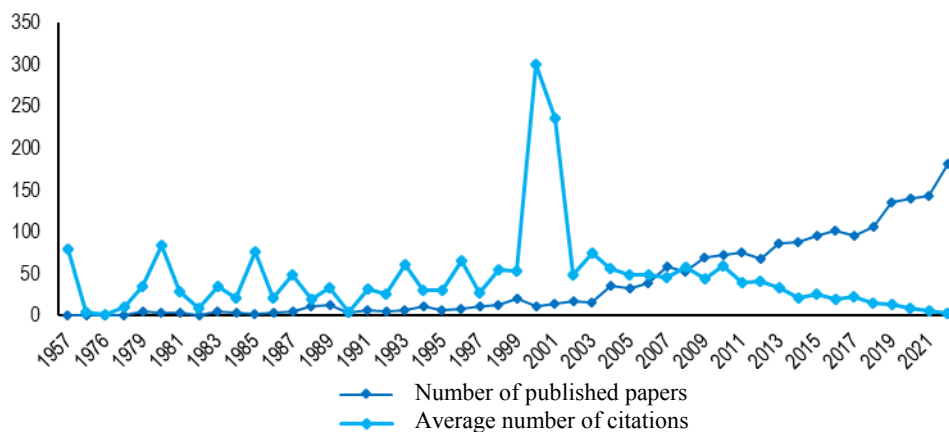


Figure 2. Trend in the number of published articles and the average number of citations

The results in Table 1 show that the first publication on the fluctuation of human resources appeared in 1957 (1 document). Then, there were no publications for fourteen years, and the second publication appeared in 1972 (1 document). In the

following period, there were no publications on this topic for a period of three years until 1976 (1 document). Subsequently, new studies appeared on employee fluctuation with a gradual increase from one year to another.

Yearly evolution of citations is mostly upward. The first publication (1957) had 79 citations, with a non-uniform trend in the total number of citations. In the last five years between 2017 and 2022, the number of publications grew gradually. The results show that older publications were more cited than the newer ones. It is due to the fact that citations appear over time.

2.2 Results regarding the most prolific authors

Table 2 presents the rankings of H and G indices of the most influential 10 researchers who published articles on human resource fluctuation. According to the results shown in Table 2, Tett, R. P. and Meyer, J. P. (1993), who were included in our database, appear with the highest number of citations. In 1993, one of their papers „Job-Satisfaction, Organizational Commitment, Turnover Intention, and Turnover - Path Analyses Based on Meta-Analytic Findings” was cited over 1800 times by the researchers worldwide. With 1168 citations, Niehoff, B. P. and Moorman, R. H. could be the most prolific authors in the field with 1168 citations. Cropanzano, R., Rupp, D. E. and Byrne, Z. S. are also top researchers on this topic as shown by 835 citations of their paper.

The most prolific authors in the database by number of citations

Table 2

Authors	Article title	Total number of citations	The year of publication of the article included in the database
Tett, R. P.; Meyer, J. P.	Job-Satisfaction, Organizational Commitment, Turnover Intention, And Turnover - Path Analyses Based on Meta-analytic Findings	1811	1993
Niehoff, B. P.; Moorman, R. H.	Justice as a Mediator of The Relationship Between Methods of Monitoring and Organizational Citizenship Behavior	1168	1993
Cropanzano, R.; Rupp, D. E.; Byrne, Z. S.	The Relationship of Emotional Exhaustion to Work Attitudes, Job Performance, and Organizational Citizenship Behaviors	835	2003
Pierce, J. L.; Gardner, D. G.	Self-esteem Within the Work and Organizational Context: A Review of the Organization-Based Self-Esteem Literature	553	2004

Authors	Article title	Total number of citations	The year of publication of the article included in the database
Tims, M.; Bakker, A. B.; Derks, D.	The Impact of Job Crafting on Job Demands, Job Resources, and Well-Being	543	2013
Lim, S.; Cortina, L. M.; Magley, V. J.	Personal and Workgroup Incivility: Impact on Work and Health outcomes	471	2008
Moore, J. E.	One Road to Turnover: an Examination of Work Exhaustion in Technology Professionals	433	2000
Lee, K.; Carswell, J. J.; Allen, N. J.	A Meta-Analytic Review of Occupational Commitment: Relations with Person- And Work-Related Variables	420	2000
Greguras, G. J.; Diefendorff, J. M.	Different Fits Satisfy Different Needs: Linking Person-Environment Fit to Employee Commitment and Performance Using Self-Determination Theory	409	2009
Owens, B. P.; Johnson, M. D.; Mitchell, T. R.	Expressed Humility in Organizations: Implications for Performance, Teams, and Leadership	395	2013

Source: Author's research

We aim for our analysis to reflect both the most known experts in the field, as well as the co-authors, with a view of discovering the occurrence and nature of collaboration among the authors.

Collaborations are a good opportunity for sharing experience and making new discoveries. Plus, the synergy of researchers grows the likelihood for their studies to be published in important academic journals. Using the VOSViewer application, we developed the networks of authors who have collaborated, at least, in three documents. Out of a group of 4169 authors, only 476 were selected considering the name of the author who published, at least, two documents. In all cases, the relationships among some of the 476 authors of the network have not been completely consolidated. Twenty-eight of the authors belong to the most significant collaboration network of authors. Figure 3 shows the network of co-authors and the collaboration of the researchers studying this topic.

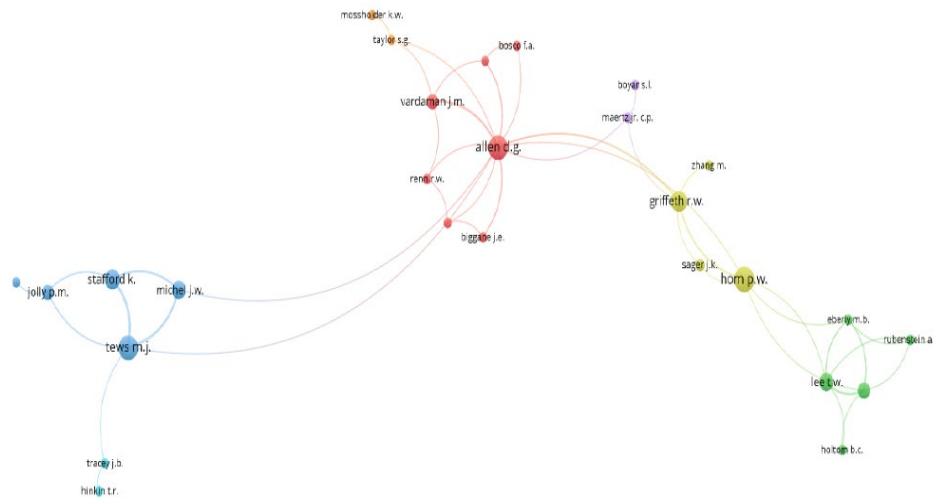


Figure 3. The network of co-authors and collaboration of researchers studying the analysed topic

Figure 3 presents seven different clusters of authors who often worked together. The first group is made of seven authors (Allen D. G., Biggane J. E., Bosco F. A., Hancock J. I. et al (presented in red in Figure 3).

The second significant group is made of such researchers as Eberly M. B., Holtorn B. C., Lee T. W. et al (shown in green).

The next cluster is made of the group comprising Dawson M., Jolly P. M., Michael J. W. et al (shown in blue).

Griffeth R. W., Horn P. W., Sager J. K. and Zhang M. A. are all members of the same group of four authors (shown in yellow).

The fifth group is made of two authors: Boyar S. I. and Maertz Jr. C. P. (presented in violet). The sixth group is made of two authors, namely, T.R. Hinkin and J.B. Tracey (shown in blue).

There are also other three groups, each of them being made of two authors.

2.3 Results on the most prolific countries

Table 3 presents a ranking of the most important countries where appeared most papers discussing employee fluctuation. In line with our results, the authors from the United States published most papers (1539), followed by China (389), then Australia (259) and Malaysia (259). The United States of America has been the most influential country with 20340 citations. Still, the average number of citations on this topic per each paper in the Netherlands was 5733 for 71 publications. India (with 251 citations), Canada (with 166), the United Kingdom (with 166) and Pakistan (with 161) are just a few of the countries who contributed significantly to the study of employee fluctuation. Indonesia has 95 papers but the number of citations is much

lower than in countries with less publications, such as Germany, Turkey, Spain, New Zealand and Brazil.

The most prolific countries with contributions to the development of research on human resource fluctuation

Table 3

Country	Number of the published article	Number of total citations	Average number of citations
USA	1539	20340	42.19
China	389	2547	20.88
Australia	259	3322	39.55
Malaysia	259	654	12.58
India	251	916	14.31
Canada	166	1286	37.36
UK	166	1067	23.71
Pakistan	161	336	13.44
South of Coreea	104	651	15.54
South Africa	102	190	6.13
Indonezia	95	17	1.31
Germany	86	566	21.77
Netherlands	71	1032	57.33
Turkey	68	641	20.68
Spain	47	391	32.58
NewZeeland	42	471	31.40
Nigeria	40	81	6.75
Brazil	37	36	4.50
Sweden	35	91	10.11
Finland	33	103	11.44
Czech Republic	31	3	1.00

Source: Author's research

Besides the ranking of top countries in terms of research results, this study also includes an analysis on the extent and depth of international cooperation. The results have shown the existence of 10 clusters. Figure 4 shows the biggest nodes in countries with which the USA has most partnerships (UK, Malaysia, Australia and India), and the smallest nodes appear for countries with which the USA have the least partnerships (for example, Italy, Switzerland, Austria, Ireland). Australia holds the second position with a variety of international partnerships, which include the USA, UK, India, Canada, China and many other countries.

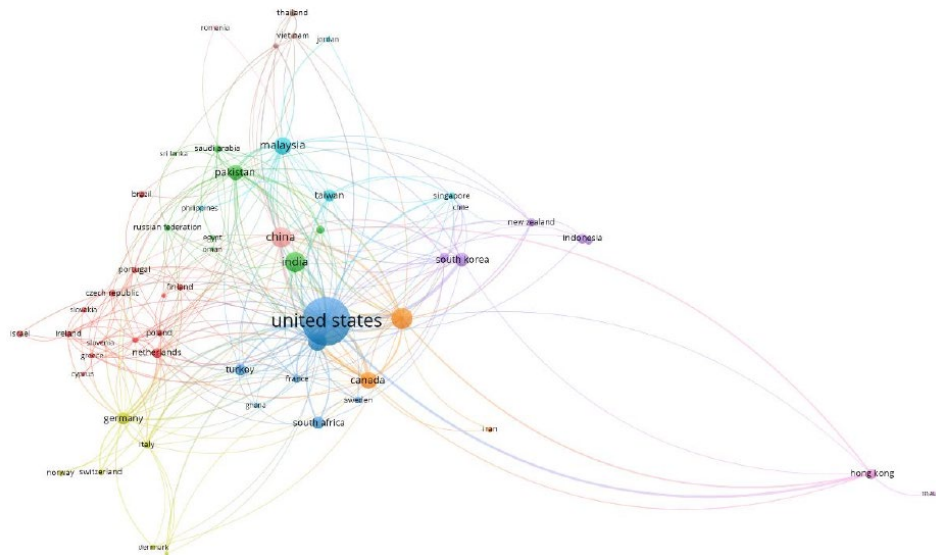


Figure 4. Country grouping by cluster emphasising international cooperation

2.4 Results on co-occurrence of key words

The analysis of key words mentioned by the authors of the analysed documents is useful in order to identify the main concepts that have guided the research on employee fluctuation in the analysed period. Therefore, the analysis of the network that uses the co-occurrence of key words is an efficient method for better understanding of the topics looked into in the study of employee fluctuation. The results of the analysis of key words that authors utilised in their papers shows that there are 87 key words, each appearing, at least, 10 times. Then, a network was built comprising 969 nodes, 6 clusters and 2273 de points. Figure 5 shows the main topics identified by analysing the entire corpus by means of key words.

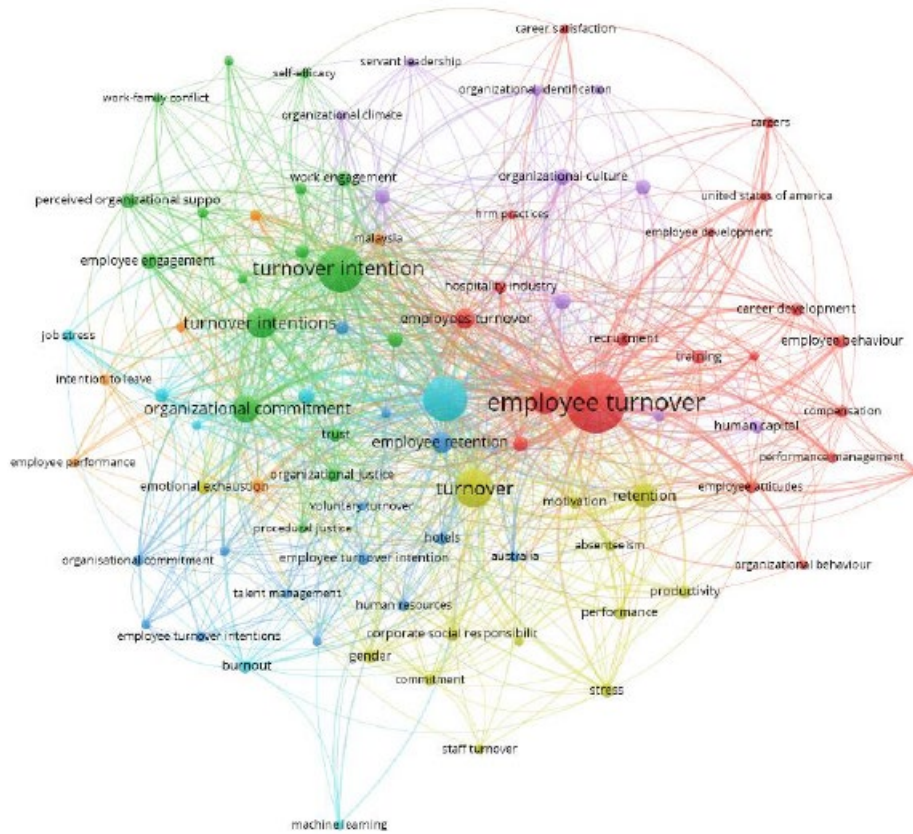


Figure 5. The network of co-occurrences generated by the analysis of key words analysis

Next, we will be presenting a short description of each identified cluster:

- **Cluster 1: "employee turnover"** (red colour network)

There are 20 key words in cluster 1 (Table 4). Out of these, "employee fluctuation" is the most searched key word, being most appearances in searches ($n = 407$). "Human resource management" holds the second place with 89 searches. Regarding the number of citations, the documents mentioning "employee fluctuation" as one of the key words with the highest number of citations, followed by the documents mentioning as the key word "employee attitude" and/or "employee behaviour".

Key words of the first cluster

Table 4

Key word (Cluster1)	Number of occurrences in the corpus	Average number of citations in documents mentioning the key word
Career development	15	28.9
Career satisfaction	12	24.35
Careers	15	15.27
China	18	21.64
Compensation	15	12.39
Employee attitudes	17	48.95
Employee behaviour	21	42.20
Employee behaviour	12	24.72
Employee relations	9	27.68
Employee turnover	407	26.12
Employees turnover	47	60.28
Hrm practices	9	14.75
Human Resource Management	89	26.92
Organizational behaviour	9	29.80
Performance appraisal	9	38.05
Recruitment	20	16.28
Performance management	12	38.67
Training	22	20.67
United States of America	13	41.93

Source: Author's research

• **Cluster 2: "turnover intention"** (green colour network)

This cluster is made of 17 key words. Out of these, "turnover intention" (n = 231) occurs most often, followed by "turnover intentions" (n = 102) and "organizational commitment" (n = 80). Regarding the number of citations, the documents mentioning in this cluster such key words as "job performance", "trust" and "perceived organizational support" have been cited the most (Table 5).

Key words of the second cluster

Table 5

Key word (Cluster1)	Number of occurrences in the corpus	Average number of citations in documents mentioning the key word
Affective commitment	25	23.45
Employee engagement	32	15.62
Job embeddedness	22	18.32
Job performance	16	46.23
Organizational citizenship behavior	11	10.91
Organizational commitment	80	26.98
Organizational justice	21	19.01

Key word (Cluster1)	Number of occurrences in the corpus	Average number of citations in documents mentioning the key word
Perceived organizational support	26	29.62
Procedural justice	11	23.51
Self-efficacy	10	16.79
Social exchange theory	15	18.20
Supervisor support	9	17.90
Trust	22	39.51
Turnover intention	231	14.80
Turnover intentions	102	23.53
Work engagement	26	20.73
Work – family conflict	11	27.30

Source: Author's research

• **Cluster 3: "employee retention"** (blue colour network)

Fourteen words compose this cluster. The key words "employee retention", "employee turnover intention", "organizational performance" and "organizational commitment" have the highest occurrence. Concerning the number of citations, the first place is held by the documents mentioning such key words as "Australia", "organizational performance" and "human resources" (Table 6).

Key words of the third cluster

Table 6

Key word	Number of occurrences in the corpus	Average number of citations in documents mentioning the key word
Australia	13	48.67
Employee retention	50	13.92
Employee satisfaction	11	26.23
Employee turnover intention	21	19.29
Employee turnover intentions	12	12.85
Empowerment	10	23.98
Human resources	14	36.59
Mediation	12	5.432
Organizational commitment	17	15.28
Organizational performance	19	45.78
Psychological contract	10	34.02
Talent management	11	21.20
Voluntary turnover	13	20.72

Source: Author's research

• **Cluster 4: "turnover"** (yellow colour network)

Thirteen words comprise the fourth cluster. The word "turnover" has the highest occurrence, being followed by "retention". Regarding the number of citations, the documents mentioning the word "absenteeism" have the highest influence (Table 7).

Key words of the fourth cluster

Table 7

Key word (Cluster1)	Number of occurrences in the corpus	Average number of citations in documents mentioning the key word
Absenteeism	13	63.49
Commitment	18	28.69
Corporate social responsibility	19	23.57
Emotional exhaustion	19	23.96
Gender	22	24.76
Motivation	21	17.34
Performance	17	44.321
Productivity	17	10.46
Retention	68	25.64
Satisfaction	11	13.92
Staff turnover	9	32.52
Stress	20	33.13
Turnover	157	28.78

Source: Author's research

• **Cluster 5: "employees"** (violet colour network)

Ten key words presented in Table 8 make up this cluster. The key words "employees", "organizational culture" and "knowledge management" are the key words with a high occurrence in this cluster. As for the number of citations in the analysed documents, the results show that the most prolific are those mentioning such words as: "organizational culture", "employees" or "knowledge management".

Key words of the fifth cluster

Table 8

Key word (Cluster1)	Number of occurrences in the corpus	Average number of citations in documents mentioning the key word
Employees	30	31.53
Human capital	21	18.90
India	23	26.00
Information technology	11	6.011
Innovation	14	12.12
Knowledge management	24	26.76

Key word (Cluster1)	Number of occurrences in the corpus	Average number of citations in documents mentioning the key word
Organizational climate	11	18.53
Organizational culture	27	38.72
Organizational identification	13	9.012
Servant leadership	11	12.31

Source: Author's research

• **Cluster 6: "job satisfaction"** (orange colour network)

This cluster comprises seven key words. The term "job satisfaction" has the highest number of occurrences. In terms of the number of citations, the most prolific are the documents mentioning such key words as "leadership", "intention to quit" or "job satisfaction".

Key words of the sixth cluster

Table 9

Key word (Cluster1)	Number of occurrences in the corpus	Average number of citations in documents mentioning the key word
Burnout	17	28.21
Intention to quit	11	32.65
Job satisfaction	251	30.42
Job stress	15	14.61
Leadership	32	38.31
Machine learning	10	4.209
Transformational leaders	23	29.62

Source: Author's research

Conclusions

By carrying out this analysis, we aimed to provide an accurate image of the literature in the field discussing the topic of employee fluctuation by assessing and presenting the scientific "production" over a period of 67 years.

Some of our results have shown that first publication discussing fluctuation of personnel appeared in 1957. According to Scopus database, there were almost no publications in this area of study after 1957 and until 1971, as well as between 1972-1975. Gradually, the number of studies grew year by year after 1976. There was a total number of 50494 citations encountered in our database.

Another set of results has illustrated that a series of top studies could be identified by number of publications and citations. Also, the countries which contributed the most to research on personnel fluctuation through their infrastructure were USA, followed by China, Australia and India.

The documents researching commitment, trust, exit interviews, jobs, different industries had been growing between 1957-2009, later not being as relevant, giving way to new topics for researchers that they had to investigate with more interest.

Limitations

One of the most important limitations of this analysis lies in the fact that all considered documents were published in English.

The second limitation was due to the fact that just SCOPUS database was used to extract the needed data, other important sources of data such as W.O.S., Google Scholar or Elsevier not being included. Due to this, more results could be found with the use of several databases.

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