

# THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT

## Bibliometric Analysis Study about Organizational Change and Innovation

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### **Abstract:**

*Organizational change is both a challenging obstacle and a common occurrence in high-tech companies. Change can improve adaptability and leverage knowledge based on the dynamic capability perspective, but according to the organizational inertia perspective, it can also increase coordination costs and provoke conflict. Moreover, innovation is essentially a bilateral or coupling activity. On the one hand, it involves identifying a need or, in economic terms, a demand. The marketability of a novel product or process entails technical knowledge, which may be accessible to the general public but may also include novel scientific and technical knowledge resulting from original research. We present a quantitative analysis of bibliometrics. By analyzing 456 articles, we identify the prominent academic institutions, countries, journals, authors, and co-authorship networks and their position within these variables.*

**Keywords:** Organizational change, innovation, organization, bibliometric

### **1. Introduction**

In the absence of a consensus on a conceptual framework for organizational change, knowing what needs to be included in such an assessment may remain a challenge. Theorists have an interest in refining and standardizing the measurement of organizational change to improve conceptual clarity (Isomi et al., 2020, 2). Firms face unstable markets, turbulent technology, and unexpected transitions in social and economic systems. To adapt to these changing environments, firms alter their organizations by introducing new technologies, administrations, and processes. Organizational change is a popular way to satisfy customer needs and gain competitive advantages (Chen et al., 2018, 98). As Per et al. (2018, 4), it is emphasized that contextual factors are also described as a determinant of organizational change in the theory because they can affect change commitment and effectiveness. The three primary factors that determine OC are as follows:

First, Change efficacy: the confidence of organization members in their ability to execute the change's intended actions. Considering their existing circumstances, can they implement this change effectively? Second, Change commitment is the determination of an organization's members to pursue the necessary actions for change implementation. To what extent do members of the organization value the impending change? And finally, Context: resources, structure, and culture that impact the preparedness of the organization's members to implement the change. How does the context influence the willingness or capacity of organizational members to act?

Process studies of organizational change provide a foundation for developing insights into how organizations can facilitate the adoption of a radical and potentially transformative set of technologies throughout the organization. (Morgan, 2019, 401). To see and respond to changing market demands or to act in response to problems such as climate impacts, firms need the ability to identify the nature and cause of events. 'Diagnoses or awareness are subsequently key factors for successful organizational change. For example, a business has to be able to recognize an opportunity to decrease costs and enhance the customer offering through a product-service system for the business model to change. Diagnosis can be a change barrier either where awareness is lacking or where the outcome of the assessment or diagnosis is incorrect (Long et al., 2018, 84). Organizational changes are also needed to account for evolving societal norms and values, some of which have yielded higher expectations for access to organizations, improved individual experience and increased individual involvement in decision-making. The researcher has shown that organizational changes are often associated with employees' psychological uncertainty about how the changes will affect their work situation, role and overall life. High rates of organizational change have well-documented effects on employee health and well-being (Nilsen et al., 2020, 2). Since innovation is as important as organizational change, that argues that an important determinant of

innovation is firm organization and that scholars need to understand the importance not only of market structure and the business environment but also of the formal and informal structures of firm organization. There is some quantitative evidence indicating that such organizational aspects indeed are important determinants of innovation inputs and output. Earlier researchers demonstrated that innovation was not only concerned with research and development professionals but other employees and areas within the organization must be open toward innovation within their respective roles for the long-term success of the organization (Javed et al., 2019, 555). Innovation is widely recognized as the main strategic driver of economic growth and development. For such a role, the interest of scholars and policymakers in the theme was increasing thus far beyond saying. Nonetheless, the dynamics of innovation systems are still a relevant conundrum that is way far from being addressed. As a matter of fact, the complex interplay between knowledge flows and the technological paradigm in use is making innovations more difficult to be achieved and more expensive as well (Scuotto et al., 2019, 1). One issue for all organizations is the challenge to successfully innovate in management. Digitization has revolutionized society in a way we could not have imagined in the 20th century and has the potential to disrupt management and deal with long-standing issues of quality, spiraling costs, and rewarding value (van Velthoven et al., 2019, 49). Innovation enables the organization to effectively respond to changes in its operating environment and market and to develop competitive advantages that are sustainable over time (Hanedaa and Ito, 2018, 194). Thus, innovation has been defined as a new idea, method, or device, the act of developing a new product, service, or process with the potential to enhance organizational performance. Recognizing the value of new and external information is crucial for increasing the company's knowledge, which is the essence of organizational innovation (Encarnación García-Sánchez et al., 2018, 3).

This change means that many companies will need to create new business models (BM) using business model innovation (Olofsson et al., 2018, 70). Organizational innovation refers to implementing and adopting new strategies and organizational practices for transformation inside the organization or external relations. OI is precisely related to business performance, market share, and growth. A recent study revealed that strong competencies are drive-by innovation, and management has a leading role in improving firm internal/external processes by adopting innovation (Azeem et al., 2021, 3). Most firms today engage in innovative practices to establish themselves in the market, ensure their ongoing survival, contribute to value creation and enhance their competitiveness. Innovation has been increasingly described as an outcome of a collaborative process that involves the participation of various stakeholders not only within but also outside the supply chain (Krishnan et al., 2021, 3).

## 2. Methodology

In this study, our methodology is bibliometric analysis (quantitative). Also, we perform a bibliometric analysis and a content analysis of 456 articles from (2018-2023) on organizational change and innovation. We also analyzed the data according to (Publish or Perish), and (Vos-viewer) programs.

VOS-viewer: A software tool for constructing and visualizing bibliometric networks. These networks may, for instance, include journals, researchers or individual publications and they can be constructed based on citation, bibliographic coupling, co-citation, or co-authorship relations. VOS-viewer also offers text mining functionality that can be used to construct and visualize co-occurrence networks of important terms extracted from a body of scientific literature.

Publish or Perish: It is a software program that retrieves and analyzes academic citations. It uses a variety of data sources to obtain the raw citations, then analyzes these and presents a range of citation metrics, including the number of papers, total citations and the h-index.

### 2.1. Sample Selection Process

We adopt the research protocol in bibliometric analysis. Firstly, we collect articles from the Scopus site. Also, we analyzed the data using VOSviewer (visualizing) and collected the data of citation and citation matrix using (publish or Perish) program. The diagram below shows that our database is Scopus and search field was just articles from Scopus journals, the language is only English, the period of time is 2018 – 2023 and the total number of articles searched in organizational change and innovation topic in mentioned period is (456).

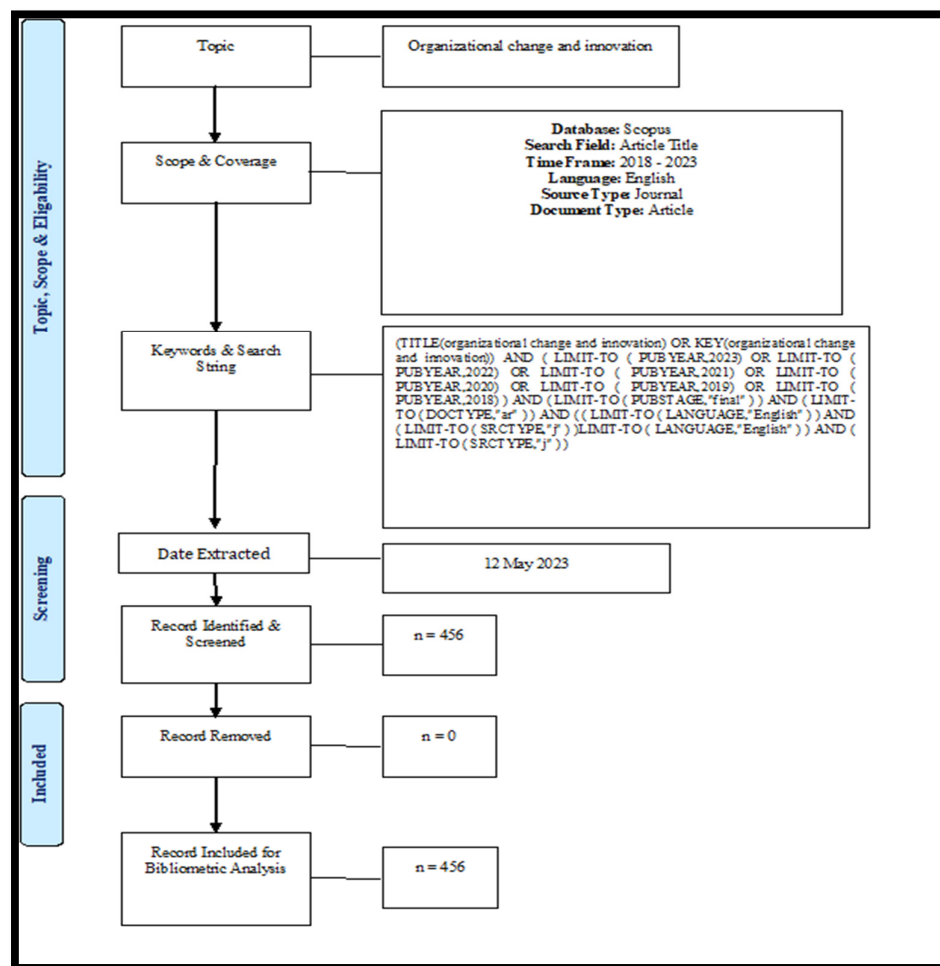


Figure 1: Flow Diagram of the Search Strategy  
Source: Zakaria Et Al. (2020)

### 3. Result and Discussion

#### 3.1. Document and Source Types

Document Type	Total Publications (TP)	Percentage (%)
Article	456	100
Conference Paper	0	0
Book Chapter	0	0
Note	0	0
Review	0	0
Editorial	0	0
Book	0	0
Short Survey	0	0
Undefined	0	0
Total	456	100.00

Table 1: Document Type

Source Type	Total Publications (TP)	Percentage (%)
Journals	456	100
Conference Proceedings	0	0
Book Series	0	0
Books	0	0
Trade Publications	0	0
Total	370	100.00

Table 2: Source Type

### 3.2. Year of Publications/Evolution of Published Studies

Year	Total Publications	Percentage (%)
2023	22	4.82
2022	66	14.47
2021	88	19.29
2020	94	20.61
2019	89	19.51
2018	97	21.27

Table 3: Year of Publications

Table 3 presents the publication per year. So according to the table, the year 2018 showed the highest percentage, which means the topic had so much interest during that period, then the percentage began to decrease. Maybe that was because the other topics shown up had more focus and interest. Also, the reason behind the year 2023 showing the minimum percentage was that the year has not finished yet and of course, there are so many articles that will be published next time this year.

### 3.3. Languages of Documents

Language	Total Publications*	Percentage (%)
English	456	100
German	0	0
Portuguese	0	0
Chinese	0	0
French	0	0
Spanish	0	0
Total	456	100.00

Table 4: Languages Used for Publications

\*One Document Has Been Prepared In Dual Languages

### 3.4. Subject Area

Subject Area	Total Publications	Percentage (%)
Medicine	184	35.24
Environmental Science	59	11.3
Nursing	53	10.15
Engineering	45	8.62
Psychology	35	6.7
Energy	33	6.32
Economics, Econometrics and Finance	29	5.55
Computer Science	23	4.4
Decision Sciences	16	3.06
Health Professions	13	2.49
Arts and Humanities	11	2.1
Agricultural and Biological Sciences	7	1.34
Multidisciplinary	5	0.95
Pharmacology, Toxicology and Pharmaceutics	3	0.57
Biochemistry, Genetics and Molecular Biology	2	0.38
Chemical Engineering	2	0.38
Materials Science	1	0.19
Mathematics	1	0.19

Table 5: Subject Area

Table 5 shows that medicine had the highest percentage in this field. The reason behind it is that the field of medicine always needs to create and innovate new things, such as treatments, devices, procedures, etc. Also, the medical field deals with such a dynamic environment that requires changes and competitors.

### 3.5. Most Active Source Titles

Source Title	Total Publications	Percentage (%)
Sustainability Switzerland	22	18.33
International Journal Of Environmental Research And Public Health	10	8.33
International Journal Of Health Planning And Management	8	6.66
California Management Review	7	5.83
Technological Forecasting And Social Change	7	5.83
Technology Analysis And Strategic Management	7	5.83
Annals Of Family Medicine	6	5
Implementation Science	6	5
Leadership In Health Services	6	5
BMJ Open	5	4.16
Health Informatics Journal	5	4.16
International Journal Of Innovation Management	5	4.16
Journal Of Cleaner Production	5	4.16
Technovation	5	4.16
Construction Management And Economics	4	3.33
Evaluation And Program Planning	4	3.33
International Journal Of Innovation And Learning	4	3.33
Medical Teacher	4	3.33

Table 6: Most Active Source Title

Table 6 shows that (sustainability Switzerland) has the highest percentage among the journals, while at the top 5 is 'Technovation,' which shows the highest percentage in the table, which means these journals are the most attractive journals for these topics (organizational change and innovation).

### 3.6. Keywords Analysis

Author Keywords	Total Publications	Percentage (%)
Human	241	5.62
Humans	224	5.22
Organizational Change	174	4.05
Article	154	3.59
Innovation	140	3.26
Organization And Management	108	2.51
Adult	95	2.21
Female	90	2.09
Leadership	89	2.07
Male	88	2.05
Change Management	70	1.63
Psychology	54	1.25
Health Care Delivery	51	1.18
Organizational Culture	47	1.09
Procedures	47	1.09
Questionnaire	44	1.02
Interview	43	1
Delivery Of Health Care	42	0.97
Qualitative Research	42	0.97
Surveys And Questionnaires	40	0.93
Human Experiment	38	0.88
Middle Aged	36	0.83
Organizational Framework	33	0.76
Patient Care	32	0.74
Total Quality Management	32	0.74
Major Clinical Study	29	0.67
Attitude Of Health Personnel	27	0.62
Controlled Study	27	0.62
Health Personnel Attitude	27	0.62
Organisational Change	27	0.62
Health Care Personnel	26	0.6
Workplace	26	0.6
Quality Improvement	25	0.58

Table 7: Top Keywords

Table 7 shows the highest Sequentially percentage of keywords is into words (human and humans) due to the interesting of authors in individual terms, while organizational change ranked as the third highest percentage and innovation ranked as the fifth highest percentage, which means there is some other term in this field has much priority than organizational change and innovation.

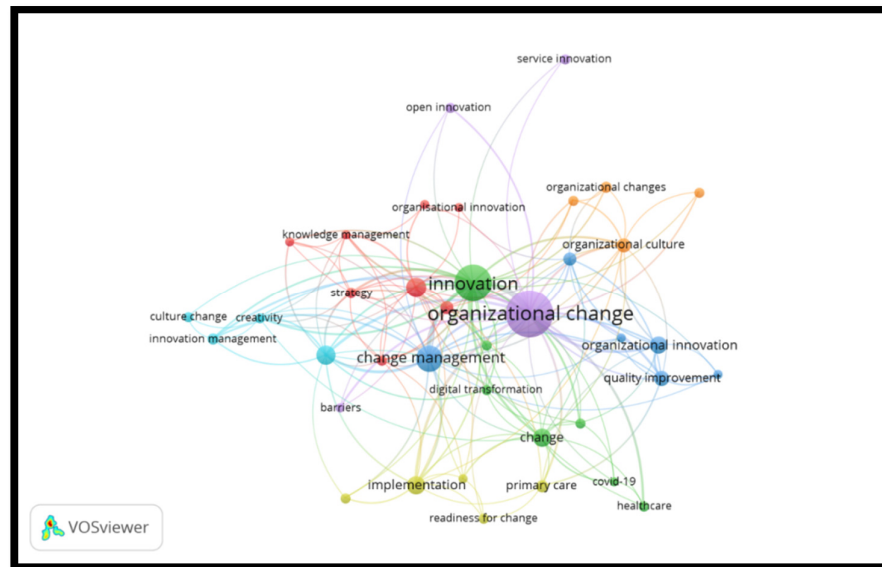


Figure 2: Network Visualization Map of the Author Keywords Counting Method:  
Full Counting Minimum Number of Occurrences of a Keyword: 5

### 3.7. Geographical Distribution of Publications - Most Influential Countries

Country	Total Publications	Percentage (%)
United States	135	21.7
Canada	32	5.14
Italy	27	4.34
Sweden	26	4.18
Germany	25	4.01
China	23	3.69
Denmark	20	3.21
Spain	20	3.21
Norway	16	2.57
Netherlands	15	2.41
France	11	1.76
Brazil	10	1.6
Finland	10	1.6
Austria	9	1.44
Pakistan	9	1.44
Switzerland	9	1.44
South Korea	8	1.28
South Africa	7	1.12
Ireland	6	0.96
Portugal	6	0.96

Table 8: Top 20 Countries Contributed to the Publications

Table 8 shows that the country with the highest percentage of the top (20) countries that contributed to the publications is the United States which means that the United States is the most interested country in organizational change and innovation. So due to this, the United States is considered a great country in management and innovation.

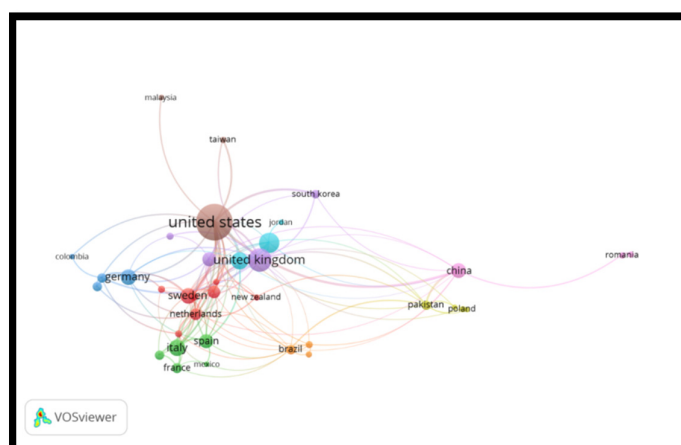


Figure 3: Network Visualization Map of the Co-Authorship, Unit of Analysis = Countries, Counting Method: Fractional Counting, Minimum Number of Documents of a Country = 3, Minimum Number of Citations of a Country = 5

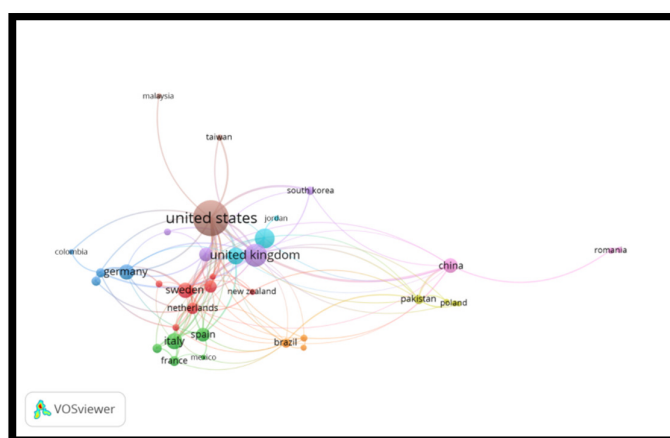


Figure 4: Network Visualization Map of the Co-Authorship, Unit of Analysis = Countries, Counting Method: Full Counting, Minimum Number of Documents of a Country = 3, Minimum Number of Citations of a Country = 5

### 3.8. Authorship

Author's Name	No. of Documents	Percentage (%)
Fulop, N.J.	4	1.78
Nilsen, P.	3	1.33
Pfaff, H.	3	1.33
Ramsay, A.I.G.	3	1.33
Shakeshaft, A.	3	1.33
Skelton, E.	3	1.33
Tzelepis, F.	3	1.33
Ansmann, L.	2	0.89
Antov, P.	2	0.89
Bayes, S.	2	0.89
Bernstrøm, V.H.	2	0.89
Bleich, M.R.	2	0.89
Brown, C.H.	2	0.89
Cagliano, R.	2	0.89
Cohen, D.J.	2	0.89
Csedő, Z.	2	0.89
Fagnan, L.J.	2	0.89
Grønstad, A.	2	0.89
Ha, J.P.	2	0.89
Hajdúchová, I.	2	0.89

Table 9: Most Productive Authors

Table 9 shows close percentages, but (Fulop, N.J.) ranked as the highest percentage, which means this author is the most interested one in a subject topic.

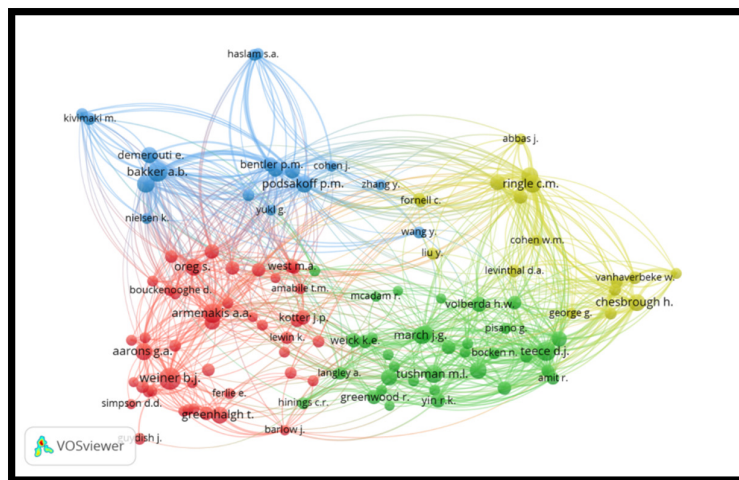


Figure 5: Unit of Analysis = Cited Author, Counting Method: Full Counting, Minimum Number of Citations of an Author =20

### 3.9. Most Influential Institutions

Institution	Total Publications	Percentage (%)
University College London	8	1.8
Karolinska Institutet	6	1.35
Kaiser Permanente	6	1.35
Monash University	6	1.35
University of Ottawa	6	1.35
Aarhus Universitet	6	1.35
Københavns Universitet	6	1.35
The Ohio State University	5	1.12
University of Pennsylvania	5	1.12
Queensland University of Technology	5	1.12
University of Toronto	5	1.12
Macquarie University	5	1.12
Politecnico di Milano	5	1.12
The University of North Carolina at Chapel Hill	5	1.12

Table 10: Most Influential Institutions with Minimum of Five Publications

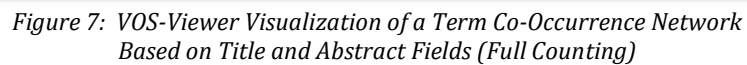
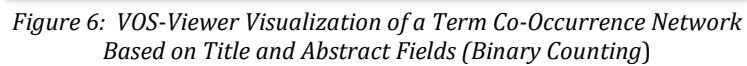
Table 10 shows that the university college London has the highest percentage among other universities, which means that the researcher there are so interested in the changing environment of organizations and creating new ideas that will contribute to useful inventions for science in its various aspects.

### 3.10. Citation Analysis

Metrics	Data
Publication years	2018-2023
Citation years	5 (2018-2023)
Papers	456
Citations	557
Citations/year	1001.4
Citations/paper	10.98
Author/Papers	3.87
h-index	34
g-index	50

Table 11: Citations Metrics





#### 4. Conclusion

This paper presents all major aspects of organizational change and innovation topics on 456 articles from 2018–2023: 456 articles from Scopus. We apply the following techniques to assess the organizational change and innovation articles: a bibliometric citation and co-citation analysis, a co-authorship analysis, and a year publication. Our results reveal the influential aspects of organizational change and innovation, such as countries, authors, institutions, articles, and citation articles. However, at the same time, we faced some limitations, such as we could not find all the articles on Scopus. Also, we had to purchase some articles and we could not afford their prices. On the other hand, some articles were not useful to our analysis because they did not actually use organizational change and innovation as the main topic to search, and so on. We noticed that the interest in the topic was decreasing over the years. So our suggestions for future studies are to search for the reason behind this matter, match the topic with other subjects and try to increase the bibliometric analysis, especially in the Middle East, expanding the base of analysis for more years to overcome obstacles more broadly for other studies. At the same time, organizational change and innovation consider modern topics in strategic management. Therefore, we recommend giving them more attention in the next studies.

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