



More than four decades bibliometric of Project Management: trends and new agenda

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- **Abstract**
- Project Management is not a new concept, and it was with modern humanity form a long time back, in this meanwhile, the monumental project has been completed and is with humanity as the world wonders. Modern project science started in the mid twenty century. From that time until now, a substantial number of publications issued in this field of science. This study looked at more than four decades of publications in project management in the scientific publication database. For this study, the Web of Science core collection selected to conduct an investigation, and the first year of publication is 1975. More than twelve thousand releases recorded, and this data used for the bibliometrics analysis. For analyzing data, VOSviewer software used, and this software uses natural language processing (NLP). In this article, statistical evidence and logical correlations introduced. In the end, the trend of publication in four different time intervals in the pass content of project management publications as well as the future potential of publication analyzed and discussed. This study is a guideline for the scholar in project management to see the trends and identify the gap and the future of project management.
- **Keywords:** project management, publication, trends, conceptual model, future, VOSviewer



Methodology initiation

Research question 1: What are the bibliometrics parameters of the project management field of science? These parameters are the number of publications, category of study, the geography of study and main publisher of the study.

Justification: It is enlightening the project management scholars and practitioners in their study path to have a better understanding of the big picture of project management study.

Research question 2: What are the countries' network and keyword networks of project management studies?

Justification: It shows the cooperation network of countries and the interrelation of the keywords.

Research question 3: What is the main content of the previous study of project management, and what was the trend?

Application: The question shows the path of study until now and provides a guideline to practitioners and scholars.

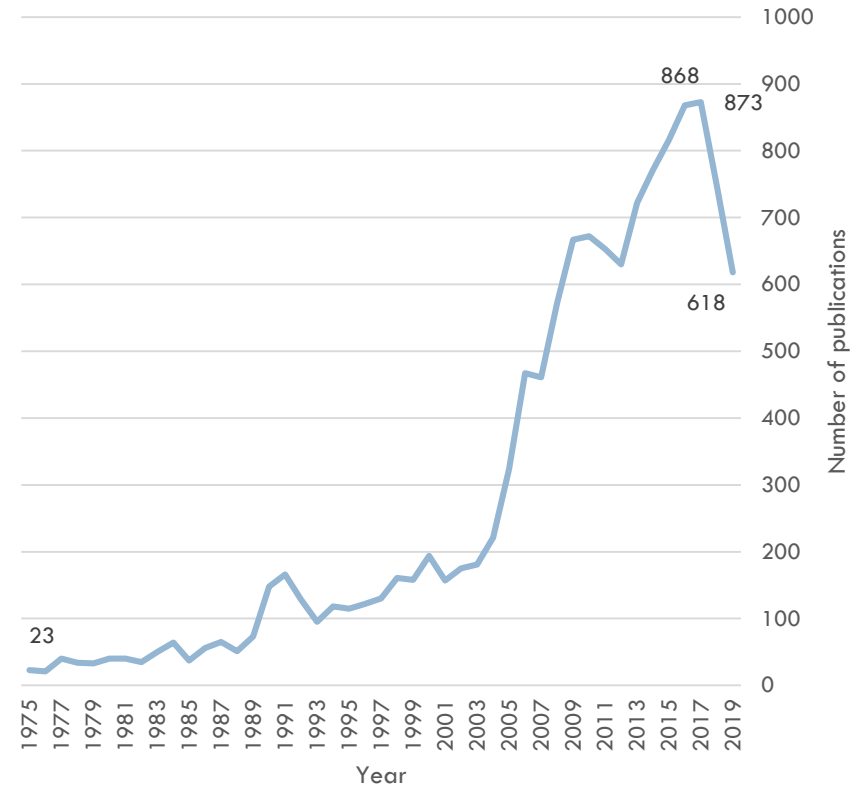
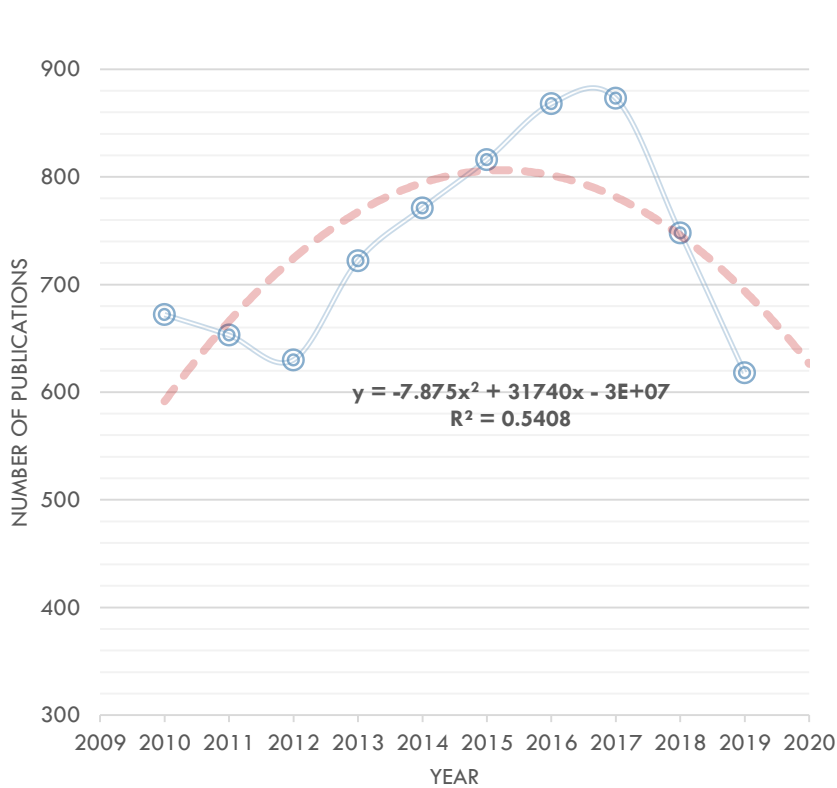
Research question 4: What is the potential future study in project management, and where are the gaps?

Application: This question is the main aim of this study to see what the potential in project management is. Indeed, the potential in project management is enormous because of the project management nature. Still, the direction of this potential can be a guideline for the scholars as well as professional project managers.



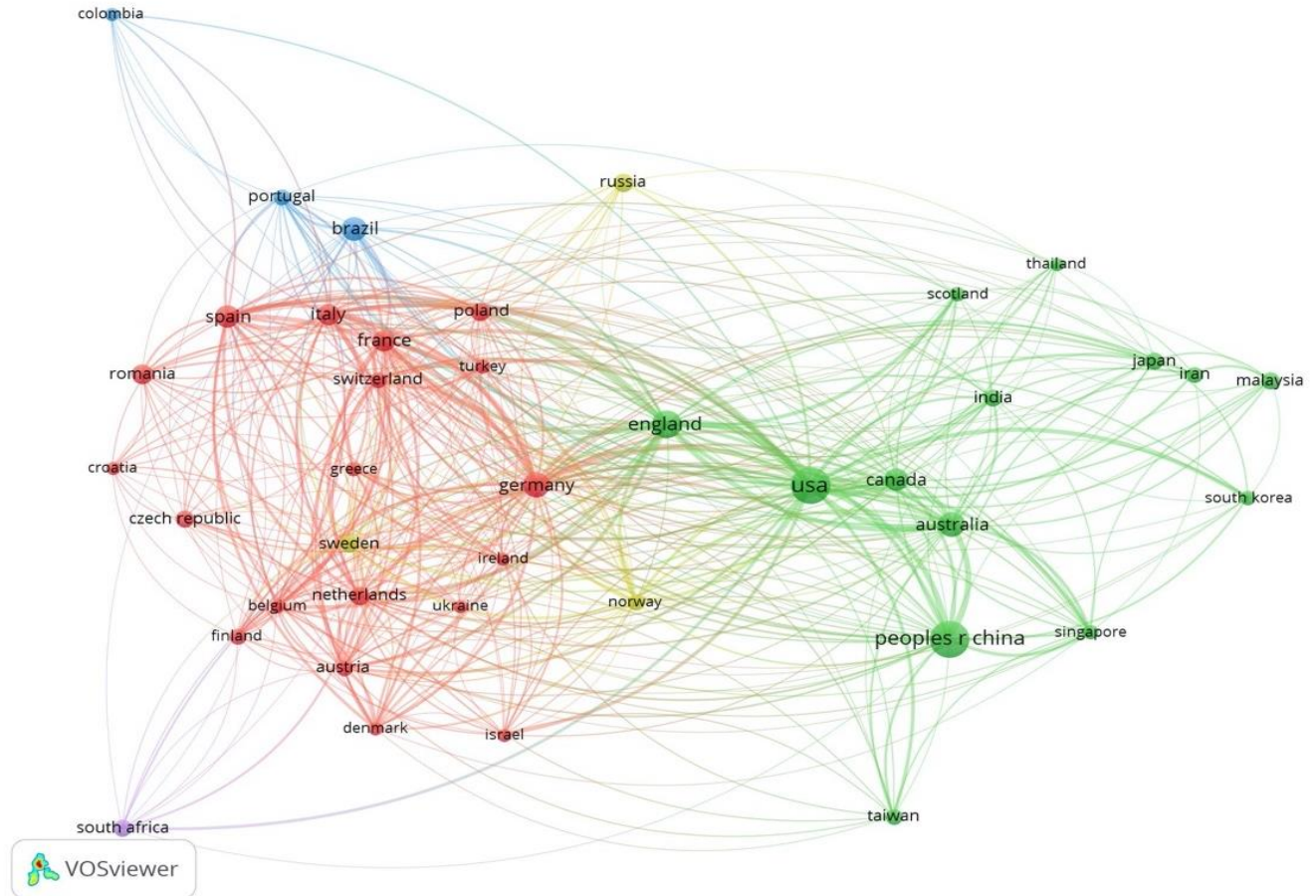
Figure 1. Number of publications in the last four and a half decades

Figure 2. Trendline of publications in the previous decade and the 2020 projection





**Figure 4. Top
40 countries
co-authorship
network**





□ 5. Conclusions

- Project management is not a new concept, and it was with civil society from a long time back, the modern project management started as a subfield of social science in mid of the twentieth century, and from that time until now it developed dramatically. The number of publications and the effort of the standardization body in this field shows this science is not inconsiderable. To analyzing the long history of project management, social science requires using analytical techniques such as literature review, bibliometrics analysis and content analysis. Here in this study, the bibliometrics analysis, along with keyword content analysis used to identify the trends in project management and see what the future agenda in this field of science is.
- The initiation of the study started with research questions, which are mainly focused on the trend and the new agenda in project management. The data for this study extracted from well recognize database, this database is Web of Science (WoS), and the core collection of Web of Science has selected to conduct the search. The result of the search was 12793 records, and the year 2020 excluded. The bibliometrics parameters such as the number of publications, and the trend of that, the contributors' countries, the category of studies and top-cited articles plus keywords analysis discussed in this article.
- The number of publications shows the growth of the subject till 2017, but from that part, it declined for two consecutive years, dramatically to the lowest level of the last decades. The top two contributors in this field of science are the United States and China, and they shape a cluster with the commonwealth countries (except New Zealand), this cluster dominates most of the publication in this regard. The top categories in project management are "management" and "business". Top latest top cited article in project management published in 2011 and most of the top-cited articles in this area root back to the last decade of the twentieth-century of the first decade of new millennial. This shows the lake of contribution in the recent years of project management studies.
- The project management keywords segregated into four periods of time from 1975 to 2003, 2004 to 2009, 2010 to 2014 and 2015 to 2019. Also, last year's top keywords analyzed to define if there would be any difference with last year's trend and half-decade analyses or not. The results showed the first period was the time of casting the project management models. The second period was the time more focus on sub-knowledge of project management and start diversity in the sub-knowledge areas. The third period of time was the time of managing complexity and come back to modeling project management, this period of time has as a return to the past and fix the foundation of project management science, but this did not stop on that period. In the fourth period of this time, which is the last half-decade still, scholars are emphasizing project management modeling, and the modeling subject is at the top of the discussion, and the top subjects de-diversified in this period of time. With a review of almost half-century studies in project management, the complexity of project management is still a big concern, and scholars are working to tackle project management complexity.
- Last but not least, the research question put on the discussion as well as the new agenda in project management. This is time of data boom, and data science is one of the main concepts of this century, there is no doubt of application of data science, but in data analysis in project management is not in the top of discussion despite the essentiality of coping with project complexity. The complexity is growing, and it needs to manage in the right direction. Because of the focused on the main modeling of project management, the sub-knowledge of project management left behind, and it needs to be addressed more in the future.