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Foundations of Progress: Unveiling Research Trends in US Construction Management

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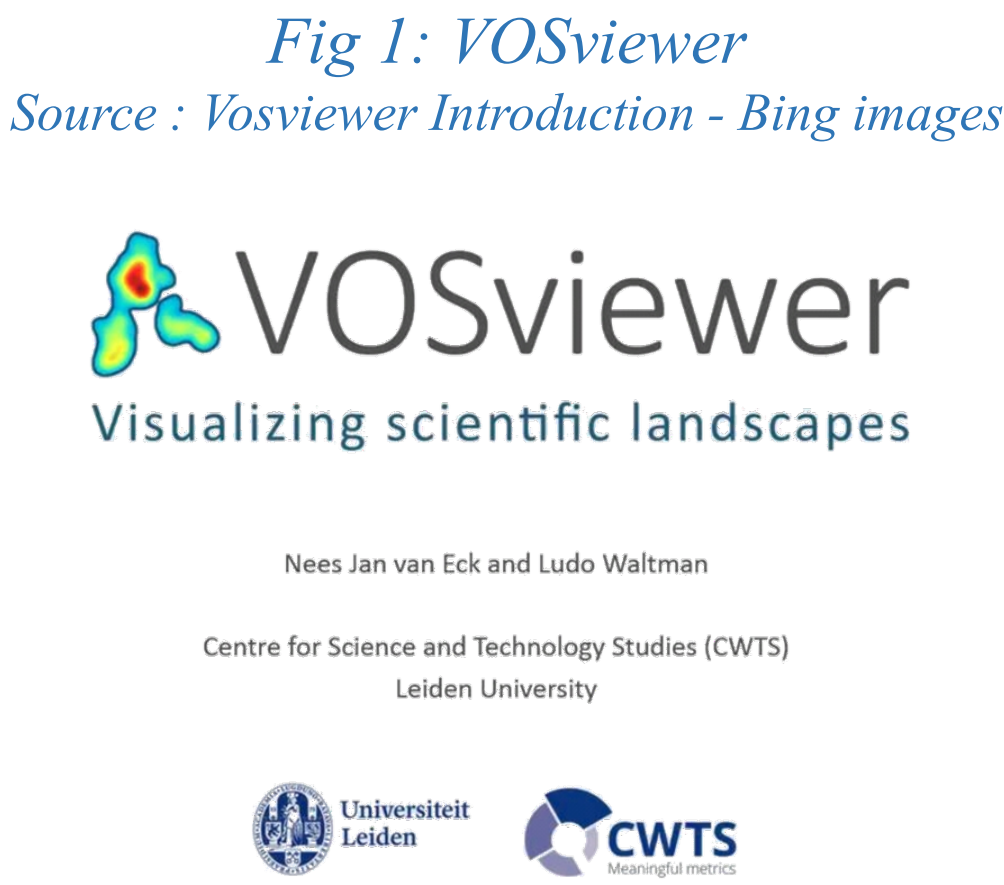
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Abstract

The dynamic trends in US construction management over the previous five years are highlighted in this poster. We methodically tracked the occurrences of terms to offer insights using a metric analysis based on the SCOPUS database and the software VOSviewer (Fig. 1). The end result revealed 9 notable clusters that perfectly captured the spirit of these patterns.



Introduction

The development of infrastructure and economic growth are both supported by the US construction sector. Its active contributions include the construction of necessary infrastructure, the creation of millions of jobs, and the development of the country's urban and rural landscapes. The industry is crucial to America's development and wealth, from tall skyscrapers to vital transportation systems.

Research in the subject of construction management has the potential to cross geographical barriers by stimulating collaboration and exchanging empirical insights, enhancing the global community of researchers with a variety of perspectives and creative solutions.

Methods

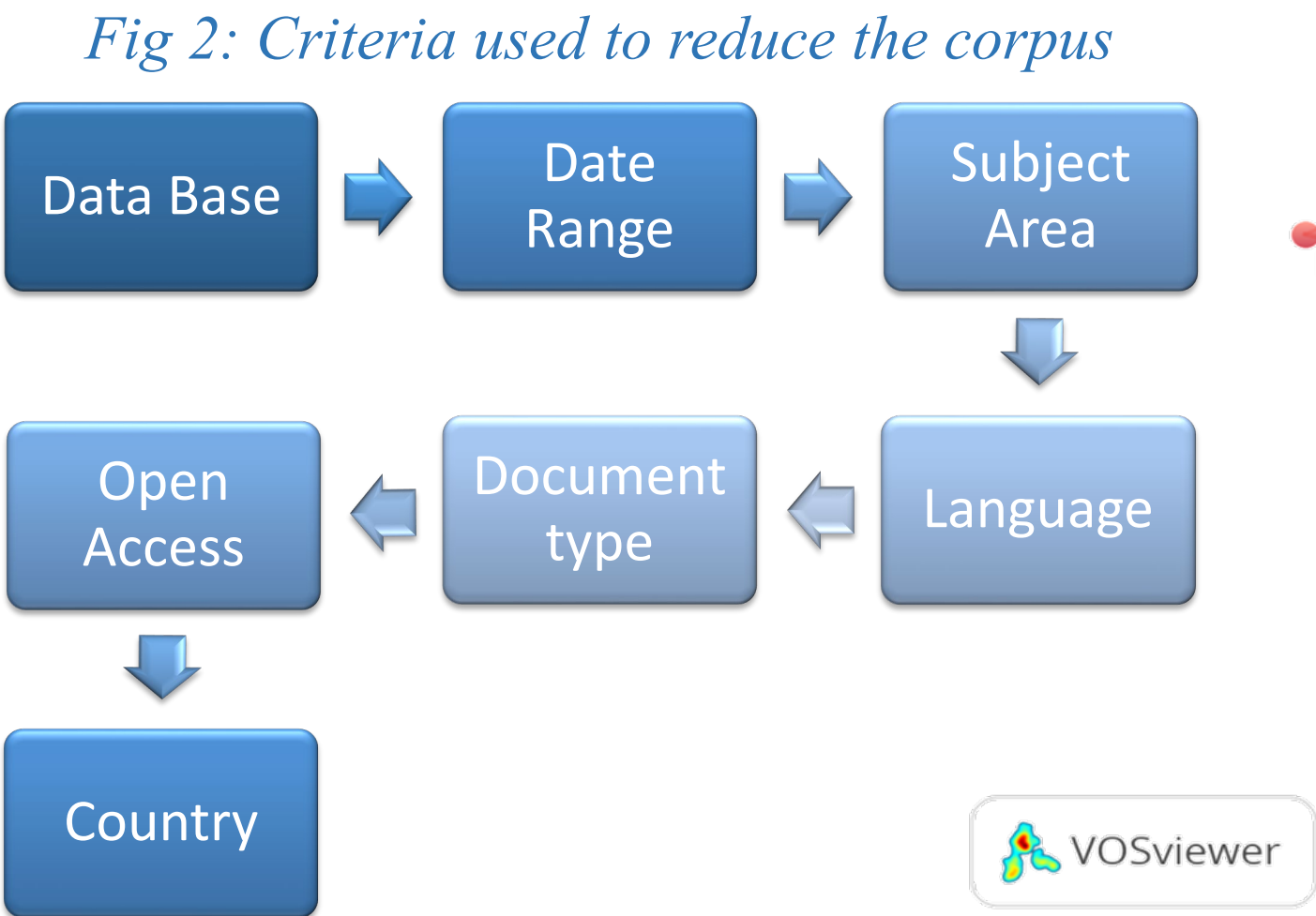
1. Review Study (Metric Analysis):
“Bibliometric analysis is a popular and rigorous method for exploring and analyzing large volumes of scientific data. It enables us to unpack the evolutionary nuances of a specific field, while shedding light on the emerging areas in that field.”²

2. Software (VOSviewer):
A free software program called VOSviewer is used to build and display bibliometric networks, which may contain articles, journals, or researchers. It makes use of many connections, like co-authorship and citations. In our case, VOSviewer's text mining capabilities enable us to examine and display co-occurring words from scientific literature⁴.

3. Procedure
On August 2, 2023, we conducted a co-word analysis with a focus on articles from SCOPUS data base of US origins over the previous five years.

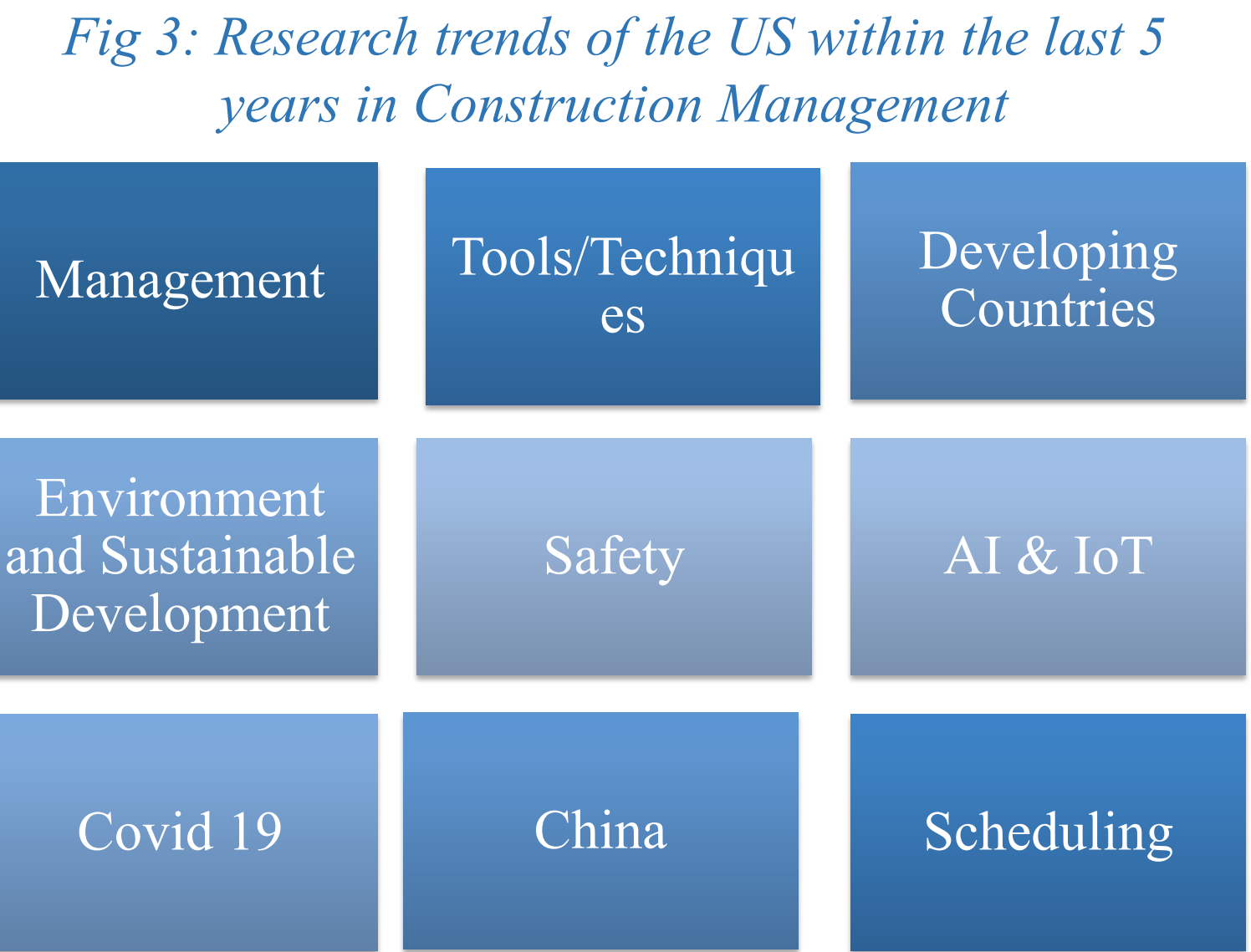
“As a new database, Scopus is increasingly used (at least mentioned) in academic papers”¹.

With careful curation, we were able to reduce the initial corpus of 155,960 texts to a more focused selection of 347 using multiple criteria.

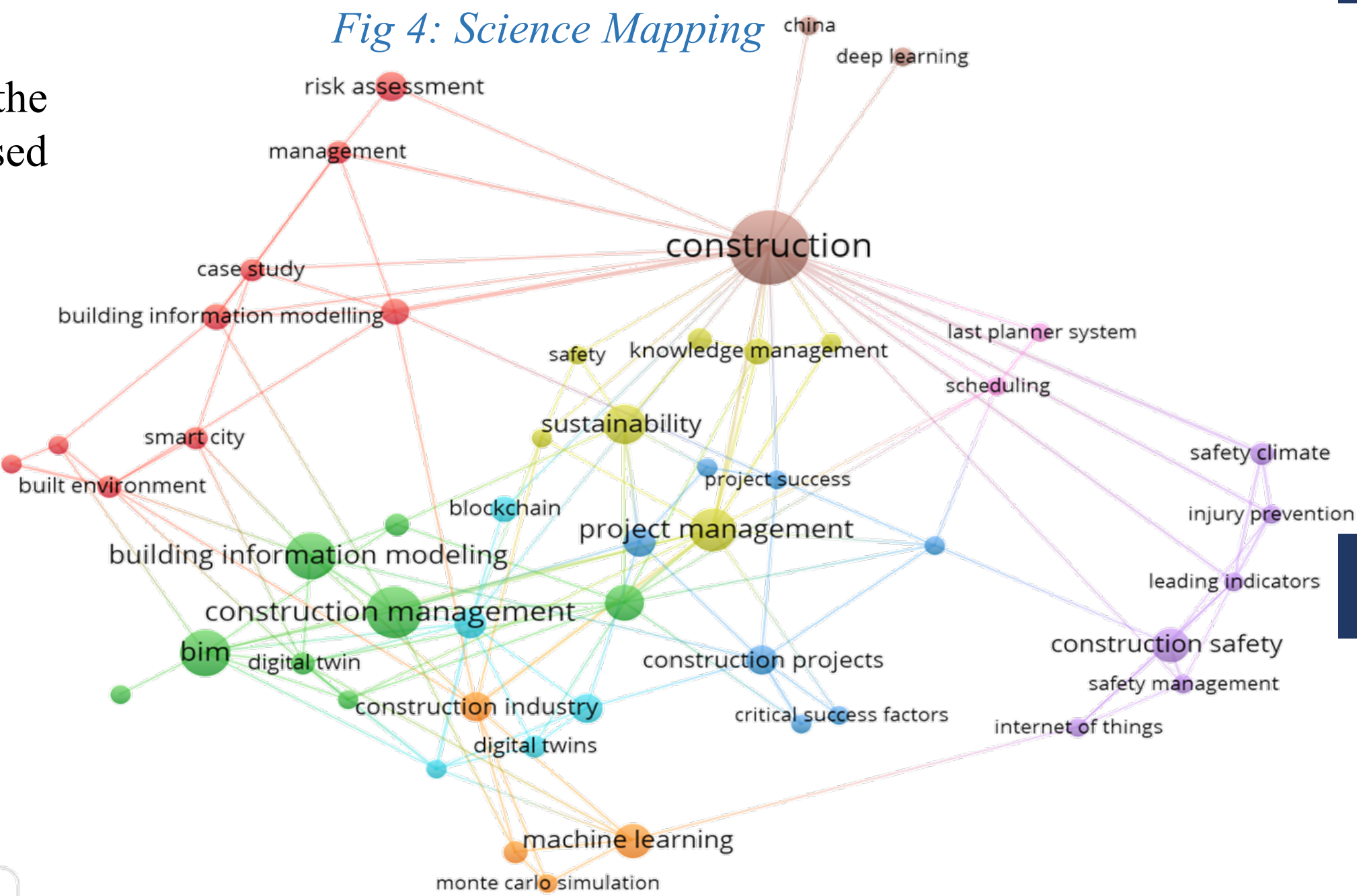


Results

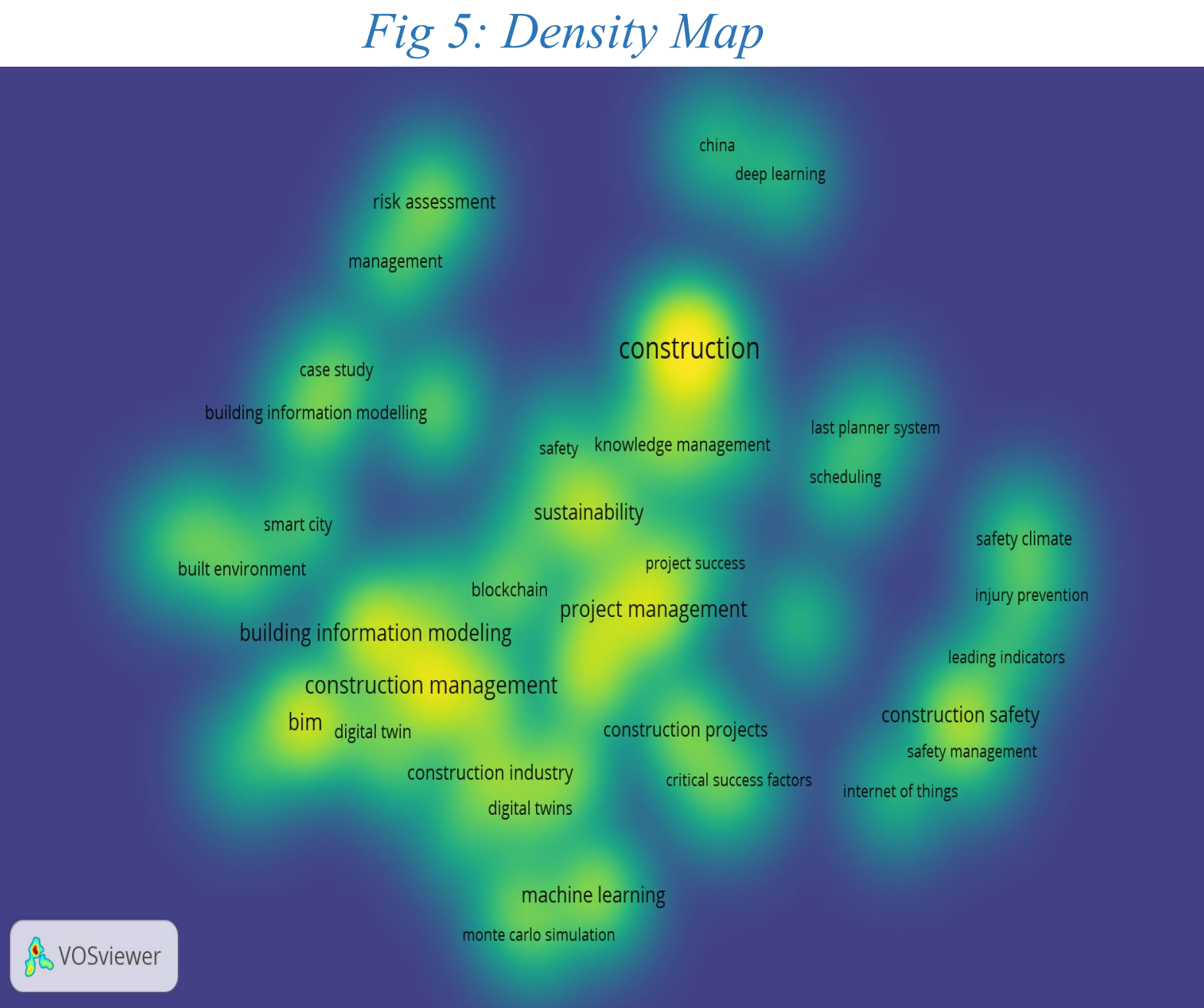
1. Science Mapping:
After initiating the simulation, a total of 9 distinct clusters were identified.



2. Network Visualization (Science Mapping)
The relevant keywords linked to the clusters above, are showcased in the graphic below (Fig 4). It's interesting to note that the nine different colors match the nine scientific topics that have dominated American attention over the past five years.



3. Density Visualization:
The more palely highlighted a word is, the more frequently it appears in sentences. Four separate terms are surrounded by a concentrated yellow border on our map (Fig 5); as a result, these stand in for the topics with the highest degree of co-occurrence among the addressed articles.



Conclusion

Despite the possibility of greater initial costs, proprietors and construction management companies have recently shown an increasing propensity toward adopting approaches that result in increased quality and decreased risks, conflicts, and inefficiencies in their projects³.

The United States is an example that emerging nations like Morocco can follow because it is one of the most economically significant countries.

References

