TITLE OF DIPLOMA THESIS

Bibliometric analysis of construction equipment over the last two decades using machine learning techniques with the application of VosViewer.

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ABSTRACT

Construction equipment, representing a major capital investment for construction companies, is directly linked to a successful management of a construction project. The growing demands as well as the technological progress have led to the creation of a dynamic environment, in which the machinery is constantly evolving. However, this makes decision making and understanding of research trends particularly difficult. The solution is the application of Bibliometrics, the statistical and quantitative analysis of published literature. With the help of VOSViewer, a bibliometric visualization software that uses advanced machine learning techniques, an attempt is made to delineate the cognitive object of construction equipment, to identify the main fields of research in the period 2000-2019 and to draw conclusions.
After describing the way VOSViewer works, artificial intelligence and machine learning, the practical stage of this paper begins. More specifically, publications related to construction equipment are searched and retrieved from the bibliographic database of Web of Science. After retrieving 166 such publications, their statistical analysis and processing by the software follows. Finally, bibliometric maps of keywords and terms inside titles and abstract of international journal publications are constructed. The analysis of these maps leads to observations and conclusions.

KEYWORDS

Construction equipment, bibliometrics, machine learning, VosViewer.