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Abstract

As new generations of technology appear, legacy knowledge management solutions and applications become increasingly out of date, necessitating a paradigm shift. Machine learning presents an opportunity by foregoing rule-based knowledge intensive systems inundating the marketplace. An extensive review was made on the literature pertaining to machine learning which common machine learning algorithms were identified. This study has analysed more than 200 papers extracted from Scopus and IEEE databases. Searches ranged with the bulk of the articles from 2018 to 2021, while some articles ranged from 1959 to 2017. The research gap focusses on implementing machine learning algorithm to knowledge management systems, specifically knowledge management attributes. By investigating and reviewing each algorithm extensively, the usability of each algorithm is identified, with its advantages and disadvantages. From there onwards, these algorithms were mapped for what area of knowledge management it may be beneficial. Based on the findings, it is evidently seen how these algorithms are applicable in knowledge management and how it can enhance knowledge management system further. Based on the findings, the paper aims to bridge the gap between the literature in knowledge management and machine learning. A knowledge management–machine learning framework is conceived based on the review done on each algorithm earlier and to bridge the gap between the two literatures. The

framework highlights how machine learning algorithm can play a part in different areas of knowledge management. From the framework, it provides practitioners how and where to implement machine learning in knowledge management.

Keywords: Knowledge management ▪ machine learning ▪ supervised learning ▪ unsupervised learning ▪ classification ▪ regression ▪ clustering ▪ association rule ▪ machine learning algorithm