The effect of social license on the exploitation of mines using machine

learning algorithm

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# ABSTRACT

Optimum use of natural resources and sustainable development are critical and challenging issues in today's world. One of the important economic sectors that is highly dependent on natural resources is the mining sector. Exploitation of mines as one of the important factors of economic growth and development of different regions has always attracted the attention of many researchers and policy makers. In the meantime, one of the major challenges is obtaining a social license (SL) to exploit mines, which can have profound effects on the process of extracting and using mineral resources. SL to Operate means obtaining the consent and support of the local community and various stakeholders to carry out mining activities. This license is not only limited to obtaining consent through government laws and regulations, but also includes gaining the trust and cooperation of the local community, non-governmental organizations and other relevant stakeholders. Failure to obtain a social permit can lead to delays in mining projects, increased costs, and even a complete stop of mining operations. Considering the complexities and multiplicity of factors affecting the acquisition of SL, using traditional methods to analyse and predict these factors may be ineffective. In the meantime, machine learning algorithms as a powerful and innovative tool can play an important role in analysing data and predicting the behavioral patterns of stakeholders. By analysing big data and identifying hidden patterns, machine learning can help improve the decision-making process and enhance the level of cooperation between mining companies and the local community. This research tries to provide a predictive model by analysing available data and identifying influential patterns that can help mining companies in obtaining SL and improving extractive processes. The results of this research can help mining managers in making better decisions and improving the level of cooperation with the local community.