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Mine managers find it challenging to predict changes in the level of acceptance of their mining projects due to changes in associated social, environmental and technological factors. To address this challenge, this study presents a: (i) framework for modeling the effect of information diffusion on community acceptance of mining using agent-based modeling (ABM); and (ii) case study to illustrate the framework. The model, built in Matlab, defines individuals in the community as independent agents that interact with other agents for information. The agents' utility function is derived from discrete choice models. Drawing on data from the literature, a case study was used to illustrate the framework. The results indicate that changes in agents' perception of air pollution have a significant effect on acceptance of mining while demographic factors do not. The proposed framework could be applied in other sectors besides mining and provides stakeholders a tool to integrate sustainability into design and management choices.

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