Managing the risks of mining investment

Mining investment always carries high risk due to many uncertainties, which could be geological, financial, economic or operational (technical). These uncertainties cannot be eliminated and they are associated with every stage of mining operations. The assessment of financial performance of a mining project is extremely important, especially at the early stage of the mining operation, as investment decisions will have to be made and capital will have to be raised which could easily be in the order of hundreds of millions of dollars. For such a substantial investment, the assessment of the financial risk involved is critical.

Problem

Mining investment decisions often have to be made based on many estimated/predicted variables and generally there is significant uncertainty associated with these estimations/predictions. It is important to understand these uncertainties and their effect on the financial performance of the mining project so that investment risk can be minimised.

Solution - MINVEST – Financial risk assessment for the mineral industry

We have developed an award winning software package MINVEST, which won the 1995 UK Business Software Challenge Competition. In addition to standard financial evaluation of mining investment, the software is capable of performing a wide range of financial risk assessments. MINVEST takes into account various uncertainties, including geological, financial, economic and operational.

MINVEST comprises a comprehensive set of tools for both independent and correlated sensitivity and risk assessment. The correlated sensitivity and risk assessment tools are unique to MINVEST. They take into account the realistic situation in mining operations that most variables are either directly or indirectly correlated. For example, the determination of the cut-off grade for the mining operation could be dependent on the metal price, even though there may be a time lag between changes.

Benefit

The tools we have developed can help mining companies, financial institutions or even individual investors to conduct a comprehensive risk assessment of the financial performance of the mining project. The techniques help investors reach correct investment decisions based on a more informed quantitative risk assessment rather than mere speculation.

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