ABSTRACT

Mining plays a crucial role in modern society in providing materials and services needed for everyday living such as raw materials, energy, construction, machinery, and water purification. Mining requires capital-intensive investments to ensure long-term sustainability of its operations. Significant amounts of monies are invested to support mining capital projects, but there are high numbers of unsuccessful projects within the project management critical constraints (scope, time, costs, and quality). Inability to meet mining capital projects' objectives impacts investors, employees, government, and communities negatively. This manifests in financial losses to investors, loss of jobs for employees and loss in taxes to governments. It is believed that by learning from previous successful and unsuccessful projects, future mining projects could be managed and delivered more successfully. These lessons could be learnt by conducting post-project reviews which could result in the improvement of both current and future mining projects. This research report was undertaken in order to understand the complexity of a post completion review of a capital mining project at Modikwa Platinum Mine.

According to the feasibility study, the mine was designed to mill 200 000 tonnes of ore per month and later this figure was changed to 240 000 tonnes per month. The mine has not consistently achieved the design milling capacity mostly due to lack of ore from underground. This stemmed from risks such as complex geology, lower than expected commodity prices and the global financial meltdown. These macro and micro factors contributed to the mine not achieving its feasibility outcomes.

The review is conducted using production information, financial information and results from questionnaires and interviews. The mine is located in a challenging socio-economic environment, which adds complexity to the project in terms of stakeholder management. Reviews of successful and unsuccessful mining projects globally and in South Africa through information analysis and interviews indicate a common thread of critical success factors and lessons to be learnt.