**Problem Statement:** What course of action can Monalco Mining take to reduce the operating cost of the ore crusher maintenance by 20%?

| **Context:**  Monalco Mining, one of the world’s largest iron ore mining companies, has invested heavily into ore crushers and maintenance to accommodate the demand of iron. However, with the increase of supply and decrease of demand, the price of iron went from $110 per ton to $50. Along with that set back, Monalco is creating excessive wear on the ore crushes, leading to a need for maintenance every year, when it is meant to be maintained every three years. Management has expressed a desire to lower the maintenance cost by at least 20% until they are back at acceptable levels.  **Criteria for Success:**  Maintenance cost is reduced by at least 20% over the year.  **Scope of Solution Space:**  Monalco mining will focus on reducing the amount of iron they mine. This will reduce the wear on the ore crushers, making them not require maintenance as often. | **Constraints Within Solution Space:**  The reliability engineering team has stated that the ore crushers need to receive maintenance every 50,000 tons. If Monalco Mining limits the amount of tons produced by a third, then the maintenance will not need to happen every year.  **Stakeholders to provide key insight:**   * Chanel Adams - Reliability Engineer, * Jonas Richards - Asset Integrity Manager, * Bruce Banner - Maintenance SME, * Jane Steere - Principal Maintenance, * Fargo Williams - Change Manager, * Tara Starr - Maintenance SME   **What key data sources are required:**   * Data Historian - This includes information on how many tonnes of Iron Ore we have processed with the ore crushers. * Ellipse - This includes information on the old work orders that used to be raised for our equipment, before our upgrade to SAP. * SAP - This is the most up-to-date information source on our equipment logs and work order requests that have been raised for maintenance work for our ore crushers and other pieces of equipment. |
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