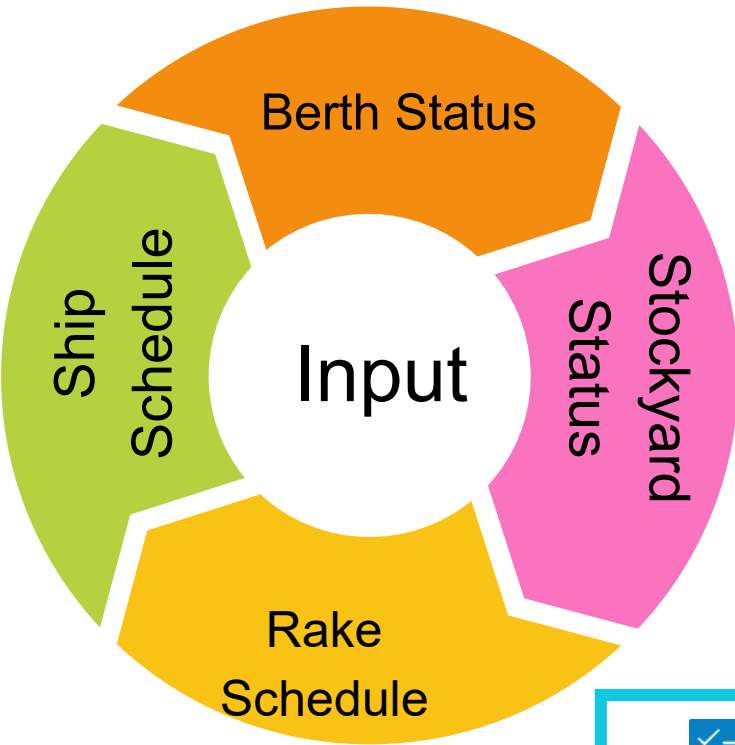


Decision Support Model for Optimizing Bulk Material Handling Operations



Physical Parameters

- Manual shifting rate
- Mech. ship unloading rate
- Manual ship unloading rate
- Mechanized rake loading rate
- Manual rake loading rate

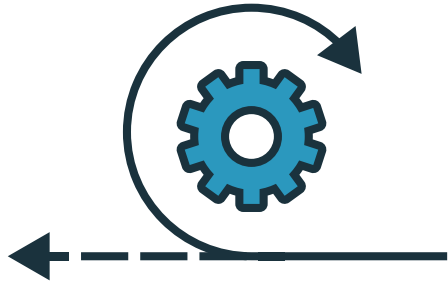


A Decision model to capture the complete dynamic aspects of port operation

- Clean and format data to identify main factors. e.g. Total Tonnage, Net Volume, Birth Number, etc.
- Perform Exploratory Data Analysis to understand the overall distribution
- Check distribution and trends to identify problem areas and anomalous occurrences, e.g. Specific weight segments for certain cargo
- Generated plans to combat these cases to reduce unnecessary increase in time
- Programmed a model using various ML/AI algos to have a benchmark to help maintain similar levels of performance and accountability

Berthing Decision
Berthing Schedule
Stockyard Plan
Rake Loading Schedule

Output



Methodology