

Analysis of Operational Efficiency Methods at Saudi Aramco: Applying Continuous Improvement Best Practices

Ahmed Aljabr, Doctorate Candidate

Doctor of Engineering in Manufacturing Systems
A. Leon Linton Department of Mechanical Engineering
College of Engineering
Lawrence Technological University
21000 West Ten Mile Rd, Southfield, MI. 48075

Dr. Daw Alwerfalli, Professor / Director

Master of Engineering Management
A. Leon Linton Department of Mechanical Engineering
College of Engineering
Lawrence Technological University
21000 West Ten Mile Rd, Southfield, MI. 48075

Abstract

Saudi Aramco has been facing enormous challenges recently in enhancing its production operational efficiency. Lack of implementing lean strategic operational procedures across the organization, made it mandatory to apply new process optimization techniques to face these challenges and to improve productivity, quality delivery and reduce operational costs. Operational efficiency suggests more strategic analysis, technology enablement, asset utilization, and supply chain alignment, among others. This research will examine related industry leading practices around asset management, transportation management, production operational improvement, technology transfer, and a variety of other gains occurring at companies that are similarly asset-heavy, transportation dependent, and actively attempting to shed 20th century remnants. Organizations cited include Ford, Fiat, Caterpillar and others. Oil and Gas consulting studies from Bain, Chevron, British Petroleum, Argo, and Accenture are referenced to capture trends that have been observed and documented.

The progression of the research flow will be that after the context, literature, and research is completed, an operational blueprint will be developed to examine areas where Saudi Aramco may be able to add business acceleration to their continuous improvement methods and standards to achieve improved results. The outcome of this research is the actionable blueprint that will be recommended to be effectively and efficiently utilized to improve production operational efficiency and the technique of continuous improvement as well as its pace and return at Saudi Aramco.