World Academy of Science, Engineering and Technology
International Journal of Economics and Management Engineering
Vol:18, No:09, 2024

Lean and Six Sigma in the Freight Railway Supplier Base in South Africa: Factors Leading to Their Application

Authors : Hilda Kundai Chikwanda, Lawrence Thabo Mokhadi

Abstract : The study aimed to review the factors that lead the freight railway suppliers base in South Africa (SA) to apply the Lean and Six Sigma (L&SS) methodologies. A thorough review of the factors that lead organisations, in the different industries, to implement these methodologies was done. L&SS applications were found to be prominent in the automotive industry. In particular, the railway industry in SA and the region were reviewed in terms of challenges in capturing the freight logistics market and growing market share. Qualitative methods have been used to collect primary data and descriptive statistics was used to calculate, describe, and summarize collected research data. The results show that external factors have a greater influence on the implementation of L&SS. The study drew inferences between freight railway supplier base and the application of Lean and Six Sigma (L&SS) methodologies in the SA context. It identified challenges that leads the SA freight railway to lose market share to road freight users. It further observes and recommends that L&SS methodologies are the ideal strategy required to implement a turnaround in the trajectory of freight railways as a competitive freight transport solution.

Keywords : production, methodology, manufacturing, lean, six sigma
Conference Title : ICAOM 2024 : International Conference on Advanced Operations Management
Conference Location : San Francisco, United States
Conference Dates : September 26-27, 2024