

# **Navigating Lean Practice Challenges; Enhancing Efficiency in Lead Time Reduction within Bangladesh's Pharmaceutical Industry**

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## **Abstract**

The study examines the obstacles that hinder the implementation of efficient methods in the pharmaceutical sector in Bangladesh, with a particular emphasis on their effect on reducing lead time. Taking inspiration from similar investigations conducted in the pharmaceutical sectors of Ireland, and Malaysia. This research explores the unique challenges faced by pharmaceutical companies in Bangladesh as they strive to implement lean methodologies. The study utilizes a survey methodology, gathering insights from industry professionals to identify prevalent barriers and facilitators. Initial findings suggest that regulatory complexities, similar to those observed in Ireland, pose significant obstacles to the successful integration of lean practices. Concerns about additional validation activities and the clash between compliance and quality cultures are particularly prominent. Despite these challenges, the paper reveals a widespread recognition of the need for continuous improvement, aligning with the global trend observed in the pharmaceutical sectors of Ireland and Malaysia. The study further examines the incorporation of lean tools into corrective and preventive action systems, deviations, and internal audit protocols within the pharmaceutical production landscape of Bangladesh. This research helps to uncover the specific barriers in the context of Bangladesh, contributing to a broader understanding of the obstacles to lean implementation in the pharmaceutical sector. Furthermore, it provides valuable insights for developing strategies to mitigate these barriers and enhance operational efficiency, ultimately reducing lead time in the pharmaceutical manufacturing process.

## **Keywords**

Lean Methodology, Pharmaceutical Sector, Regulatory Complexities, Operational Efficiency, Lead Time Reduction.

## **Biographies**

**Mohammad Jawadul Hoque Rohan** is currently an undergraduate student of Industrial and Production engineering at Ahsanullah University of Science & Technology. He is currently the Director of Newsletter & Publication of IEOM Society AUST Student chapter. His research interests consist of Supply Chain, Manufacturing Process, Industry 4.0, Biomedical Engineering. His experience includes conducting research on decision analysis, product design and development as well as business and economic analysis. Thus, leading him to participate in numerous competitions that cover fields like engineering, business, supply chain.

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