

## The Role of Social and Technical Lean Implementation in Improving Operational Performance: Insights from the Pharmaceutical Industry

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**Abstract :** The objective of this paper is to examine the relationships between technical and social lean bundles as well as operational performance in the context of the pharmaceutical industry. We investigate the direct and mediating effects of the lean bundles total productive maintenance (TPM), total quality management (TQM), Just-In-Time (JIT), and human resource management (HRM) on operational performance. Our analysis relies on 113 manufacturing facilities from the St.Gallen OPEX benchmarking database. The results show that HRM has a positive indirect effect on operational performance mediated by the technical lean bundles.

**Keywords :** human resource management, operational performance, pharmaceutical industry, technical lean practices

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