

# A Qualitative Assessment of Material Handling System Improvements in Engineering Industries

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**Abstract:** *Material handling systems play a critical role in influencing productivity, safety, quality, and operational cost in engineering industries. However, they are often treated as support functions rather than strategic enablers. This study presents a qualitative assessment of material handling system improvements based on open-ended survey responses from 53 engineers working across different mechanical engineering industries. The objective is to capture practitioner-driven improvement suggestions derived from real shop-floor experience. Qualitative thematic analysis was used to classify the responses into key improvement areas, including material-specific handling strategies, safety integration through engineering and administrative controls, reduction of Cost of Poor Quality (COPQ), layout optimization, waste elimination, maintenance practices, and automation. The findings indicate a strong consensus on the need to customize material handling systems according to material characteristics, optimize space utilization, reduce manual handling, and recognize material handling as a separate operational pillar alongside production and quality. The study provides practical insights that can assist engineering industries in enhancing safety performance, cost competitiveness, and overall operational effectiveness.*

**Keywords:** Material Handling System, Engineering Industries, Qualitative Assessment

