

Leanness Assessment for Adapting Lean Manufacturing Principles to Textile Processing

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Abstract

Due to its global superiority in addressing cost, quality, flexibility, and quick response to customer, Lean manufacturing principles have become a widely acceptable and adoptable manufacturing practice. This research, therefore, deals with assessing the leanness level for adapting lean principles that are found to be successful for automotive sectors to textile processing in Ethiopian. The main purpose incorporated in it comprises measuring the existing leanness level of the textile industry to augment its brilliance level. Progressive purposive sampling is utilized throughout the research and then the concept of customized rapid plant assessment (RPA) is explained. And, the appraisal is started by assessing the 'as is' of the textile wing though reviewing the existing relative leanness that are unanimously used to assess the level of leanness. This finding resulted in six dominant leanness related shortcomings; including team work and motivation, visual management system, supply chain integration, safety and cleanness, in the textile processing and in turn characterized the related leanness of the section. The correlations between these shortcomings are analyzed to smooth the progress of the adaptation. Based on the finding from the aforementioned analyses, benchmarks of other global companies were recommended with their respective priority at the end.

Keywords- *RPA, Adapting, leanness*

BIOGRAPHY

My name is **Abebayehu Abdela**. I am a Lecturer in the School of Mechanical and Industrial, Ethiopia Institute of Technology-Mekelle, Mekelle University, Ethiopia. I have received Bachelor of Science degree in Mechanical Engineering from Jimma University, Ethiopia. And also, I have received Master of Science degree in Production and Industrial Systems Engineering, from Ethiopia Institute of Technology-Mekelle, Ethiopia. My focused research area of interests incorporates, Application of lean manufacturing principles, Application of Industrial Engineering techniques for productivity improvement, Plant layout and productivity enhancement, Biomass gasification and Mechanical design, etc.