



Date: 12/03/2024

Acceptance Letter

Dear

José Luis Rodríguez-Álvarez
Jorge Luis García-Alcaraz
Cayetano Navarrete-Molina

I am pleased to inform you that the chapter “*Total Quality Management (TQM)*” has been **ACCEPTED** for publication in the book “*Lean Manufacturing in Latin America - Concepts, Methodologies, and Applications.*” Please make a final review of your chapter regarding structure, format, and citation style.

We thank you for your effort and trust in this initiative to document the impact of Lean Manufacturing in Latin America. Please emphasize the technical approach in your chapter. We strongly recommend the use of original graphic content. Otherwise, it is necessary to obtain permission for non-original material (text, tables, or illustrations that you have incorporated in your manuscript from other sources or previous publications).

Sincerely,

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Guillermo Cortés Robles
Arturo Realyvásquez Vargas *Editors*

Lean Manufacturing in Latin America

Concepts, Methodologies and
Applications

Lean Manufacturing in Latin America


Jorge Luis García Alcaraz ·
Guillermo Cortés Robles ·
Arturo Realyvásquez Vargas
Editors

Lean Manufacturing in Latin America


Concepts, Methodologies and Applications

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ISBN 978-3-031-70983-8 ISBN 978-3-031-70984-5 (eBook)
<https://doi.org/10.1007/978-3-031-70984-5>

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Chapter 16

Total Quality Management (TQM)



José L. Rodríguez-Álvarez , Jorge Luis García Alcaraz ,
and Cayetano Navarrete-Molina 

Abstract This chapter discusses the TQM manufacturing tool, analyzing its concept and evolution, its importance, its benefits when properly adopted, and the barriers it faces when put into practice. Similarly, some of the critical factors for success are presented, and a series of suggested steps are followed at the time of implementation. Additionally, a quick bibliometric review of the TQM philosophy in the industry was conducted, identifying the authors, institutions, and countries that contributed the most scientific papers and those most cited. Finally, a case study is presented for the pulp and paper industry. It presents the implementation of a control-charting approach, an essential element of the TQM philosophy. The approach corresponds to individual measurement control charts based on a fuzzy approach as an alternative to traditional control charts in the search for customer satisfaction with the moisture content of the paper. The results showed that charts based on the fuzzy approach are more flexible because the amplitude between the control limits is larger than that in charts based on a traditional approach, allowing it to handle the uncertainty from the measurement system or the nature of the process.

Keywords Total quality management · Papermaking · Paper moisture · Quality control culture · Fuzzy control charts

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