

**IMPROVING WAREHOUSE LAYOUT USING ABC CLASSIFICATION AND
5S: A CASE STUDY OF PT XYZ**

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.



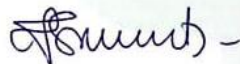
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ABSTRACT

IMPROVING MATERIAL HANDLING TIME USING ABC CLASSIFICATION AND 5S IN A WAREHOUSE: A CASE STUDY OF PT XYZ

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This study investigates warehouse optimization at PT. XYZ, a B2B industrial electrical equipment distributor and authorized Siemens distributor in Indonesia. Prevailing inefficiencies, including the absence of a systematic storage classification policy and a formally grounded layout design methodology, have resulted in product mixing, increased travel distances, and material handling congestion primarily driven by a dense floor-stacking arrangement in the large-item storage area that restricts aisle accessibility and complicates item retrieval. Adopting the DMAIC framework, the study applies ABC Classification for product placement prioritization and integrates the 5S methodology and SLP to develop and evaluate three alternative layout designs. The second alternative was identified as the most suitable solution, resolving key operational inefficiencies through pallet rack implementation in the large-item storage area while requiring the lowest investment cost among the proposed alternatives. While the proposed SOP and a 5S-based control sheet are additionally produced to ensure long-term sustainability of improvements in worker performance and warehouse operational effectiveness.

Keywords: DMAIC, ABC Classification, SLP, 5S, SOP, 5S Control Sheet.



DEDICATION

I dedicate this works for the future of Indonesian small to medium company.



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