

Excess and Obsolete Raw Materials Depletion through Reworks: A Case Study in Wastes Minimization

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Abstract

It is often considered that excess and obsolete raw materials with diminishing or no demand a total financial loss. Until these materials are depleted, not only there is no sale profit, but also there are constant warehousing and maintenance costs. Consequently, most manufacturers dispose them by selling underpriced to brokers and recycling agencies. In case there is no taker, the last resort will be scrapping them as waste disposal, which implies a negative environmental, social and economic impact. This paper will use the concept of re-manufacturing returned finished goods as an alternative solution to minimize operational wastes and maximize financial benefit. A case study has been implemented on reworking computer chassis excess inventory at a Mexico-based personal computer manufacturing company. As a result, other than excess inventory reduction, financial reports justify that there is a considerable financial loss minimization in compared to those commonly used options.

Keywords

Material management, rework, lean, excess inventory, wastes minimization

Biography

James C. Chen is Professor in the Department of Industrial Engineering and Engineering Management at National Tsing-Hua University (NTHU), Taiwan. Prior to his current position, he was Chair Professor in the Department of Industrial Management at National Taiwan University of Science and Technology, Professor in the Department of Industrial and Systems Engineering at Chung Yuan Christian University, and a researcher at Industrial Technology Research Institute, Taiwan. He received a B.S. in Industrial Engineering from NTHU, an M.S. in Manufacturing Systems Engineering, and a Ph.D. in Industrial Engineering, both from the University of Wisconsin-Madison. His current research interests include advanced planning and scheduling, lean production, supply chain management, business process reengineering, and project management.

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