Banish Waste in Warehouse Operations using Lean Matrix

Putu Dana Karningsih
Department of Industrial and Systems Engineering
Institut Teknologi Sepuluh Nopember
Surabaya, Jawa Timur 60111, Indonesia
dana@ie.its.ac.id

Abstract

Lean thinking has been widely implemented on manufacture or service industry to eliminate waste. Inventory has been known as one of the well-known seven waste that is needed to be removed. On the other hand, it is not easy for any industry to manage their supply chain without any inventory buffer in their warehouse. As warehouse operations cost could consume up to half of supply chain cost, it is necessary to improve its efficiency. Application of lean warehousing could lower costs and optimize resource utilization which bring benefits not only for the warehouse but also the whole supply chain. Implementation of Lean warehousing requires supporting tools that is nowadays mostly adopted from generic tools as in Lean Manufacturing. Very few studies are available on Lean Warehousing and even fewer studies on specific tool for lean warehousing. This study proposes a new tool for Lean Warehousing implementation, which is called Lean Matrix. Lean Matrix has a simple structure as it only consists of two matrix but it serves as a comprehensive and integrated tool. This tool offers support from identification of waste and its causes, analysis of critical waste, until formulation and prioritization of waste elimination plan. Moreover, Lean Matrix also considers waste relationships and impact of waste to company's performance. The first matrix of Lean Matrix produces list of critical waste and its causes as well as critical area where waste occured. The second matrix provides list of waste elimination or reduction plans as well as their prioritization. This tool is then applied to an starch and sweetener company in Indonesia. Overprocessing and transportation are two major waste identified in the case study. These waste are occured in external warehouse building and two waste elimination actions are suggested accordingly.

Keywords
Lean thinking, Lean warehousing, Waste, Lean matrix

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Biographies

Putu Dana Karningsih is an Assistance Professor, and Head of Manufacturing Systems Laboratory of Industrial and Systems Engineering Departement at Institut Teknologi Sepuluh Nopember (ITS) Surabaya, Indonesia. She earned B.Eng. in Mechanical Engineering from University of Indonesia, Jakarta, Indonesia, Masters in Engineering Science and PhD in Manufacturing ngineering and Management from University of New South Wales, Sydney, Australia. Her research interests include manufacturing systems, lean, concurrent engineering, and supply chain risk management.