ABSTRACT

CV XYZ is a manufacturing company specializing in jacket production that is experiencing motion waste in its production process. The company's current condition often results in delayed deliveries to customers, leading to customer complaints. Therefore, it is necessary to identify the root causes of the issues occurring on the production floor. Root cause analysis was conducted using a fishbone diagram. In addition, waste types and their causes were identified using Value Stream Mapping (VSM) and Process Activity Mapping (PAM). By employing VSM and PAM, the total lead time, Value-Added (VA) activities, Non-Value-Added (NVA) activities, Necessary Non-Value-Added (NNVA) activities, and the types of waste were identified. The types of waste detected include motion waste and waiting waste. The focus of this Final Project is to reduce non-value-added activities caused by motion waste, which accounts for 81% of the total waste and is attributed to human, method, and equipment factors. The proposed solution to minimize motion waste in the jacket production process at CV XYZ is the implementation of 5S activities (seiri, seiton, seiso, seiketsu, and shitsuke). The proposed design for *seiri* includes a red tag system and a log register; for *seiton*, the design includes item storage and labeling; for *seiso*, it includes the provision of cleaning tool storage and a cleaning activity checklist; for *seiketsu*, it includes the creation of a duty schedule and 5S work rules; and for *shitsuke*, it involves the development of visual displays, audit checksheets, and 5S habituation activities. With the implementation of these 5S activities, operators are expected to become more productive. Based on simulation results, non-value-added activities can be reduced by 310.10 seconds. The simulation, conducted using FlexSim software, shows that after implementing the 5S activities, jacket production at CV XYZ increased to 153 units per day, compared to 151 units per day before implementation.

Keywords: Motion Waste, Lean Manufacturing, 5S, Product Efficiency