

Abstract

PT. Boga Dimsum Indonesia is a company that engages in non-MSG frozen dim sum. The problem identified in the current raw material warehouse is that operators have difficulty finding raw materials and it became mixed up. This problem arises because the operators place the raw material randomly and without specific rules only based on empty positions. This study aims to improve the raw material warehouse layout to be more efficient, minimize displacement time, and reduce material handling costs. The method used to improve the raw material warehouse layout is the class-based storage method and the Promodel simulation. This layout design is carried out based on the group of materials, the frequency of material entry and exit, the number of storage places, the distance to move materials, and the raw material warehouse area. The data will be processed using a class-based storage method so that three proposed layouts will be verified and validated using the Promodel simulation. The new warehouse layout can increase the efficiency of the raw material's distance movement by 35.29% or 1230.96 m shorter than the initial distance. The material handling cost reduces 33.87% or Rp. 3,427,710 cheaper than the initial material handling cost. Promodel simulation validated and verified that the new alternative layout could reduce the displacement time by 14% or 38.658 seconds faster than the initial time.

Keywords: *raw material warehouse, layout, class-based storage, promodel simulation*