

ABSTRACT

In recent times, many countries and the automotive industry have begun to look for environmentally friendly solutions. There are problems related to the efficiency and effectiveness of the layout of goods storage in the storage area of the electric motor assembly plant. This research focuses on improving the storage layout at PT Molindo, a company engaged in the production of electric vehicles. The current storage layout poses a variety of problems, including the placement of goods that are not in accordance with the classification and the material picking distance is too far, resulting in wasted space, increased processing time, and decreased operational efficiency. To overcome this problem, this study uses the Systematic Layout Planning (SLP) approach assisted by blocplan software as a tool in analyzing and redesigning the layout. The SLP approach allows for the analysis of the Activity Relationship Chart (ARC) regarding the proximity relationship between activities and specific space needs. With the help of a blocplan, the rearrangement of the storage layout is simulated and visualized, so as to maximize the utilization of available space and improve the flow of materials. In the blocplan simulation, an adjacency score of 0.55 for level 0 and 0.49 for level 1 was produced as the selected layout. The results of this layout improvement showed a decrease in material mileage of 9 meters (4.55%), which directly contributed to the increase in factory productivity. This research provides proposals related to improving the layout of facilities in the storage area so that the distance between goods is close and according to similar classifications, so that it can increase the company's operational efficiency. The implementation of the results of this research is expected to be a reference for similar industries in improving operational performance through more effective layout management.

Keywords: Blocplan, operational efficiency, storage area, storage layout, Systematic Layout Planning (SLP).