ABSTRACT

PT XYZ is a subsidiary of PT AAA, which has been established since 2012, to meet various needs in the railway industry. PT XYZ has many facilities scattered throughout Indonesia. One of the facilities owned by PT XYZ is a warehouse, which serves as a storage place for goods needed for railway operational purposes. In the design of PT XYZ's warehouse allocation, an in-depth analysis is required regarding the company's needs, as well as methods and techniques suitable for determining optimal goods allocation. The performance of PT XYZ's warehouse management is still not effective and efficient, where goods placement is disorganized and mixed, and goods placement is still based on available empty space. Therefore, research is conducted with the aim of optimizing warehouse utilization. By comparing the Dedicated Based Storage and Class Based Storage methods to select effective goods allocation that suits the warehouse type and characteristics. The research results show the superiority of the Dedicated Based Storage method compared to the initial storage, where the initial travel distance decreased from 4635 m to 4436.2 m, a decrease of 8.37%, the initial floor area decreased from 259.67 m2 to 216.9 m2, a decrease of 16.45%, the initial warehouse capacity increased from 144 to 145, an increase of 0.7%, and the initial flexibility increased from 14.29% to 15.08%, an increase of 5.52%.

Keywords : *Allocation of goods, Dedicated Based Storage, Class Based Storage*