

Model optimasi outbound logistics menggunakan metode Mixed Integer Linear Programming (MILP) untuk mendukung keputusan rencana pengiriman pada perusahaan third party logistics = Outbound logistics optimization model using Mixed Integer Linear Programming (MILP) method to support decision of shipping plans in third party logistics companies

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Abstrak

Perusahaan third party logistics (3PL) memainkan peran penting dalam aktivitas supply chain management. Kemampuan yang ditawarkannya dapat membantu perusahaan yang menggunakan jasanya dalam mengurangi biaya supply chain dan fokus pada kompetensi utama mereka. Dalam menghadapi persaingan untuk mencapai keunggulan kompetitif, baik perusahaan pengguna jasa ataupun 3PL sendiri perlu memperhatikan biaya yang dikenakan kepada pelanggan untuk produk dan jasa yang ditawarkan. Lebih dari setengah biaya suatu produk merupakan biaya untuk supply chain dan sebagian besar dipengaruhi oleh aktivitas outbound logistics. Penelitian ini berisi tentang pengembangan model optimasi untuk meminimalkan biaya outbound logistics menggunakan metode Mixed Integer Linear Programming (MILP). Hasil penelitian menunjukkan bahwa model optimasi berhasil mengurangi total biaya outbound logistics dengan keputusan rencana pengiriman yang terdiri dari pemilihan tipe kendaraan, volume muatan pengiriman, tingkat utilisasi kendaraan, dan jumlah kebutuhan pekerja pemuatan.

.....Third party logistics (3PL) companies play an important role in supply chain management activities. The capabilities it offers can help companies that use their services to reduce supply chain costs and focus on their core competencies. In the face of competition to achieve competitive advantage, both service users and 3PL companies themselves need to pay attention to the fees charged to customers for products and services offered. More than half the cost of a product is the cost for the supply chain and is largely influenced by outbound logistics activities. This research contains the development of optimization models to minimize outbound logistics costs using the Mixed Integer Linear Programming (MILP) method. The results showed that the optimization model succeeded in reducing the total cost of outbound logistics with the decision of the shipping plan consisting of choosing the type of vehicle, the volume of the shipping load, the level of vehicle utilization, and the number of loading worker needs.