**MODEL SISTEM *TRANSPORTING* (ANTARAN) PAKET UNTUK MENINGKATKAN *LOAD FACTOR* DI PT. POS INDONESIA MAIL PROCESSING CENTER BANDUNG 40400**

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**Abstrak**

*Dalam proses Transporting (antaran), PT.PosIndonesiaMailProcessingCenter Bandung 40400masihmemberlakukan sistemzoningyaitudenganmembagidaerah pengiriman dijaringan tersier menjadi beberapa area pengiriman, dimana masing-masing area dilayani oleh satu kendaraan. Sistem penentuan rute pengiriman pun masih didasari atas instuisi pengantar (belum berdasarkan kajian matematis). Selain hal tersebut, Load Factor pada proses Transporting (antaran) masih cukup rendah, yaitu sebesar 0,45 sehingga biaya operasional Transporting (antaran) bila dibebankan terhadap setiap paket masih cukup tinggi.*

*Berdasarkan permasalahan tersebut, penelitian ini mencoba mengkaji apakah sistem Transporting (antaran) yang diterapkan PT.PosIndonesiaMailProcessingCentreBandung 40400 sudah optimal, hal ini dilihat dari variabel jarak tempuh, jumlah penggunaan kendaraan, dan biaya Transporting (antaran) serta Load Factor, yang dilakukan dengan cara membandingkan metode pengiriman eksisting dengan usulan menggunakan ant colony optimization.*

*Dari hasil perbandingan, didapatkan bahwa sistem pengiriman usulan lebih baik dari sistem pengiriman usulan karena dapat menghemat rata-rata 125.68 Km atau sekitar 30% jarak tempuh, Rp. 314.206 atau sekitar 37% biaya, serta meningkatkan load factor sebesar 0,20 atau sekitar 43% setiap harinya. Sistem pengiriman eksisting setiap harinya membutuhkan 13 kendaraan, sedangkan sistem pengiriman usulan hanya membutuhkan 10 kendaraan.Dari hasil tersebut, terbukti bahwa sistem pengiriman eksisting kurang optimal jika dibandingkan dengan sistem pengiriman usulan dengan metode ant colony optimization.*

***Kata-kunci*** *: Rute Distribusi, Biaya Transportasi, Load Factor, Capacitated Vehicle Routing Problem With Time Windows, Ant Colony Optimization*

**Abstract**

*In the process of transporting, PT. Pos Indonesia Mail Processing Center Bandung 40400 still applies a zoning system that is by dividing the shipping area in tertiary networks into several shipping areas, where each area is served by one vehicle. The delivery route determination system is still based on introductory driver (not based on mathematical studies). In addition to this, the Load Factor in the transporting process is still quite low, which is equal to 0.45 so that the operational costs of transporting if charged to each package are still quite high.*

*Based on these problems, this study tries to examine whether the Transporting system applied by PT. Pos Indonesia Mail Processing Center Bandung 40400 has been optimal, this is seen from the variable distance, number of vehicle use, the cost of Transporting and Load Factor, which is done by comparing the existing shipping method with the proposal method using ant colony optimization.*

*From the results of the comparison, it was found that the proposed delivery system was better than the proposed delivery system because it could save an average of 125.68 Km or about 30% distance traveled, Rp. 314,206 or around 37% of costs, and increase load factor by 0.20 or around 43% every day. The existing shipping system every day requires 13 vehicles, while the proposed delivery system requires only 10 vehicles. From these results, it is evident that the existing delivery system is not optimal when compared to the proposed delivery system with the ant colony optimization method.*

***Keywords:*** *Distribution Routes, Transportation Costs, Load Factors, Capacitated Vehicle Routing Problems With Time Windows, Ant Colony Optimization*

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