

BAB 5

KESIMPULAN DAN SARAN

Bab ini berisikan kesimpulan dari hasil penelitian yang telah dilakukan dan saran untuk keperluan penelitian selanjutnya.

5.1 Kesimpulan

Berikut ini merupakan kesimpulan dari penelitian “Pengembangan Model *Location Routing Problem* dengan *Roaming Delivery Location*”.

1. Model *location routing problem with roaming delivery location* (LRPRDL) telah berhasil dikembangkan. Model LRPRDL merupakan kombinasi model *location routing problem* (LRP) dan *vehicle routing problem with roaming delivery location* (VRPRDL). Batasan VRPRDL dimodifikasi sehingga dapat mengakomodasi penggunaan beberapa depot sekaligus, sedangkan batasan LRP dimodifikasi karena pelanggan dapat memiliki lebih dari 1 lokasi pengiriman. Selain itu, terdapat penambahan batasan untuk mencegah terjadinya pembentukan rute antardepot dan batasan untuk memastikan kesesuaian pengalokasian permintaan pelanggan ke depot yang ada.
2. Analisis sensitivitas dilakukan terhadap biaya bahan bakar, biaya pengadaan depot, permintaan pelanggan, dan radius persebaran lokasi pelanggan. Perubahan nilai parameter biaya bahan bakar dan biaya pengadaan depot ditetapkan sebesar -50%, -30%, -10%, 10%, 30%, dan 50%, sedangkan untuk perubahan nilai permintaan pelanggan ditetapkan sebesar -30%, -20%, -10%,

10%, 20%, dan 30%. Radius persebaran lokasi pelanggan mengalami perubahan menjadi 16, 24, 40, dan 48 km. Berdasarkan hasil analisis sensitivitas, perubahan biaya bahan bakar dan biaya pengadaan depot tidak mengubah solusi optimal yang ada. Adanya perubahan permintaan pelanggan dapat menambah atau mengurangi jumlah penggunaan kendaraan atau depot, sedangkan perubahan radius persebaran lokasi pelanggan dapat mengubah penggunaan depot dan rute pengiriman pada solusi optimal.

5.2 Saran

Berdasarkan penelitian yang dilakukan, saran yang dapat diberikan untuk penelitian selanjutnya adalah sebagai berikut.

1. Mengembangkan model LRPRDL dengan menghilangkan asumsi lokasi setiap pelanggan unik. Hal tersebut memungkinkan untuk dilakukannya pemenuhan permintaan pelanggan secara sekaligus di tempat yang sama.
2. Melakukan pengembangan model LRPRDL-STT yang menambahkan unsur stokastik pada waktu perjalanan kendaraan.
3. Melakukan penyelesaian model LRPRDL dengan metode heuristik atau metaheuristik.

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