

ABSTRAK

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**Judul : PENYELESAIAN MASALAH TRANSPORTASI
MENGUNAKAN METODE *SOUTH-EAST CORNER*,
NORTH-EAST CORNER DAN *SOUTH-WEST CORNER*
UNTUK MENENTUKAN SOLUSI LAYAK AWAL**

Seiring dengan perkembangan waktu dan teknologi, muncul metode-metode baru yang lebih sederhana untuk memecahkan masalah transportasi, dan masalah transportasi juga dapat di selesaikan menggunakan software untuk mempermudah proses perhitungan sehingga dapat lebih cepat, contohnya software *python programming* yang dapat di gunakan untuk menentukan solusi layak awal secara efektif dan efisien, Maka dari itu penulis tertarik untuk mengkaji cara penyelesaian masalah transportasi dengan menggunakan metode transportasi baru yaitu metode *South-East Corner* (SEC), metode *North-East Corner* (NEC), dan metode *South-West Corner* (SWC). Adapun tujuan yang ingin dicapai dalam melakukan penelitian pada Skripsi ini adalah untuk memahami penerapan metode tersebut dan untuk mengetahui perbandingan solusi layak awal antara ketiga metode tersebut pada masalah transportasi kasus minimasi dengan data seimbang dan tidak seimbang. Penyelesaian ketiga metode tersebut memiliki algoritma yang mirip hanya pengalokasian awalnya saja yang berbeda, jika metode *South-East Corner* pengalokasian di mulai pada sel sudut tenggara tabel, metode *North-East Corner* pengalokasian di mulai pada sel sudut timur laut tabel, dan pada metode *South-West Corner* pengalokasian di mulai pada sel sudut barat daya, alokasikan sebanyak mungkin ke sel yang di pilih, Kemudian coret baris atau kolom yang sudah terpenuhi, jika masih ada baris atau kolom yang belum terpenuhi maka alokasikan lagi ke sel terdekat berikutnya yang belum terpenuhi, jika semua baris dan kolom sudah terpenuhi maka hitung solusi tersebut sebagai solusi layak awal dan hitung total biaya masalah transportasi menggunakan persamaan minimasi. Dari hasil analisis data pada penelitian skripsi ini di peroleh solusi layak awal kasus 1 dengan metode *SEC* \$65.016, metode *NEC* \$135.047, dan metode *SWC* \$135.047. Kasus 2 metode *SEC* \$878, metode *NEC* \$409, dan metode *SWC* \$409. Kasus 3 metode *SEC* \$1.570, metode *NEC* \$1.820, dan metode *SWC* \$1.820. kasus 4 metode *SEC* \$1.505, metode *NEC* \$2.687, dan metode *SWC* \$2.687.

Kata kunci : Masalah transportasi, solusi layak awal, metode *South-East Corner*, metode *North-East Corner*, metode *South-West Corner*

ABSTRACT

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Title : SOLUTION OF TRANSPORTATION PROBLEMS USING SOUTH-EAST CORNER, NORTH-EAST CORNER AND SOUTH-WEST CORNER METHODS TO DETERMINE AN INITIAL FEASIBLE SOLUTION

Over time and along with the development of technology, new more efficient and simpler methods to solve transportation problems have emerged. solving transportation problems, software can be used to simplify the process so that it can be faster, for example python programming software that can be used to determine feasible solutions effectively and efficiently. Therefore, the authors are interested in studying how solving problems by using new transportation methods, namely the South-East Corner method (SEC), the North-East Corner method (NEC), and the South-West Corner method (SWC). The objectives to be achieved by the author in conducting research in this thesis are to understand the application of the method and to find out the comparison of the initial feasible solution between the three methods in the transportation problem of minimization cases with balanced and unbalanced data. The completion of the three methods has a similar algorithm, only the initial allocation is different, if the SEC allocation starts at the southeast corner cell, the NEC allocation starts at the northeast corner cell, and in the SWC the allocation starts at southwest corner cell., allocates as much as possible to the selected cell, then cross out the rows or columns that have been fulfilled, if there are still rows or columns that have not been met then allocate them again to the next closest cell has not been met, then if all rows and columns have been met then calculate the solution as an initial feasible solution and calculate the total cost of the transportation problem using the minimization equation. From the results of data analysis in this thesis research, an initial feasible solution for case 1 using the SEC method of \$65,016, the NEC method of \$135,047, and the SWC method of \$135,047. The case 2 using the SEC method of \$878, the NEC method of \$409, and the SWC method of \$409. Case 3 the SEC method is \$1,570, the NEC method is \$1,820, and the SWC method is \$1,820. On case 4 the SEC method is \$1,505, the NEC method is \$2,687, and the SWC method is \$2,687.

Keywords : *Transportation problem, initial feasible solution, South-East Corner, North-East Corner, South-West Corner.*

