ANALISIS PENJADWALAN PRODUKSI FURNITUR MENGGUNAKAN METODE NEH DAN CDS

Elna Aulia Putri[1], Suseno[2]

[1,2)] Jurusan Teknik Industri, Fakultas Sains dan Teknologi, Universitas Teknologi Yogyakarta

Jl. Glagahsari No.63, Warungboto, Kota Yogyakarta, Daerah Istimewa Yogyakarta 55164

Email: elna.auliaputri0001@gmail.com suseno@uty.ac.id

ABSTRAK

CV Decorus merupakan perusahaan manufaktur yang bergerak pada industri furnitur. Sistem penjadwalan perusahaan saat ini menggunakan *Earliest Due Date* (EDD). Terdapat permasalahan pada sistem pejadwalan yang digunakan perusahaan yaitu adanya pesanan yang terlambat dari waktu pengiriman pada produk jenis Signature Hardware dengan jumlah 133 unit. Tertundanya penyelesaian pekerjaan disebabkan karena besarnya *makespan* atau waktu penyelesaiannya sebesar 139,96 jam. Tujuan penelitian ini adalah untuk meminimumkan *makespan* dan mengetahui urutan *job* penjadwalan produksi agar optimal. Maka digunakan metode *Nawaz Enscore Ham* (NEH) dan *Campbell Dudek Smith* (CDS). Penggunaan metode tersebut akan menghasilkan alternatif-alternatif penjadwalan yang optimal, kemudian akan dipilih penjadwalan yang menghasilkan *makespan* minimum. Sehingga penjadwalan produksi dapat dihasilkan dengan tepat dan optimal. Berdasarkan pengolahan data dengan metode *Nawaz Enscore Ham* berdasarkan *Longest Processing Time* dan *Shortest Processing Time* diperoleh *makespan* minimum sebesar 137,55 jam pada metode *Nawaz Enscore Ham* dan didapatkan urutan *job* yang paling optimal yaitu 4-2-3-1 pada metode *Nawaz Enscore Ham* (NEH) dengan nilai *makespan* minimum sebesar 137,55 jam dan *mean flow time* sebesar 97,46 jam. Karena didapatkan nilai *Efficiency Index* (EI) sebesar 1,02 dan *Relative Error* (RE) sebesar 1,75%. Kemudian pada uji performansi terjadi penurunan *makespan* sebesar 2,41 sehingga metode *Nawaz Enscore Ham* (NEH) memiliki *performance* lebih baik dibandingkan dengan model penjadwalan perusahaan dan metode *Campbell Dudeck Smith* (CDS).

Kata Kunci: Penjadwalan Produksi, *Earliest Due Date* (EDD), *Nawaz Enscore Ham* (NEH), *Campbell Dudeck Smith* (CDS)

ANALYSIS OF FURNITURE PRODUCTION SCHEDULING USING NEH AND CDS METHODS

Elna Aulia Putri[1], Suseno[2]

[1,2)] *Department of Industrial Engineering, Faculty of Science and Technology, University of Technology Yogyakarta*

Jl. Glagahsari No.63, Warungboto, Kota Yogyakarta, Daerah Istimewa Yogyakarta 55164

Email: elna.auliaputri0001@gmail.com suseno@uty.ac.id

ABSTRACT

CV Decorus is a manufacturing company engaged in the furniture industry. The company's current scheduling system uses the Earliest Due Date (EDD). There is a problem with the scheduling system used by the company which is the existence of orders that are late from the delivery time on Signature Hardware products with a total of 133 units. The delay in completing the work was due to the large makespan or completion time of 139.96 hours. The purpose of this research is to minimize makespan and determine the sequence of job production scheduling so that it is optimal. So, the Nawaz Enscore Ham (NEH) and Campbell Dudek Smith (CDS) methods were used. The use of this method will produce optimal scheduling alternatives, then the scheduler that produces the minimum makespan will be selected. Thus, production scheduling can be produced precisely and optimally. Based on data processing using the Nawaz Enscore Ham method based on the Longest Processing Time and Shortest Processing Time, a minimum makespan of 137.55 hours is obtained on the Nawaz Enscore Ham method and the most optimal job sequence is 4-2-3-1 on the Nawaz Enscore Ham method (NEH) with a minimum makespan value of 137.55 hours and a mean flow time of 97.46 hours. Because the Efficiency Index (EI) value was 1.02 and the Relative Error (RE) was 1.75%. Then, in the performance test there is a decrease in makespan of 2.41 so that the Nawaz Enscore Ham (NEH) method has better performance compared to the company scheduling model and the Campbell Dudeck Smith (CDS) method.

Keywords: *Production Scheduling, Earliest Due Date (EDD), Nawaz Enscore Ham (NEH), Campbell Dudeck Smith (CDS)*

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