

ABSTRACT

PT NRZ Prima Gasket is one of the manufacturing industry companies engaged in the automotive sector, which produces spare parts for various types of cars and motorbikes. The company has a problem, namely, delays in sending purchase orders. Delays in delivery of purchase orders occur because the scheduling method used is not effective. The current production process scheduling method used by the company is based on the closest deadline of the customer order, which means that work that has an early due date will be prioritized. Therefore, the company needs to consider developing a structure for its production scheduling method that is more effective so that there is no delay in the delivery of purchase orders. The method that can be used to solve the company's production scheduling problems is the NEH (Nawaz, Ensore and Ham) method. The NEH method is a production scheduling method that looks at makespan (total completion time). The selection of the method is based on previous research, which shows that by using the method, a production process sequence with a smaller makespan (total completion time) is obtained than other methods. In addition, the method has been awarded the best heuristic in flow shop problems. The researcher tried to solve the problem on jobs 1, 2, 3, 4, to compare the company's existing results with the results of the NEH method. The makespan result (total completion time) of the company's existing was 19.22 hours with the order of jobs 1, 2, 3, 4. While the makespan result (total completion time) obtained by the NEH method was 23.41 hours with the order of jobs 1,4,3,2. These results show that the proposed scheduling method, namely the NEH method, cannot reduce the company's makespan (total completion time). Thus, the proposed scheduling method using the NEH method cannot optimize company production.

Keywords—Manufacturing Industry, Production Scheduling, NEH, Makespan