

ABSTRAK

Penelitian ini bertujuan untuk meningkatkan produktivitas pada bagian *section loom* di PT XYZ melalui penerapan metode line balancing dengan pendekatan *Ranked Positional Weight* (RPW). Permasalahan utama yang dihadapi perusahaan adalah ketidaktercapaian target produksi, di mana pencapaian output bulanan berada di bawah 80%. Analisis awal dilakukan dengan mengelompokkan elemen kerja ke dalam tiga stasiun kerja, yang menghasilkan nilai *line efficiency* sebesar 58,92%, *balance delay* sebesar 41,08%, dan *idle time* sebesar 422,48 menit. Nilai tersebut menunjukkan ketidakseimbangan beban kerja antar stasiun dan belum optimalnya alur produksi. Untuk mengatasi hal tersebut, dilakukan pengelompokan ulang elemen kerja berdasarkan bobot posisi masing-masing menggunakan metode RPW, sehingga diperoleh empat stasiun kerja dengan distribusi waktu yang lebih seimbang. Hasil pengolahan menunjukkan peningkatan *line efficiency* menjadi 72,12%, penurunan *balance delay* menjadi 27,88%, dan pengurangan *idle time* menjadi 310,34 menit. Dengan demikian, metode RPW terbukti mampu meningkatkan efisiensi jalur produksi, menyeimbangkan pembagian kerja, serta mengoptimalkan alur proses sehingga mendukung peningkatan produktivitas perusahaan.

Kata Kunci : *Line Balancing; Ranked Positional Weight (RPW); Line Efficiency; Balance Delay; Section Loom*

ABSTRACT

This research aims to improve productivity in the section loom area of PT XYZ through the application of line balancing using the Ranked Positional Weight (RPW) method. The main issue faced by the company is the failure to meet production targets, with monthly output achievement remaining below 80%. The initial analysis was conducted by grouping work elements into three workstations, which resulted in a line efficiency value of 58.92%, a balance delay of 41.08%, and a total idle time of 422.48 minutes. These figures indicate an imbalance in workload distribution between stations and an inefficient production flow. To address this, the work elements were regrouped into four workstations based on their positional weights using the RPW method, resulting in a more balanced workload distribution. The results showed an increase in line efficiency to 72.12%, a reduction in balance delay to 27.88%, and a decrease in idle time to 310.34 minutes. Therefore, the RPW method has proven effective in increasing production line efficiency, balancing workload distribution, and optimizing process flow, thereby supporting improvements in the company's overall productivity.

Kata Kunci : *Line Balancing; Ranked Positional Weight (RPW); Line Efficiency; Balance Delay; Section Loom*