

PERENCANAAN PENGENDALIAN KAPASITAS PRODUKSI MENGUNAKAN METODE *FORECASTING, AGGREGAT PLANNING HEURISTIC* DI PT. IGP INTERNASIONAL BANTUL

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Abstrak

PT. IGP Internasional Bantul telah mengalami permintaan berfluktuatif untuk produk yang di produksi pada beberapa bulan tertentu dari bulan Agustus 2022 sampai Juli 2023. Data yang didapatkan bahwa ada beberapa periode PT IGP Internasional Bantul tidak dapat memenuhi *demand* pada tahun 2023 bulan Januari sebesar 45 *pieces*, Maret sebesar 34 *pieces*, dan April sebesar 57 *pieces*. Penelitian ini bertujuan merekomendasikan metode peramalan produksi yang tepat untuk PT. IGP Internasional Bantul dan bertujuan untuk merekomendasikan metode *aggregat planning* yang tepat untuk digunakan oleh PT. IGP Internasional Bantul. Tahap pengolahan data yang dilakukan dengan melakukan peramalan menggunakan metode ARIMA. Selanjutnya dilakukan perhitungan *Aggregate Planning Heuristik* melalui tahap pengendalian tenaga kerja dan pengendalian *overtime*. Pada *forecast* model terbaik yang di dapatkan yaitu model ARIMA (2,1,1). Sehingga didapatkan hasil peramalan Agustus 2023 sebesar 4.375.865, September 2023 sebesar 4.291.111, Oktober 2023 sebesar 4.345.781, November 2023 sebesar 4.355.884, Desember 2023 sebesar 4.346.596, Januari 2024 sebesar 4.338.588, Februari 2024 sebesar 4.332.550, Maret 2024 sebesar 4.326.687, April 2024 sebesar 4.320.673, Mei 2024 sebesar 4.314.625, Juni 2024 sebesar 4.308.589, dan Juli 2024 sebesar 4.302.563. Kemudian hasil total biaya produksi per tahun dengan metode pengendalian tenaga kerja yaitu sebesar Rp 33.422.310.959/tahun, sedangkan dengan total biaya produksi dengan metode pengendalian *overtime* yaitu sebesar Rp 33.519.133.440/tahun. Sehingga dengan metode pengendalian tenaga kerja membantu PT. IGP Internasional Bantul mengurangi biaya yang terkait dengan tenaga kerja sebesar 4,21% dari biaya produksi sebelumnya sebesar Rp 34.890.435.381.

Kata Kunci: *Aggregate Planning Heuristik, ARIMA, Forecasting, Kapasitas produksi*

PRODUCTION CAPACITY CONTROL PLANNING USING FORECASTING METHOD, AGGREGATE PLANNING HEURISTIC AT PT. IGP INTERNATIONAL BANTUL

ABSTRACT

PT. IGP Internasional Bantul has experienced fluctuations in product demand during specific months from August 2022 to July 2023. The data collected indicates that there were several instances in 2023 when PT IGP Internasional Bantul was unable to meet the demand. In January, the shortage was 45 pieces. In March, it was 34 pieces, and in April, it was 57 pieces. This study aims to recommend suitable production forecasting methods for PT. IGP Internasional Bantul and appropriate aggregate planning methods for PT. IGP International Bantul. The data processing stage involves forecasting using the ARIMA method. Subsequently, the Aggregate Planning Heuristic calculation is conducted, which includes labor control and overtime control stages. The best forecast model obtained is the ARIMA (2,1,1) model. The forecast results for August 2023 were 4,375,865. For September 2023, it was 4,291,111. For October 2023, it was 4,345,781. For November 2023, it was 4,355,884. For December 2023, it was 4,346,596. For January 2024, it was 4,338,588. For February 2024, it was 4,332,550. For March 2024, it was 4,326,687. For April 2024, it was 4,320,673. For May 2024, it was 4,314,625. For June 2024, it was 4,308,589, and for July 2024, it was 4,302,563. The total production costs per year using the labor control method amount to IDR 33,422,310,959/year, while the total production costs using the overtime control method amount to IDR 33,519,133,440/year. So, the workforce control method helps PT. IGP Internasional Bantul reduced costs related to labor by 4.21% from previous production costs of IDR 34,890,435,381.

Keywords: Aggregate Planning Heuristic, ARIMA, Forecasting, Production capacity

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