WORKLOAD ANALYSIS ON THE FABRICATION LINE IN A HEAVY EQUIPMENT COMPANY.

UNDERGRADUATE FINAL PROJECT

Submitted as one of the requirements to obtain Sarjana Teknik (S.T.)

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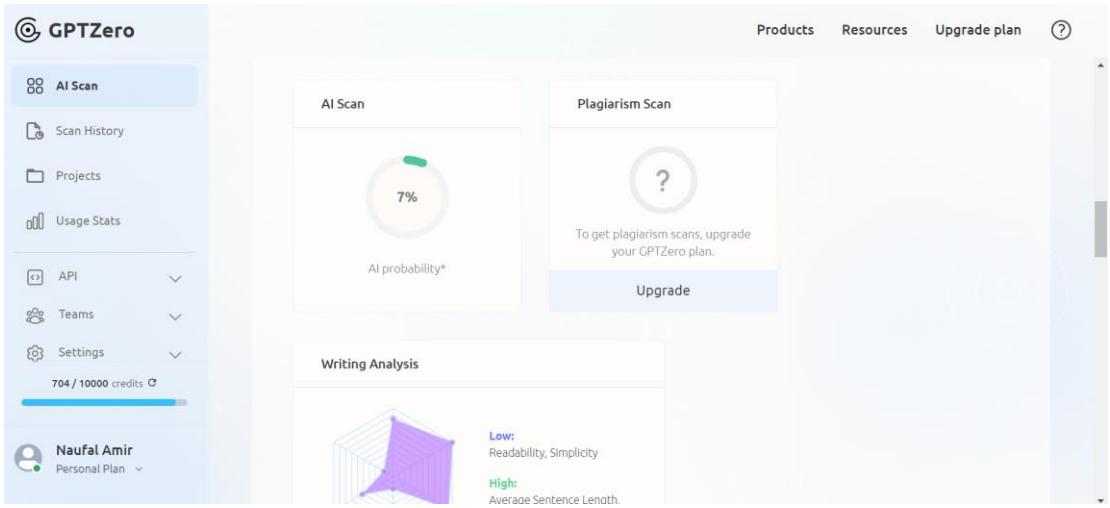
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ABSTRACT

PT XYZ is one of the companies engaged in heavy equipment manufacturing in Indonesia and one of its production products is the big vessel, observations were made on that product fabrication line which has 3 main work process workstations with 8 welders as sampling objects. During observations carried out for one month, it was discovered that the fabrication line in the large ship production process added welders at each of the 3 workstations in 6 production units to help complete the production process, while at the same time there were still several welders who were unproductive while other welders are productive during working hours. Apart from that, the fabrication sector has never done a workload calculation, so it is necessary to calculate the workload to find out how big the workload is for welders in the fabrication sector. Workload calculations are carried out using the workload analysis method, starting with observations using work sampling. Next, the percentage of productive and non-productive activities is carried out from the observation results, then continues with determining the size of the performance rating using the Westinghouse system method and the allowance value using the Industrial Labor Organization (ILO) table. After that, the workload is calculated by considering several previously known factors such as the productive percentage of each welder, performance rating and allowance factors. After the workload is known, the optimal number of workers needed can be calculated based on the results of the workload. has been received, then from the results of the analysis two improvement suggestions are given by increasing the number of workers to stabilize the workload condition in accordance with the calculation of the optimal number of workers, or second suggestion by proposing working tools. Result of comparation by using SQCDMP criteria shows that the second improvement proposal is more cost efficient with an expenditure of IDR 1,631,000.00, compared to the first improvement suggestion by adding a welder to overcome the workload problem because it requires a greater cost of IDR 5,500,000.00.

Keyword: Workload Analysis, Work Sampling, Westinghouse system, ILO.

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