REDUCING LEAD TIME PRODUCTION USING PDCA METHOD IN ASSEMBLY PROCESS OF BIG VESSEL X-PRO OB HD 785

(Study Case at PT United Tractors Pandu Engineering)

UNDERGRADUATE FINAL PROJECT

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

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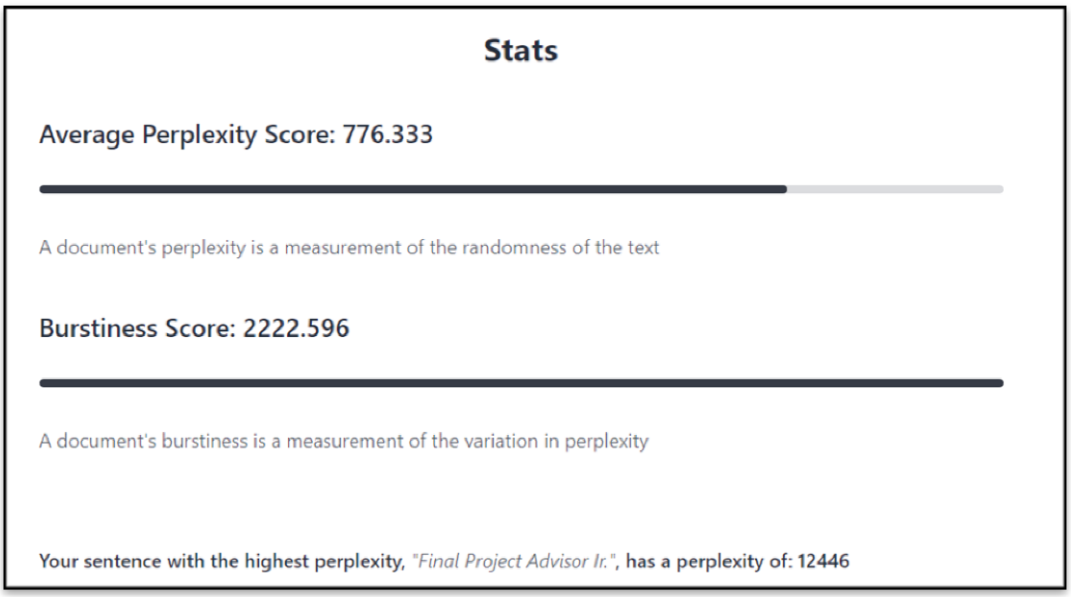
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ABSTRACT

Production lead time is the period required from process initiation to completion. Lead times that are too may long cause production process to stop entirely. However, a lead time that is too long is a bad thing if not overcome. Every company certainly gets shorter lead times and wants to reduce production costs. Because in production demand 2022, the number of requests for big vessels is the most requested by customers, the company has increased its production target in 2023 to 80 units per month. However, the highest lead time of several processes in the fabrication process, namely Assembly X-Pro OB HD 785, is 7.8 days; This causes the X-Pro OB HD 785 Assembly Process not to reach the target every month because the target achieved in the current process is only 53 products per month while the target requested by the company is 80 units of product per month. By adopting the PDCA (Plan-Do-Check-Act) method, it can identify the problems that occur and how to solve them. This will reduce production lead times by changing several work processes, including Replacing the grinding stone with higher specifications, Changing the welding method from Solid wire to the Fluxcore Method, creating workload division standards, and detailing operator work process activities. The Improvements were made to reduce the lead time to 3.3 days and increase capacity unit per month to 80 units.

Keyword : *Lead Time, PDCA Methods, Heavy Equipment Industry, Capacity Planning*

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LIST OF TERMINOLOGY

Lean Manufacturing	Lean Manufacturing is a production practice that considers all expenditure of existing resources to obtain economic value for customers without any waste, and this waste is the target to reduce.
Lead Time	Lead time is the amount of time that elapses from the start of a process to its completion.
Manhours	Manhours is the number of working hours required or needed or spent to complete a job
PDCA Method	PDCA, the English abbreviation of "Plan, Do, Check, Act" is an iterative four-step problem solving process commonly used in quality control
Set Up Capacity	Tool that find production capacity based on calculating man hour and manpower requirements