Perancangan lean production system dengan pendekatan cost integrated value stream mapping studi kasus pada industri otomotif = Design of lean production system with cost integrated value stream mapping case study at automotive industry

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Abstrak

Penelitian ini menggabungkan value stream mapping dengan aspek biaya. Value stream mapping menyediakan blueprint untuk implementasi konsep lean manufacturing dengan menggambarkan aliran informasi dan material pada value stream. Integrasi aspek biaya dalam value stream untuk memperkenalkan cost line yang dapat membantu memudahkan dalam pengambilan keputusan. Redesign VSM ini membantu memfokuskan area perbaikan. Perhitungan takt time berfungsi sebagai pembanding bagi kecepatan produksi. Target cost berfungsi sebagai pembanding bagi biaya produksi.

Hasil penelitian memperlihatkan bahwa dengan implementasi cost integrated VSM dapat membawa penurunan pada hal-hal berikut: Lead time produksi turun sebanyak 59,8%, Total Cycle time turun sebanyak 19,75%, Total value added cost turun sebanyak 2,6%, Total non value added cost turun sebanyak 53,4%, Jarak transportasi turun sebanyak 19,34%. Hal ini membuktikan dengan mengadopsi cost integrated VSM pada industri otomotif dapat membuat perbaikan yang cukup signifikan.

This paper integrate value stream map with the cost aspect. A value stream map provides a blueprint for implementing lean manufacturing concepts by illustrating information and materials flow in a value stream. The objective of the present work is to integrate the various cost aspects. The idea is to introduce a cost line, which enhances the clarity in decision making. The redesign map proves to be effective in highlighting the improvement area. Taft time calculation is carried out to set the pace of production. Target cost is set as a benchmark for product cost.

The result of the study indicates that implementing cost integrated VSM led to reduction in the following areas: Production lead time by 59.8 %, Total Cycle time by 19.75 %, Total value added cost by 2.6 %, Total non value added cost by 53.4%, Travel distance by 19.34 %. It found that adopting cost integrated value stream in automotive industry can make significant improvement.