

Flexible Mixed Model Assembly Line Design: A Strategy to Respond for Demand Uncertainty at Automotive Part Manufacturer in Indonesia

Authors : T. Yuri, M. Zagloel, Inaki M. Hakim, Teguh Bintang Nugraha

Abstract : In an era of customer centricity, automotive parts manufacturer in Indonesia must be able to keep up with the uncertainty and fluctuation of consumer demand. Flexible Manufacturing System (FMS) is a strategy to react to predicted and unpredicted changes of demand in automotive industry. This research is about flexible mixed model assembly line design through Value Stream Mapping (VSM) and Line Balancing in mixed model assembly line prior to simulation. It uses value stream mapping to identify and reduce waste while finding the best position to add or reduce manpower. Line balancing is conducted to minimize or maximize production rate while increasing assembly line productivity and efficiency. Results of this research is a recommendation of standard work combination for specific demand scenario which can enhance assembly line efficiency and productivity.

Keywords : automotive industry, demand uncertainty, flexible assembly system, line balancing, value stream mapping

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