

COMPOSING OF LEAD TIME REDUCTION APPROACH IN ASSEMBLING AN ELECTRICAL PRODUCT

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ABSTRACT

The paper explores the lead time reduction projects that have been implemented in an electrical product assembly line, called subwoofer speaker. Observation has been conducted on 26 workstations which are involved in an assembly line. Group discussion, real-time study, and action research have been performed to reduce cycle time. The result shows that most ideas are able to reduce cycle time to as minimum as 0.1 seconds from the original cycle time. In other words, the project is able to give an impact of at least 520 seconds on daily normal working hours. Besides, it also enhances the participation of the employee in reducing lead time while improving production capacity.

Keywords: Cycle Time, Lead Time, Assembly Line

INTRODUCTION

Assembly line system can be defined as the controlling of job movement between every workstation in line (Cohen, 2013). Paced line condition can be referred to as the assembly system that has a different value of cycle time in each station (Calvo et al, 2006). In a standard case, each of the workstations applies standard or same cycle time, so the number of part product transferred would be within the same time, and the number of output product would be fixed, where it is equal to the reciprocal of the cycle time system. This happens in the automated assembly but not in manual assembly system. There is some condition that the cycle times are different and kept in average, and this happens in a mixed model line where single production lines consist of two models or more. Each of the different models consists of different cycle times and target of production due to the fact that each of model faces different types of problem and solution. This scenario is difficult to see in every production line using the manual system because the bottleneck or problem occurs due to human error, and this different as compared to process cycle time, etc. (Yilmaz & Yilmaz, 2015).