ABSTRACT

A production process usually dealing with two kinds of time – touch time and throughput time. Setup time is one of the time elements inside touch time and throughput time. The reduce of setup time will affect to the reduce of the touch time and throughput time, which it will make the company more responsive or faster in serving amount and variation of customer needs. PT. Kanebo Tomen Synthetic Mills (PT. KTSM) is a textile company. This company produce pattern and non pattern fabric from cotton and polyester. This company has three departments, Spinning, Weaving and Finishing department. Weaving department is one of the three departments at PT. KTSM that at the current time dealing with long setup time at its production process. There are several work station that dealing with this problem, that is : Warping, Sizing, Leasing, Reaching, Air Jet Loom (AJL), Toyota, Loom Shuttle and Inspecting work station. Setup time in each of the work station is very variety which the longest setup time occur at AJL work station for 1-3 hours. There are three setup processes at AJL work station, that is : tying process, changing type process from plat to plat and changing type process from plat to twill or from twill to plat. Setup process that most often held is tying process. Consider this condition, research need to be held to result a proposal of setup tying process, tying equipment and parts of weaving machine that can reduce setup time at tying setup process at AJL work station, with the result that company become faster in serve customer needs. Method that will be used is Single Minute Exchange of Dies (SMED).

Initial step to conduct is doing preliminary study and observation on the existing work system to identify the whole work system. Afterwards continued with implementation five steps of SMED method, that is : measuring and analysis existing setup tying process time, separation existing setup tying process become internal and external setup tying, shift / convert internal setup tying become external setup tying, streamlining internal and external setup tying improvement and documentation internal and external setup tying improvement. The last step is doing analysis to the proposal from aspect time, activity and equipment used.

Comparison setup tying process time between existing setup tying process with proposal setup tying process can be seen at the table below :

	Setup Tying Process Time		
	Existing	**Proposal**	**|Δ| (seconds/minutes)**
Internal Setup (seconds/minutes)	3.606,92 / 60,12	1.600 / 26,67	2.006,92 / 33,45
External Setup (seconds/minutes)	273.50 / 4,56	931,50 / 15,53	658 / 10,97
Total Time (seconds/minutes)	3.880,42 / 64,67	2.531,50 / 42,19	1.348,92 / 22,48

From the table above, conclusion can be take that using of SMED can reduce setup tying process time, downtime machine as well as touch time and throughput time, company become faster in serve customer needs, increase company productivity and efficiency, increase company income and cash flow in a period of time, increase company profitability, increase company compete capability and reduce company total cost.