

e-Briefing on Productivity Improvement

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SMV as a tool to measure the productivity

SMV stands for Standard Minute Value, which is the time required for a qualified worker to perform a specific task at a standard performance level. The SMV includes allowances for relaxation, rest, machine delay and other anticipated alternatives.

In a garment Manufacturing the SMV is the universal tool of measurement of time and can be used to Line Balancing, Production Planning, Incentive Schemes, and the quantification of Operator Performance and Factory Efficiency.

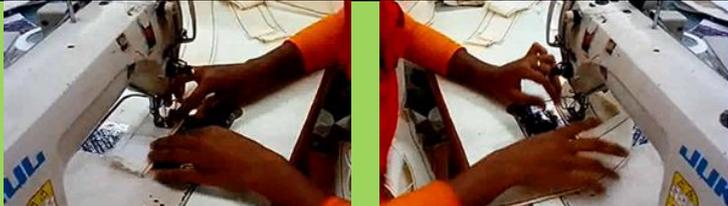
Calculation of SMV

There are many techniques to calculate SMV, however, in garment manufacturing two techniques are mostly used: Time study and GSD (general sewing data). Time study uses manual techniques which is easy and economic whereas GSD need proprietary 'GSD software' to calculate the SMV.

$$\text{SMV} = \text{Observed time, in minutes} \times \text{Performance Rating} + \text{Allowances}$$

To show how to calculate SMV for a certain task, let us consider woven label attachment on waist belt by time study method. Before beginning the calculation, the task supposed to be standardized i.e. no unnecessary motion.

The task can be broken into the following 3 elements:

Element	Average Time Required	Observed Total Time
 <p>Pick and place belt and label under feed</p>	5.2 Seconds	$(5.2 + 6.5 + 2.2) / 60 = 0.232 \text{ minutes}$
 <p>Sew to attach the label with belt (sew start to complete)</p>	6.5 Seconds	
 <p>Remove and place the belt and pick another</p>	2.2 Seconds	

If the worker performance rating is 110% and allowance is 15%, then $\text{SMV} = (0.232 \times 110\% + 15\%) = 0.29 \text{ minute}$. So, we can calculate the standard labor productivity per hour for the process (label attach to waist belt) is = 206 pieces.

Reed Consulting Bangladesh Ltd. have been involved with Textile, Garment and Leather sector for the last 8 years. An initial walk-through gives an idea about the level of productivity in a current set-up which is then studied in details to find out the opportunities (of the utilization of man, machines and materials). For further information, please email to customercare@reedconsultingbd.com.