Customized Lean Case Studies

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Abstract	In today's constantly evolving and innovating world, competition is also growing. Industries are therefore trying to be as efficient as possible by optimizing their processes and reducing waste. Customers' demands needs to fulfilled without keeping them waiting, industries produce goods in small batches which increases the changeover time or setup time. Single Minute Exchange of Die (SMED), a Lean Manufacturing tool, is a concept used for reducing setup time and thus, reducing waste and increasing productivity. In this Case Study, the discussion brings light to the SMED technique applied to an FishFood Producer Company. The main objective was to reduce waste, viz., time wasting, by applying the SMED technique. The result should give us setup time in single digits, i.e. less than 20 minutes; thus reducing the cycle time of the process. The basic task was to identify the internal activities and convert them to external activities.
Keywords	SMED
Anonym	Ja
Company name	Fish Food Company in North West Germany
Company address	
Company country	
Line of business	Food And Kindred Products
(Approx.) yearly turnover	1.000.000€ - 5.000.000€
Number of employees	250 - 500
Percentage temporary workers	0% - 5%
Principal range of products	Products tailored to customer specifications
Major product quantities	Small batch production
Principal type of production organisation	Group manufacture
Who was the trigger / customer of the project?	Managing Director
Project Type	SMED - Project
Lean is already fully established	Not really true
What was or is the main trigger to implement Lean?	Reduce the cost
Case Study	There were many customers and their product variants make high variety for the company. So, initially customers having more product demand are considered for pilot study and all the data of the processes was collected. All the processes along the production line were observed and analyzed briefly. The various processes of the different production lines were observed and activity time readings were noted to determine the overall time taken by a process. To avoid human error, we also shoot videos of the complete changeover process 1. Then, verified all activity time readings with videos taken and finalized activity cycle time. Next step after data collection was to analyze the data of various process. Activities are categorized in to 3 types viz. VA operations, NVA operations and NVA but necessary operations, to priorities action plan in order to easy and smooth implementation. After the improvement in the production line, we studied critical machines (having largest set up time) of various production lines and reduced the setup time.
Top 1 waste	Waiting
Top 2 waste	Over-production
Top 3 waste	Defects
Starting Situation	Company have some factories with different capacities located across the world to fulfil requirements of customers in respective region and so on. Company was facing delivery issues though its customers are located nearby to the company. After analyzing material and information flows of all processes by using value stream mapping, few major problems come on surface. One of the critical things was large amount of time spent in changeover activities. Hence we decided to reduce setup time and help them improve production output and timely delivery to the customers.

Evaluation	After the analysis of all the charts, excel sheets, time study and bar graphs, the Kaizen approach was used to eliminate the time consuming factors. In the End we clustered the improvemts in NVA, NVA but necessary, and VA. Fpr the proction Line 1. We reduced NVW from 16 minutes to 0 minutes. NVA but nevessary wwas reduced von 57 minutes to 14 minutes. The VA-time was not changed.