

## ABSTRACT

*PT Unggulrejo Wasono is one of the textile company that produces grey cloth. This company focusses in quality as success key of having a great and tight competition in both of textile products and industries. The real action which has been done by this company is forming the Inspecting Division and applying grading system for finishing product before the products are distributed to the costumers. Yet, in managing the problem of defects, the company only does improvement based on previous event that may cause the other defects come again potentially. All this makes a great number of defects that creates average of total BS clothes produced achieves 1.39% of all.*

*Therefore, in the research is used to solve the problem by using the Six Sigma method because this one method is the way of increasing the production process. This method aims to find out en decreases the factors that make defact and error happens in order to increase quality greatly and error rate approaches to zero (zero defect). Implementation of six sigma methods will give reduction amount of defect i.e. 90,70% in the first year, 88,94% in the second year, 66,08% in the third year, 31,76% in the fourth year, and 32,08%-54,72% at next years.*

*The research consists of four stages i.e. Define, Measure, Analyze, and Improve. In the first stage, first thing to do is making a CTQ formulation (Critical to Quality) by doing interview activity with company management. Next in measure stage, we do measurement of process stability using control map p and rate measurement of product performance in DPO (Defect per Opportunities), DPMO (Defect per Million Opportunities), and achievement in sigma level. In third stage, we call it analyze stage that analyzes the process stability and defect maker factors using causal diagram. The last stage, improve stage, is giving the recommendation for improving the defect problems and also deciding the priority of improvement using FMEA (Failure Mode and Effect Analysis).*

*According to the research, it is obtained five potential CTQs including cloth construction that costumers want, cloth strength, matting pattern, cloth cleanliness, section of cloth surface. For the average of sigma level achievement during production period July-December 2008 is 3.92. From the result of analysis, it shows five defects that give the biggest contribution in making high number BS cloth, i.e. Pakan Balik (19.96%), Lusi Loncat (15.75%), Lusi Putus (11.05%), Lusi Double (9.35%), and Lusi Kendor (9.24%). The things that make them happen, such as : yarn crossing, yarn uncut, instandardizationed method of yarn joining, waste behind reed, carat on wire heald and reed, operator error during drawing process, etc. As the step of improvement, it is recommended to do patrolling as preventive action, machine cleaning process from waste regularly, using standardizationed method of yarn joining, socialization work standards through adhering work standards in production areas and breafing activities, increasing the restricted controls by supervisors, etc. In deciding the improvement priority, the sequence of defect improvement that must be done based on FMEA is Lusi Putus (34), Lusi Loncat (30), Pakan Balik (27), Lusi Kendor (24), and Lusi Double (15).*

*Keyword : defect, Critical to Quality (CTQ), sigma level.*