

## **ABSTRACT**

*PT. Sempurnaindah Multinusantara (SIMNU) is a manufacturing company specialize in manufacturing synthetic leather. Company produces synthetic leather performed continuously for several types of common variants, but the PT. SIMNU prefers the strategy of make-to-order based on customer orders. Output between June to December 2010 obtained the number of defective products synthetic leather with high class quality is 7.46%. The defects are beyond the tolerance of the company that is equal to 3.5%. Hence PT. SIMNU tries to control and improve product quality with reducing product defects to escalate company efficiency.*

*The order to reduce the number of defects, six sigma will be used as quality improvement method. Because it is close loop, the stages that must be done in the implementation of six sigma that are define, measure, analyze, improve, and control (DMAIC). Define stage performs product selection, identify of the production process and type of defects. Measure stage performs identification of critical to quality (CTQ) potential and measures capabilities such as stability and capability. In the Analyze stage is identifying the root causes of selected defects using the fishbone diagram. Furthermore, on the the improve stage perform a proposed improvement is given to minimizing the incidence of defects and the control stage perform a measurement after improvement level sigma.*

*Based on research results, obtained after improvement sigma level is 4.5804813. When compared with level sigma before the improvement is equal to 4.550872338, the sigma level has increased by 0.03. This increase can be said that the improvement are done successfully to reduce defects and increase the value of sigma company.*

*Keywords: Synthetic Leather, Defect, DPMO, Six Sigma*