

SUMMARY

AHMAD MUKTI ALMANSUR. Performance Improvement of Biscuit Production Process through Lean Six Sigma in PT XYZ. Supervised by MACHFUD and SUKARDI.

Industry FMCG (Fast Moving Consumer Goods) including the food industry, is the industry with the level of competition is quite tight, competing manufacturers in terms of product, quality, pricing and distribution. PT XYZ is a biscuit manufacturers operating in Indonesia. The company is committed to be able to compete with competitor. One of the efforts to keep competitive is to increase the performance of the production process by reduction in waste of the whole process of production. In the Year 2013, PT XYZ expanding the capacity to perform the installation of production line no.5 (Line 5), which is the biggest production capacity. This requires the ability of a good process, in accordance with the purpose of the investment made. Improvement of production processes is done by applying several methods, one method is Lean Six Sigma.

Lean concepts are downsizing or efficiency of a process, while Six Sigma is defined as a process that produces no more than 3.4 defects in every one million opportunities (3.4 defects per million opportunity), and efforts to achieve it is done 5 phases called DMAIC (Define, Measure, Analyze, Improve, and Control). This is an area of research that is expected to contribute to the improvement of production processes and increase process capability Line 5.

The results of the study obtained values Process Cycle Efficiency (PCE) 47.29persen, and the determination of CTQ (Critical to Quality) and process capability in the form of the Cpm (Capability Index) value of each stage of the process and Yield. Line 5 has a DPMO (Defects Per Million Opportunities) of 29632,607 with Sigma score at 3.39, FMEA (Failure Mode and Effect Analysis) obtained recommendation for improvement in every stage of the process.

Keywords: biscuit, CTQ, cpm, lean, process cycle efficiency, six sigma