

ABSTRACT

This project concentrates on how to improve the defective rate of plastic material GPPS (General Purpose polystyrene) of Washing Machine and Refrigerator products in Toshiba Consumer Products (Thailand) Co.,Ltd. by using Six Sigma methodologies.

Six Sigma was recently introduced into Toshiba head office around 1997. In 2001, Toshiba Consumer Products (Thailand) Co.,Ltd. began to introduce Six Sigma within the company by adopting management basic from head office. We found that Six Sigma is extremely effective for quality and productivity innovation for our company.

The core objective of Six Sigma is to improve the performance of processes, by its attempts to achieve three things: the first is to reduce costs, the second is to improve customer satisfaction, and the third is to increase revenue, thereby, increasing profits.

After applying Six Sigma methodologies, the defect rate of GPPS (General Purpose Polystyrene) reduces from 5.77% (COPQ 2.02 MB) in term 03B (Oct'03 — Mar'04) to 2.24% (COPQ 0.99 MB) in term 04A (Apr'04 — Sep'04) less than our target at 4.0%. So we can keep the hard saving 1.02 MB/term in 04A.

Moreover we can improve the process capability after completing Six Sigma methodologies are C_{pk} additional from 0.48 to 1.22, Z-Bench (Sigma) additional from 1.51 to 3.86, and PPM reduction from 78,116.5 to 87.79.

There are some common industry tools that can give an insight to directions that can be considered a part of Six Sigma measurement and improvement strategy such as POKA-YOKE or Mistake-Proofing, Kaizen or Continuous Improvement, Total Quality Management (TQM), KANBAN, and Lean Manufacturing and Waste Prevention.