

USE OF SIX SIGMA STRATEGY IN THE PLASTIC INJECTION SECTOR TO REDUCE REJECTED PIECES IN A SEWING INDUSTRY OF CARIRI – CE, BRAZIL

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ABSTRACT

The paper describes results obtained using the Six Sigma methodology in an industry of sewing machines located in Juazeiro do Norte - CE, Brazil. The research has shown the importance of the Six Sigma program, demonstrating its applicability (Koksal ET AL, 2011). The company's plastic injection sector stands out as an internal supplier of most of the parts in the production process where the dispatch of pieces with acceptable quality is essential in the assembly of machines produced. The quality audit of the company revealed the existence of a considerable number of rejected pieces because of defects, it is important to reduce these indices, justifying the performance of this paper which followed the sequence of the PDCA in steps DMAIC. The Six Sigma has been successfully applied in various companies: Biopharmaceutical Industry (ABDULLAH ET AL, 2014), in the food industry (MULLER & DROHOMERETSKI, 2013), in the textile industry (Karthi ET AL, 2013) and in the automotive industry (FERNANDES & Turrione, 2007) being applied in the industry focus of this paper and helping to identify items and to reduce them in about 31%. Using the Ishikawa diagram was possible to identify the causes and to point the correctives measures applicable. Then, control measures were carried out and in the end, it was possible to reduce the initial cost of R\$ 0.71 per machine month to R\$ 0.35 per machine month, which indicates reduction above the established goal and demonstrates the relevance of the Six Sigma methodology to generate value for the company.

Key-words: Six sigma, control, quality improvement.