STUDY ON THE APPLICATION OF STATISTICAL QUALITY CONTROL TECHNIQUES IN SHOE MANUFACTURING FOR QUALITY IMPROVEMENTS

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ABSTRACT

This article presents the application of statistical quality control (SQC) techniques for solving rework/rejection of leather components in footwear manufacturing company by taking Peacock footwear company as a case study. Data were collected by direct data intake from production shop floor and pulled up data from company's database. The observed data were analyzed using SQC tools. Origin 8 and SPSS software's were used for the data analysis. Control charts revealed that the production process of the company is found out-of-control situation as some points outlie control limits. The study also determined the most frequently occurring type of defects using Pareto analysis. Three type of defects (Skipped stitches, Wrinkle not cut and Thread not cut) were identified as the most frequently occurring defects that are accounted for 72% of the total problems. Furthermore, cause & effect diagram is constructed through brainstorming sessions to identify potential causes of the defects. The company needs to alleviate the causes so that overall performance of the company can be improved.

Keywords: Ethiopia, footwear, statistical quality control (SQC), control chart, Pareto diagram.