

## **ABSTRACT**

This research investigates Transnet's Foundry Quality System, focusing on the quality issues in the Foundry. This includes determining the total cost of quality for the business, investigating the impact of the specific defects on the productivity of the business. Two products were analysed namely, the top centre casting and the brake shoe holders.

Root cause analysis was done on each stage of the Foundry process to understand the causes of defects. Data was collected and analysed and most of the defects that occur were found to be the result of poor quality management which consequently causes low productivity and low profits. Also identified was a lack of skilled personnel in specific areas in the Foundry. Furthermore data collection as part of the quality system in the Foundry is not effectively executed and this implies that performance cannot be fully measured.

Non Compliance reports from customers were analysed and the total cost of quality was calculated to be R1 214 690.73 based on the data that was available. The impact of defects on productivity was also analysed for the financial year 2014/2015 and it was calculated to be 47% for the brake shoe holders. The target for the Foundry for the financial year was R4 048 799.30 for the actual productivity in sales amounted to R 1 915 510.60. For the top centre the estimated target for the financial year 2014/2015 was R6 271 500.00 and the actual productivity amounted to R3 305 250.00. Statistical process control charts were drawn and it was discovered that some of the machines owned by the business are not capable of producing to specification. Qualifound was identified as a framework to improve the Transnet foundry quality system.

It is recommended that top management be educated in the concept of cost of quality and its impact on business profitability and that skilled quality coordinators be appointed to facilitate continuous quality maintenance.