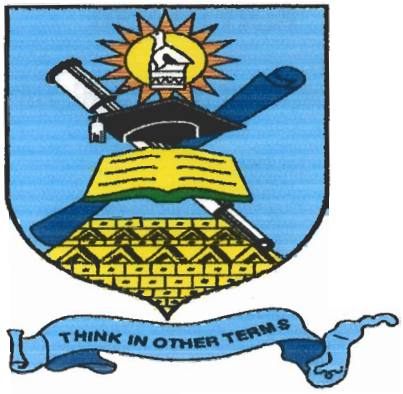


National University of Science & Technology

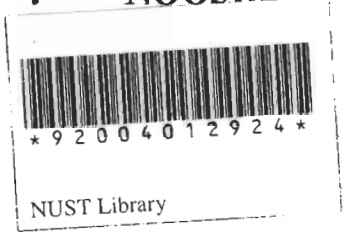
FACULTY OF INDUSTRIAL TECHNOLOGY

Department Of Textile Technology

An Assessment of Efficiency and Productivity in Ring Spinning

Name : **Sandra T.N Hakutangwi**

Student Number : **N0051521A**



Supervisor: Dr. A.B Nyoni
(Department of Textile Technology NUST)

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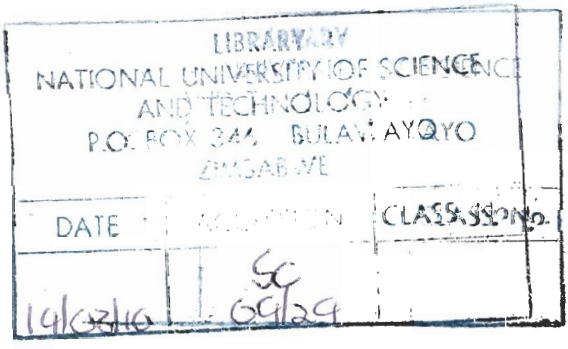

Abstract

The aim of the project was to assess efficiency and productivity in ring spinning. Production trends based on historical data from 2007 to 2009 were established. The trends showed a decline in efficiency of 12.5% between years 2007 and 2008 whilst productivity (kg/hr) dropped by 28% during the same period. Work study carried out to assess existing work methods revealed some incorrect work practices such as ring frame tenters not reporting repeated breaks occurring on the same spindles and clearing roller lapping by moving the lap towards the arbour side which affected efficiency. To observe spinner's cycle time, doffing time and end break rate, seven ring frames spinning 20tex combed, 20tex carded, 25tex combed, 25tex carded and 30tex combed yarn were selected at random. The results showed that the average doffing time of 6.7minutes per 960 spindles exceeded the recommended time of 4.2minutes resulting in a loss of production of approximately 18 750kg per month. However, end break rate was within the company's standard of 5% hence could not be used to account for the decline in productivity.