An analytical study on establishing strategies for improving the productivity of the spinning industries

Ibrahim Joseph Mwasubila

Department of Mechanical and Industrial Engineering,
College of Engineering and Technology,
University of Dar es Salaam,
Dar es Salaam, Tanzania
Email: ibrahimjoseph112@yahoo.com

Ismail W.R. Taifa*

Department of Materials,
Faculty of Science and Engineering,
The University of Manchester,
Manchester, UK
Email: ismail.taifa@postgrad.manchester.ac.uk
and
Department of Mechanical and Industrial Engineering,
College of Engineering and Technology,
University of Dar es Salaam,
Dar es Salaam, Tanzania
Email: taifaismail@yahoo.com
*Corresponding author

Beatus A.T. Kundi

Department of Mechanical and Industrial Engineering,
College of Engineering and Technology,
University of Dar es Salaam,
Dar es Salaam, Tanzania
Email: beatus.kundi@gmail.com

Abstract: Strategies for improving the productivity of the spinning industries are much needed. In this paper, a case of a spinning industry was systematically studied. The strategies for enhancing productivity were established through a mixed approach. The studied industry experienced low productivity as they were only achieving 55%–68% of their production plan. Also, their actual operational machine availability was 67%. The proposed strategies include improving the spooling and the drawing process by installing new machinery technology; improve raw materials and components flow; hiring well-trained workers; develop employee training programs; search for new market segments; establish effective information and communications technology section, and develop an implementable maintenance plan. The study also revealed that system dynamics modelling helps to arrange descriptive information analytically. Thus, Vensim® software was applied to illustrate the

Copyright © 2022 Inderscience Enterprises Ltd.