DEVELOPING ERGONOMICS APPROACH FOR MANUAL SORTING AND INSPECTION IN A PULP AND PAPER MANUFACTURING COMPANY

By

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

DEVELOPING ERGONOMICS APPROACH FOR MANUAL SORTING AND INSPECTION IN A PULP AND PAPER MANUFACTURING COMPANY

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In a manufacturing company, manpower still plays an important role in the company. Although automated machines are commonly use these days, some of the works still need to be performed manually due to several reasons such as specific skills and accuracy. However, there are still tasks that are not suitable with the ergonomics perspective and this might result in pain, discomfort, or injury on workers' body parts, even more when the works are done repetitively and without standard operating procedure. This research aims to assess the working postures, improve the working methods, and develop standard operating procedure. Therefore, Nordic Questionnaire was distributed to the population sample of the workers in a pulp and paper manufacturing to find out the affected body parts. Through observation, photos were taken during the works to assess the working postures using REBA scoring to validate the workers' complaints. The working postures then recreated and analyzed using Jack Simulation software. The results show that postures such as squatting, sitting, kneeling, and reaching need to be eliminated, therefore it is necessary to redesign the tasks and supporting tools are required to finish the tasks. Time and motion study was

also conducted in this research, as the based to develop standard operating procedure to eliminate waste of time and waste of motion.

Keywords: Ergonomics, Nordic Questionnaire, REBA, Jack Simulation, Time and Motion Study, Standard Operating Procedure.

DEDICATION

I dedicate this works

To my beloved family

To my supporting friends

To my lecturers

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