

**RE-ENGINEERING OF THE QUALITY ASSURANCE PROCESS
USING WORK STUDY METHODOLOGY**

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Dedicated to my beloved wife, dearest father, mother and sisters.

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Abstract

This project paper explores the application of Work Study methods to improve the manufacturing processes in the current semiconductor manufacturing environment. The scope of the project is narrowed down to the Quality Assurance Out-going Final Inspection (QA OFI) Gate process step at the End-Of-Line (EOL) Operations in Motorola Malaysia Sendirian Berhad. This QA OFI Gate process step had recently become a bottleneck to the total EOL operations and in need of productivity improvement. It was observed that Work Study methods were not being used extensively or applied in a systematic manner in the company being studied. Many changes were made but usually in a less systematic manner and in most instances it is difficult to ascertain if the alterations in procedure is really effective. The findings of this project will be used to determine if this Work Study methodology can be practically applied in an actual manufacturing environment and then decide if other processes can be improved using a similar methodology.

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Chapter 1

Introduction

There are many ways to improve a manufacturing or administrative process e.g. Statistical Process Control, Work Measurement, Work Study methods, Facility Layout, Waiting Line Management, Quality Management, Capacity Management, JIT Systems, ERP System etc. Even within each of these methods, there are many sub-methods that are quite effective by itself in improving a process significantly. On a larger scale, there are Business Process Re-engineering which usually involve a major complete change in the way business is being operated.

The objective of this project paper is to improve the efficiency and effectiveness of the Quality Assurance (QA) function in the Motorola Malaysia Sendirian Berhad's End-Of-Line operations. Due to time constraint, for the purpose of this paper, only a subset of one established method will be used to see how well it can improve a particular manufacturing process step. Based on the results, some recommendations will be made for continuation of further work for this topic. This paper will specifically explore the use of Work Study methodology to improve the QA OFI Gate process step in the End-Of-Line Operations in Motorola Malaysia Sendirian Berhad.

This project will contribute to the understanding and application of Production and Operations Management knowledge, specifically the long