# FINAL YEAR PROJECT SCHOOL OF MECHANICAL ENGINEERING MARA INSTITUTE OF TECHNOLOGY SHAH ALAM SELANGOR D.E.

MRPII AND ITS APPLICATIONS

# AHMAD JORAIMEE MOHAMAD NAZRIN ZAKARIA

DECEMBER 1996

Wahle of Content	
Table of Content PREFACE	page 2
ACKNOWLEDGEMENTS	page 2
ABSTRACT	
	page 4
SCOPE OF PROJECT	page 5
1. INTRODUCTION	page 6
MRPII (Material Resources Planning)	page 7
MRPII at ICI PAINTS MALAYSIA	page 8
MRPII Class A	page 9
MRPII Class A Company Definition	page 9
2. PRE MRPII IN ICI PAINTS MALAYSIA	page 11
3. MRPII process:	page 12
BUSINESS PLANNING	page 12
SALES AND OPERATIONS PLANNING (SOP)	page 15
DEMAND MANAGEMENT	page 18
FORECASTING	page 19
CAPACITY PLANNING	page 22
ROUGH CUT CAPACITY PLANNING (RCCP)	page 23
CAPACITY REQUIREMENT PLANNING (CRP)	page 24
MASTER PRODUCTION SCHEDULING (MPS)	page 31
MRP ( MATERIAL REQUIREMENT PLANNING)	page 31
BILL OF MATERIALS	page 36
VENDOR SCHEDULING (VS)	page 38
TYPE OF ORDERS	page 38
4. PERFORMANCE MEASUREMENTS	page 40
TYPE OF PERFORMANCE MEASUREMENTS IN MRPII	page 40
OTIF (ON TIME IN FULL DELIVERY)	page 41
EXAMPLE ON OTIF CALCULATION	page 43
VENDOR BENEFITS	page 46
4. ASSIGNMENTS	page 47
GLOSSARY	page 55

page 58

page 59

BIBLIOGRAPHY

Index

### ACKNOWLEDGEMENTS

Bismillahirahmannirrahim.

In the name of God, The Most Merciful and Most Beneficent.

We would like to thank to Prof. Madya Razmi Chik for given us the opportunity to do this most valuable experience. Not only had been given this chance to study the MRPII in ICI Paints but for his guidance and patience throughout this project. Without the help of Prof. Madya Razmi Chik, we would never have reached at this level.

In addition, we would like to appreciate the fine people at ICI Paints who provided both help and encouragement during the research: Tuan Syed Salleh as the ICI's Managing Director; Mr Chang Soi Tee, ICI's Distribution Manager or MRPII Project Coordinator; Mr San Wai Chong, Production Planning Manager; Madam Mariani for her vast understanding and knowledge who had help us through our hardship in ICI and lastly, to Madam Paridah for her humour which made our life full of fun.

Wassalam.

### **ABSTRACT**

MRPII 2 has already being introduced in the early 70's. In 1993, ICI Paints Malaysia as the first Malaysia's company, chose MRPII as their business philosophy. After 3 years implementing MRPII, ICI Paints successfully achieved MRPII Class A which was awarded by Oliver Wight himself, the man who introduced MRPII.

## Objectives:

- To study and analyse the MRPII management concept in ICI Paints.
- 2. To collect as much as possible about MRPII implementation in ICI Paints.
- 3. To evaluate the results in MRPII implementation in ICI Paints.

# 1. INTRODUCTION

Many companies have been spectacularly successful in manufacturing systems with poor software, limited software or with no software at all and with inappropriate software at all. At the same time, others have failed to meet expectations despite the best, most complete, or most appropriate systems for their business. The big question is : why?

Many companies wrongly assume that they can buy MRPII. Although there are a number of vendors that will be happy to sell MRPII software, success in its implementation takes hard work and dedication within the company. Senior management must be involved in allocating those resources and setting direction for the project.

Since these systems cross functional boundaries, one result is definitely certain is that departments that traditionally distrust each other, never communicate and often compete for resources are forced to cooperate for the good of the company.

Introducing a new system can be scary for the employees in the company. Senior managers can keep eyes on most of the things. First class managers will find his or her seats getting hotter every time. Operators definitely thinks that there will be a lot of work coming up. The solution is education.