

DOCUMENT MANAGEMENT IMPROVEMENT WITH PROTOTYPE  
DATABASE: A CASE STUDY IN A DISTRIBUTION CENTRE

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A project report submitted in partial fulfillment of the  
requirements for the award of the degree of  
Master of Engineering (Industrial Engineering)

Faculty of Mechanical Engineering  
Universiti Teknologi Malaysia

JANUARY 2013

## ACKNOWLEDGEMENT

First of all, I would like to take this opportunity to extend my deepest appreciation and gratitude to my supervisor, Assoc. Prof. Dr. Abd Rahman Abdul Rahim, for his valuable and sincere guidance, ideas, suggestion, supervision and assistance until the completion success of this project.

I am also indebted to all FAMA's Operation and Distribution Centre, Tampoi, Johor Bharu's staff, especially to the operation manager, Mr. Mohd. Syafiee Mohd. Sait. They have been a great help and support during duration of the project.

My deepest gratitude to my family for their spiritual and emotional support, encouragement and love. My heartiest thanks and gratitude is also extended to all my course mates in sharing their ideas with me, giving their support and showing concern to me.

Last but not least, I would like to express my deepest appreciation for those who have helped me in one-way or another. No matter how small their contribution might be, every one of them contributed to the successful of this project.

## **ABSTRACT**

This project presents a development of prototype database to improve existing document management in an agriculture distribution centre. Systematic creation and capture of official records into an appropriate document management is fundamental to the efficient and effective functioning of a distribution centre. Historically data and information which are not computerized was maintained manually in various file cabinets using log book and paper-based only. Hence, information was not readily available to users in order to make immediate decisions. This project has identified waste in existing method and adopted Lean Manufacturing concept with the application of process flow chart for data collection. The wastes were identified when processing documents namely quotation, purchase order, delivery order and invoice. Computerized information system in document management is seems to resulted in improvement in the organization. Prototype database has been developed by using PHP programming language, MySQL as the database and Dreamweaver MX 2004 for the template design. As a result, 80% of time saving per transaction was obtained and number of transaction could be increased up to 39 cycles compared to only eight for existing approach, in a period of one working time day.

## ABSTRAK

Projek ini membentangkan pembangunan pengkalan data prototaip untuk menambahbaik pengurusan dokumen di pusat pengagihan agrikultur. Penciptaan sistematik dan perolehan rekod-rekod rasmi kepada pengurusan dokumen yang sesuai adalah penting kepada fungsi yang efektif dan berkesan ke atas sesebuah pusat pengagihan. Data dan informasi lepas yang mana tidak dikomputerkan telah diselenggara secara manual dalam kabinet fail menggunakan buku log dan penggunaan kertas sahaja. Oleh itu, informasi tersebut tidak sedia dicapai oleh pengguna untuk membuat keputusan dengan serta-merta. Projek ini telah mengenalpasti pembaziran dalam kaedah sedia ada dan mengambil konsep 'Lean Manufacturing' dengan aplikasi carta aliran proses untuk pengumpulan data. Pembaziran telah dikenalpasti semasa memproses dokumen yang dinamakan sebutharga, tempahan pembelian, tempahan penghantaran dan invois. Pengkomputeran sistem informasi telah menghasilkan penambahbaikan kepada organisasi. Pengkalan data prototaip telah dibangunkan menggunakan bahasa pemrograman PHP, MySQL sebagai pengkalan data dan Dreamweaver MX 2004 sebagai rekabentuk paparan. Keputusannya, penjimatan masa setiap transaksi sebanyak 80% diperolehi dan bilangan transaksi dapat ditingkatkan sehingga 39 pusingan berbanding hanya lapan dengan kaedah sedia ada, dalam jangkamasa satu hari bekerja.

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## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Introduction**

This project has developed information system in a food distribution centre. Most of the small enterprises business's detail information such as customer and supplier profile, documents including quotation, purchase order, delivery order and invoice details are still recorded manually or being kept in separate files. Unluckily, some of the information event is even not recorded or missing. It also can cause any data or information changing takes a lot of time and works to be retrieved and recorded. Document management and use of information is an important part of running and operating a business well. Computerized systems for executing those functions are becoming more common as the modern world moves toward digitization.

For Malaysia's fruits industry, there is still lack of clear view on the supply chain management although the production already started since 30 years back, hence it is coordinating, supervising and monitoring under government's Ministry of Agriculture



and Agro-Based Industry. Determination of every entity in the supply chain is very important to identify the strengths and weaknesses in order to improve and ensure sufficient capacity supply of fruits are achieved. Company selected was FAMA's Operation & Distribution Centre of Johor Bharu (ODCJB) as a case study.

## **1.2 Background of the Research**

Proper document management is essential in upholding FAMA's ODCJB's reputation as an effective distribution centre. The systematic creation and capture of official records into the FAMA's ODCJB's record keeping system is fundamental to the efficient and effective functioning of FAMA's ODCJB's administrative processes. Quality of record keeping practices ensuring the availability and timely access to full and accurate records. These records must be kept for varying periods of time to ensure they are available to meet administrative needs and as evidence of the FAMA's ODCJB's businesses. Existing manual record keeping system disable to achieve above requirements mentioned. Providing better service by automating "record keeping" is seems to be better way to make improvement.

Motivated by these considerations, this study attempts to provide a framework of prototype database to improve existing manual system. With the technology and information system we have now, computers have been widely used to record files. Database is mainly needed to record all the important files because there a lot of advantages using database system.

### **1.3 Statement of Research Problem**

The concept of lean manufacturing (LM) needs to study process flow and wastes to identify an optimized solution that could eliminate all non-value-added tasks. FAMA's ODCJB practices the traditional concept in document management mainly manual record keeping system using paper-based, log book and files. This in turns creates high level of manual work activities, long lead time and low value added ratio. This project is carried out to address these issues.

### **1.4 Justification of the Research**

This study can benefit FAMA's ODCJB by providing IT solutions at the documentation record keeping system. Reducing processing time by analyzing current process flow and developing database system (prototype) can make the operation more efficient.

### **1.5 Project Methodology**

Method that will be used in this project start with data collection on the process flow in the company and by recording required times to process each document. The data collected will be used to develop current process flow and improvement alternatives.

## **1.6 Objectives**

The objectives of this study are to determine areas of improvement for document management in an agriculture distribution centre and to propose prototype database as central repository of files for storage and retrieval of order and delivery information.

## **1.7 Scopes**

The scopes of this study are:

1. Limited to the distribution of fresh fruits and supply chain under selected case study (FAMA only).
2. Limited to document required between Trading Department of FAMA's ODCJB and their customers only.
3. The database is only a prototype and full implementation depends on the management authority.

## **1.8 Significance of Study**

Steps of necessary tasks translated through a process flow chart in order to complete the transaction of four types of required document which are Quotation,

Purchase Order, Delivery Order and Invoice. The project introduces computerizing the tasks flow to reduce the cycle time for each transaction.

## **1.9 Outline of the Report**

This report is organized into six chapters:

Chapter 1 : Introduction

- Described general introduction about the entire master project including the objectives and scopes.

Chapter 2 : Literature Review

- Reviewed relevant literature reviews related to supply chain, lean manufacturing and database information system.

Chapter 3 : Research Methodology

- Described the methodology used in this research in order to achieve the objectives of the study.

Chapter 4 : Data Collections and Analysis

- Described data collected in this study and outcomes from the interviews, questionnaires and time study.

Chapter 5 : Recommendation

- Discussed the proposed database system, benefits and comparison between existing and new system.

## Chapter 6 : Discussion and Conclusion

- Discussed the summary of the entire report.

### **1.10 Conclusion**

This chapter described general introduction about the entire master project. The background record keeping system was briefly discussed. It was followed by an introduction of the existing problems facing by the company. The objectives and scopes of the project were stated to address the goals and boundaries of the study. The significance of the study was discussed. Lastly, the summary of the entire report was explained.

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