

BORANG PENGESAHAN STATUS TESIS^

JUDUL: AUTOMOTIVE PART MANAGEMENT SYSTEM

SESI PENGAJIAN: 2006/2007

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AUTOMOTIVE PART MANAGEMENT SYSTEM

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This report is submitted in partial fulfillment of the requirement for the Bachelor of
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2006

DECLARATION

I hereby declare that this project report entitled
AUTOMOTIVE PART MANAGEMENT SYSTEM

Is written by me and is own effort and that no part has been plagiarized
without citations.

STUDENT : _____ Date : 23 NOVEMBER 2006
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DEDICATION

I would like to dedicate my appreciation to
My beloved parent Hasan Bin Sidek and Eshah Kasim

To my friends Nurliyana Khalid Khan,

Siti Nurfazlina Tafarudin

Adidah Ibrahim

Adib Shahreen

This dedication also goes to
Prof Madya Shahdan Md Lani
who act as my supervisor.

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ABSTRACT

Automotive Part Management System is a system developed to make an order of car parts for production in Perodua Manufacturing Sdn Bhd. This system is the enhancement from the existing system called electronic Supplier Information and Management System (e-SIMS). In eSIMS, they have got no channel to link all processes within organization. They only provide the electronic order form and the rest using the traditional method which is paper base method. So, extra features will be added to ensure the process more usable and fully computerized. The APMS has 7 modules which are login, create order, calculate payment, order authorization, vendor profile, monitor transportation and generate report. To develop this project, SDLC method will be used as a guide to perform this project. All modules developed has been successfully achieved.

ABSTRAK

Automotive Part Management System dibangunkan untuk membuat pesanan bagi komponen kereta di Perodua Manufacturing Sdn Bhd. Sistem ini juga adalah pembaikan dari system yang sedia ada iaitu electronic Supplier and Management System (e-SIMs). Di dalam e-SIMs, tidak disediakan saluran yang tepat untuk mereka berhubung untuk menjalankan semua process dalam organisasi. Ia juga hanya menyediakan boring electronic untuk membuat pesanan dan selainnya masih menggunakan cara tradisional iaitu melalui kertas. Oleh itu, lebih fungsi akan diletakkan supaya proses pesanan menjadi berguna dan berkomputer. Terdapat 7 modul dalam APMS iaitu Login, vendor profile, create order, calculate payment, authorization, monitor transportation and generate report. Untuk membangunkan system ini, SDLC digunakan sebagai panduan untuk membangunkan projek ini. Kesemua modul tambahan untuk APMS ini juga telah berjaya dicapai.

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LIST OF ABBREVIATIONS

ABBREVIATION	WORD/ DESCRIPTION
APMS	Automotive Part Management System
BOM	Bill of Material
CBU	Complete Built-Up
DPT	Daily Production Target
e-SIMs	Electronic Supplier Information and Management System
ISTD	Information System and Technology Department
OOAD	Object Oriented and Database
PPC	Production Planning and Control
PVD	Procurement and Vendor Development
SDLC	System Development Life Cycle

CHAPTER I

INTRODUCTION

1.1 Project Background

The automotive industry is growing rapidly in Malaysia. Proton and Perodua are the two largest automotive assemblers in Malaysia. The next largest manufacturers, with the capacity to produce roughly 30,000 cars per year, are Oriental Assemblers (Honda, Peugeot, and Mercedes), Associated Motor Industries (Ford, BMW, LandRover, Suzuki and Jeep), and Assembly Services (Toyota, Daihatsu and Hino). Table 1.1 shows that the automotive industry can be considered as one of the most important and strategic industries in the economy.

Table 1.1: Automotive facts

Automotive facts	Dec 2005
GDP Growth Rate	5.1%
Total automotive sales 2005	551,043
Total Automotive production 2005	563,408
Market growth 2005	13.0%
Best sold Passenger care 2005	Perodua Kancil (13.4%)

Prior to the 1960s, automobiles were imported into Malaysia as completely built-up units (CBU). Local assembly of completely knocked-down (CKD) kits started in the 1960s. While some components were sourced domestically, the automotive assembly industry was largely dependent on imports.

To further develop the local automotive industry, many associations for automotive was established. For parts manufacturers, many belong to either the Proton Vendors' Association or the Perodua Vendors' Association. Now, Malaysia is also home to roughly 300 auto parts manufacturers, most of which are small and Malaysian-owned.

Up to the end of 2005, Perodua has successfully sold more than 1 million units of vehicles of various models both locally and abroad. The table 1.2 summarizes Perodua's achievement from 1995-2005. Besides that, Perodua Sdn Bhd is also assemble the Toyota Avanza model for UMW Toyota.

Table 1.2: Business achievement of Perodua

	1995	Dec 2005
Units in operation	39,906	1,008,349
Investment (USD – million)	68	533
Employment - Perodua	1,669	9,112
Vendors	62	165
Number of branches	8	33
Number of dealers	93	142
Market share (%)	14	25
Annual production capacity (units)	65,000	200,000

The table shows that this industry also provides many jobs for the Malaysian and the economy will improve. This industry is using many information technology applications in their operations to make sure the daily production target (DPT) can be achieved.

In order to operate effectively and efficiently, Perodua continues developed it information technology capabilities. It uses various information systems that support all

its production and other functions. One of the information systems which is related to manage the parts and required for processing car is electronic Supplier Information and Management System (e-SIMs).

The IT application in Perodua can be clustered into six clusters which are Sales, Accounts, Human Resources, Production, Production Planning and Control (PPC) and Procurement and Vendor Development (PVD). Figure 1.1 shows the overall information system available in Perodua Manufacturing Sdn Bhd. e-SIMs is part of the whole information system available.

Automotive Parts Management System

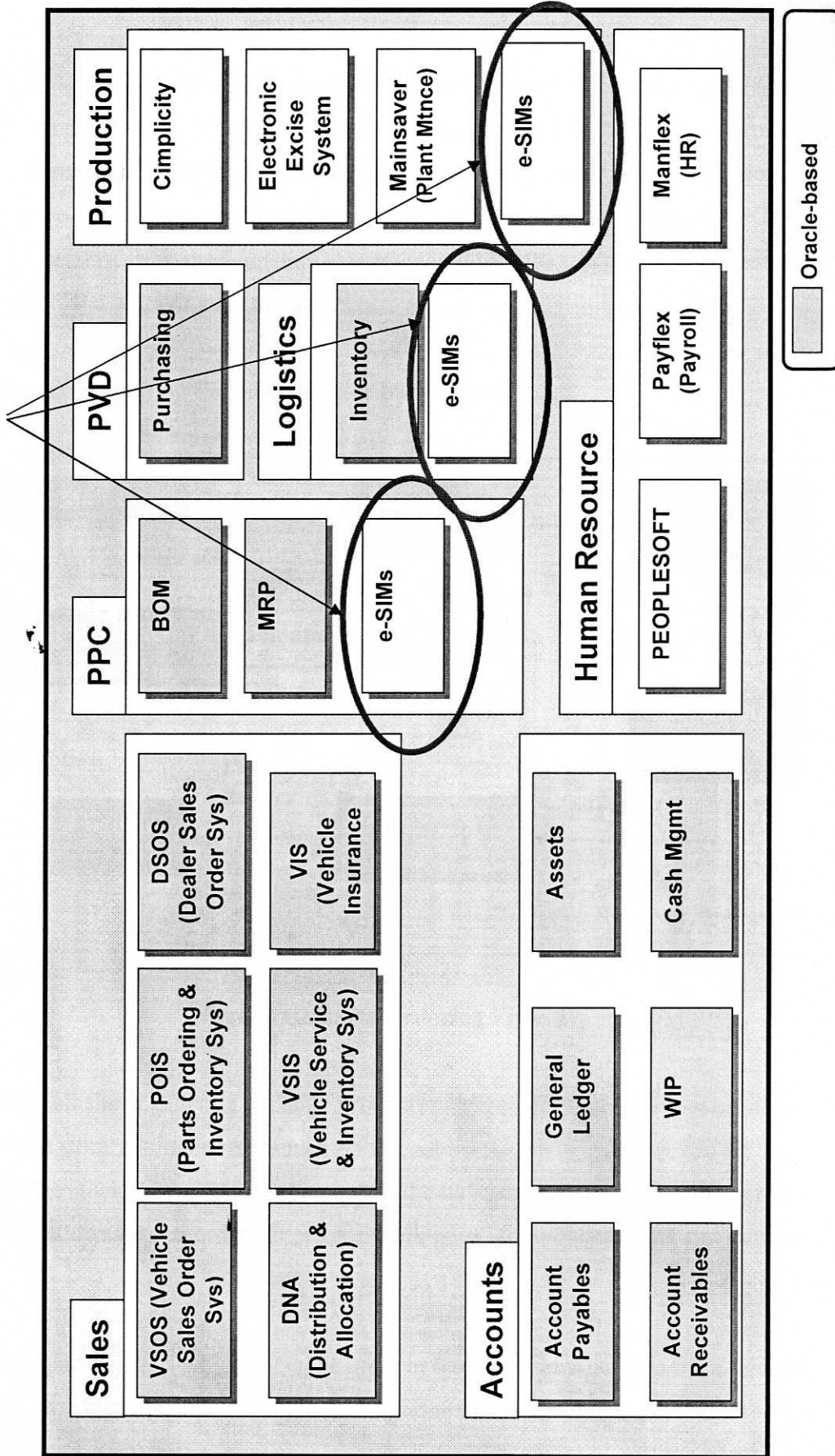


Figure 1.1 Overview of Perodua IT application system

The main users of this system come from the shop which located in plant area. The Bulk Supply Parts Order (BSPO) can be make by the staff from Store Department. The Sample parts Order (SPO) can be used by the staff from Research and Development Department to use the part for testing purposes while Component Part Order (CPO) can be used by the staff from the Logistic Department who is also responsible to monitor the transportation and receiving for the part.

The parts ordering flow can be described as figure 1.2:

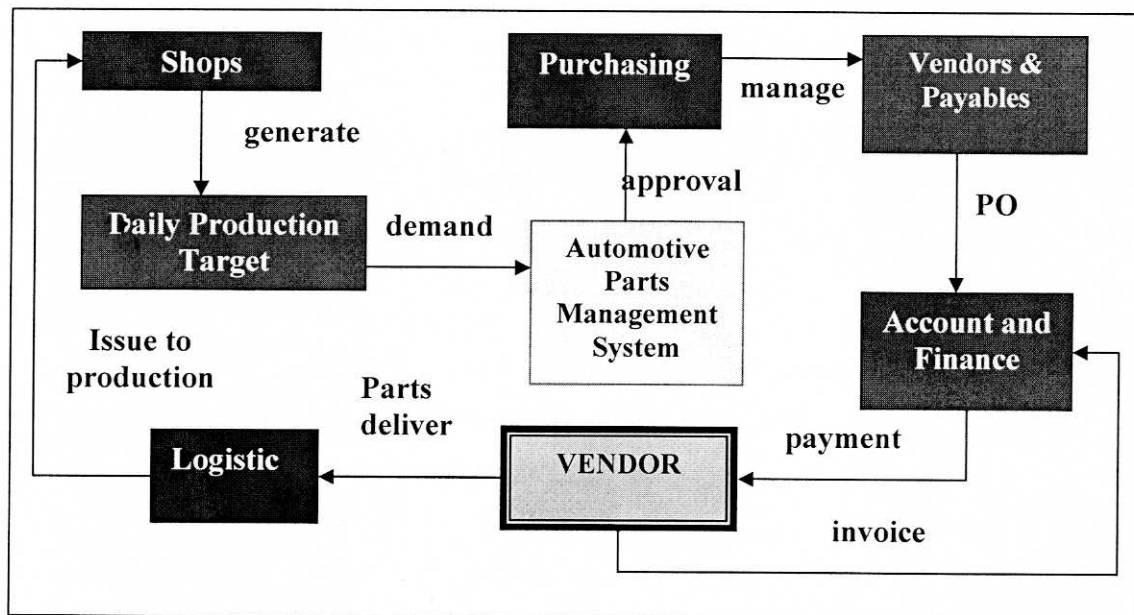


Figure 1.2 Parts Ordering Flow

First, all shops generate the daily production target. Then, they compares the target against stock available. After identify the part in stock, the quantity will be ordered by the stock controller base on need of the bulk, component and sample parts. This system allows user to order part such as bulk parts, components parts and sample parts.

Bulk part is a part which is can be order in bundle. Component part is a rejected component which can be order in small quantity due to quality problems that can be

make by recycle items and cheaper. Then, the order will be approved by the Manager from purchasing department, who is responsible to approve the order.

The payment will be make by Account and Finance department to the vendors through Oracle Purchasing which connected to the selected bank. Then, the Parts delivery will be monitored by the Logistic to make sure that the parts arrive within times then the process will be proceed by the process named Parts Receiving (PR).

1.1 Problem Statement

This project is to enhance the existing system by adding and reconstruct module due to the following problems.

At present, the system doesn't has the vendor profile because no channel provided to enable the staff to insert, modify and view vendor data so they have to depend on the IT department to manage the information and do maintenance on the screen. Some of the staff will call to the office to ask about the vendor status. So, they tend to wait until the IT staffs furnish the information to the production computer.

The order for bulk, component and testing parts will be produced separately in three different systems. This will bring the burden for the staff because they have to log-in 3 different systems to make an order. Then, many PO will be created.

The order screen provided also does not have the calculation function. So the staff from the PVD found difficulties to review the prices. The authorization process will takes time to be approved because of the prices review.

Before this, it takes time to authorize purchases as manager not aware of the incoming order to be approved. So the manager will be informed through the phone call. The manager also can change and create PO because the system enables the manager to use all functions and this was not secured.

Transportation part is important in part receiving. The problem is the staffs only jot down the information on the paper and keep it in file. So they have to count the date and status of the part manually. Besides, the file may be missed or stole by someone.

1.3 Project Objectives:

The objectives for the Automotive Parts Management System are:

- To provide alternative channel for vendor profile to enable the staff to update and view the new information. All information regarding the updated and created of the new data will be kept in the database.
- Staff can create PO in effective way and achieved the company target to reduce the number. of PO.
- The prices will be automatically calculated and the staff from PVD only has to check the total payment without review at the list because the system provides the list of prices.
- The latest PO which has been created will be announced to the manager by the e-mail. Besides, the manager only can approve the PO and cannot change the data in the PO for security purposed.
- Staff can observe the transportation status to make sure that the delivery does not exceed internal leadtime and all information will be kept safely.

1.4 Project Scope

There are 3 scopes of this project:

- Users
The users of this system are the stock controllers and managers of the organization.

- Entity
This project only covers the order, approval, report and monitoring transaction. It not covers the payment make to the vendors.

- Platform
The operating system used is Windows XP Professional, the software used is Macromedia Dreamweaver MX 2004, the database used is MySql while the programming language is PHP scripting.