Chapter 1

Introduction

1.1 Background

In service activities operation, it will be operated smoothly if there are enough resources available at all times when there is requirement from customers. However, sometimes it is not worth to prepare a lot of resources to service fluctuated customer requirement. Especially in a situation that there is a few customer requirement matched to a plenty of available resources. In actual case, it has more chance to provide lesser resources to service greater requirement.

This thesis has studied a machinery comapny which has multiple service centers located in different areas. These service centers service customers in their responsibility area. Each service center has unsuitable resource in terms of both types and quantity. This cause complaint from customer and utilisation of resource. Many times incoming customer requirement of a service center happens in the timing of full resource capacity. At the sane time, resources of other service centers are available.

The proposed solutions of this problem are two alternatives. The first way is to move resources from the available resource-capacity service centers to the full resource-capacity servcie center. This way may be not practical if that resource is difficult to move with the cause such as large size or very heavy weight. This studied company has two main resources. They are employee and bay. Employee may be moved at the required time. But bay, fixed-position facility, can not be moved from a service center to another service center. So, this way can not be practiced in actual case.

The second way is to allocate incoming requirement from full resource-capacity service center to available resource-capacity service center. This way can be practiced because the product that requires service is easy to be moved. Before customers bring the product to receive service. the customer may inform their requirement to a service center. The service center will check the available resource and make an appointment back to the customer. When appointed time is arrived. the customer can get service immediately and the resource is more utilized. This proposed solution is developed in this thesis.

1.2 Statement of the Problem

With the very fast growing of the business and the rapid expansion of the service center. there is very little technical and/or management knowledge for head office to allocate job to each service center. to monitor and report jobs taken by each service center. to determine appropriate stock level of spare parts in each service center and in head office main stock. All these resulted in complaints from customers for delay of service operation and high cost of poor utilization of resources in each service center.

1.3 Objectives

This thesis has 3 objectives as follows:

1. To develop a job allocation plan.

2. To develop appropriate plan for spare parts stock in each service center
   and head office main stock.

3. To develop the system for monitoring and reporting of all service activities in
   each service center.

1.4 Scope of Study

This thesis will study a service company which has four service centers. Each service center is equipped with different facilities and having different types of skill mechanics and technicians.

A job allocating plan will be developed for assigning job from head office to each service center. A stock plan for spare parts will be developed for each service center and head office main stock as well as a monitoring and reporting system of service activity.

It is proposed that the developed plan will include the supporting software written on spreadsheet/data based program. The developed solution will be implemented with preliminary evaluation for a short period of 1-2 months.

1.5 Expected Benefits

1. Improvement of customer service.

2. Better resource utilization.

3. Lower inventory cost for accessories and spare parts.

1.6 Step and Schedule

1. Literature survey on concerned theses and theory.

2. Collection of current procedure and pattern of company operation.

3. Analysis on the collected data.

4. Possible solution development.

5. Development of software practical to existing situation.

6. Implementation.

7. Evaluation and Correction.

8. Report Preparation.

Steps	Time period					
	1996	1997				
	Dec.	Jan.	Feb.	Mar.	Apr.	May
1. Literature survey	■					
2. Data collection		■				
3. Data analysis		■				
4. Develop solution			■			
5. Software development			■	■		
6. Implementation				■	■	
7. Evaluation and Correction					■	
8. Report preparation					■	■

Figure 1-1 : Step and Schedule