CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Time management can be describes as a crucial component for anybody that desires to get the most out of their daily life. Well planning of time can be described as the key of success in these days for all industries as it encourages better control and productivity as a catalyst to reach the company goal.

In order to increase profit of an organization, there are plenty of methods available for service industry to improve their time management system. The methods are including employ trained workers, utilization of high performance machine, applying material handling principles, designing non-adjacent plant layout etc. All of these mentioned ideas are generally can be describe as the tools which applied in Industrial Engineering. Yet, there is another method which is the most welcoming among these methods; it is productivity improvement by simulation method.

Simulation is recognized as the use of a model of a process, product or service to explore its characteristic before the process, product or service is created. Simulation provides wide range of flexibility in modeling and it allows detail examinations of the results before the manufacturing stage of product.

Simulation is now not only available for manufacturing industry use, but it is also widely implemented in others industry such as service industry, business field, food industry, hospitality industry, transportation industry and others. Not to mention that
this simulation implementation is benefits the industries far ahead beyond the industrial engineering tools that had been applied years before.

Besides of mentioning the implementation of simulation method, the design or planning for an industry floor layout also play an important role that directly affected time management control. In an existing service floor layout plant, the station from one to another can be adjusted or modified by shorten the travelling distance and time. This could be done by using simulation modeling and through this step, productivity improvement would definitely being improved and wastage will be deteriorated.

1.2 PROBLEM STATEMENT

The selected service organization is Pusat Kesihatan Pelajar (PKP) in Universiti Malaysia Pahang (UMP). The reason for selecting this healthcare center for research after some inspection is due to the unsatisfactory of existing service floor layout that causes the lead time of treatment process of a patient increased. Therefore, analysis and improvement for the service floor layout will be done in this project to get rid the existing root causes of low efficiency performance to improve the productivity of Pusat Kesihatan Pelajar (PKP).

1.3 PROJECT OBJECTIVES

The project objectives include:

i. To evaluate the existing service floor layout.

ii. To design and improve service floor layout by using Witness Simulation Software and also by observation during the collection data of cycle time.

iii. To analyze and select the best solution to be suggested to Pusat Kesihatan Pelajar (PKP) of Universiti Malaysia Pahang (UMP).
1.4 PROJECT SCOPES

The scopes of this project are:

i. Research is conducted in Pusat Kesihatan Pelajar (PKP) in Universiti Malaysia Pahang (UMP).

ii. Only taking considerations of students and staffs of Universiti Malaysia Pahang (UMP) who visits Pusat Kesihatan Pelajar (PKP).

iii. Service floor layout evaluation will be done with Witness Simulation Software and results analysis will be done by using Cost-effectiveness Analysis and Minitab software.

iv. Treatment fees are given free to patients.

1.5 REPORT ARRANGEMENT

This thesis overall consist of 6 chapters where Chapter 1 is mainly included the introduction, problem statement, objectives and the scope of this project. Existing problem occurs in the service floor layout is clearly identified with objectives and scopes are set to concentrate on solving the particular problem.

Chapter 2 defines the title’s keywords and some gathered information will be shown this relevant chapter. The definition of productivity, productivity improvement, introduction for service process and service industry, model verification and techniques, model validation with techniques used, simulation study, advantages and disadvantages of simulation will all be shown in this chapter. Nonetheless, there are ten similar previous researches included in here as the references.

Chapter 3 starts with introduction of the PKP organization background. The organization profile such as organization history of establishment, most visited customers, most common cases the organization faced; organization’s objective and mission will be shown in the following topics. In additional, the organization chart and organization service floor layout will be attached for reference. Lastly, the conceptual model is also included in this chapter as to reflect the pre-model of service floor layout.