CHAPTER 1

INTRODUCTION

1.1 PROJECT BACKGROUND

In today competitive world, companies try to cut down the manufacturing cost and at the same time increase their profit. In the high labor cost economies, it was recognized that one untapped source of reduced costs was assembly cost. It is one of the major operations in manufacturing. As a result, assembly cost will be higher than it should be which directly will make overall cost of product increase. Considering on that factor, this project will be analyze to analyze the assembly product using DFA method.

Competitions in designing field are now getting more severe. Product must be designed so it can compete in the market, mean the successful indicator for a design will determined by the sale. A design with a good package will attract more customers to buy it. Nowadays, customer are not also seeking a high quality product but also valuable in terms of price. So, customers will defined either the product is good or bad although in engineering field the product was approve good.

Quality and price are the important packages that must have in a product to reach market target. As quality is totally general and depend on the product, this project is aim to improve design features in terms of price, more specifically assembly cost. Designer always put manufacturing and material cost as a major factor that will affect overall cost of the product with ignoring assembly cost. Assembly effectiveness will affect overall cost and time to manufacture the product.
Some modifications surely must make to the product so assembly effectiveness can be improved. This problem needs a designer to be more creative. There is many ways to be creative, depend on the capabilities of human mind. Sometimes, even professional are not always creative. Axiomatic Design and Lucas DFA are guidelines for people to be more creative to solve much kind of problems. This method will make designer can design a good product and assemble at minimum cost and time.

1.2 PROBLEM STATEMENT

The problem is to develop computer base systems that integrate product design for evaluation system(s) techniques. The problem formulations are:

1. How to reduced part for the product using Axiomatic Design Analysis?
2. The validity of the develop software is still uncertain.

1.3 OBJECTIVE

The objective of this project is to develop an intelligent computer based evaluation system for assembly by Integrating the integrated Axiomatic Design and Lucas DFA

1.4 SCOPE

(i) A car window regulator, filter and standing fan component are selected as a case study.
(ii) Microsoft Visual Basic 2006 6.0 will be use to develop the software.
(iii) Information about car window regulator component is from previous PSM.
(iv) Lucas DFA are selected as the DFA tool.
1.5 SIGNIFICANT OF STUDY

The significant of study is aim to reduce the time, cost and parts to maintain the efficiency of the product design assembly using DFA method.

1.6 EXPECTED OUTPUT

(i) A software for assembly sequences in manufacturing sectors.
(ii) A system to support for in optimizing the efficiency of assembly process in the early stages.

1.7 SUMMARY

This chapter described about overall introduction of this project. Background of this project will discuss after defining problem statement. Then, scopes and objectives of this project is determined as a guidelines of the project.