CHAPTER 2
LITERATURE REVIEW

2.1 Previous Researches

There are some researches about finding optimum schedule in a system that have been done.

Suprapto (2008) uses Quick Basic 4.5 to develop a program that can generate schedule based on Theory of Constraint with 5 alternative methods (Shortest Processing Time, Longest Processing Time, Most Work Remaining, Least Work Remaining, and Total Processing Time). The program is designed for the job shop problem. With this program users can assign their own problem in job shop and get the minimum makespan from the five alternative methods.

Sari (2008) also uses Quick Basic 4.5 to develop a program that can generate a schedule on Batch Processing Machine problem using Fanti's algorithm. The purpose of the program is to maximize the utilization of the machine and minimize the setup time.

2.2 Current Research

In this research, the author will design a program that can give a better schedule plan for Stamping Tools Division P.T. Mekar Armada Jaya. The Author uses Microsoft Excel 2007 and Visual Basic for Application for Microsoft Excel 2007. This program will generate a schedule based on Schedule Generation using 3 heuristic methods that are Least Work Remaining (LWKR), Shortest Processing Time (SPT), and Most Work Remaining (MWKR). This program will solve the previous schedule's problem

like the repetitive days, number of demand that is not same, time needed to generate a schedule, and items that are processed in the same machine at the same time.

The comparison between current research and previous researches can be seen in Table 2.1

Table 2.1 Comparison between Previous Researches and Current Research

COMPARING VARIABLE	SUPRAPTO'S RESEARCH (2010)	SARI'S RESEARCH (2008)	CURRENT RESEARCH
Applied in	Job Shop Problem	Batch Processing Machine Problem	Job Shop Problem
Method	Theory of Constraint	Fanti Algorithm	Heuristic Schedule Generation
Software used	Quick Basic 4.5	Quick Basic 4.5	Microsoft Excel 2007 and Microsoft Visual Basic Application.
Objective	Minimum Makespan, and faster in making schedule.	Maximize the utilization of the machine and minimize the setup time.	Minimum makespan, faster in making schedule, fix the current scheduling system.