IMPLEMENTING THE DIGITAL PROJECT SCHEDULE FOR EMPLOYEE IN PSI INCONTROL SDN.BHD.

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UNIVERSITI TEKNOLOGI MALAYSIA

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A project report submitted in partial fulfillment of the requirements for the award of the degree of Master of Business Administration

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DEDICATION

Alhamdulillah to Allah for giving me live and strengths to live in this world. Dedication to my beloved parents who sacrifice a lot during my journey of completing this thesis. To my brothers and sisters who shared words of advice and encouragement to finish this study.

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ABSTRACT

Project schedule is a timetable that organizes project tasks, duration of activities, the date of project start and end dates, and sets overall project milestones on a timeline. Project schedules also define the team members and resources needed to complete tasks. There are different project scheduling techniques and project management tools involved in the scheduling process that are not just a standard timetable for every project. In this study, the organization uses the traditional method schedule for employees, from that this study has identified the problem faced in the organization. After identifying the problem, this study has implemented the intervention which is from the traditional method schedule to digital project schedule. The digital project schedule was applied to integrate the schedule into other project management tools dashboards and reports to monitor progress. The digital project schedule was used to enhance the poor project schedule among employees. This digital project schedule will be more effective for employees to monitor the schedule and get the information about the schedule correctly.

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ABSTRAK

Jadual projek adalah jadual waktu yang mengatur tugas projek, tempoh aktiviti, tarikh tarikh mula dan akhir projek, dan menetapkan tonggak keseluruhan projek pada garis masa. Jadual projek juga menentukan ahli pasukan dan sumber daya yang diperlukan untuk menyelesaikan tugas. Terdapat teknik penjadualan projek yang berbeza dan alat pengurusan projek yang terlibat dalam proses penjadualan yang bukan hanya jadual waktu standard untuk setiap projek. Dalam kajian ini, organisasi menggunakan jadual kaedah tradisional untuk pekerja, dari kajian ini telah mengenal pasti masalah yang dihadapi dalam organisasi. Setelah mengenal pasti masalah tersebut, kajian ini telah melaksanakan intervensi iaitu dari jadual kaedah tradisional hingga jadual projek digital. Jadual projek digital diterapkan untuk mengintegrasikan jadual ke dalam dashboard dan laporan pengurusan projek lain untuk memantau kemajuan. Jadual projek digital digunakan untuk meningkatkan jadual projek yang buruk di kalangan pekerja. Jadual projek digital ini akan lebih berkesan bagi pekerja untuk memantau jadual dan mendapatkan maklumat mengenai jadual dengan betul.

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LIST OF ABBREVIATIONS

BU	Business Unit
SCS	Substation Control System
SCADA	Supervisory control and data acquisition
FAT	Factory Acceptance Test
SAT	Site Acceptance Test
PTM	Project Time Management
CPM	Critical Path Method
PERT	Program Evaluation and Review Technique
RCMPSP	Resource-Constrained Multi-Project Scheduling Problem

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CHAPTER 1

INTRODUCTION

1.0 Introduction

The basis of any business is to make a profit. Employee scheduling has a huge impact on a company's profits. Scheduling staff to meet business needs is a complex task. In earlier times, there were traditional office hours and shift work. Now employee scheduling becomes complicated mainly because of extended or 24/7 working hours, shift of employee work, flexible working hours, and part-time hours. In business there a project that needs a plan. One of the overview of what make a project is time-frame. Time-frame is also known as a project schedule which is it is part of project management. The main purpose is to show the time line over which a project will be finished, including start and end date for task. Project schedules are composed of a hierarchy of activities and tasks with associated dates, which are then characterized by the duration of the project. According to Baldwin and Bordoli (2014), the project schedule provides the basis for measuring progress, the basis for regular review and an updating of the plan. Time is precious resources when it is time to write a business plan, time is something can underestimate. Having an inaccurate schedule can fail the plans and cost necessary expenses.

This chapter of the study will consist of the seven sub chapters such as the case company, problem statement, research objectives and research questions, the researcher's role, research ethics, importance of the purposed study, the definition of terms. Lastly, a conclusion which will provide a summary of the study.

1.1 Information About the Case Company

1.1.1 Background of The Company

PSI InControl Sdn.Bhd is a private company located in Malaysian. PSI InControl is a solution provider for automation and protection technologies and was established in November 1996. PSI In Control is a prominent regional player in Network Control System, Substation Automation, Control and Protection, and Digital Infrastructure System technologies. In a utilities and automation is a part of department in network control system, information technology and substation automation task. The company services cater for utilities and industries, namely metals, gas, water, logistics, warehousing, transportation and electricity.

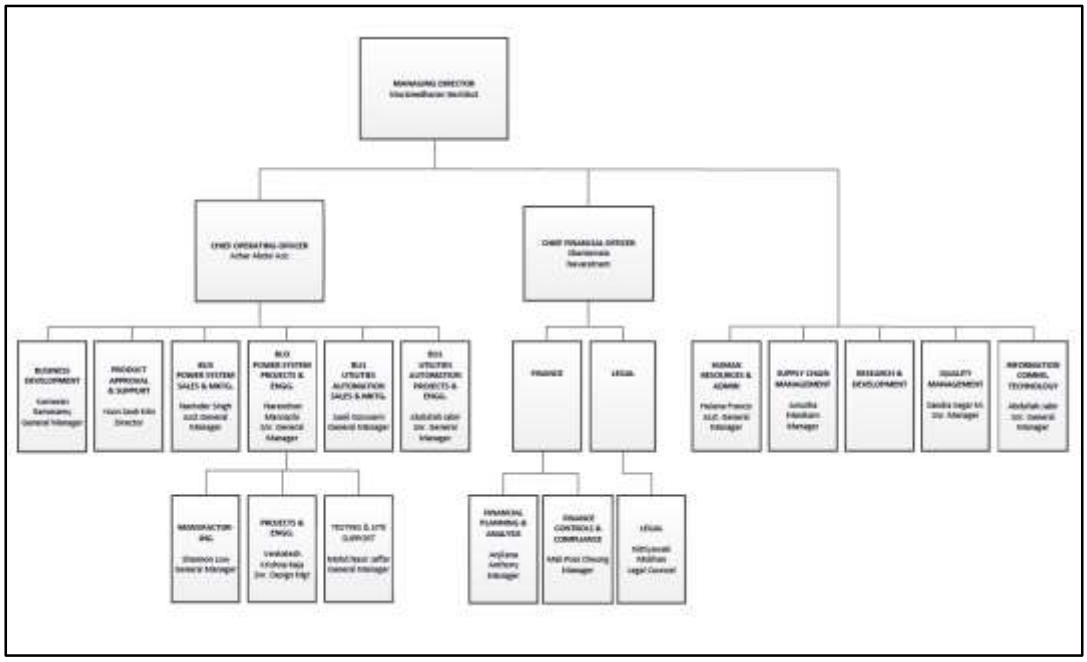

Figure 1.1**:** Organizational structure of PSI INCONTROL SDN BHD Company

(Source: Author)

This is the organization charts of the company. There are several department and one of the department is Business Utilities 1 (BU1). The BU1 is a Utilities Automation Project and Engineering. This department consist of three teams which is Supervisory control and data acquisition (SCADA), Information Technology and Substation Control System (SCS). Substation control system is collection of hardware and software components used to monitor and operate

electrical systems, both locally and remotely. Basically, the scope of SCS teams is conduct the project electrical substation by prepared the drawing, engineering configuration, testing the panel and conduct factory acceptance test (FAT) the panel before deliver to the site, conduct site acceptance test (SAT) then commissioning and after that project closed. Throughout the project there is a case that always occurs in this teams. They have a problem in scheduling project task to the team. The schedule provides poorly and difficult to monitor date and check the information about the project progress.

1.2 Problem Statement

According Kerzner (2009), determined the standard features in scheduling software for monitoring and controlling are planning, project calendar, tracking and monitoring and report. For many business, the effective project management can mean the difference between planned and executed.

As mentioned previous, the PSI InControl use the poor schedule which is not effective for organization and employee. Employee just get the information about the project schedule once the project manager makes a short meeting to brief the schedule and use the traditional method of using marker pen to write on the whiteboard and by WhatsApp where it is not proper schedule for employee. However, to avoid the lack of communication or misunderstanding of the schedule, use the proper schedule can improve the communication each of team. This tools also can be access with all the teams to check the project schedule update.

The poor schedule will drive the employee have trouble to claim the man hours. Sometime the employee was assign to do the task for Project X but there are no allocated hours for this project and the manager manage to take the man hours from another project which is it is a not good in a long run. The figure 1.2 shows the engineering hours or man hour for employee for each project. a distinguishing feature of the company by improving its ordering and delivery system.

CONSOLIDATED REPORT

Title : Total Engineering Hours

Operative Web : Kuala Lumpur

Status	Project Code	Project Name	DEC Forecast	Total
	MY17_01_P0550	Senesystem_PMR/TgLipat_SIMS	34.00	122.00
	MY15_01_P0003	TGV_PMU_Ayer Tawar_SCS	34.00	34.00
	MY20_01_T0393	TMR_Zenon_Dongle	62.00	182.00
	MY20_01_P0370	Perindaja_PMR/Warisan_IPDCU	82.00	123.50
	MY20_01_P0388	TMBH_UPIA_LPIA_Spare_Parts_RTU	94.00	144.00
	MY20_01_P0370	SESB_PMR/Warisan_SCS	159.00	340.00
	MY20_01_P0344	MCC_IUCL_Nasfer_SCADA	15.00	454.00
	MY19_01_P0291	SenSys_PMR/Kol_SCS&SIMS	42.50	130.00
	MY19_01_P0327	Perindaja_Inanam_RPMS	82.00	814.25
	MY19_01_P0326	Perindaja_Tawau_SCS	42.00	2,516.00
	MY19_01_P0241	Trans_Ampang/GIS_SCS	88.00	533.50
	MY18_01_P0271	Cobrain_Ranau_SCS_SIMS	88.00	2,184.25
	MY17_01_P0173	SSE_Apas	66.00	2,444.25
	MY20_01_P0358	Jimah_JEV_SCS	348.00	1,337.50

STAFF	PROJECT	HOURS
Kumaresan	Washo 16 + UPIA 42 + SSE Warisan 42	98
Fakrul	Apas 42 + Pen Warisan 42	84
Sanjeev	Ayer Tawar 34 + Ampang 42 + Ranau 8	84
Din	Jimah 84 + Tawau 42	126
Arvind	Tg Lipat 34 + SSE Warisan 80	114
Illyas	SSE Kolombong 42 + Inanam 42 + Pen Warisan 42	126
Aisyah	Jimah 84 + Apas 42	126
Shima	Inanam 40 + UPIA 42 + SSE Warisan 42	134
Sathia	Jimah 42 + Ampang 42 + Ranau 42	136

Figure 1.2: Engineering hour for each project (Source: Author)

1.2.1 Problem Formulation

The problematic situation of this company have been identified by using the Fishbone Technique**.** The interview has been done with one of the employee from team Substation Control System (SCS). This department using the poor project schedule for employee, which is the date, information, progress and status just brief in a short meeting and write on the whiteboard and sometimes the information not remain there. The figure 1.3 shown the fishbone techniques include the root cause.

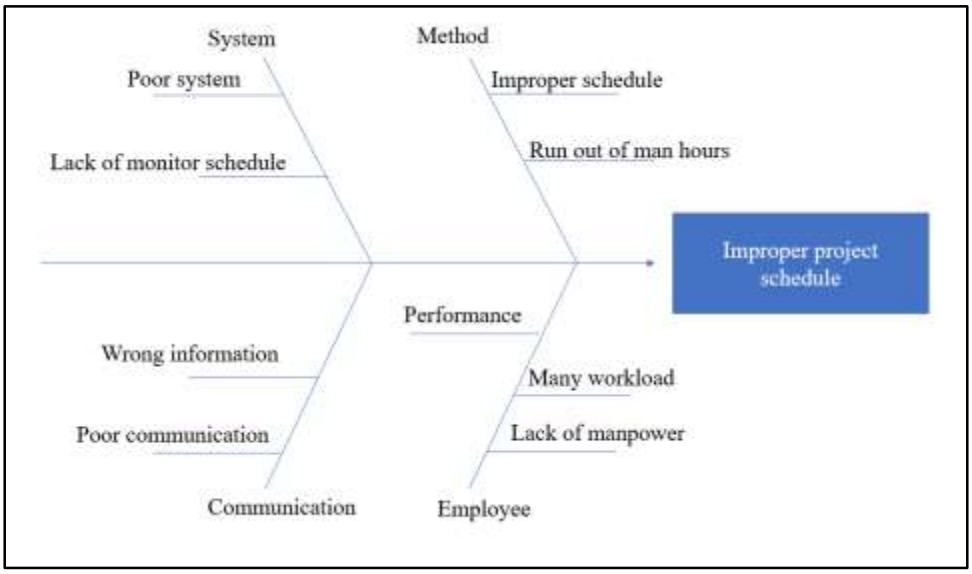

Figure 1.3: Fishbone Technique

1.2.1.1 Specific Problem

Possible root cause	Discussion	Root cause
1. Communication		
Poor communication	No latest update for the project schedule	Y
Wrong information	Don't know who doing what task and when the deadlines	N
2. Method		
Poor schedule	Poor assign project to employee	Y
Run out of man hours	Over claim man hours	Y
3. Employee		
Lack of manpower	Project task over the staff	N
Many workload	Many deadlines in one times	Y
Performance	Less quality in works	N
4. System		
Poor system	Difficult to track the project task list and engineering hours	Y
Lack of monitor schedule	The project schedule not properly state and sometimes need to check it back with project manager	Y

Table 1.1: Description the finding of Fishbone technique

From the table 1.1 above, the main problem of this company is that they use the method in which they provide the poor project schedule. This is meaning that the management easily assign the employee verbally or by WhatsApp to handle the project without a proper schedule. Some of the employee have to do double work in one time as the management ask to do another project at

the same time. Often a project has its allocation man hours in that project, when management assign work without monitoring the man hours this will lead to over claim main hours. So, to avoid this happen management decide cover it by take man hours from another project. But in the long run, this thing will keep on happening which lead to man hour not enough for every project. This will cause the employee to have to complete the work quickly from the time allocation of the project, because they want to save man hour. This will lead to lower levels of productivity and quality in works. There are many projects need to be completed immediately due to not having a proper schedule for employee, management somehow get confuse with the redundant deadline. This is because management cannot monitor their employee well. In addition, poor communication also happens where employees do not get any update information about the schedule changes which led to incorrect information. Lastly, management also does not have a system to simplify in tracking the progress and time allocation for the project. Employee also found a difficulty in monitoring the project schedule and have to check it with the project manager. Without a proper schedule, management have trouble in delegated of work tasks for employee.

1.3 Research Questions and Objective

1.3.1 Research Questions

Based on the problems stated in the problem statement, some questions that arise from the problem are as follows:

i. What are the factors of over claim man hours in PSI InControl Sdn Bhd?
ii. What is the intervention proposed in order to reduce over claim man hours in PSI InControl Sdn Bhd?
iii. What is the impact of intervention proposed in order to reduce over claim man hours in PSI InControl Sdn Bhd?

1.3.2 Research Objectives

The aim of this research is to enhance project schedule for employee in PSI InControl Sdn Bhd. In order to achieve this aim, three objectives have been identified: -

i. To identify the factors of over claim man hours in PSI InControl Sdn Bhd.
ii. To propose potential intervention to reduce the factor of over claim man hours in PSI InControl Sdn Bhd.
iii. To evaluate the outcome of the intervention proposed in PSI InControl Sdn Bhd

1.4 Researchers Role

A researcher plays an important role in organize, implement and conclude a study. According to Creswell (2007), a researcher's role in qualitative is critical, as he or she collects data and implement analysis. The researcher's role in this study was to both an observer and participant because she served as an instrument of data collection and analysis. (Austin, 2014), the role of researcher's in qualitative is to attempt to access the thoughts of study participants. However, the data collected, a primary responsibility of researcher to make it safeguard participant and their data. Besides that, it is important for the researcher to adapt to the situation and develop process while ensuring active participant during the work. The researchers' background and the knowledge of the topic of research form an important part of the study.

1.5 Research Ethics

Ethics in research refers to the appropriateness of behavior related to the rights of those who are the subject of research or influenced by it. Ethical should be concern in considered throughout the research, seek access to individual and or organizations, collects, analyze and report data. Thus, the ethic of research deals with the question of how we formulate and clarify the research of topic, plan research, collect data, process data, analyze data and write the result of research morally and responsibly. However, Research ethic are moral principle that guide researchers to conduct and report research without intention to harm the participants of the study. Basically, ethical guidelines while conducting and reporting research is essential to establish the validity of the research. The ethical guidelines the research must adhere while presenting the findings of study. All participants were provided the form that describe the purpose of study and were allow to fill their name and sign once participant agree with research terms. The participant will return the form with their signature, and for those not sign were excluded from the study.

1.6 Significance of The Proposed Research

This research of study is important for the employee to reduce the factor of over claim man hours by enhance the project schedule for employee. The schedule will be able to help the employee to manage their schedule if the schedule of project properly prepared. In addition, the scheduling is a good road map for project managers, and employee to monitor and track critical events and milestones during the progress of project. This properly schedule system is useful for planning, execution, monitoring/controlling and communicating the delivery of the scope project to employee. The main purpose of project schedule is to represent the plan to deliver the project scope over time. A project schedule could be a chart of work elements with associated schedule dates of when work elements and milestones (usually the completion of a deliverable) are planned to occur. In addition to guiding the work, the project schedule is used to communicate to all employee when certain work elements and project events are expected to be accomplished. The project schedule is also the tool that links the project elements of work to the resources needed to accomplish that work.

1.7 Definition of Terms

The project schedule is a document that gathers all the work requirements to deliver the project on time. The project schedule helps to deliver the tasks that need to be completed and which organizational resources will be allocated to complete the tasks in what time frame. Basically, the project schedule oversees each and every date planned for the implementation of specific schedule activities, as well as the dates that have been determined that are expected to be met and followed in the implementation of specific project milestones.

Project activities is an activity for employee need to execute for current project. For example, before the panel substation deliver on the site, the employee need to do wiring check on panel, and do the internal test for the panel to make sure the substation panel is ready and successfully function. However, factory acceptances test need to do which is a client need to approve the panel substation by invite them to witness the panel substation is ready and successfully function.

Scheduling tool is a tool that provide schedule component names of employee, definition, project and time lines. The main purpose to use the tool to generate an update project schedule. The tools provide a benefit when enter a schedule of activities, durations and resource availabilities so all employee can see or monitor the plan dates for completing project activities.

A man-hour or engineering hours is the amount of work performed by the average worker in one hour. It is used for estimation of the total amount of uninterrupted labour required to perform a task. Basically, manager count the man hours and add break time to estimate the amount of time a task will actually take to complete.

1.8 Chapter Summary

Summary of this chapter is the problem faced by PSI InControl Sdn Bhd have been discover on this chapter. There is problem in scheduling task for employee. This research study has been identified the impact by interview session with one of the employee in SCS teams. A comprehensive of literature review from previous studies will develop in Chapter 2.

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