CHAPTER 5

System Implementation

5.1 Introduction

In chapter 3, we have discussed the problems of the case company and later in chapter 4, we have developed a project management process which can be used to solve them. Chapter 4 also creates a template for managing future projects based on the mechanical and electrical installation project. This chapter will focus on the implementation of the system and template. The implementation will be divided into three sections which are people, hardware, software, and data, and training and procedure. This chapter will discuss things that need to be kept in mind during implementation, what are requirements, suggestions, control, training, etc.

5.2 Project Management Balance

There are three major factors involve in achieving balance of project management. They are people, processes, and technology. These three factors govern the outcomes of project. It is not easy for an organization to find out the right mix between the three of them. In our case for the implementation, the project director and project managers need to keep in mind that they also need to find the balance of this mix.

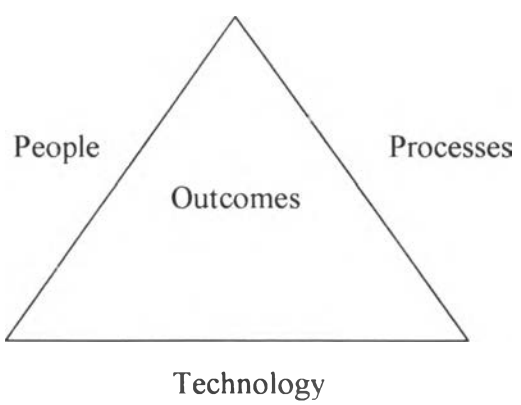

Figure 5.1 Project Management Balance

5.2.1 People

To successfully implement this system, the company needs to have the right people. This means they should have the right knowledge, experience, attitude and so on. If we do not have the right people, no matter how advance technology or processes can compensate that. The wrong people may be able to work the technology and processes in the short-term, but in the long-term things could get unnecessarily complex in the long-term because the lack of knowledge and discipline.

5.2.2 Processes

The second factor in the balance is processes. The processes can be compared to a playbook for an American football coach or books for teacher. Processes are like tools in which all people in the company should follow. In order for processes to be most effective, they should be well defined, documented, and effective. This is so that the company can compare and contrast processes and create best practices. These best practices then can be used as tools to train the employees.

5.2.3 Technology

Technology can either be beneficial or detrimental to the company. The right technology when implement with the right people and well defined processes can only be beneficial. But on the other hand, if either people or processes were not ready, implementation failure could easily happen. Therefore, it is recommended that technology is implemented after all the right people are ready and processes are defined.

5.3 Implementation for the Project Management Process

In implementing the project management process and its information system, the company must provide people, hardware, software, data, and procedure.

5.3.1 People using the template

First of all, let us look at who are going to use this template. This template has been created and designed so that it eases up the project management process including planning, scheduling, and control. Therefore, this template should be used and

understood by everyone from project manager to engineers not only just a scheduler. The idea behind this template is that everyone should be aware of the information system and know how the project management software works. Project manager should review the schedule periodically which can vary from daily to weekly. One of the purposes for this periodic review is to track the work progress. Another purpose is to keep track of changes that have been made to the schedule. Engineers are in charge of maintaining their own responsible part of schedule. They should be the ones who are updating the work progress and schedule change. We want to focus our attention on schedule change because in the real situation, this frequently happened. One additional job can cause a delay to the entire project if it is critical, therefore it is very important that the engineers update the schedule and keep the project manager informed.

Other people such as purchasing manager and accountant should also understand the template and project management software as well. Purchasing manager should be aware at all time of where we are on the schedule. This will help her in purchasing materials and acquiring equipments. A machine that is needed next month does not have to be rented a month or weeks early because she was unsure when exactly do we need it. Now she can plan her own purchasing plan in advance and make sure that her plan changes according to the master schedule.

An accountant should read the schedule because she is in charge of project cost control. Any change made to the schedule will affect the cost to the project. Even though she is not at the site office she should be updated with the schedule possibly as often as project manager should.

In addition, the company should have system administration who is in charge of taking care of the system. This person will be responsible for maintaining and servicing the system including backup, security and so on.

5.3.2 Hardware, software, and data needed for implementation

The major component needed for the implementation is the hardware and the software. The hardware includes computer, printer, scanner, plotter and etc. Software needed other than words and spreadsheet is the project management software, in our case Microsoft Project. The problem of the company probably lies in this area because many

people do not know how to use Microsoft Project. This problem will be approached in the training for implementation section.

The hardware, mainly computers, should be available both on site and at the head office. The reason for that is because the accountant spends most of her time at the head office. While most of the activities are going on at the site, the schedule should be sent back to the accountant for updates. There can be one computer for the accountant at the head office and maybe two at the construction site. The method of sending the files should be e-mail because it is fast and very convenient. The person who is in charge of sending the files to head office could be the commercial manager because his job description also includes communicating between people in the company.

The project director who usually works both on site and at the head office should have a portable computer or laptop the mobility is much needed.

It is important that all data should be backed-up. There are many strategies, but we need to choose what is most appropriate for the company. In this case, we recommend doing a weekly complete back-up with nightly incremental to previous incremental. This strategy is good because the time it takes for incremental back-ups each day is very short (only back-up files that modified that day). However in case of loss data, the recovery time might be a bit longer because we might have to use up to seven data sets.

The back-up media is also important. The recommended media for today's back-up could not be anything else other than a compact disc. With the capacity and size, it is very convenient for storage and transport. Other than back-up strategy, the back-up media itself should be used on a rotation. For example we could do a twelve week rotation which means a different set of CD's is used for each of the first twelve weeks. On the thirteen week, we use the CD's from the first week. This way a file can be recovered if it was lost up to twelve weeks ago. Maybe after 2 cycles of twelve week rotation, all medias are removed to keep as a snapshot for the company.

5.3.3 Training and procedure for the designed template

As mentioned in the earlier section, the training is needed in the company because employees do not have much experience especially in Microsoft Project. If time is a major factor in training, we can choose to have the employees trained only on the basics

of Microsoft Project, for example updating the schedule and uploading the schedule. More complicate functions of Microsoft Project can be performed by a scheduler or commercial department who are more familiar with the program.

It is important to have standard processes that can be documented and shared among the company. This processes should be kept as files rather than paper for various purposes. Storing files is much easier than storing paper documents because it requires less space and it is easier to make copies.

By documenting and sharing processes together with effective reviews can provide the company with best practices. This best practices can later be used as guidelines and training tools for people in the company.

5.4 Conclusion

This chapter talks about the implementation of the designed system and template. First, people in the organization who are involved in the project should know and be aware of the system through training. Second, they need to have supporting system such as hardware and procedure. Nevertheless, it is going to take time before the company can adapt and fully adopt the system. Therefore, the implementation process should not be rushed, but let the system sinks into the company slowly. In the next chapter, we are going to conclude this research with discussions and recommendations.