

2. Problem Domain

2.1 Introduction

Organization, Problem, Aim and Objectives and the proposed solution were discussed in the previous chapter. Further, justification for the importance of solving the problem also has been included in the previous chapter.

More about the Problem, Existing System and the weakness of the existing system have been discussed in this chapter. In addition, the reasons for developing and implementing a software application also have been discussed in this chapter.

2.2 More about the Existing System

Before implementing the proposed system, organization had an employee evaluation system and an increment was given to employees in semi annually, based on the marks that each employee obtained in the evaluation. All the employees were evaluated weekly, monthly and semi annually on different key areas. The evaluation criteria was different for different employee categories and these criteria has been introduced based on the type of the functions that the employee has to do. The weekly, monthly and semi annually evaluation criteria of the factory employees are available in *Appendix B*.

Final grade is calculated by considering the average of weekly evaluation marks and monthly evaluation marks and then by adding the semi-annual evaluation marks. Employees are given a grade based on their final marks. Management decides the percentages to offer grade A, Grade B, Grade C and Grade D in production line wise by considering the number of employees in the line and complexity of the transformers which were produced in the line. Employees are entitled to have a salary increment at the end of the each semi annual evaluation cycle, according to a pre defined amount for each grade. Employees are given a printed slip with their marks for each evaluation key area, Final marks and the grade at the end of the cycle. *Appendix C* shows a sample slip.

2.3 Weaknesses of the Existing System

Numbers of weaknesses were found in the existing system as discussed below.

- Since employees can not have a much clear idea about the final result that they are going to get at the end of the cycle (after six months), employees do not have a much interest about the existing system.
- Although the employees are evaluated under many key areas, the existing method does not target the productivity in an effective way.
- Although the productivity is such an important major area which should be measured and monitored in order to take vital management decision, no clear information is available in the existing system on productivity.
- System does not facilitate to share information online and does not support for multi user environment.

2.4 Why is proposed software application needed?

High data volume to be managed/processed.

For the above calculation, data has to be collected from about 40 lines. Around 2200 employees are working shift basis. Shift wise daily production output data has to be recorded job wise and operation wise. Master data of jobs, products, Machines, operations, Lines etc have to be managed. Since, huge data volume has to be manage, software application must be used.

Existing ERP (SyteLine) does not have the facility.

Although company is having an Enterprise Resource Planning (ERP) system (SyteLine) with the modules of Customer Relation, Inventory, Production and Finance, it does not have the facility for production calculation.

No standard software is available to match with specific complex requirements.

Non availability of readymade software systems to match with our specific unique requirements is one of other reasons to develop a software system.

Complexity of the production process

The BOMs of the products are also very complex. Around 40 operations are available in a standard BOM and around 25 operations are available in the job BOM. Products are different based on various unique requirements. Different machines are used in the different production lines and in the same line too. Operations and timings are also rented based on the machine and the product. Different materials are used based on different specifications. Because of the complexity of the process, it is very much difficult to implement the proposed productivity based incentive scheme.

2.5 Summary

Detailed description of Existing System has been included in this chapter. Further, the weakness as of the existing systems and reasons for implementing the proposed solution is also has been discussed in this chapter.

Currently available different Technologies, Approaches, Models, Processes that can be used to develop of high quality software have been discussed in the next chapter such a way that the best approach can be selected based on the nature of the project.

Mainly Software Development Process, System Analysis and Designing, RDBMS etc that can be used for the proposed solution have been discussed.