

Chapter VII

Conclusion and Recommendation

7.1 Conclusion

This thesis is developing based on elaborately analyze of the current situation in several aspects and define the problem by using logical methodology. The major problem of the case studied company is on the part supply. The study of this thesis has identified the cause of the problem and also defined proposed concepts in order to improve the result of Material Management System. The final goal of this study is to develop a material management system for a hard disk drive manufacturer to meet objectives. The objective of this study is to improve service levels, on time delivery, and production resource utilization. To analyze the cause and the effect of the problem, element check list and cause and effect diagram was selected for analyzing tool. The result from analyzing tool, it helps on finding out the solution for case studied company. The solution concepts to develop the new Material Management System are demand policy for establishing MPS, make-buy decision using MRP with HGA capacity constraint, lot sizing, and scrap allowance techniques.

In current Hard Disk Drive Manufacturing, the existing Material Management system does not take work order allocation for HGA production, allocation for multi suppliers, safety factor for each part item, and lot sizing into the consideration. Moreover, demand policy for establishing MPS of case studied company is significantly flexible for customers; since the case studied company allows demand changes even in near period of planning horizon. The core concepts using in the developed material management systems are material requirement planning, Bill of Capacity, Capacity Management, Demand Policy, Scrap Allowance Analysis, and Lot Sizing Technique. The relation of the developed system is not only with the general parameter for MRP but also with capacity information and supplier sourcing percentage information. The Material Requirement Planning, HGA Capacity allocation, and order allocation method is under analytical solution. This Material Management System is developed with the knowledge based approach. The developed system was created based on the understanding of the nature of problem and the constraint of production and capacity. The most important issue to make the system work effectively is the accuracy of parameters. However, this study has

system work effectively is the accuracy of parameters. However, this study has provided the procedure and work procedure in order to support the planner's work instruction.

The evaluation result of this developed system has proved that there is a significant improvement on Service Levels, HSA On Time Delivery Performance, production resource utilization, and total inventory costs. Nevertheless, the result of the developed system came from the simulation process not from the actual implementation. However, most of production problem incidents have reflected in the simulation process. The improvement of service levels and HSA on time delivery performance was contributed by the establishing of scrap allowance. The improvement of production resource utilization performance was contributed by the establishing of developed MRP. Lastly, the improvement of total inventory costs was contributed by the establishing of developed MRP and lot sizing technique. If the case studied company implements demand policy for establishing MPS, it will definitely help the performance measurement through out the supply chain.

The difficulty of this study is that some information particularly financial information is not allowed to disclose by the case studied company. Consequently, some financial information has to be estimated based on feasible price and cost.

7.2 Recommendations

7.2.1 Further Improvement of Material Management System

The developed Material Management system is the first phrase to improve the existing material management system. However, there are many alternative approaches to improve the system and also there are some issues which could be improved in the future phrase. The further improvement that could be considered in the future as follow:

1. Simulation system: Frozen zone in demand management can also have an exception by using simulation system. Simulation system will generate what if analysis report in order to assist case studied company on the decision of demand increasing. Moreover, simulation system can be utilized for capacity allocation.

2. Automatic Parameter Upload: Automatic Data retrieving from the source information to the Material Management System. Parameter is one of the most important information since it directly affects on result of material requirement. Automatic parameter upload will assist the case studied company on the accuracy of parameters.
3. Work Order Prioritize: One of further improvement that had been considered to be improved is on work order prioritization. The improvement can be expanded to the scheduling function. Priority of the Work Order will assist production on job priority.
4. Rough Cut capacity: Normally rough cut capacity will be used in Master Planning Schedule. However, for the further improvement rough cut capacity can also be one of future function to improve ability of material management system.
5. Supplier commitment: One of the Further Improvement that would be proposed is to update Supplier commitment into Material Requirement Planning. This function will assist the part planner to track purchased order against the commitment from supplier.

7.2.2 Implementation of Material Management System

To implement the Material Management System to the case studied company, it requires a project planning and cooperation of related person and department. Work procedure and procedure in chapter five will be used as a training document and work instruction. The key user of the Material Management System is HSA Part Planner from Part Planning department. However, other departments also involve in the developed system for instance, Engineering department, Procurement department, Order and Scheduling department, etc. The implementation steps are as follow:

1. Team Assignment: The first step is to assign responsible person for the implementation project. For the developed Material Management System, the project owner or key user is Part Planner from Part Planning Department. Moreover, not only key user that is required to define but also support users and relate users. Support users will be the people who support the data and

related users will be the people who will utilize the result of the developed Material Management System.

2. Scope Control: After assign the responsible person for the implementation, scope of the implement also requires to be identified. Scope of the study has been defined on chapter one.
3. Accurate Tracking: The third step is to determine the tracking items. The tracking items for the implementation will be defined by involved people for this implementation. At the beginning stage of the implementation, both systems, existing one and developed one, will be operate parallels. Then result will be tracking until it considered as a reliable one.
4. Effective Control: After the developed Material Management System goes live, effective control has to be established in order to make the system dependable. Periodical control has to be defined and also need attention from top management.