



CHAPTER 1 INTRODUCTION

Supplier Quality Management concerns with relationship between suppliers and MOLEX Thailand LTD. Products that have been supplied by the suppliers will be material for finished goods assembly in MOLEX Thailand LTD manufacturing. Material quality is very important for production process. Material quality problems occur in the production process, it leads to low productivity, high defectives work pieces then high scrap rate. To ensure the quality of material is in state of control. MOLEX Thailand LTD need to have strength in supplier quality management. Currently, it can be seen that the business environment currently becomes more and more competitive, achieving total customer satisfaction is the essential requirement for growth in the competitive environment.

The way to achieve total customer satisfaction and become the preferred supplier of the customers? It involves a very comprehensive plan in various areas such as service, product technology, quality of the product, supplier quality assurance and management, delivery, productivity and speedy execution of continuous improvement plans. It is most critical to figure out what the customers want, need and desire. One of customers satisfactory is supplier quality and incoming quality control process at their supplier. How well are the material (to assembly the final products) inspected and controlled. As a result, the total involvement and active participation of the combined team(MOLEX Thailand LTD and Suppliers) have to be maximized.

The suppliers are a key part of the total involvement and proactive participation between supplier and customer plan. This plan will drive force behind Supplier Quality Assurance and its improvement process. To achieve customer expectation, it is necessary to work toward an environment of continuous improvement based upon proactive, rather than reactive decision-making.

In conclusion, it is important to understand and exceed the requirements and expectations of all customers. This must include the current expectations, as well as those not yet defined, which will result in customer delight. Therefore, all efforts and systems have to be customer focused, rather than internally driven.

1.1 Statement of the problem

MOLEX Thailand LTD is one of leader of harness and connector assembly supplier. Supplier quality management to the suppliers who supply material for finished goods assembly. Main material for harness assembly is PVC insulated wire that needed proactive supplier management in order to ensure that the material quality is in state of control before releasing to the production process of MOLEX Thailand LTD. This is a weak area of the company that need to be improved.

Two critical problems which need to be improved for this study are as below,

- How incoming quality control process work in the proactive way to detect the defective material which will create the process problem in the production operations. This is to ensure that quality of material from the major suppliers is in state of control under MOLEX Thailand LTD monitoring that the flexibility of the IQC inspection sampling plan and defective material handling have to be improved.

- How to qualify the suppliers upon suppliers' quality audit. The score levels to classify the suppliers based on qualification and quality system audit result need to be improved. And also, supplier certification program as called supplier performance periodic evaluation have to be improved in order to feed back the suppliers' product quality performance based on MOLEX Thailand LTD data collection and suppliers supplied data. All quality factors have to be established to consider supplier's performance.

Two above issues cover interaction between the suppliers and MOLEX Thailand LTD as called responsiveness in term of corrective action on the suppliers' product quality problem that has to be effective for long term solution. Co-operation from the suppliers to provide the support data in aspect of objective data such as statistical data, final inspection report together with corrective action (subjective data) to ensure that the supplier manufacturing is in state of control.

1.2 Objective of study

- To improve the process of supplier qualification/quality system audit and supplier performance periodic evaluation for MOLEX Thailand LTD.

- To improve incoming quality control inspection process in aspect of material quality inspection process and defective material handling process for MOLEX Thailand LTD.

1.3 Scope of Study

The scope of this study is confined to incoming quality control process of MOLEX Thailand LTD and interaction between MOLEX Thailand LTD and its 6 major suppliers who supply direct material , PVC insulated wire, to MOLEX Thailand LTD.

Incoming quality control process is the process to inspect quality of the products which supply to MOLEX Thailand as material for finished goods assembly. The quality of the product will be inspected under criterion checkpoint work sheet being preparing by QA engineer. This is to detect the product quality problems that create the obstructions in the production line. The quality of the product will be monitored not only at incoming quality control section, but also production complaint on the quality of the products. Supplier supplied data and corrective action on the quality problem responsiveness will be measured as supplier service performance. Quality of the suppliers therefore consists of quality of the product and service. Supplier quality results will be fed back to them comparing with their competitors (other suppliers who supply the same kind of product to MOLEX Thailand LTD). This is to bring them to be more competitive so that the quality of the product will be improved continuously upon the supplier performance result. And also, the process to qualify and conduct supplier quality system audit will be developed for supplier quality management.

1.4 Step of study

All main procedures of this study are as follows,

1.4.1 Survey the literature relevant to this study.

1.4.2 Study the ISO procedure in topics of incoming quality control method and supplier quality management of MOLEX Thailand LTD.

1.4.3 Study the current support documents as mentioned in the procedure and actual activities in accordance with the procedures.

1.4.4 Collect data both objective and subjective data in order to propose the methods for supplier improvement.

1.4.5 Analyze and evaluate the suppliers in aspect of quality performance upon line feed back (production complaint rate), customer complaint and lot acceptance rate at IQC.

1.4.6 Develop the improvement methods and concerned ISO procedures.

1.4.7 Establish goal for product rejection rate at incoming quality control section and production complaint on the product quality problem.

1.4.8 Verify data versus goal in 1.4.7 as mentioned in proposed methods and communicate to suppliers for data requirement upon expected period.

1.4.9 Analyze data both supplier supplied data and collected data from IQC section.

1.4.10 Compare the supplier performance then feed back to suppliers for acknowledgment and improvement.

1.4.11 Compare the quality criterion (factors) before and after supplier quality improvement based on data as mentioned in 1.4.7.

1.5 Expected benefits of study

The expected benefit after implementing the proposed methods are as follows,

1.5.1 Incoming quality control process is improved in aspect of inspection process and IQC data utilization.

1.5.2 Interaction between suppliers and MOLEX Thailand LTD is establish in term of interactive data and data exchange (fed back data).

1.5.3 Suppliers feed back their improvement plan for their weaknesses.

1.5.4 Quality of the products that are supplied by these major suppliers, could be improved The product quality will be reflect to MOLEX Thailand LTD after implementing the proposed methods.

1.5.5 IQC data and supplier supplied data are utilized properly for supplier quality management.

1.5.6 Relationship between MOLEX Thailand LTD and suppliers have been continued aggressively in positive way to grow together in the business.

1.6 Limitation of this study

1.6.1 This study focuses on the quality assurance management to the local major suppliers who supply the main material to MOLEX Thailand LTD. The main material for this study is PVC insulated wire. This study concerns with the aspect of quality assurance. Price and delivery will not be considered because price and delivery control are in the area of purchasing and stock management. It is difficult to study cross over others function.

1.6.2 Overseas suppliers quality system will be based on self assessment because of high expenditure for supplier quality system audit at suppliers' factories in abroad.