

## **Reinforcement Strategy of Operation Management Performance**

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**ABSTRACT** :Company R must construct the system in order to cope with business development. As to quality management, in particular, it must establish a system in order to enhance competitiveness. This study introduces quality management information system, recognizes important quality characteristics and process parameter of different work stations to examine the process and record and analyze figures, recognize and avoid the causes of defect in order to upgrade yield rate. This study aims to apply quality management technique to Company R in order to reinforce operation management performance.

**KEYWORDS**-system, quality management, performance

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### **I. RESEARCH BACKGROUND**

To recognize the causes of product defect and upgrade performance has become the important issue for Company R. With the change of consumers' demands, competitive advantage depends on product and service quality. Quality information collection and analysis serve as proper decision-making information for the managers in order to recognize the on-site situations. In order to reinforce product quality, the employees should analyze quality information in order to upgrade product quality and reinforce operation management performance.

To produce the products with high quality and high added value, it must rely on the employees' cooperation in the company. The manager can analyze quality information of the factory by management information system to result in rapid decision-making. Statistical process control means to analyze quality information by performance of figures in order to recognize the factors of process variation. Statistical process control allows users and managers to conveniently and precisely analyze quality information. In their decision-making management, they will not make wrong decision due to lack of information. Based on above, in order to upgrade competitiveness of

Company R, to systemize the documents in the factory, construct quality information system and provide the correct information is the purpose of this study.

### **II. LITERATURE REVIEW**

Quality can be regarded as the antecedent of customer satisfaction (Bei and Chiao, 2001; Brady and Robertson, 2001; Olsen, 2002). Zeithaml (1988) argued that cognitive quality and objective quality are different and cognitive quality is based on comparison. Juran (1974) first considered the external customers' needs. Thus, quality from the perspective of consumers' use became important. Parasuraman et al. (1985) suggested that service quality is the comparison result between consumers' expectation towards service and actual perception. TRIZ is the abbreviation of Theoria Resheneyva Sobretatelskehuh Zadach in Russian and it means Theory of Innovative Problem Solving (TIPS) (Rantanen and Domb, 2002). Dew (2006) stated that TRIZ is a kind of innovative thinking method with high degree of structure. TRIZ can replace traditional brainstorming which solves problems by options (Leon, 2003). Winkless and Mann (2001) applied innovative principles of TRIZ to the food of Ireland and introduced new products by innovation of food packaging and products. Zhang et al. (2003) applied TRIZ to service design and attempted to integrate TRIZ theory in conceptual design activities of modern service development practice. Ruchti and Livotov (2001) argued that TRIZ can replace past decision-making method based on experience and intuition and provide positive thinking logic to allow the managers to make decision in shorter time. This study introduces TRIZ innovative principles and application to the company to upgrade product competitive advantages.

### **III. INTRODUCTION OF CASE COMPANY**

Company R must construct the system to cope with business development. As to quality management, in particular, it should establish one system to reinforce corporate competitiveness. This study introduces quality management information system, constructs standard business regulations of IQC, SPC and OQC, recognizes important quality characteristics and process parameters of different work stations to check, record and analyze

the figures and avoid the causes of defect to enhance yield rate. This study argues that Company R should first construct product

specifications, business procedure and product standard. It includes incoming control and on-site manufacturing control of raw materials. When the supplier receives the raw materials, material department must examine the materials and inform the examination result to the purchasing department and the supplier to avoid the problem of product quality; manufacturing department includes manufacturing control, finish control and outgoing control which aim to avoid great amount of loss of cost after outgoing.

#### **IV. CASESTUDY**

This study simplifies the manufacturing process of Company R and it applies combination, deletion, simplification and reorganization. By simple symbols moving, ○ operation, ∇ storage, □ checking, D delay, it indicates the sequence of the manufacturing process. With the control items, control characteristics, control methods and sampling frequency of each step, it constructs QC plan.

After the interview, this study recognizes three major problems of Company R:

(1) Preservation of data

Preservation of some important data rely on the employees' writing and generalization. When the clients visit the company, it lacks the information in detail and the data might not be preserved.

(2) Difficulty to recognize causes of defect

As to internal quality control items, it does not discover the causes of quality variation by quality control tools.

(3) Delayed delivery

Quality control personnel mostly rely on eyes in the examination. This study establishes related specifications by QC plan to avoid delayed delivery.

This study suggests that the company should electronize the data, reinforce the control items of defect products, draw control plan and remind the manager of the change of control items. In addition, it should strengthen the interaction with suppliers and avoid the shortage of raw materials and delayed delivery.

#### **V. CONCLUSION**

This study modifies the process and delivery by QC plan. The original process is too complicated and it is not planned properly. By combination, this study eliminates some unnecessary and repeated operation, simplifies and reorganizes the process. As to the delayed delivery of Company R, by the preserved figures on site, it analyzes the problems. Through adjusting process parameters, it leads to goal value of mean of manufacturing process. With statistical analysis tool, it avoids the shortage or defect of raw materials.

As to reinforcement strategy of operation management performance, this study proposes the following suggestions.

(1) In some sites, it can replace the employees' control by tools and enhance manufacturing capacity analysis to avoid product variation and enhance the stability.

(2) It should construct one complete standard procedure and thus, when on-site employees encounter the problems, they can cope with them more efficiently.

(3) It should reinforce outsourcing companies' concept of quality management and avoid the delayed delivery.

(4) It can plan and improve the on-site facility circulation and reinforce the logistics flow.

(5) It can solve technical problems by TRIZ to enhance competitive advantage of products.

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