

Chapter 12

Strategic Quality Management– Performance Measurement Model for QCD Strategy

ABSTRACT

This study presents the Strategic Quality Management-Performance Measurement Model (SQM-PMM) as a new methodology for enhancing the key elements of successful for enhancing QCD strategy and ensuring future manufacturing results through strategic quality management. SQM-PMM was developed based on the actual company management practices of top management employing Science TQM. The validity of SQM-PM as the key to maintaining competitive corporate management was verified. Through the establishment of SQM-PMM, quality management techniques for the Japan manufacturing activity are maximized, thus bringing in a new phase of strategic quality management.

INTRODUCTION

In the current manufacturing, where “worldwide quality competition” continues to intensify, production of equal quality in optimum locations is essential for successful global marketing of quality, cost and delivery (QCD) by developing the Toyota Production System (TPS) and Total Quality Management (TQM) (Refer to Chapter 2). With this in mind, the “Science TQM, new quality management principle” was established for improving quality management techniques to strengthen manufacturing using “Science SQC, new quality control principle,” and its validity was verified for corporate QCD activity (Amasaka, 2004a, 2008; Amasaka, Ed., 2012).

This study presents the Strategic Quality Management—Performance Measurement Model (SQM-PMM) as a new methodology for enhancing the key elements of successful for enhancing QCD strategy, and ensuring future manufacturing results through strategic quality management. SQM-PMM was developed based on the actual company management practices of top management employing Science TQM. The validity of SQM-PM as the key to maintaining competitive corporate management was verified. Through the establishment of SQM-PMM, quality management techniques for the Japan manufacturing activity

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are maximized, thus bringing in a new phase of strategic quality management (Amagai and Amasaka, 2003; Amasaka, 2004bc, 2009, 2020; Wakaizumi, 2005; Kozaki et al., 2012; Amasaka, Ed., 2012).

BACKGROUND

Amidst increasingly fierce competition in the manufacturing industry both at home and abroad, developing a renewed awareness of how the industry is approaching quality management is critical. Companies must use this awareness when tackling recent quality problems—problems so severe that they have seriously undermined customer satisfaction (CS). Increasing recalls among the major corporations that should be leading the world in global production are a wake-up call for the manufacturing industry to reinforce the strength of their quality-related technologies (Goto, 1999; Nihon Keizai Shinbun, 2000, 2006; Amasaka, Ed., 2007; Amasaka, 2008).

In recent years, digital engineering has resulted in a dramatic shift in how manufacturing worksites operate. One occasionally sees a phenomenon where scientific quality management methods designed to “build in” quality during the manufacturing process are becoming diluted due to several factors—including a decline in manufacturing (worksites) technology, the realization that employees’ ability to discover and solve problems is weakening, and a general fading of the concept of building in quality. Companies cannot afford to limit themselves by their past successes or cling to outdated forms of quality management; setting up new quality management methods appropriate to production sites equipped with digital engineering technology is an urgent task (Joiner, 1994; Amasaka, 1999, 2004a).

As worldwide quality competition has come to define the new century, success in producing consistent global quality at optimum locations has become a crucial part of deploying the new global marketing strategy that is key to corporate survival (Amasaka, 2004a, 2008). There is thus a need for strategic quality management performance measures: they allow companies to solidify their management achievements and are the key to maintaining competitive superiority in the years to come. Furthermore, these measures must contribute to the strategic deployment of quality management technologies for the next generation (Amasaka, 2004bc).

SCIENCE TQM, NEW QUALITY MANAGEMENT PRINCIPLE FOR THE QCD STRATEGY

When the author looked at recent corporate activities both inside and outside Japan, he found cases where leading companies had lost customer trust. The loss of customer trust was due to stagnant R&D activities for enhancing QCD strategy, an issue stemming from chronic internal and/or external quality problems. As a result, the companies lost sight of customer needs and fell behind in technological development. At the same time, other companies are focusing on the “customer first” principle while actively innovating in product development, sales and marketing. These companies are conducting company-wide quality management activities, successfully enhancing CS (Amasaka, 2004a, 2005).

The author strongly believes that the key difference between the successful and unsuccessful companies lies in strategic quality management based on a “customer first” principle that allows them to grasp future trends. With this in mind, the author has proposed a new quality management principle named Science TQM, new quality management principle (Amasaka, 2004b, 2008; Amasaka, Ed., 2012), which

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