Insights of Quality Management Concepts in the Supply Chain

Cassandra C. Elrod, Sarah M. Stanley, and Cui Zou
Department of Business and Information Technology
Missouri University of Science and Technology
Rolla, MO 65409, USA
cassa@mst.edu, stanleysm@mst.edu, cz87c@mst.edu

Elizabeth A. Cudney
Department of Engineering Management and Systems Engineering
Missouri University of Science and Technology
Rolla, MO 65409, USA
cudney@mst.edu

Abstract

Quality management principles and tools, and continuous improvement methods, have been applied in different industries as a means to improve sales, reduce costs, and retain a customer base. The application of specific quality tools in a variety of industries will be compared. The objective of this research is to evaluate the similarities and differences in quality tools selected for use by industry category, performance of quality management tools based on the specific tools/programs and implementation method adopted; analyze strategies for implementing quality tools into the suppliers; and to analyze the reasons for both the success and failure. Data was collected via survey distributed online to the individuals familiar with quality management principles and tools. The results of this survey were analyzed with a variety of statistical techniques.

Keywords
Quality management, Continuous improvement, Quality tools, Service, Manufacturing

Biography

Cassandra C. Elrod is an Associate Professor in the Department of Business and Information Technology at the Missouri University of Science and Technology. She received her B.S., M.S., and Ph.D. in Engineering Management from the University of Missouri – Rolla. Her research has been accepted and published in journals such as the Quality Management Journal and International Journal of Quality and Reliability Management. Her current area of research includes continuous improvement, quality management, supply chain management, project management, and education topics. She is a member of the Association for Information Systems.

Sarah M. Stanley is an Assistant Professor in the Department of Business & Information Technology at Missouri University of Science & Technology. She earned her PhD from Saint Louis University in 2007, and worked at the University of Wisconsin Oshkosh until 2011. She has done research in a variety of marketing topics such as branding, country of origin, perceived quality and advertising. She currently teaches courses in International Business, Marketing and International Marketing.

Cui Zou is a graduate student at Missouri University of Science and Technology. She received her B.L. in Administrative Management from Beijing University of Chemical Technology, and her Master of Business Administration (MBA) from the Missouri University of Science and Technology in 2015. She worked in the manufacturing industry in China for several years with positions mainly in purchasing and production planning departments.

Elizabeth A. Cudney is an Associate Professor at Missouri University of Science and Technology. She received her B.S. in Industrial Engineering from North Carolina State University, Master of Engineering in Mechanical Engineering and Master of Business Administration from the University of Hartford, and her doctorate in Engineering Management from the University of Missouri – Rolla. In 2010, Dr. Cudney was inducted into the ASQ International Academy for Quality. She received the 2008 ASQ A.V. Feigenbaum Medal and the 2006 SME Outstanding Young Manufacturing Engineering Award. She is an ASQ Certified Quality Engineer, Manager of Quality/Operational Excellence, and Certified Six Sigma Black Belt. She is a member of the ASEE, ASEM, ASME, ASQ, IIE, SAE, and the Japan Quality Engineering Society (JQES).