

## Editorial

Today, organizations focus on quality, speed, efficiency, and customer value to be globally competitive, and the long-term sustainability of any organization depends on its commitment to continuous improvement. Quality must be consistent, long-term, on-target performance of products and services in the hand of the customer. To satisfy customers, their needs must be considered throughout the entire planning, design, development, manufacturing process, delivery and service. Quality is critical to enhancing competitive performance, productivity, growing market share, and improving profitability. Three elements of profitability include 1) quality of products and services, 2) value or cost, and 3) timeliness of delivery. Total Quality Management (TQM) is a philosophy and culture with associated scientific tools and methods and leadership actions. The Quality Management vision helps companies remain competitive in the face of customers' constantly changing and evolving expectations. The principles, practices, and techniques embodied within continuous improvement form a comprehensive organizational philosophy that strives to effectively fulfill customers' needs, and organizations implement such programs in order to be productive and create organizational knowledge with improved performance. The TQM imperatives consist of customer focus, worker empowerment/involvement (all the people all the time) and continuous improvement. These imperatives create the culture of quality.

This special issue contains eight papers illustrating the breadth of the quality management field. The first paper deals with product quality and service reliability and their respective impact on business growth and sustainability. The second paper provides an approach to calculate the quality loss function for larger-the-better performance characteristics. The methodology utilizes a simple linear transformation as used in the unified loss function to provide comparable results. The third paper discusses Failure Mode and Effect Analysis (FMEA) and presents a detailed literature review which indicates most FMEA studies focus on profit and supply chain practices. The fourth and fifth papers provide detailed case studies of Six Sigma implementation. The fourth paper provides a detailed case study of applying the Lean Six Sigma problem solving methodology in an acute care hospital to improve the linen process. The paper details the improvements made by the cross-functional team to achieve significant savings in the key operational metric for the first year. The fifth paper presents a Design for Six Sigma case study in an Information Technology department at an accounting firm. This paper focuses on the change management systems necessary to translate the users' needs/expectations into the design of a new system. The sixth paper analyzes the relationship between service quality management dimensions and performance of healthcare organizations using the Malcolm Baldrige National Quality Award to measure the internal and external service quality. The seventh paper addresses the effect of continuous improvement practices on performance using data from a survey administered across multiple industries. The study identified the lean and quality improvement methods that have been successfully implemented, their perceived effectiveness, and the challenges in implementation. Finally, the eighth paper evaluates the two major sources for rating automobiles on quality, reliability, and safety. The study presents the type of information presented, how the data is collected, and what is measured and analyzes the magnitude and value of these two sources.

As editors of this special issue, we believe that each of these papers provides valuable information and the sum of their contributions adds to recent advancement in quality management. We thank the authors for the submission of their research for publication in this fine journal. We are grateful to the reviewers of all the articles in this special issue for providing care and professional evaluation of the manuscripts in a timely manner. Finally, we appreciate the commitment of the Editor of the *International Journal of Engineering, Science and Technology* in helping us to put together this piece of scholarly work.

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