Foreword

*Lean Six Sigma Approaches in Manufacturing, Services, and Production* focuses on a methodology that maximizes shareholder value by achieving a fast rate of improvement in customer satisfaction, operational cost, quality, process speed (cycle time and throughput), and operational excellence.

The book emphasizes the synergy of Lean and Six Sigma for the following reasons:

- Lean cannot bring a process under statistical control
- Six Sigma alone cannot significantly improve process speed nor ensure that operational excellence objectives are met

Thus, Lean and Six Sigma are two complementary methods that, when combined well, will help enable an organization to continuously improving its performance. Both methods require a focus on understanding the needs of the customers (internal and external) and then provides a roadmap for reducing non-value-added processes such as waste. The good understanding of both concepts, captured in this book, will result in a reduction of customer dissatisfaction as well as reduction of cycle times in any industries. Another very important benefit of this book to an implementing organization is the minimization or optimization of resources requirements to deliver goods, information, or service to the customers that are gearing toward waste elimination efforts and resulting decrease in inflated costs, lead times, and inventory.

In today’s very competitive global business environment, with increasing customer expectations for value, speed, and ease of doing business, Lean Six Sigma can be the key to continuously improving the quality of goods and services as recounted in the book. The technique helps organizations to obtain superior results and provide a systematic approach to improve operations efficiencies and performance. A successfully deployed program will create breakthroughs in performance. By understanding their critical processes through analysis, organizational teams can implement changes to make processes faster and better for organizations and their customers. By using Lean Six Sigma tools and principles, corporations utilize data obtained from processes that are converted to information to quickly lead to changes to meet the needs of stakeholders.
The chapters in this book show that many organizations have created Lean Six Sigma programs for executing improvement projects that are intended to generate business financial benefits. Some results are better than others and the differentiator is the approaches utilized while focusing on the breadth of deployment and the execution of the strategy and process. There is no one approach that fits all, and each organization must determine the right approach that fits its situation. It must be understood that the project-based process improvement methodology can greatly benefit an organization, but it should be integrated into a strategic plan with well-defined goals and objectives for the business and the customers.

Lean Six Sigma is often the program of choice for many organizations looking for a systematic approach to process improvement. As illustrated in the book, this practice has been shown to be very successful throughout many deployments around the world with large, medium, and small organizations. Further, a solid knowledge base portrayed an understanding of the lessons learned from approaches already utilized and proven, in addition to the discovering of new and unique approaches that may work for any organization. The limitations of the methodologies are that they do not have a “boundary” as long as they are helpful in achieving the desired results and objectives.

The process improvement journey of this book begins with the reviews of various Lean Six Sigma approaches in Manufacturing, Service, and Production and shows how the synergy of Lean and Six Sigma can produce remarkable operational results as well as increase customer satisfaction. The reader will be able to understand and appreciate the importance of focusing on the highest-value projects that are supported by the right operational performance infrastructure. Approaches that illustrate how results can be achieved are provided.

The book offers additional knowledge, via examples, of how Lean and Six Sigma methodologies complement and reinforce each other. It also provides insight to a roadmap of implementation within any organization to start seeing significant returns.

Is Lean Six Sigma right for your organization? The reading of this book will help to answer the question by providing a reference of successful approaches that have been used by many organizations in the past. Lean Six Sigma concepts are shown to be very powerful in improving the quality and speed of all types of operational and transactional processes. Typical transactional processes can include sales and marketing, human resources, payroll, logistics, product development, returns, purchasing, etc. Manufacturing process also have multiple transactional processes that affect multiple locations that can be huge opportunities for improvements, often bigger than traditional improvements in the actual product manufacturing processes. This is often a tremendous opportunity for improvement which has been overlooked.

Throughout the book, Lean has been shown to have multiple tools that can be deployed and include but are not limited to current and future state value stream maps, 5S, visual factory, standard work, quality control process chart, Total Pre-
ventative Maintenance (TPM), quick changeover, mistake proofing, pull systems, kanbans, cell design, Overall Equipment Effectiveness (OEE), and voice of the customer. This enables the lean practitioners to create opportunities to eliminate or reduce the eight common wastes in processes:

- Defects
- Overproducing
- Transportation
- Waiting
- Inventory
- Motion
- Poor process design
- Underutilized employee creativity

John Sharp  
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John Sharp's current responsibilities include directing the global quality initiatives and policies for the Channel/Distribution BU of TE. This involves understanding the distribution and end-customers’ expectations and providing an extraordinary customer experience while also achieving TE business objectives. In the recent past, John has led/administered the North American ISO/TL Quality Management System as well as the Six Sigma and Lean process, quality metrics reporting, and analysis. Mr. Sharp is responsible for establishing strategic plans, policies, and procedures at all levels to ensure the QA program will meet or exceed internal and external customers’ needs and expectations. Mr. Sharp coordinates and conducts the Six Sigma champions, black and green belt training, project selection and cost savings reporting process, as well as ongoing quality metrics reporting. He was the project manager who led the initiative resulting in three Tyco Business Units within North America becoming the first organizations in the world to be certified to the requirements of TL 9000, Release 3.0, and ISO 9001:2000 in May, 2001. This registration, which covered 29 sites and 12,680 employees, also represents the largest multi-site accreditation to these industry standards. Mr. Sharp is also involved with multiple problem-solving projects, acquisition integrations, acquisition assessments, and training and customer satisfaction initiatives. Prior to joining TE, Mr. Sharp was employed with AMP Inc/Tyco Electronics for 25 years in quality engineering, supervision, and management positions, as well as engineering assurance, global sourcing, and corporate consulting and self-assessment positions for worldwide business units utilizing the Malcolm Baldrige and AMP business excellence criteria. He has traveled extensively to Europe and the Far East. He has also been employed with the Gehl Co., an agricultural and construction equipment manufacturer, as the Total Quality Assurance Manager. John held early positions in quality assurance in the food industry with Murrys Inc. and was a naval nuclear lead-auditor with Allis-Chalmers Inc. Mr. Sharp teaches a variety of courses and seminars in TQM, Statistical Process Control, Quality Engineering and Auditing, Management, Marketing, Organizational Behavior, and Operations Management for the Penn State University – Middletown campus, Harrisburg Area Community College, Lebanon Valley College, and the Harrisburg section of the American Society for Quality. He is the past Chairman of the local ASQ section and is currently the education chairman.