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## Preface

Statistical methodologies for product quality control, acceptance sampling plans, and product reliability are essential technologies that ensure product quality to reduce both consumer and producer risks. Numerous novel statistical technologies to improve and to evaluate product quality had been developed by many scholars in the past decades. After we edited the book *Statistical Modeling for Degradation Data* (2017; Springer, Singapore), we have seen a great need to bring together experts engaged in statistical process quality control, acceptance sampling plan, and reliability testing and designs to present and discuss important issues of recent advances in product quality technologies and related applications. For this reason, we edit this book *Statistical Quality Technologies: Theory and Practice* that focuses on statistical aspects of product quality technology development.

In this book, we aim to provide theories as well as applications of statistical techniques for manufacturing quality. This book provides a venue for the timely dissemination of research on the statistical methodologies of quality improvement and assessment and to promote further research and collaborative work in this area. The authors in each chapter have made both the theoretical results and the novel statistical quality technologies publicly available, thus making it possible for readers to readily apply these new methodologies in different areas of applications and research. We believe that the topics covered in the book are timely and have high potential to impact and influence in statistics, engineering, and manufacturing.

### Outline of This Book Volume

This book volume brings together 16 chapters that are categorized as follows: Statistical Process Control (Part I), Acceptance Sampling Plans (Part II), and Reliability Testing and Designs (Part III). All the chapters have undergone a thorough review process.

Part I of this book includes six papers focusing on both theoretical and applied research in statistical process control. Chapter 1 provides an overview of some

