

# Preface

The increasing instances of product recalls globally, with the high-profile cases of the Tanaka airbags in cars and Samsung Note 7 smartphones, signify the importance and necessity of measures for Quality and Reliability in industries. This is especially so in Asia as more and more manufacturing activities are taking place in this part of the world, with a corresponding increase in research and development initiatives.

It cannot be overemphasized that Quality and Reliability Management, which focuses on organization, planning and behavioral matters, with an orientation towards analytical tools as well as technical performance, is dynamic in nature as customer demand and market conditions evolve. The teaching of past “Quality Gurus” like Juran and Deming provides a bearing for business leaders and operations personnel, but as time passes, new thinking, techniques and analytical procedures will continue to develop to meet fresh needs and requirements as product variety, complexity and application domains increase. Thus globalization, big data, customization, sustainability, instant and wide communications—to name a few major items—are realities which traditional mainstream methodologies of Statistical Process Control and Reliability Testing, for example, have hardly addressed. Indeed professionals everywhere are constantly faced with expected or unexpected emerging needs and requirements. Thus there is an incessant stream of new interests and issues faced by researchers and practitioners, making Quality and Reliability studies such fascinating and important areas of endeavor within both academia and industrial sectors worldwide.

This book is contributed by researchers and practitioners of Quality and Reliability Management and Engineering in the recent past. The papers are based on the authors’ presentations at the 2014 ANQ (Asian Quality Network) Congress in Singapore; they have been selected based on their relevance to the practice of Quality and Reliability, as well as the directions they have pointed out in the profession’s development. The compilation is not meant to be a textbook on Quality and Reliability, for which there are already many titles in the market, but is a snapshot of areas within Quality and Reliability that are of current interest to

professionals in this field, and also—as explicitly described in some of the papers—society in general. The contents of this book would constitute a very useful supplement to users of traditional textbooks on Quality and Reliability as there are many actual cases and examples reflecting the latest applications in areas such as services and the environment.

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