



Robust Quality: Powerful Integration of Data Science and Process Engineering (Book Review)

Nicole M. Radziwill

To cite this article: Nicole M. Radziwill (2019) Robust Quality: Powerful Integration of Data Science and Process Engineering (Book Review), Quality Management Journal, 26:2, 118-118, DOI: [10.1080/10686967.2019.1580082](https://doi.org/10.1080/10686967.2019.1580082)

To link to this article: <https://doi.org/10.1080/10686967.2019.1580082>



Published online: 26 Mar 2019.



Submit your article to this journal [↗](#)



Article views: 19



View Crossmark data [↗](#)

BOOK REVIEW

Robust Quality: Powerful Integration of Data Science and Process Engineering. 2019. Rajesh Jugulum. Boca Raton, FL: CRC Press/Taylor & Francis. 124 pages.

As the Industry 4.0/Quality 4.0 paradigms take root, it will become increasingly more important to design organizations that can break through silos—especially those surrounding data management and analytics, quality management, and strategic management. But first we need to have a clear understanding of what the interconnections and linkages are between these areas. Rajesh Jugulum takes a clear step in this direction, proposing the concept of *robust quality* and then explaining how data and process strategy can be aligned in any organization.

There are six chapters in this book. The first chapter sets the tone by establishing the value proposition for integrating data and process quality, starting with a review of Taguchi's contributions, the concept of variation, and general approaches to process improvement. Next, the concept of data quality is examined, and an approach similar to define, measure, analyze, improve, and control (DMAIC) is proposed to structure problem solving related to this issue. It's called define, assess, improve, and control, or DAIC. In Chapter 3, strategy building is addressed with an emphasis on Suh's principles of axiomatic design.

The main contribution of this book is the definition of the robust quality index (RQI) in Chapters 4 and 5, which is applied throughout the remainder of the text. RQI synthesizes the assessment of process quality and data quality using a signal-to-noise approach, and can be

related to Six Sigma defect levels. RQI can be used to evaluate both the as-is and to-be stages of process improvement projects. If RQI increases, a process improvement has been accomplished without compromising data quality (which can lead to problems later). Short case studies incorporating these approaches are presented in Chapter 6.

Although the book favors synthesis of concepts and theory over application, it provides a sound basis for managers to start thinking about how to more strategically unify data and process quality efforts in their organizations. Readers will have to analyze and internalize the examples provided as case studies and spend time to figure out how best to introduce these concepts into their own organizations. Organizational issues were not an emphasis in this book, so change management and ensuring buy-in may require additional creativity. Overall, the fundamental concept is compelling though, making the book a worthwhile first step for helping organizations unify data and process quality issues.

Reviewed by
Nicole M. Radziwill
✉ nicole.radziwill@gmail.com

© 2019 American Society for Quality
<https://doi.org/10.1080/10686967.2019.1580082>

