Endorsements for
SAS Data Analytic Development: Dimensions of Software Quality
By Troy Martin Hughes

Most SAS programmers and most of the analysts that use SAS to analyze their data are not data scientists. Many SAS programmers come from other fields of expertise and in the process of working with and analyzing their data they learn how to use SAS. The programs that they write are designed to create, manipulate, and analyze data, and a great deal of their concentration is on the quality of the data that they work with. What we often forget is that the quality of the data is intimately tied to the quality of the programs that generate and maintain that data. This book addresses the issues associated with the quality and structure of the SAS programs that we write every day. We might learn these concepts the 'hard way' through experience, but it is easier, quicker, and more efficient to learn from an expert, and Troy offers us that expertise.

When reading this book I was reminded of *Zen and the Art of Motorcycle Maintenance* the classic book by Robert Pirsig. Interwoven with careful discussions on what we should be thinking about when we are programming, are descriptions of Troy's backpacking adventures in exotic locations. But you do not need to be a backpacker or a follower of the teachings of Zen to appreciate the carefully described methodologies that, when you follow them, will substantially strengthen your programming effectiveness. The book fully covers the essential programming concepts that include such topics as 'Readability', 'Scalability', and 'Portability' (the latter two being especially important to me as a macro programmer).

The quality of your programs is often reflected in the quality of your data, and your programs will be substantially improved by implementing the concepts presented in this book. All programmers, even non-SAS programmers, who write programs that work with data will find this book both useful and interesting, especially so if you have ever backpacked.

- Art Carpenter, California Occidental Consultants, Anchorage, AK

Thanks to Troy Martin Hughes' book "SAS Data Analytic Development: Dimensions of Software Quality" I now realize I am a SAS® practitioner, rather than just a SAS user of 38 years. Troy's book has prompted a paradigm shift in my own work: I realize that the SAS programs I write are deserving of the same rigorous quality controls, and the same steps to ensure quality, as all software products. Reviewing and following the ISO software product quality model in the context of a SAS analytic framework shouldn't be so earth-shaking, but it is. The book provides a step-by-step guide to creating and maintaining a quality software product, and more importantly, valuing your own work. Enhancing the tour through the ISO quality jungle are wry and humorous anecdotes relating to Troy's real life journeys in Central and South America that tie into various topics, as well as targeted code examples. I heartily recommend this book to SAS practitioners (and their managers) involved in data analytic development - those who "produce the golden egg-the valuable data product."

- Louise Hadden

Great explanations. Great examples. Too often in SAS books and papers the examples are simple and not readily usable; this is not the case with Troy's examples. I was quickly able to implement some of examples into a project I was working on which saved me several hours work and provided a better solution. I especially found useful Chapter 2 on Communication and Chapter 12 on Automation and understanding and using batch processing from within a SAS program.

The book is well written with good references. Concepts are well defined, usually starting with a general statement and followed up with a technical definition (for example from ISO documentation). I think all experienced SAS programmers can benefit from the book, and it is a must read for all new SAS programmers.

- Peter Eberhardt, Consultant, Fernwood Consulting Group Inc.

Troy's fantastic book will greatly increase the ability of the reader to positively impact their organization. He raises the capabilities and maturity of the SAS community by sharing his many years of software development experience with us in a style that delights and clearly informs. Thank you, Troy!

- Chuck Kincaid, Senior Engagement Director, Experis Business Analytics

An absolute must-read for data analysts to remind them that software programming is a very central component of their job. Concepts, best practices, and SAS code examples perfectly illustrate this increasingly important topic.

- Gerhard Svolba, Ph.D., Data Scientist, SAS Institute