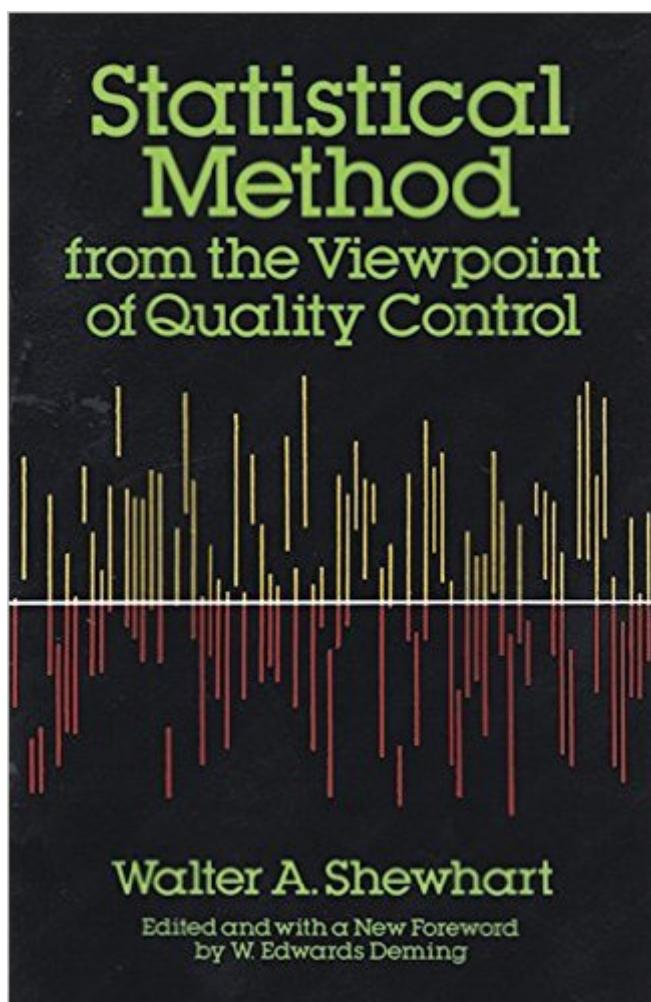


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Statistical Method From The Viewpoint Of Quality Control (Dover Books On Mathematics)



Synopsis

The application of statistical methods in mass production make possible the most efficient use of raw materials and manufacturing processes, economical production, and the highest standards of quality for manufactured goods. In this classic volume, based on a series of ground-breaking lectures given to the Graduate School of the Department of Agriculture in 1938, Dr. Shewhart illuminated the fundamental principles and techniques basic to the efficient use of statistical method in attaining statistical control, establishing tolerance limits, presenting data, and specifying accuracy and precision. In the first chapter, devoted to statistical control, the author broadly defines the three steps in quality control: specification, production, and inspection; then outlines the historical background of quality control. This is followed by a rigorous discussion of the physical and mathematical states of statistical control, statistical control as an operation, the significance of statistical control and the future of statistics in mass production. Chapter II offers a thought-provoking treatment of the problem of establishing limits of variability, including the meaning of tolerance limits, establishing tolerance limits in the simplest cases and in practical cases, and standard methods of measuring. Chapter III explores the presentation of measurements of physical properties and constants. Among the topics considered are measurements presented as original data, characteristics of original data, summarizing original data (both by symmetric functions and by Tchebycheff's theorem), measurement presented as meaningful predictions, and measurement presented as knowledge. Finally, Dr. Shewhart deals with the problem of specifying accuracy and precision — the meaning of accuracy and precision, operational meaning, verifiable procedures, minimum quantity of evidence needed for forming a judgment and more. Now available for the first time in this inexpensive paperbound format, this highly respected study will be welcomed by mathematics students, engineers, researchers in industry and agriculture — anyone in need of a lucid, well-written explanation of how to regulate variable and maintain control over statistics in order to achieve quality control over manufactured products, crops, and data.

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Customer Reviews

This book is the culmination of the philosophy of Dr. Shewhart. Dr. Shewhart was virtually unknown till he delivered a series of lectures which were then edited and converted into this book by W. Edwards Deming. Dr. Deming recognised the importance of these lectures and felt that this would be the best way to popularise Shewhart's works. Shewhart's earlier book "Economic Control of Quality in Manufactured Product" was the second recorded book on Quality (1931). His concepts of the "old Way" and "New Way" of doing businesses are relevant even today. Shewhart touched on topics which Management gurus refer to even today. This book first introduced the "Scientific Method of Improvement" which we now know as the Shewhart - Deming PDSA cycle for improvement. All in all a timeless piece of writing and a must for every Quality / Management fanatic.

This may be the most inaccessible management book I've ever read. I picked it because of Shewhart's exalted position in the quality movement - as the mentor and intellectual guide to Deming, he is the theorist behind the quality of our cars, VCRs and televisions. Unfortunately, his writing is enormously hard to read and apply. The mathematics were very hard to penetrate - dozens of pages to even get to basing control charts on standard deviations. I've got a minor in mathematics, so I was surprised by the difficulty. It was near impossible to derive quality lessons from the book. In deference to the author, I'll make a lot of excuses for him:- It was written a long time ago. - The book was aimed at statisticians, not managers. - A compilation of Shewhart's ideas would be more effective than lecture notes. My end recommendation - browse before you buy.

Along with "Economic Control of Quality of Manufactured Product" Shewhart et.al. laid the groundwork for Statistical Process Control (SPC). Neither book is an easy read, even for the mathematically proficient, but worthy of chewing on until you get what Dr Shewhart is describing.

Having read it in undergraduate studies, it was really a blessing to find it available through . Highly recommended for any engineer in manufacturing.

This is not the common probabilistic book. In fact it's more about epistemology of science than about mathematics. Shewhart was not just a great academic statistician he also worked as engineer. Though he was the President of the American Statistical Association, his viewpoint was radically different from most of his peers. His viewpoint is about operationality in the real world not in the world of mathematics. He criticizes the way scientists use statistics to prove things without really being rigorous. For example for the speed of light which is now known not to be as absolutely constant as one asserted in the past, and even the way error calculus or Normal Law has been taught to generations and generations of Engineers. This book is not for the faint hearted though but for real thinkers.

I read this book, and it is very good, Shewhart gave some examples and advices about quality improvement, and some basic statistics theories. I think I can apply all that he said in the company, instead he wrote it many decades ago, it still applicable.

A Classic of its time, many managers today are not aware of the genius of Shewhart. In fact Deming himself attributes most of his ideas to Shewhart. There are many Management Gurus today who pay scant regard to the contributions of Shewhart and pass off their work as original but on closer examination you will find the mind of Shewhart once you remove the modern spin. Excellent method and logical thinking. Its worth persisting with the old fashioned language to get the true voice of the genius. Its about time this man received the recognition he deserves.

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