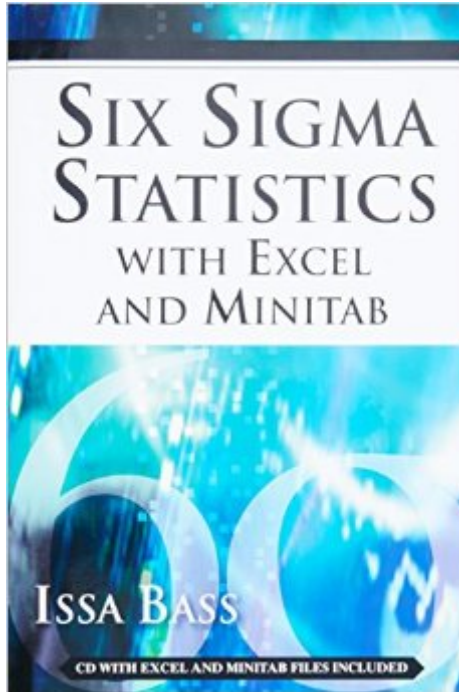


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# Six Sigma Statistics With EXCEL And MINITAB



## Synopsis

Master the Statistical Techniques for Six Sigma Operations, While Boosting Your Excel and Minitab Skills! Now with the help of this one-stop resource, operations and production managers can learn all the powerful statistical techniques for Six Sigma operations, while becoming proficient at Excel and Minitab at the same time. Six Sigma Statistics with Excel and Minitab offers a complete guide to Six Sigma statistical methods, plus expert coverage of Excel and Minitab, two of today's most popular programs for statistical analysis and data visualization. Written by a seasoned Six Sigma Master Black Belt, the book explains how to create and interpret dot plots, histograms, and box plots using Minitab | decide on sampling strategies, sample size, and confidence intervals | apply hypothesis tests to compare variance, means, and proportions | conduct a regression and residual analysis | design and analyze an experiment | and much more. Filled with clear, concise accounts of the theory for each statistical method presented, Six Sigma Statistics with Excel and Minitab features:

- Easy-to-follow explanations of powerful Six Sigma tools
- A wealth of exercises and case studies
- 200 graphical illustrations for Excel and Minitab

Essential for achieving Six Sigma goals in any organization, Six Sigma Statistics with Excel and Minitab is a unique, skills-building toolkit for mastering a wide range of vital statistical techniques, and for capitalizing on the potential of Excel and Minitab. Six Sigma Statistical with Excel and Minitab offers operations and production managers a complete guide to Six Sigma statistical techniques, together with expert coverage of Excel and Minitab, two of today's most popular programs for statistical analysis and data visualization. Written by Issa Bass, a Six Sigma Master Black Belt with years of hands-on experience in industry, this on-target resource takes readers through the application of each Six Sigma statistical tool, while presenting a straightforward tutorial for effectively utilizing Excel and Minitab. With the help of this essential reference, managers can:

- Acquire the basic tools for data collection, organization, and description
- Learn the fundamental principles of probability
- Create and interpret dot plots, histograms, and box plots using Minitab
- Decide on sampling strategies, sample size, and confidence intervals
- Apply hypothesis tests to compare variance, means, and proportions
- Stay on top of production processes with statistical process control
- Use process capability analysis to ensure that processes meet customers' expectations
- Employ analysis of variance to make inferences about more than two population means
- Conduct a regression and residual analysis
- Design and analyze an experiment

In addition, Six Sigma Statistics with Excel and Minitab enables you to develop a better understanding of the Taguchi Method | use measurement system analysis to find out if measurement processes are accurate | discover how to test ordinal or nominal data with nonparametric statistics | and apply the full range of basic quality tools. Filled with step-by-step

exercises, graphical illustrations, and screen shots for performing Six Sigma techniques on Excel and Minitab, the book also provides clear, concise explanations of the theory for each of the statistical tools presented. Authoritative and comprehensive, Six Sigma Statistics with Excel and Minitab is a valuable skills-building resource for mastering all the statistical techniques for Six Sigma operations, while harnessing the power of Excel and Minitab.

## Book Information

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## Customer Reviews

The author successfully achieved his purpose of explaining Six Sigma statistics using Minitab and Excel; however, I found numerous errors in his explanations of statistical methods and in his conclusions in some examples. I noticed 184 major and minor errors in this book, of which simple typo errors counted only 11. Mr. Bass failed to use Minitab's "Design of Experiment" feature in the chapter titled "Design of Experiment" and explained ANOVA instead, which could have been included in the chapter "Analysis of Variance." He also misapplied Taguchi's Loss Function in Chapter 12. Taguchi's Method usually means his Robust Design Method in DOE rather than his Loss Function. It seems that Mr. Bass does not have formal training in statistics or mathematics. His understanding of factors, levels, and observations in ANOVA is questionable (p.207, p.211, p.218, p.276) and subscribing in his mathematics was a mess (pp.179-181, p.208, p.222, p.223, p.227). The direction of skewness in the normal distribution was wrong. These errors could have been avoided if Mr. Bass had asked his fellow statistician or mathematician to review his draft copy of this book. The responsibility also goes to the editor of McGraw Hill. In conclusion, please read this book

critically and learn how to use Minitab or Excel for Six Sigma analyses, keeping other statistics textbooks at hand.

Masterful!!!! Teaching is a gift that not any scientist has. I can safely say that I have bought and studied 37 bestseller statistics books. Not a single one of them comes anywhere close to Issa Bass' "Six Sigma statistics with Minitab and Excel". This book goes from the most basic and elementary descriptive statistics such how to determine the mean and median of a distribution to the most complex experimental design including Taguchi's method. It does it in a very comprehensive method combining a step-by-step mathematical approach with Microsoft Excel and Minitab. The introduction clearly defines what Six Sigma is and statistically defines Six Sigma and explains why the methodology is called 6 and sigma. It explains the methodology and shows how to use statistics to create balanced scorecards and how the six sigma project selection is conducted. The rest of the book is essentially statistical. Chapter 2 introduces you to how to start Minitab and its functionalities and Excel's statistics add-ins. Each chapter is filled with examples with more than 200 graphics applicable in real six sigma projects and each one of them walks you step by step on how to use mathematical formula to solve before using Excel and Minitab to come to the same conclusions obtained from the mathematical demonstration. All the examples on the CD are explained in plain English. Even if you have never done statistics in your life, you should understand all the examples. The chapters on Regression Analysis, Process Capability Analysis, Measurement System Analysis and Taguchi Method are the most complete I have ever come across. They are filled with examples that make the complex look easy. Mr. Bass knows how to remove complexity from a complex science. I give him a five stars.

Although much of Six Sigma are about processes and best practices, its central methodology is collecting useful data and utilizing statistical tools for analysis of the data, decision making, and continuous improvement. I am a Six Sigma Black Belt and I have found this book useful for Six Sigma statistical analysis. If you are clueless about statistics, then you can't fully understand or utilize the benefits of Six Sigma. Luckily, the math required for Six Sigma statistical analysis is not hard. Most of the time, all you need to know is basic arithmetic. You don't even need MiniTab (Excel is perfectly fine for all Six Sigma statistics). Although the book provides pictures of both MiniTab and Excel, the book gears more towards MiniTab. This book does an unusually excellent job of explaining the fundamentals of statistics (standard deviation, coefficients, probability distributions, correlations etc). Its explanations of more advance topics, however, such as ANOVA and

Regression was little too simplified and left a lot wanting. This book is not written as a statistics practice book. You won't find tons of practice questions but just enough to allow you to understand the material. If you want to perfect your statistical knowledge and application, I recommend purchasing a separate statistical workbook. Instead, this book shines as a reference for fundamental Six Sigma statistics. Reading and understanding the materials contained in this book certainly will not make you an expert in Six Sigma statistics. But it will give you a good fundamental base. I highly recommend this book for those who want the necessary basic familiarity of Six Sigma statistics, which should be enough for most Six Sigma belt holders (including Six Sigma Black Belts).

Edit- 12/17/2009 For beginners, I recommend a different book "Statistics for Six Sigma Made Easy" by Warren Brussee. End of Edit! It is a shame such a book even exists. Almost useless. I guess a minitab menu is more helpful. Very limited and confusing statistics. A lot of errors (I mean errors, not only typos). A lot of screen shots which just waste paper. One reviewer in this website gave this book five star. I don't know who he is and if he really read this book. He claimed that he bought and studied 37 bestseller statistic books, but did not find there are errors in the book. I mean errors that teach the wrong knowledge to the readers. All of these made me angry.

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