

Business Data Analysis
SCH-MGMT 650

STATISTICS FOR MANAGERS USING Microsoft® Excel

David M. Levine • David F. Stephan
Timothy C. Krehbiel • Mark L. Berenson

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Professor Robert Nakosteen

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Statistics for Managers: Using Microsoft® Excel, Fifth Edition
by David M. Levine, David F. Stephan, Timothy C. Krehbiel, and Mark L. Berenson



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*To our wives,
Marilyn L., Mary N., Patti K., and Rhoda B.,
and to our children
Sharyn, Mark, Ed, Rudy, Rhonda, Kathy, and Lori*

ABOUT THE AUTHORS

The textbook authors meet to discuss statistics at Shea Stadium for a Mets v. Phillies game. Shown left to right, Mark Berenson, David Stephan, David Levine, Tim Krehbiel.



David M. Levine is Professor Emeritus of Statistics and Computer Information Systems at Bernard M. Baruch College (City University of New York). He received B.B.A. and M.B.A. degrees in Statistics from City College of New York and a Ph.D. degree from New York University in Industrial Engineering and Operations Research. He is nationally recognized as a leading innovator in statistics education and is the co-author of 14 books including such best selling statistics textbooks as *Statistics for Managers using Microsoft Excel*, *Basic Business Statistics: Concepts and Applications*, *Business Statistics: A First Course*, and *Applied Statistics for Engineers and Scientists using Microsoft Excel and Minitab*.

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Over the years, Berenson has received several awards for teaching and for innovative contributions to statistics education. In 2005 he was the first recipient of The Catherine A. Becker Service for Educational Excellence Award at Montclair State University.

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Using Contingency Table Event B1 Event B2 Total A1 P(A1 and B1) P(A1 and B2) P(A1) A2 P(A2 and B1) P(A2 and B2) P(A2) Total
P(B1) P(B2) 1 Joint Probability Marginal (Simple) Probability Computing Compound Probability \hat{P} Probability of a. compound event, A
or B: $P(A \cup B) = P(A) + P(B) - P(A \cap B)$ number of outcomes from either A or B or both $\frac{1}{2}$ total number of outcomes in sample space E.g.
P(Red Card or Ace) $4 \text{ Aces} + 26 \text{ Red Cards} - 2 \text{ Red Aces} = 30$ total number of cards 28 7 $\frac{1}{2}$ $\frac{1}{2}$ 52 13 Compound Probability
(Addition Rule) $P(A1 \cup B1) = P(A1) + P(B1) - P(A1 \cap B1)$ one-unit change in X Statistics for Managers Using Microsoft Excel, 4e © 2004 Prentice-Hall, Inc. Chap
12-17 Simple Linear Regression Example \hat{Y} A real estate agent wishes to examine the relationship between the selling price of a home
and its size (measured in square feet) \hat{Y} A random sample of 10 houses is selected \hat{Y} Dependent variable (Y) = house price in \$1000s
 \hat{X} Independent variable (X) = square feet Statistics for Managers Using Microsoft Excel, 4e © 2004 Prentice-Hall, Inc. Chap 12-18
Sample Data for House Price Model House Price in \$1000s (Y) Square Feet (X) 245 1400 312 1600 279 1700 3 This product
accompanies. Statistics for Managers Using Microsoft Excel Plus MyLab Statistics with Pearson eText -- Access Card Package, 8th
Edition. Levine, Stephan & Szabat. ©2017. NEW! Excel launch enables students to quickly and easily launch data sets from
exercises into a Microsoft Excel spreadsheet for analysis. NEW! Excel 2016 questions (for both Windows® and Mac®) let you take
advantage of the latest software. NEW! Learning Catalytics™ questions for Business Statistics help students develop on-the-spot
critical thinking and application of statistical concepts.