

# DEVELOPING SPREADSHEET-BASED DECISION SUPPORT SYSTEMS

*Using Excel and VBA for Excel*

MICHELLE M.H. ŞEREF, RAVINDRA K. AHUJA, AND WAYNE L. WINSTON

*Developing Spreadsheet-Based Decision Support Systems* is a comprehensive book which describes how to build decision support systems using the Excel spreadsheet framework, and illustrates it using several case studies arising in Operations Research, Industrial Engineering, and Business. The book contains three parts:

**PART I—EXCEL ESSENTIALS:** This part presents an overview of Excel basic and extended functionalities. The basic functionality topics include referencing and names, functions and formulas, charts, and pivot tables. The extended functionality topics include statistical analysis, the Solver and modeling, simulation, and working with large datasets.

**PART II—VBA FOR EXCEL:** This part presents an overview of programming in VBA and manipulating Excel objects. Covered topics include macros, programming structures, building user interfaces, and using VBA for optimization and simulation.

**PART III—CASE STUDIES:** This part presents several case studies of decision support systems arising in different application settings. These case studies include inventory management, retirement planning, reliability analysis, warehouse layout, forecasting, and portfolio management.

Each topic covered is illustrated through examples and hands-on tutorials. Each chapter contains numerous hands-on exercises for additional practice. This book is ideally suited as a textbook, can be used as a supplementary reference book, and can also be used as a self-study manual. The book website: [www.dssbooks.com](http://www.dssbooks.com) contains supplementary material for students and instructors.

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