

# Managing Services

Using Technology to Create Value



Davis

Heineke

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**Using Technology to Create Value**

**Mark M. Davis**

*Bentley College*

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## MANAGING SERVICES: USING TECHNOLOGY TO CREATE VALUE

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# Managing Services

**Using Technology to Create Value**

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To the memory of my parents, Doris and Harry Davis, in grateful appreciation for always knowing the value of education.

Mark M. Davis

To my sons, Patrick and Douglas, the lights of my life, with love.

Janelle Heineke

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Education is an asset, and no one should be trod upon or hindered in such endeavors. No person can ever acquire too much learning, for it is the one thing that will always be yours, immaterial of your financial condition or physical health, immaterial of where you are or who you are.

—Harry Davis, in a letter to his sister Nancy, dated February 22, 1945



# About the Authors

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**Mark M. Davis** is Professor of Operations Management at Bentley College in Waltham, MA. Dr. Davis earned his BS degree in Electrical Engineering from Tufts University and his MBA and DBA degrees from Boston University's School of Management. He worked as a manufacturing engineer for the General Electric Company and is a graduate of its Manufacturing Management Program. He was also a programs manager for the U.S. Army Natick Research Laboratories.

Dr. Davis's primary research interest is service operations management with a focus on customer waiting time issues. He has published articles in this area in several journals, including *The Journal of Operations Management*, *Decision Sciences*, *The Journal of Services Marketing*, *The Journal of Business Forecasting*, *OM Review*, *The International Journal of Production and Operations Management*, and *The International Journal of Service Industry Management*. Along with Richard Chase and Nicholas Aquilano, he has written the textbook *Fundamentals of Operations Management* (McGraw-Hill/Irwin), currently in its fourth edition.

Dr. Davis is currently Secretary of the Decision Sciences Institute and is a past president of the Northeast Decision Sciences Institute. In 2000, he was named a Fellow in the Decision Sciences Institute. In 1998, Dr. Davis received Bentley College's Scholar of the Year Award. He was appointed to the 1996 Board of Examiners for the Malcolm Baldrige National Quality Award. Dr. Davis currently serves on the editorial review board of *The International Journal of Service Industry Management*.

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# Preface

As we enter the 21st century, we can see significant changes occurring in the ways services are being designed and delivered, and the underlying cause of many of these dramatic changes is technology. Self-service gas stations and checkout counters in supermarkets, online financial transactions including banking and stock trading, online purchases of goods formerly bought in traditional brick and mortar retail operations, e-tickets for air travel, and speed pass lanes on toll roads and turnpikes are just a few of the many examples of how technology has changed both the way in which services are being provided and the way in which customers behave.

And we have only seen the tip of the iceberg. Technology will continue to advance in the form of faster and more accurate transmission lines, more powerful computers, and larger electronic data storage equipment that is capable of storing *petabytes* of data. As technology enhances our ability to offer a broader range of always accessible and more personalized services, it also is making it possible to deliver services at lower costs. The result is both more effective and more efficient service. For all these reasons, we chose technology as the unifying framework for linking the topics that are presented in this book.

This is the first endeavor for both of us in writing a brand new, “clean slate” textbook. There is an old saying, “To really learn a subject, you should teach it.” We have both taught service operations management for many years, but our efforts in writing this book have led us to offer this modification, “To really learn a subject, write a textbook about it.” Before committing anything to paper, we spent many hours researching and “enthusiastically discussing” the finer points of service management that we thought we had previously understood, but that we needed to clarify and refine before we could include them in our book.

## GOALS

Our primary goals in preparing this book on service management were to:

- Present the basic service concepts within a framework for managing services both effectively and efficiently.
- Integrate marketing and human resource issues throughout the text.
- Make service management concepts “come alive” by continuously reinforcing the theory and concepts with real-world examples.
- Provide students with a set of management tools to assist them to better understand the fundamental characteristics of services. These are presented primarily in the chapter supplements.
- Emphasize the internationalization of services by including examples of well-managed service organizations in different countries.

## SPECIAL FEATURES OF THE BOOK

To facilitate the student’s education about services, we have incorporated several pedagogical features in our book, including:



- *Chapter learning objectives:* Each chapter begins with a list of learning objectives that highlight the major topics and concepts of the chapter.
- *Opening vignettes:* Each chapter opens with a short vignette about a real company or experience that incorporates some of the material in the chapter. The purpose of the vignette is to create student interest in the chapter by demonstrating that the material presented is actually used in real-world situations.
- *The customer's perspective:* At the beginning of each chapter, concepts are introduced using easy-to-relate-to examples from everyday life. These emphasize the relevance of the concepts to the customer as well as to the service firm.
- *Managerial issues:* These provide a bridge between the examples and issues presented in the opening vignette and the customer's perspective on the theory and concepts presented in each chapter.
- *Views from the Top:* Many of the concepts presented in this book were introduced or advocated by senior executives. The Views from the Top identify senior managers, often the founder, chairman, and/or CEO of a well-known service organization that has been a strong advocate of a particular concept that is presented in the chapter.
- *Application of technology to create value:* Throughout the text are examples under the heading "Using Technology to Create Value" that illustrate how service firms are using technology to create value for both their organizations and their customers. The use of real-world examples reinforces the importance of both technology and the topics in successfully managing service operations.
- *Internet exercises:* The Internet is one of the widely available technology tools for obtaining and disseminating information. Where appropriate, an Internet exercise is provided at the end of a chapter to guide the student in obtaining the latest information on a particular topic or to reinforce the concepts presented in the chapter.
- *Examples with solutions:* Examples with solutions illustrating specific procedures and techniques follow quantitative topics. These are clearly set off from the text, and help the student to better understand the computations.
- *Key term definitions:* Key terms are in boldface when first introduced in the text and are defined at the end of each chapter with page numbers for quick reference.
- *Review and discussion questions:* These questions allow students to review the chapter concepts before attempting the problems. They provide a basis for classroom discussion.
- *Solved problems:* Representative example problems are included at the end of each of the quantitative chapters. Each includes a detailed, worked-out solution and provides another level of support for students before they try homework problems on their own.
- *Problems:* A wide range of problems follows each of the quantitative chapters.
- *Cases:* Located at the end of most chapters, short cases based on actual companies or customer experiences, allow the student to think critically about issues discussed in the chapter. These cases can also provide a basis for classroom discussions, or provide a capstone problem for the topic.

## ANCILLARY MATERIALS

- *Student CD-ROM*
- *PowerPoint Presentation Slides*, which provide lecture outlines plus graphic material from the text to complement and customize lectures

## ACKNOWLEDGMENTS

Although there are only two names on the cover of this book, a project of this magnitude could not be successfully completed without the assistance and cooperation of many individuals. Specifically, we would like to thank the reviewers for their evaluations and feedback on our initial manuscripts. We thank them for their suggestions and comments. The reviewers were:

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In writing this book, we have tried to practice what we preach. In applying the quality concept of continuous improvement, we have incorporated many of the suggestions made by our reviewers, and, as result, the final product represents a significant improvement over our initial manuscript.

There is an old Chinese saying that states, “May you live in interesting times.” For both academics and practitioners of service management, those times are now, and we should take full advantage of the opportunity—and enjoy it while doing so!

*Mark M. Davis  
Janelle Heineke*

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