



# HOTEL PRICING IN A Social World

**DRIVING VALUE IN THE  
DIGITAL ECONOMY**

**KELLY A. McGUIRE**

FOREWORD BY JEANNETTE HO

**WILEY**

# Hotel Pricing in a Social World

---

*Driving Value in the Digital Economy*

**Kelly A. McGuire, PhD**

**WILEY**

Cover images: Abstract background © Getty Images / Studio-Pro; Social network concept © mattjeacock / iStock.com  
Cover design: Wiley

Copyright © 2016 by SAS. All rights reserved.

Published by John Wiley & Sons, Inc., Hoboken, New Jersey.  
Published simultaneously in Canada.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning, or otherwise, except as permitted under Section 107 or 108 of the 1976 United States Copyright Act, without either the prior written permission of the Publisher, or authorization through payment of the appropriate per-copy fee to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, (978) 750-8400, fax (978) 646-8600, or on the Web at [www.copyright.com](http://www.copyright.com). Requests to the Publisher for permission should be addressed to the Permissions Department, John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030, (201) 748-6011, fax (201) 748-6008, or online at <http://www.wiley.com/go/permissions>.

**Limit of Liability/Disclaimer of Warranty:** While the publisher and author have used their best efforts in preparing this book, they make no representations or warranties with respect to the accuracy or completeness of the contents of this book and specifically disclaim any implied warranties of merchantability or fitness for a particular purpose. No warranty may be created or extended by sales representatives or written sales materials. The advice and strategies contained herein may not be suitable for your situation. You should consult with a professional where appropriate. Neither the publisher nor author shall be liable for any loss of profit or any other commercial damages, including but not limited to special, incidental, consequential, or other damages.

For general information on our other products and services or for technical support, please contact our Customer Care Department within the United States at (800) 762-2974, outside the United States at (317) 572-3993 or fax (317) 572-4002.

Wiley publishes in a variety of print and electronic formats and by print-on-demand. Some material included with standard print versions of this book may not be included in e-books or in print-on-demand. If this book refers to media such as a CD or DVD that is not included in the version you purchased, you may download this material at <http://booksupport.wiley.com>. For more information about Wiley products, visit [www.wiley.com](http://www.wiley.com).

***Library of Congress Cataloging-in-Publication Data:***

McGuire, Kelly Ann.

Hotel pricing in a social world : driving value in the digital economy / Kelly A. McGuire, PhD.

pages cm — (The Wiley & SAS business series)

Includes bibliographical references and index.

ISBN 978-1-119-12996-7 (cloth); ISBN 978-1-119-19241-1 (epdf);

ISBN 978-1-119-19240-4 (epub); ISBN 978-1-119-16228-5 (obook)

1. Hotels—Rates. 2. Online social networks—Economic aspects.

3. Electronic commerce. 4. Revenue management. I. Title.

TX911.3.R3M35 2016

910.46068—dc23

2015033007

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

The Wiley & SAS Business Series presents books that help senior-level managers with their critical management decisions.

Titles in the Wiley & SAS Business Series include:

*Agile by Design: An Implementation Guide to Analytic Lifecycle Management* by Rachel Alt-Simmons

*Analytics in a Big Data World: The Essential Guide to Data Science and Its Applications* by Bart Baesens

*Bank Fraud: Using Technology to Combat Losses* by Revathi Subramanian

*Big Data Analytics: Turning Big Data into Big Money* by Frank Ohlhorst

*Big Data, Big Innovation: Enabling Competitive Differentiation through Business Analytics* by Evan Stubbs

*Business Analytics for Customer Intelligence* by Gert Laursen

*Business Intelligence Applied: Implementing an Effective Information and Communications Technology Infrastructure* by Michael S. Gendron

*Business Intelligence and the Cloud: Strategic Implementation Guide* by Michael S. Gendron

*Business Transformation: A Roadmap for Maximizing Organizational Insights* by Aiman Zeid

*Connecting Organizational Silos: Taking Knowledge Flow Management to the Next Level with Social Media* by Frank Leistner

*Data-Driven Healthcare: How Analytics and BI Are Transforming the Industry* by Laura Madsen

*Delivering Business Analytics: Practical Guidelines for Best Practice* by Evan Stubbs

*Demand-Driven Forecasting: A Structured Approach to Forecasting, Second Edition* by Charles Chase

*Demand-Driven Inventory Optimization and Replenishment: Creating a More Efficient Supply Chain* by Robert A. Davis

*Developing Human Capital: Using Analytics to Plan and Optimize Your Learning and Development Investments* by Gene Pease, Barbara Beresford, and Lew Walker

*Economic and Business Forecasting: Analyzing and Interpreting Econometric Results* by John Silvia, Azhar Iqbal, Kaylyn Swankoski, Sarah Watt, and Sam Bullard

*The Executive's Guide to Enterprise Social Media Strategy: How Social Networks Are Radically Transforming Your Business* by David Thomas and Mike Barlow

*Financial Institution Advantage & the Optimization of Information Processing* by Sean C. Keenan

*Financial Risk Management: Applications in Market, Credit, Asset and Liability Management and Firmwide Risk* by Jimmy Skoglund and Wei Chen

*Foreign Currency Financial Reporting from Euros to Yen to Yuan: A Guide to Fundamental Concepts and Practical Applications* by Robert Rowan

*Fraud Analytics Using Descriptive, Predictive, and Social Network Techniques: A Guide to Data Science for Fraud Detection* by Bart Baesens, Veronique Van Vlasselaer, and Wouter Verbeke

*Harness Oil and Gas Big Data with Analytics: Optimize Exploration and Production with Data Driven Models* by Keith Holdaway

*Health Analytics: Gaining the Insights to Transform Health Care* by Jason Burke

*Heuristics in Analytics: A Practical Perspective of What Influences Our Analytical World* by Carlos Andre Reis Pinheiro and Fiona McNeill

*Hotel Pricing in a Social World: Driving Value in the Digital Economy* by Kelly McGuire

*Human Capital Analytics: How to Harness the Potential of Your Organization's Greatest Asset* by Gene Pease, Boyce Byerly, and Jac Fitz-enz

*Implement, Improve and Expand Your Statewide Longitudinal Data System: Creating a Culture of Data in Education* by Jamie McQuiggan and Armistead Sapp

*Killer Analytics: Top 20 Metrics Missing from Your Balance Sheet* by Mark Brown

*Mobile Learning: A Handbook for Developers, Educators, and Learners* by Scott McQuiggan, Lucy Kosturko, Jamie McQuiggan, and Jennifer Sabourin

*Predictive Analytics for Human Resources* by Jac Fitz-enz and John Mattox II

*Predictive Business Analytics: Forward-Looking Capabilities to Improve Business Performance* by Lawrence Maisel and Gary Cokins

*Retail Analytics: The Secret Weapon* by Emmett Cox

*Social Network Analysis in Telecommunications* by Carlos Andre Reis Pinheiro

*Statistical Thinking: Improving Business Performance, Second Edition* by Roger W. Hoerl and Ronald D. Snee

*Taming the Big Data Tidal Wave: Finding Opportunities in Huge Data Streams with Advanced Analytics* by Bill Franks

*Too Big to Ignore: The Business Case for Big Data* by Phil Simon

*Understanding the Predictive Analytics Lifecycle* by Al Cordoba

*Unleashing Your Inner Leader: An Executive Coach Tells All* by Vickie Bevenour

*Using Big Data Analytics: Turning Big Data into Big Money* by Jared Dean

*The Value of Business Analytics: Identifying the Path to Profitability* by Evan Stubbs

*The Visual Organization: Data Visualization, Big Data, and the Quest for Better Decisions* by Phil Simon

*Visual Six Sigma, Second Edition: Making Data Analysis Lean* by Ian Cox, Marie Gaudard, Philip Ramsey, Mia Stephens, and Leo Wright

*Win with Advanced Business Analytics: Creating Business Value from Your Data* by Jean Paul Isson and Jesse Harriott

For more information on any of the above titles, please visit [www.wiley.com](http://www.wiley.com).

*To the Girl Geek Gang, for the support,  
the inspiration, and the memories!*

---

# Foreword

“Reset your thinking and see the future of revenue management.” In today’s competitive marketplace, revenue management is an incredibly hot topic because well-conceived revenue strategies and tactics can grow a hotel’s market share and profits significantly . . . making you the hero of the day.

As an early pioneer in airline and hotel revenue management in Asia Pacific, I have experienced tremendous and unrelenting changes in the global travel marketplace. The rapid growth of worldwide wealth has fueled global travel, the explosion of ecommerce and social media has brought a new generation of digitally savvy travelers and with them, the era of big data and analytics. Never has there been a more exciting time in hospitality and its fast evolving discipline of revenue management and pricing, and never has your role as a revenue manager been more strategic yet more complex.

How do you understand these changes in marketplace, technology, and consumers, and the impact that they will have on your business? How will you evolve your pricing strategy to exploit these revenue opportunities to gain competitive share and transform your role from a revenue manager into chief revenue strategist?

Read this book, and take your revenue management game to a new level. In *Hotel Pricing in a Social World*, Kelly McGuire helps you to understand and navigate these new forces that have swept the travel landscape and changed the strategic nature of revenue management forever. She helps you to develop the knowledge and skills required to stay current and be successful.

I have profound admiration for Kelly, and how she has over the years, with passion and commitment, challenged the old conventions of revenue management and pricing and helped to transform industry thought and practice. Kelly is a revenue management and analytics evangelist to the hospitality and travel industries. Through her research work and leading role in hospitality at SAS, Kelly has been a persuasive advocate for integrating consumer psychology into the



discipline of revenue management and pricing, through the application of big data and advanced analytics.

Pricing strategies need to evolve with the changing mind-set of the consumer. Travelers are now self-reliant and resourceful—they research more than 12 websites to plan a trip, trust user-generated content over hotel marketing, compare prices using metasearch, expect instant gratification with 24/7 connectivity and book last minute on mobile devices. Less than 30 percent of travelers have a preferred hotel brand, half of what it was eight years ago, and decreasing still. Consumers are loyal to their needs, not to a hotel brand. Hotel supply has increased exponentially over the past 10 years and players in the sharing economy, like Airbnb, have brought even more private rooms into the market. Choice is abundant, competition is fierce, and consumers have full transparency on the web.

The distribution landscape has also become more crowded, with proliferation of online travel agencies like Expedia, Booking.com, and CTrip, and search players like Kayak, Qunar, and Google Hotel Finder. Revenue managers not only have to craft pricing strategies to account for different consumer needs and price sensitivity, but they also find themselves having to comprehend and manage among direct consumer channels, the online intermediaries, and traditional agreements with wholesale, group, and corporate accounts—each incurring different transaction costs and having different impacts on profitability.

*Hotel Pricing in a Social World* is timely and relevant. You will learn from Kelly how revenue management systems today should take advantage of innovations in analytics and data visualization to drive more profitable business decisions. It will help you identify opportunities for revenue management to play a larger and more strategic commercial role within your organization. And it will provide you with a compelling vision for the future, where revenue management professionals are encouraged to step out of the box, embrace innovations, and develop a holistic understanding of consumer behavior. I believe that this book will give you the road map to transform your revenue management capabilities and build a sustainable long-term competitive advantage for your company. You will feel energized and

empowered to develop critical thinking around key topics influencing our industry:

- How do we take advantage of the explosion of big data in revenue management? Kelly provides some definitions, frameworks, and cautions about how to approach new data sources and new technology options to improve revenue performance.
- Does your hotel's online reputation impact pricing? Kelly shares her research findings on how consumers combine user-generated content with price to make a purchase decision, and she helps you understand how the impact differs for various purposes of travel.
- What did Peter Drucker mean when he coined the phrase "Culture eats strategy for breakfast"? We all intuitively understand the importance of instilling an integrated revenue culture across revenue management, sales, marketing, and operations in order to achieve truly superior performance results. Here, Kelly helps you to achieve the vision of "intelligent demand management" and provides tips on how to start your organization moving in this direction.
- How do you forecast and manage demand when the prevalence of the mobile culture encourages instant and last-minute bookings? In the book, Kelly shows how changes in consumer behavior are influencing the way revenue management needs to think about pricing. She also provides a framework for applying revenue management to other revenue-generating assets and explores the role of the guest in total hotel revenue management.
- What is the role of revenue management in building loyalty and increasing marketing returns as the marketplace becomes increasingly crowded? Learn the crucial part that revenue management plays in the creation and execution of consumer personalization initiatives.
- How do you develop the right revenue management talent for success in this new future? The book describes the skills and competencies that will be required for the revenue manager of the future, and it helps hotels understand how to attract and retain top talent into the discipline.

*Hotel Pricing in a Social World* has masterfully combined the art and science of pricing and taken it to higher ground. Kelly has succinctly and powerfully described the winds of change in our industry and provided frameworks, tips and critical thinking to take us into the future. If you are serious about creating and sustaining superior revenue management performance for your organization, this is a must read and must practice. Change favors the prepared, and with the knowledge and skills acquired from this book, you will be ready to succeed and win.

Jeannette Ho  
Vice President—Revenue Management,  
Consumer Insights and Analytics  
FRHI Hotels and Resorts Worldwide

---

# Acknowledgments

I have been privileged in my role at SAS to be able to travel around the world speaking at events and meeting with individual hotel companies. I have appreciated the opportunity to listen and to advise. Questions, comments, and discussion points from hundreds of conversations are represented in this book. I have endeavored at all times, and particularly for this book, to be respectful of the need to keep specific company business strategy and internal processes private, while providing advice that will raise the discipline as a whole to the benefit of all. Thank you to those who were willing to be quoted, and especially also to those who helped to inform my thinking but needed to remain anonymous.

There are many people who deserve my deepest gratitude for their support and contributions to this book. I must particularly express my thanks to my dear friend and research partner Dr. Breffni Noone. The genesis of the title of this book was a chance meeting with her at the HSMIAI ROC conference in Orlando in 2010. Although we became colleagues and friends during the PhD program at Cornell, I hadn't seen her in a few years. We snuck out of a session to have a chat about how we could maybe do some research together, and that meeting turned into the research I describe in Chapter 4, and eventually the title of this book. The opportunity to work with her on the research has been a great source of inspiration and joy for me. She also took on the role of technical editor for this book during a very busy time, for which I am very grateful. She provided feedback that was critical to the quality of the final version. I also remain thankful to her and her incredibly supportive husband, James, for convincing me to go back to Cornell for my PhD to begin with. If I had not done that when I did . . . well . . . things would have turned out very different!

I am grateful to Jeannette Ho for writing the foreword to this book, but even more so for her inspiration throughout my career (and the careers of many other revenue managers). Jeannette sponsored the function space revenue management (RM) internship in Singapore at

the Westin Stamford that led to my honors monograph and first published article with Sherri Kimes. This was a crucial factor in my having the opportunity to work with Sherri during my PhD. It is an honor to continue to have Jeannette's support today. She is a role model for revenue managers in general, and women in revenue management in particular.

I am also very grateful to Chris Crenshaw, Nicole Young, Tim Wiersma, and Neal Fegan, who also took time out of their busy schedules to review the outline and content of the book for me. Their feedback helped me immensely and the book is much better because of our conversations, and their quotes and case studies.

I have been privileged to work with an incredibly talented and dedicated team at SAS, particularly Natalie Osborn and Alex Dietz, who have been instrumental in shaping much of the thinking that went into this book. I am grateful for your dedication to your work and to the industry—and very appreciative that you have the patience to let me burst into your office to talk over my latest crazy idea or work through my writer's block. I am also incredibly grateful to Natalie for creating the beautiful visualizations in Chapter 4. She is so very talented in many ways, but her ability to graphically express complicated concepts is particularly impressive. Thank you, Natalie, for making me look good! Analise Polsky, another SAS colleague, assisted me with a lot of the visualization content, including pointing me to the fantastic pie chart in the big data chapter. Suneel Grover worked with me on the digital intelligence content in Chapter 8, helping me to describe the data collection and analytics available to digital marketers today.

Speaking of SAS, I would like to thank SAS Publishing for the opportunity to write this book, and for their support during the publication process. In particular, I appreciate the advice that Shelley Sessions provided during the proposal process, and the support and editing skills of Brenna Leath (and also her therapy sessions over the phone during the last few weeks before completion). I would also like to thank my manager, Tom Roehm, who pushed me to write this book (mostly by appealing to my highly competitive nature by pointing to other SAS authors in our group). Without the opportunity, support, and encouragement from SAS, this book would not have happened.

Big thanks as well to all of the talented revenue leaders who allowed me to share their insights in this book. I know how busy everyone is, so your willingness to take time for a phone call or to respond to a lengthy list of questions in an e-mail is much appreciated. Thanks in particular to those who provided the longer case studies, including Joerg Happle, Ivan Oliveira, Tarandeep Singh, Rich Hughes, Tugrul Sanli, Mark Molinari, Chinmai Sharma, Hari Nair, Monica Xeureb, Lennert de Jong, Maarten Oosten, Stefan Wolf, Rhett Hirko, Brian Payea, and Kathleen Cullen. Thank you also to IDEaS product marketing, particularly Ezra Kucukciftca and Bonnie Hollenhorst, for providing screen shots of the product to use as examples.

I also appreciate the connections and insights my work with HSMAl has facilitated. I have been privileged to serve on the Americas Revenue Management Advisory Board, which has allowed me to spend time with talented and dedicated revenue leaders (many of whom are featured in this book). I have also had the great opportunity to speak at all of HSMAl's global Revenue Optimization Conferences (ROC) in 2015 in the United States, Europe, and Asia. Thanks to Bob Gilbert, Juli Jones, Ingunn Hofseth, and Jackie Douglas for including me in your conferences and roundtables, and for giving me access to your resources and your content for this book. It's a great organization and I feel fortunate to be able to be involved! Every revenue manager should join and get involved with HSMAl. It provides great access to knowledge and to networking opportunities around the globe.

I am grateful to my advisor and friend, Sherri Kimes, for inspiring me to get involved in this discipline and for guiding me through the PhD. Your tireless dedication to your students, current and former, and to this discipline, is an inspiration, and I feel fortunate to be a small part of your legacy.

Thanks to Brad Weiss for supporting me, taking my panicked phone calls, and for making me dinner when I was deep in the writing process.

Finally, my deep appreciation to my family, particularly my parents, who have always supported my endeavors.

---

## About the Author

**Kelly A. McGuire, PhD**, leads SAS's Services practice, which is comprised of a team of domain experts in hospitality, gaming, travel, transportation, communications, media, entertainment, and the midmarket. She is an analytics evangelist, helping particularly SAS's hospitality and gaming clients realize the value from big data and advanced analytics initiatives, to build a culture of fact-based decision making. Internally at SAS, she is responsible for setting the strategic direction for the practice and defining the industry portfolio and messaging for her industries. She works with sales, alliances, product management, services, field marketing, and R&D to ensure that SAS solutions meet the needs of the market. Before taking on this role, she was the industry marketing manager for Hospitality and Gaming at SAS. She was responsible for the outbound messaging regarding SAS's Hospitality and Gaming capabilities, particularly in the areas of revenue management and price optimization. She also worked with the joint IDeaS and SAS product management team, where she was responsible for gathering requirements for ancillary revenue management solutions such as function space, spa and food and beverage. Kelly was also responsible for defining requirements and creating the market strategy for SAS Revenue Management and Price Optimization Analytics, which is also the analytics engine for IDeaS G3 RMS.

Before joining SAS, Kelly consulted with Harrah's Entertainment to develop restaurant revenue management strategies for the casinos in their major markets. Kelly was a senior consultant at Radiant Systems, working with contract food service clients on web-based administrative solutions to manage cash handling, inventory management, supply chain, and labor. She also worked for RMS (Restaurant Revenue Management Solutions) on menu-item pricing strategies for chain restaurants, and designed a prototype function space revenue management system for the Westin in Singapore. She managed an upscale Creole restaurant in New Orleans, and was the general manager of a franchised Ben and Jerry's Ice Cream Shop in the French Quarter.

Kelly has a BS from Georgetown University and a MMH and PhD in Revenue Management from the Cornell School of Hotel Administration, where she studied with renowned revenue management researcher Dr. Sherri Kimes. Her dissertation was on the impact of occupied wait time on customer perceptions of the waiting experience. Her research has been published in the *Cornell Hospitality Quarterly*, *Journal of Pricing and Revenue Management*, *Journal of Hospitality and Tourism Research*, and the *Journal of Service Management*. She is also a frequent contributor to industry publications, speaker at industry conferences, and is coauthor of the SAS/CHR blog “The Analytic Hospitality Executive.” Her latest stream of research, with coauthor Breffni Noone, Associate Professor, The Pennsylvania State University, deals with the influence of user-generated content (social media) on consumer reaction to price in the hotel room purchase process.



---

# Contents

Foreword xiii

Acknowledgments xvii

About the Author xxi

## **Part One New Analytics for a New Environment: The Evolution of Hotel Revenue Management Analytics, Technology, and Data..... 1**

|           |   |    |
|-----------|---|----|
| Chapter 1 | The Social World Has Changed Revenue Management Forever   | 3  |
|           | The Changing Marketplace                                  | 6  |
|           | The Evolution of the Revenue Management Function          | 7  |
|           | What to Expect from This Book                             | 10 |
|           | What's in This Book                                       | 13 |
| Chapter 2 | Demystifying Price Optimization                           | 17 |
|           | A History Lesson: Yield Management in the Airlines        | 20 |
|           | Then Things Changed . . .                                 | 22 |
|           | Price Optimization  | 24 |
|           | What Is Optimization?                                     | 27 |
|           | And the Money Came Rolling In . . .                       | 36 |
|           | Additional Reading  | 40 |
|           | Revenue Management Perspectives                           | 41 |
|           | Notes   | 45 |
| Chapter 3 | Big Data, Big Analytics, and Revenue Management           | 47 |
|           | What Is Big Data?   | 50 |
|           | Where Big Data Meets Big Analytics for Revenue Management | 61 |
|           | Data Visualization and Big Data                           | 63 |
|           | Responsible Use of Big Data                               | 67 |
|           | Conclusion  | 76 |
|           | Additional Reading  | 77 |