



THE BUSINESS FORECASTING DEAL

Exposing Myths, Eliminating Bad Practices,
Providing Practical Solutions

Michael Gilliland

Contents

Foreword—Tom Wallace	xiii
Foreword—Anne G. Robinson	xv
Acknowledgments	xvii
Prologue	1
Chapter 1 Fundamental Issues in Business Forecasting	5
The Problem of Induction	5
The Realities of Business Forecasting	6
The Contest	7
What Is Demand?	10
Constrained Forecast	13
Demand Volatility	15
Inherent Volatility and Artificial Volatility	17
Evils of Volatility	19
Evaluating Forecast Performance	22
Embarking on Improvement	24
Notes	26
Chapter 2 Worst Practices in Business Forecasting: Part 1	29
Worst Practices in the Mechanics of Forecasting	30
Model “Overfitting” and “Pick-Best” Selection	32
Confusing Model Fit with Forecast Accuracy	41
Accuracy Expectations and Performance Goals	43
Failure to Use a Naïve Model or Assess Forecast Value Added	47

Forecasting Hierarchies 48
 Outlier Handling 50
 Notes 54

**Chapter 3 Worst Practices in Business Forecasting:
 Part 2.....55**

Worst Practices in the Process and Practices
 of Forecasting 55
 Politics of Forecasting 57
 Blaming the Forecast 60
 Adding Variation to Demand 61
 Evangelical Forecasting 64
 Overinvesting in the Forecasting Function 66
 Forecasting Performance Measurement
 and Reporting 69
 Forecasting Software Selection 74
 Editorial Comment on Forecasting Practices 76
 Notes 78

Chapter 4 Forecast Value Added Analysis.....81

What Is Forecast Value Added? 82
 The Naïve Forecast 83
 Why Is FVA Important? 90
 FVA Analysis: Step-by-Step 92
 Further Application of FVA Analysis 101
 Case Studies 102
 Summary: The Lean Approach to Forecasting 107
 Notes 108

Chapter 5 Forecasting without History..... 111

Typical New Product Forecasting Situations 111
 New Product Forecasting by Structured Analogy 114
 Organizational Realignment 120
 Summary 131
 Notes 132

Chapter 6	Alternative Approaches to the Problems of Business Forecasting.....	133
	Statistical Approach	134
	Collaborative Approach	136
	Supply Chain Engineering Approach	142
	Pruning Approach	145
	Summary	149
	Notes	150
Chapter 7	Implementing a Forecasting Solution	151
	Why Do Forecasting Implementations Fail?	151
	Preproject Assessment	153
	Requesting Information or Proposals	154
	Evaluating Software Vendors	155
	Warning Signs of Failure	157
	Notes	159
Chapter 8	Practical First Steps.....	161
	Step 1: Recognize the Volatility versus Accuracy Relationship	161
	Step 2: Determine Inherent and Artificial Volatility	165
	Step 3: Understand What Accuracy Is Reasonable to Expect	166
	Step 4: Use Forecast Value Added Analysis to Eliminate Wasted Efforts	167
	Step 5: Utilize Meaningful Performance Metrics and Reporting	168
	Step 6: Eliminate Worst Practices	169
	Step 7: Consult Forecasting Resources	170
	Notes	173
Chapter 9	What Management Must Know About Forecasting	175
	Aphorism 1: Forecasting Is a Huge Waste of Management Time	175

Aphorism 2: Accuracy Is Determined More by the Nature of the Behavior Being Forecast than by the Specific Method Being Used to Forecast It 177

Aphorism 3: Organizational Policies and Politics Can Have a Significant Impact on Forecasting Effectiveness 179

Aphorism 4: You May Not Control the Accuracy Achieved, But You Can Control the Process Used and the Resources You Invest 180

Aphorism 5: The Surest Way to Get a Better Forecast Is to Make the Demand Forecastable 182

Aphorism 6: Minimize the Organization's Reliance on Forecasting 183

Aphorism 7: Before Investing in a New System or Process, Put It to the Test 184

Notes 185

Epilogue 187

Glossary 189

Appendix Forecasting FAQs 193

Accuracy Expectations 193

Performance Benchmarks 196

Performance Measurement and Reporting 198

The Naïve Forecast 208

Forecast Value Added Analysis 211

Forecast Modeling 220

Politics and Practices of Forecasting 224

Demand Volatility 227

Forecasting Process 230

Judgment 237

Forecasting Organization 238

Low Volume/Intermittent Demand 239

New Product Forecasting 241

Forecasting Hierarchy 242

Software Selection 245

Index 247

Foreword

Tom Wallace

Many years ago, when I was young, I got promoted into a job that involved sales forecasting. When I told a friend of mine about it, his reply was, “Gee, that’s too bad. What did you do wrong?”

After a short while in the job, I began to understand what he meant. Forecasting is most often the ultimate no-win game. You’re almost always wrong (except on those rare, random occasions when actual sales come in exactly on forecast); you get beat up routinely for your “lousy forecasts”; and, unlike another nonfun activity—the annual budgeting process—you must go through the forecasting cycle at least every month, perhaps more often.

After more time in the job, I concluded that whoever called economics the dismal science never had a job doing sales forecasting. It was not a lot of fun. And things aren’t much different today, 30 years later.

Well, why not? After all, there’s a great deal of forecasting software now on the market and that should certainly help, right? And we’re better educated today than back then, with many more MBAs, MSs and PhDs available. Plus we’ve had all those years to learn from our mistakes. Things surely should have gotten better, right? It hasn’t happened; we haven’t learned much from our collective mistakes over time. A contributing factor is the unfortunate tendency to seek “the silver bullet”—to search for the best forecasting software in the belief that it will solve our forecasting problems.

Complexity and rate of change in most of our businesses has increased sharply over the years. It’s tougher out there today, and that’s not going to change.

Against that backdrop, Mike Gilliland’s new book is a breath of fresh air. It’s simple, straightforward, easy to read, insightful—and

loaded with solid, practical advice on how to improve the forecasting process in your company. To me, the most valuable section is Chapter 4 on forecast value added (FVA). This is a method to evaluate (a) which parts of a forecasting process are adding value, (b) which elements are not cost effective, and (c) which parts of the process are making the forecasts worse. Parts b and c should be eliminated.

Gilliland poses the question, “How would you like to get better forecasts *for free?*” He then shows how to do this and relates the experiences of users of the FVA method: Intel, AstraZeneca, Tempur-Pedic and others. FVA is the lean manufacturing mind-set applied to forecasting, and that’s great.

To those of you whose job primarily involves forecasting, I say simply: You owe it to yourselves to read this book closely, carefully, and cover-to-cover. To others of you—in marketing, sales, supply chain, general management, and so on—I say that you also should read it, perhaps not as intently or completely as the forecasters but being certain to hit the high spots. There are value-adds in every chapter.

My prediction is that this book will come to be regarded as one of the very best in the field of forecasting literature. It’s a potential game changer; it may move forecasting into a space that’s more productive, more respected, and—dare I say—more fun. That would be huge.

In conclusion, let me pay Mike the biggest compliment I can: I wish I had written this book. Thanks, Mike.

TOM WALLACE
Sedona, Arizona

Foreword

Anne G. Robinson

We do not live in a boring world.

Companies do not operate the same, markets do not respond the same way, and all customers definitely do not want the same things. It's this inexhaustible variability—and the careful blending of historical data, market trends and domain expertise it requires—that makes demand forecasting such an interesting art.

But forecasting is not for the faint of heart. If you choose this profession prepare yourself for continual disappointment. Reality will never match your prediction—you will always find yourself ahead of—or behind—the true curve.

Fortunately, forecasting experts like Mike Gilliland generously share their expertise, allowing us quantitative analysts to narrow that gap and deliver better-than-average forecasts. Through his many contributions in the forecasting community, Mike has introduced the concept of forecast value added (FVA), a metric that enables us to measure the relative value of a forecast.

I work for a prominent high tech company. For several years, my team and I were responsible for creating and delivering the statistical forecast for the supply chain. Challenged by complexities due to a wide breadth of products, varying customer lead times, and high volatility in demand, we went beyond the boundaries of our statistical software to create analytical models more relevant for our industry. Additionally, leveraging best practices in consensus forecasting, we partnered with our marketing and planning counterparts to include domain expertise and market trends and collectively deliver a final forecast.

The accuracies of our forecasts across product lines, however, varied greatly. Given the complex nature of our business, this was

expected. The true value of the forecasting process came from its relative contribution against doing nothing. Based on Mike's experiences, we successfully introduced the forecast value added metric (along with forecast accuracy and bias) at the executive level. The FVA gave management a way to recognize and appreciate the value that was being delivered as a result of our forecasting process.

Throughout this book, Mike Gilliland explains the FVA method as well as many other tips and tricks to creating a competent forecasting capability—and avoiding some of the potential disasters along the way.

Enjoy the journey! I'm certainly glad the world isn't boring.

ANNE G. ROBINSON, PhD
Sr. Manager, Information and Data Strategy
Customer Value Chain Management, Cisco

Acknowledgments

I started this book during a mid-career “test retirement” in early 2004, while trying to unwind and decompress from the labors and indignity of 18 years at *publicly* held American corporations. In April of 2004 the book was put on hold, however, when I accepted an offer to join SAS Institute, the world’s largest *privately* held software company. I had been a long time user of SAS software (since 1985) and a huge fan, having built forecasting, planning, and reporting systems in SAS for Oscar Mayer Foods as an Operations Research Analyst fresh out of graduate school. I had no idea what I was getting myself into—but in a good way.

In January 2010 SAS was named #1 on the Fortune magazine list of “100 Best Companies to Work For”—an honor much deserved. SAS founders Jim Goodnight and John Sall have nurtured an environment where employees can be focused on one thing—helping customers solve their business problems—and not wasting time catering to the misguided whims of Wall Street. My everlasting gratitude goes to Goodnight and Sall for creating this environment, and to Shiva Kommareddi, Director of Solutions Product Management, for hiring me on.

My experience at SAS has made this book much better than it would have been before. I’ve had the opportunity to work on forecasting problems with an array of exceptional SAS colleagues: Michael Leonard, Udo Sglavo, Jim Ferris, Charlie Chase, Chip Wells, Snurre Jensen, Jack Hymanson, Ed Katz, Rob Stevens, Phil Weiss, Pete Dillman, Andy Waclawski, Sam Guseman, Allan Manning, Bob Lucas, Terry Woodfield, Paddy Fahey, Mark Little, Tonya Balan, Mary Grace Crissey, Rajesh Selukar, Michele Trovero, Jerzy Brzezicki, Mahesh Joshi, Bob Davis, Evan Stubbs, Robin Way, Gul Ege, Tammi Kay George, Brenda Wolfe (now at ESRI), and others. Particular thanks to Charlie for his review of the manuscript, and to Tammi Kay for her boundless creativity in promoting the book.

Acknowledgments

I started this book during a mid-career “test retirement” in early 2004, while trying to unwind and decompress from the labors and indignity of 18 years at *publicly* held American corporations. In April of 2004 the book was put on hold, however, when I accepted an offer to join SAS Institute, the world’s largest *privately* held software company. I had been a long time user of SAS software (since 1985) and a huge fan, having built forecasting, planning, and reporting systems in SAS for Oscar Mayer Foods as an Operations Research Analyst fresh out of graduate school. I had no idea what I was getting myself into—but in a good way.

In January 2010 SAS was named #1 on the Fortune magazine list of “100 Best Companies to Work For”—an honor much deserved. SAS founders Jim Goodnight and John Sall have nurtured an environment where employees can be focused on one thing—helping customers solve their business problems—and not wasting time catering to the misguided whims of Wall Street. My everlasting gratitude goes to Goodnight and Sall for creating this environment, and to Shiva Kommareddi, Director of Solutions Product Management, for hiring me on.

My experience at SAS has made this book much better than it would have been before. I’ve had the opportunity to work on forecasting problems with an array of exceptional SAS colleagues: Michael Leonard, Udo Sglavo, Jim Ferris, Charlie Chase, Chip Wells, Snurre Jensen, Jack Hymanson, Ed Katz, Rob Stevens, Phil Weiss, Pete Dillman, Andy Waclawski, Sam Guseman, Allan Manning, Bob Lucas, Terry Woodfield, Paddy Fahey, Mark Little, Tonya Balan, Mary Grace Crissey, Rajesh Selukar, Michele Trovero, Jerzy Brzezicki, Mahesh Joshi, Bob Davis, Evan Stubbs, Robin Way, Gul Ege, Tammi Kay George, Brenda Wolfe (now at ESRI), and others. Particular thanks to Charlie for his review of the manuscript, and to Tammi Kay for her boundless creativity in promoting the book.

Outside of SAS, I've had the good fortune of knowing and learning from a wide network of industry professionals, many of them met through association with the Institute of Business Forecasting (IBF), the International Institute of Forecasters (IIF), and APICS. My thanks to IBF's Anish Jain and Constance Korol for providing numerous speaking opportunities at their conferences and webinars, and to Dr. Chaman Jain, IBF founder and editor of *The Journal of Business Forecasting*, for his manuscript comments and allowing use of my previously published work.

Many other friends and professional associates were able to review the manuscript, or have applied (and expanded on) the method of Forecast Value Added (FVA) Analysis at their own companies. These include Debbie Blackburn and Robert Bloomer of BB&T, Emily Rodriguez of Intel, Jack Harwell of RadioShack, Mark Hahn of Amway, Mary Côté of DeltaWare, Scott Roy of Wells Dairy, Dave Wehling of Toro, Jonathon Karelse of Yokohama Tire Canada, Eric Wilson of Tempur-Pedic, Curtis Brewer of Bayer CropScience, Shashi Tripathi of AGNITY Healthcare, Kalyan Sengupta of Chevron, Kean Chew and Brad Ragland of HAVI Global Solutions, Drew Prince of NCR, Suren Palakkal of MEB Consulting, Richard Herrin of Tredegar, Andrew Leu of USDL, Sharon M. Powell of RTI, Karen Miracle of Masonite, and Evelyn Jarrett. Thanks also to Len Tashman (Editor of *Foresight: The International Journal of Applied Forecasting*) and Jennifer Proctor (Editor of *APICS Magazine*) for providing access to previously published materials, and to Rob Miller of Covidien for use of his "Comet Chart."

Several of my SAS colleagues have been involved in the production and marketing of the book, or otherwise have helped publicize my work to a broader audience. These include Julie Platt, Shelly Goodin, and Shelley Sessoms in Publications, Kristine Vick and Buffie Silva in Field Marketing, Faye Merrideth in Public Relations, Sara Smith in Analyst Relations, Alison Bolen and Diane Lennox in External Communications, and Blanche Phillips in Online Marketing. Jerry Oglesby, Larry LaRusso, and Carrie Vetter have given me speaking exposure at the annual F20xx Business Forecasting Conference held at SAS corporate headquarters every June. Sam Guseman, in addition to being a co-inventor of the structured analogy approach for new product forecasting, prepared the screen shots in Chapter 5.

Special thanks go to a number of individuals who have had particular influence on my forecasting career, or on this book:

- John LaBella, VP—Application Delivery at Gap, Inc. John gave me my first full-time forecasting job at Oscar Mayer/Kraft Foods in 1991. Many of the ideas in this book (particularly the use of “demand factors” in Chapter 5), evolved from the collaboration and visionary leadership he provided early in my career.
- Joe Mazel of Mazel Associates. Joe is a fabulous writer and editor who offered valuable comments on an early draft of this manuscript. Since meeting at an IBF conference in 2002, I’ve considered Joe my unofficial (and unpaid!) “publicist” for the many writing, speaking, and professional association connections he has provided me.
- Martin Joseph, Managing Director of Rivershill Consultancy, Ltd. I met Martin while serving together on the IBF Advisory Board, when he was Head of Information Management and Forecasting at AstraZeneca. We made an instant connection through our mutual interests in demand volatility and the application of statistical process control techniques in business forecasting.
- Meredith John, Product Manager at SAS. Meredith has been an invaluable ally in the development and marketing of SAS forecasting software since joining the company in 2007. Meredith provided a full review of the initial completed manuscript, and her feedback led to dramatic improvements in the focus and organization of the finished book. In addition, with her past publishing experience, Meredith helped me survive the annoyances of book design and production, and she gets credit for prototyping the layout of the cover.
- Stacey Hamilton, Acquisitions Editor at SAS Publications. Stacey guided me through the writing process and kept me (mostly) on plan. She also had to put up with my tantrums and appeals for “artistic integrity” any time there was a disagreement with the publisher. Stacey could definitely succeed as a hostage negotiator if this SAS gig ever falls through.

- Jessica Crews, Graphic Designer. Jessica brought to life the disturbing image in my head—that the practice of forecasting is not so far removed from snake-oil sales and circus sideshows. In addition to the cover art, Jessica has translated my other waking delusions into the colorful images that periodically appear in my blog, *The Business Forecasting Deal* (blogs.sas.com/forecasting).
- Anne Robinson, Sr. Manager—Information and Data Strategy at Cisco. Anne has championed the application of FVA analysis and helped expand my professional horizon through her leadership role at INFORMS (the Institute for Operations Research and the Management Sciences). Anne provided a valuable second foreword describing the use of FVA at Cisco.
- Tom Wallace. I was truly honored by Tom’s willingness to write a foreword for this book. He is a giant in the field of Sales & Operations Planning, and has made major contributions worldwide through his teaching and consulting, and his books with Bob Stahl. When the publisher asked me for Tom’s job title and company, I was aghast—that was like asking Cher or Madonna for their title and company! Most of us in the planning and forecasting fields would agree that Tom is just as much a celebrity as Cher or Madonna—even if he doesn’t have quite as fabulous a wardrobe.
- Anne Milley, Senior Director of Analytic Strategy at SAS. As my boss since late 2005, Anne has been a constant source of knowledge, inspiration, and positive feedback. She paved the way internally for me to write this book, and made many valuable comments on the developing manuscript. My best wishes to Anne as she embarks on her new role as the public voice of analytics at SAS.

The views expressed in this book are my own, and should not negatively reflect on the good taste and better judgment of the above mentioned reviewers, or of SAS Institute. All inaccuracies, hyperbolic claims, wild assertions, or outright lies, are my fault alone.

Lastly, I want to give very special thanks to Debbie Blackburn for, among many other things, six years of gentle nudging to resurrect this book project.

Prologue

Forecasting is a huge waste of management time.

*The Business Forecasting Deal*¹ is written around this simple premise. It doesn't mean that forecasting is pointless and irrelevant. It doesn't mean that forecasting isn't useful or necessary to run our organizations. It doesn't mean that managers should not care about their forecasting issues, nor seek ways to improve them. It simply means that:

The amount of time, money, and human effort spent on forecasting is not commensurate with the amount of benefit achieved (the improvement in accuracy).

We spend far too many organizational resources creating our forecasts, while almost invariably failing to achieve the level of accuracy desired. The whole conversation needs to be turned around. We should be focusing much less on modeling and forecast accuracy and much more on process efficiency and effectiveness. We must also consider alternative solutions to the business problems that we, out of habit, rely on forecasting alone to address.

This book aims to expose the myths and bad practices in business forecasting, and to provide practical solutions. One such *myth* is that the *desired level of forecast accuracy is always possible*. The practicing forecaster soon realizes, however, that there are limits to the accuracy he or she can ever expect to achieve. This accuracy is largely determined by the *forecastability* of the behavior being forecast. Consider the simplest of examples—calling heads or tails in the toss of a fair coin. Over a large number of trials we cannot forecast the outcome (call the toss) correctly other than 50% of the time. Our accuracy has been determined by the *nature* of the behavior we are trying to forecast. As it is with coins, so it is (to a less obvious extent) with the things we attempt to forecast in business.

The reality is that smooth, stable, repeating patterns can be forecast accurately with simple techniques and little effort. Wild, volatile, and erratic patterns, however, may never be forecast accurately—no matter how elaborate the process and statistical sophistication we throw at the problem. In short:

We may never be able to control the accuracy achieved, or achieve the level of accuracy desired. But we can control the forecasting process we use, and the resources we invest.

This ties into a second *myth*, that *the accuracy of our forecasts is proportional to the extent of our forecasting efforts*. “If only,” management bemoans. “If only we had more data, a bigger computer, a more elaborate process, and better forecasters (or made the ones we have work harder!), we could get better forecasts.” But this is a false belief.

Curiously, there is often an inverse relationship between the amount of management attention given to forecasting and the accuracy of the results. The more a forecast is touched, the more it tends to go awry. Each process step, each opportunity to adjust a forecast, is just one more chance for wishes and politics and personal agendas to contaminate what should be an *unbiased best guess* at what is really going to happen. The purpose of this book is to explore why this happens—why there is such waste and inefficiency in the typical business forecasting process—and to suggest how to stop this from happening.

A third *myth* is that *improving forecast accuracy is the ultimate goal*—that improved accuracy is the best way, and perhaps even the only way, to improve organizational performance. But this belief can focus management’s attention on the wrong problem. Unless you work at a consulting firm selling forecasts:

The goal of your organization is not accurate forecasts—it is to make a profit and stay in business.

Forecast improvements are only a means to this end. Unfortunately, improvements may be impossible to deliver (when your demand is unforecastable), they may be too costly to implement (not worth the benefits), or they may even go unused—if management is unwilling to accept the reality of what a more accurate forecast is telling them. Focusing only on forecast improvements ignores other, nonforecasting, approaches that may more effectively solve the underlying business problem.

The Business Forecasting Deal aims to treat a gap in the literature by addressing the very foundations of business forecasting. Not in the careless and dogmatic way that we normally approach things, but critically, in a way to draw out all the subtlety and implication of our assumptions and beliefs.² The book explores issues left unmentioned in the traditional forecasting literature—unmentioned because we assume to understand them, or don't recognize them as issues at all.

For those seeking more advanced forecast modeling skills, there are plenty of good books covering the mathematics of forecasting, but these topics won't be covered here. While advanced statistical and forecast modeling skills are useful in forecasting research and practice, these skills are neutralized when internal politics and personal agendas dominate an organization's forecasting process. These skills are also neutralized when the behavior being forecast is essentially unforecastable. A big computer and fancy models aren't going to help forecast the toss of a fair coin.

While you won't need advanced modeling skills to get through this book, you should have a curiosity about why business forecasting is so maddening and maligned, along with a willingness to consider alternative solutions to the ensuing business problems. Forecasting is not an end in itself—it is one of many means to running an organization more efficiently and more profitably. In some situations forecasting is not the answer, or it is only an answer of last resort. We shouldn't assume that there is always *something* we can do to improve a forecast. However, there are always things we can do to address the business problem—they may just not involve forecasting.

Although this book invokes a critical tone, it is not meant to discourage forecasting practitioners or to stifle innovation. Rather, it is a critique of the bad practices and snake-oil solutions proffered by many vendors of forecasting services and software. It is meant to expose forecasting's myths and many pitfalls, so that the same mistakes don't have to be repeated over and over again by each new practitioner. The forecasting profession does not need another cheerleader. But forecasting professionals, and those who rely on them, do need to be realistic about the limitations of what forecasting can ever be expected to achieve. There are no magic formulas and no miracle solutions, but the truth can be a lot harder to sell than the fiction.

In writing *The Business Forecasting Deal*, I've pieced together self-contained sections addressing specific business forecasting topics, along with practical solutions. Throughout I advocate use of a simple method called forecast value added (FVA) analysis. The FVA metric allows an organization to identify waste and inefficiency in its forecasting process, and has been adopted at a number of major corporations. Some of these adopters have spoken publicly of their findings, and their results are shared in a series of brief case studies in Chapter 4, Forecast Value Added Analysis. For those ready to apply FVA at their own organizations, this chapter provides step-by-step details on conducting the analysis.

In the narrow sense, the goal of forecasting is to generate better forecasts. But a more accurate forecast, by itself, has no value unless it is used to help an organization run more effectively. My objective is to do just this—to help organizations run more effectively. First, by offering an alternative framework for thinking about the problems of business forecasting. Second, by providing specific methods for addressing the challenges of business forecasting. And third, by encouraging readers to consider new ideas and creative approaches—but never to assume anything works until its effectiveness has been demonstrated.

This book, alone, will not make you the best forecaster you can be. But it will help you avoid becoming the worst forecaster you can be.

NOTES

1. *The Business Forecasting Deal* is intended for both the forecasting practitioner and for management overseeing (or dealing with) the forecasting function. Sometimes terminology or formulas may appear that are not familiar to the reader, and are not thoroughly defined at the point they are used. Refer to the Glossary for explication of any of these unfamiliar concepts (which are shown in ***bold italics*** the first time they appear in the text).
2. For a major influence on this book's approach to addressing the problems of business forecasting, see Bertrand Russell's *The Problems of Philosophy*, Oxford University Press (1959). Russell delivers a concise and accessible introduction to methods of analysis that are too often ignored in the business world.

In writing *The Business Forecasting Deal*, I've pieced together self-contained sections addressing specific business forecasting topics, along with practical solutions. Throughout I advocate use of a simple method called forecast value added (FVA) analysis. The FVA metric allows an organization to identify waste and inefficiency in its forecasting process, and has been adopted at a number of major corporations. Some of these adopters have spoken publicly of their findings, and their results are shared in a series of brief case studies in Chapter 4, Forecast Value Added Analysis. For those ready to apply FVA at their own organizations, this chapter provides step-by-step details on conducting the analysis.

In the narrow sense, the goal of forecasting is to generate better forecasts. But a more accurate forecast, by itself, has no value unless it is used to help an organization run more effectively. My objective is to do just this—to help organizations run more effectively. First, by offering an alternative framework for thinking about the problems of business forecasting. Second, by providing specific methods for addressing the challenges of business forecasting. And third, by encouraging readers to consider new ideas and creative approaches—but never to assume anything works until its effectiveness has been demonstrated.

This book, alone, will not make you the best forecaster you can be. But it will help you avoid becoming the worst forecaster you can be.

NOTES

1. *The Business Forecasting Deal* is intended for both the forecasting practitioner and for management overseeing (or dealing with) the forecasting function. Sometimes terminology or formulas may appear that are not familiar to the reader, and are not thoroughly defined at the point they are used. Refer to the Glossary for explication of any of these unfamiliar concepts (which are shown in ***bold italics*** the first time they appear in the text).
2. For a major influence on this book's approach to addressing the problems of business forecasting, see Bertrand Russell's *The Problems of Philosophy*, Oxford University Press (1959). Russell delivers a concise and accessible introduction to methods of analysis that are too often ignored in the business world.