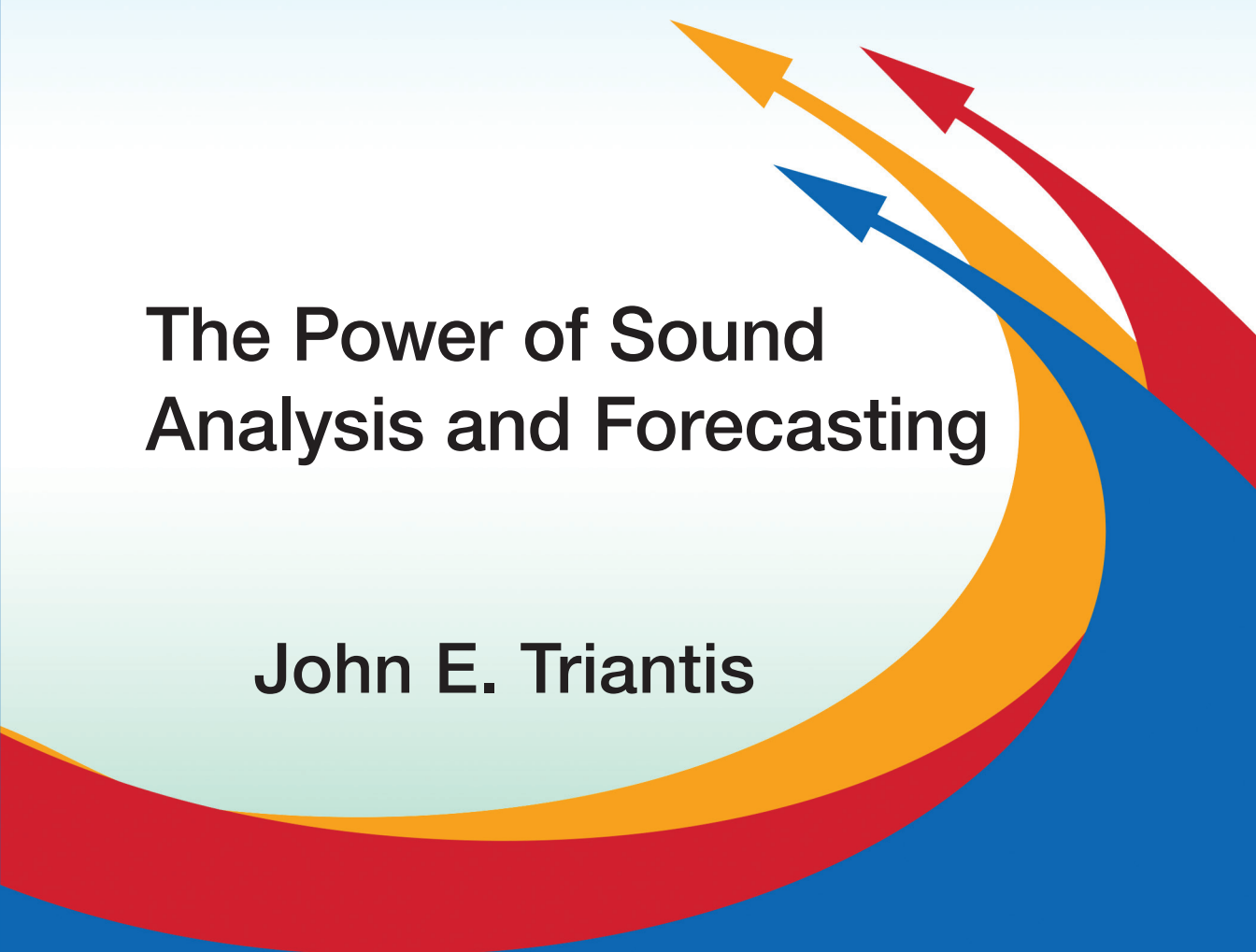


Navigating Strategic Decisions



The Power of Sound
Analysis and Forecasting

John E. Triantis



CRC Press

Taylor & Francis Group

A PRODUCTIVITY PRESS BOOK

Navigating Strategic Decisions

**The Power of Sound
Analysis and Forecasting**

ENDORSEMENTS FOR *NAVIGATING STRATEGIC DECISIONS*

An indispensable guide for strategic project managers and a “must-read” book for strategic planners aspiring to advance their careers and become trusted advisors to decision makers, written by an expert in strategic decision forecasting as a comprehensive practical guide that lays the foundations toward competitive advantage. It will revolutionize your company’s strategic thinking by showing how to bring together methods, processes, and techniques toward sound analysis, evaluation, and forecasting for superior strategic decisions.

George S. Vozikis, PhD

Institute for Family Business

and

Department of Management

Craig School of Business

California State University, Fresno, California

Already a published authority on managing successful acquisition and joint venture projects, John Triantis has now focused on marking out a realistic, yet crucial, role for strategic forecasters participating in strategic projects. Forecasters following his precepts will prove themselves indispensable to the project team, while at the same time contributing to reduced time-to-decisions, better/sounder decisions, and increased chances of realizing forecasted project values. This is a “must-read” book for forecasters aspiring to make a difference in the world of strategic project decisions.

John K. Hendricks

Former AT&T General Attorney

International M&A and Joint Ventures, Strategic Alliances, Basking Ridge, New Jersey

Finally—a book that demonstrates the connection between the art and science of strategic forecasting and successful strategic projects is here! John Triantis uncovers the truths about strategic decisions to everyone in this field and is in the forefront of helping organizations understand the importance of and implement strategic forecasting. All forecasters and decision participants will benefit from John’s 40+ years of hands-on experience and practical insights.

Hu Song, MD, PhD

WW Business Insights

Ortho Clinical Diagnostics, Johnson & Johnson, Raritan, New Jersey

Dr. John Triantis is the consummate translator of the vernacular strategic analysis. *Navigating Strategic Decisions: The Power of Sound Analysis and Forecasting* is written for the professional who deals with both analysis and forecasting for strategic projects. His long experience in the real world allows him to draw from the things that have worked and enables him to make sound recommendations for industry analysts and forecasters. The reader will benefit immensely from the practical insights. The information presented is understandable and transparent. The strength of the book is that it is based on workable and practical methodologies and not theoretical concepts. An excellent book!

Dean H. Stamatis, PhD, CQE, CMfgE, MSSBB

Contemporary Consultants, Southgate, Michigan

Anhui University of Finance and Economics in Bengbu, Anhui, People’s Republic of China

Managers too often predict demand emotionally, despite the importance of the decisions being made as a result of good fact-based analysis. Subsequently, forecasts are often extrapolations of historical volume trends, rather than well-thought-out projections. This has been the accepted process for strategic forecasting and planning for the past 30 years. This is the first book that provides a proven framework for business executives to translate fact-based decisions into viable strategic forecasts.

Charles Chase, MA, PhD (Pursuing)

Supply Chain Global Practice

SAS Institute, Inc., Cary, North Carolina

Understanding how to transform data into useful information is critical in a world of ever increasing noise. This is an essential reference book for organizations considering entering new markets, evaluating product portfolio mix or developing new products. It serves as a comprehensive resource of the critical methods and techniques needed to enable strategic decisions.

Demetra Simos Paguio, MBA

Former Sales and Marketing Operations Manager

Ryerson Inc., Chicago, Illinois

Navigating Strategic Decisions

The Power of Sound
Analysis and Forecasting

John E. Triantis



CRC Press

Taylor & Francis Group

Boca Raton London New York

CRC Press is an imprint of the
Taylor & Francis Group, an **informa** business
A PRODUCTIVITY PRESS BOOK

CRC Press
Taylor & Francis Group
6000 Broken Sound Parkway NW, Suite 300
Boca Raton, FL 33487-2742

© 2013 by John E. Triantis
CRC Press is an imprint of Taylor & Francis Group, an Informa business

No claim to original U.S. Government works
Version Date: 20130102

International Standard Book Number-13: 978-1-4665-8599-7 (eBook - PDF)

This book contains information obtained from authentic and highly regarded sources. Reasonable efforts have been made to publish reliable data and information, but the author and publisher cannot assume responsibility for the validity of all materials or the consequences of their use. The authors and publishers have attempted to trace the copyright holders of all material reproduced in this publication and apologize to copyright holders if permission to publish in this form has not been obtained. If any copyright material has not been acknowledged please write and let us know so we may rectify in any future reprint.

Except as permitted under U.S. Copyright Law, no part of this book may be reprinted, reproduced, transmitted, or utilized in any form by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying, microfilming, and recording, or in any information storage or retrieval system, without written permission from the publishers.

For permission to photocopy or use material electronically from this work, please access www.copyright.com (<http://www.copyright.com/>) or contact the Copyright Clearance Center, Inc. (CCC), 222 Rosewood Drive, Danvers, MA 01923, 978-750-8400. CCC is a not-for-profit organization that provides licenses and registration for a variety of users. For organizations that have been granted a photocopy license by the CCC, a separate system of payment has been arranged.

Trademark Notice: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

Visit the Taylor & Francis Web site at
<http://www.taylorandfrancis.com>

and the CRC Press Web site at
<http://www.crcpress.com>

To the memory of my father

Contents

List of Figures	xiii
List of Tables	xv
Preface	xvii
Acknowledgments	xxvii
Author	xxix

PART I Preamble

Chapter 1	Introduction	3
1.1	Forecast Types and Their Evolution	4
1.2	Why Are Good Forecasts and SDF Teams Needed?	6
1.3	The Role of SDF Teams and Misconceptions	8
1.4	Uniqueness of the Book and Benefits to the Reader	9
1.5	Structure of the Book and Discussion Topics	10
Chapter 2	Strategic Decision Forecasting	13
2.1	Forecaster Relationships	14
2.2	Focus, Approach, and Methodology	15
2.3	Processes and Practices	15
2.4	Forecast Ownership and Accountability	16
2.5	Organizational Factors	17
2.6	Forecast Performance Measures	18
2.7	Expectations, Analyses, and Functions	18
2.8	Communications	19
2.9	Skills and Qualifications	20
2.10	Knowledge and Project Management	21
Chapter 3	The Promise of Strategic Decision Forecasting	23
3.1	Definition of SDF	23
3.1.1	What SDF Solutions Are Not Intended for	24
3.2	Purpose and Objectives of SDF	24
3.3	The Need for a New SDF Paradigm	25
3.4	The Focus of SDF	28
3.5	Universal SDF Process Components	31
3.6	Common Uses of SDF Solutions	33
3.7	SDF Team Charter and Structure	34
3.8	The Role of Strategic Decision Forecasters	35
3.9	The Uniqueness of SDF	36
3.10	Benefits and Limitations of SDF	38

PART II A New Paradigm for Strategic Decision Forecasting

Chapter 4	SDF Organization Business Definition	43
4.1	The Mission of the SDF Team.....	43
4.2	The Vision of the SDF Team	44
4.3	SDF Team Principles and Values	45
4.4	Project Stakeholders and Functional Links.....	51
4.5	SDF Goals, Objectives, and Strategies Revisited.....	51
4.6	Scope of SDF Team Activities and Support Provided	53
4.7	SDF Team Governance.....	56
4.8	Internal and External SDF Networks	59
4.9	SDF Project and Knowledge Management.....	63
4.10	SDF Performance Measures	63
Chapter 5	Culture, Mindset, Processes, and Principles	65
5.1	SDF Team Culture.....	65
5.2	SDF Mindset.....	66
5.3	SDF Approach	69
5.4	SDF Processes	71
5.5	SDF Principles and Guidelines.....	76
Chapter 6	SDF Analytical Techniques and Tools	81
6.1	SDF Analytical Concepts and Aids.....	81
6.2	Anchoring of SDF Analyses and Evaluations	85
6.3	SDF Forecasting Due Diligence	87
6.3.1	Forecasting Due Diligence Techniques and Tools	89
6.4	SDF Plan and Processes	91
6.5	SDF Methods, Systems, and Implements.....	95
Chapter 7	SDF Assessment and Implementation Techniques.....	101
7.1	Forecasting Function Project Management.....	101
7.2	SDF Solutions, Options, and Recommendations.....	103
7.3	SDF Performance Measures	105
7.4	SDF Forecast Realization Plan.....	108
7.5	Institutionalizing Learning and Knowledge.....	110

PART III Strategic Decision Forecasting Applications

Chapter 8	Corporate Policy and Strategy Evaluation	115
8.1	The Current State and Causes of Failures.....	116
8.2	Particular Needs and Challenges.....	118
8.3	The Role of the SDF Team	119
8.4	SDF Processes and Techniques	122
8.4.1	Corporate Strategy Evaluation	122
8.4.2	Corporate Policy Evaluation	125
8.5	SDF Techniques and Tools	126

8.6	Beneficial Practices and SDF Team Contributions	129
8.6.1	Examples of Useful Practices and Factors	129
8.6.2	SDF Team Contributions	130
Chapter 9	New Product Development	133
9.1	Current State and Causes of Failures	133
9.2	SDF Approach, Processes, and Techniques	136
9.2.1	Forecasting for New Product and Service Development.....	136
9.2.2	New Technology Development Forecasting	142
9.3	SDF Team Analyses and Evaluations.....	143
9.3.1	Idea, Discovery, and Scoping Stage and Idea and Feasibility Screen	145
9.3.2	Business Case Stage and Go to Development and Testing Gate.....	146
9.3.3	Develop, Test, and Validate Stage and Go to Launch and Implement Gate	148
9.3.4	Post New Product Launch Review	149
9.4	Sound Practices and SDF Team Contributions	150
9.4.1	Sound Practices and Success Factors.....	150
9.4.2	SDF Team Contributions.....	152
Chapter 10	New Market or Business Entry	155
10.1	The Current State	155
10.2	Special Needs, Issues, and Challenges.....	157
10.3	SDF Approach and Processes.....	158
10.4	SDF Analyses, Evaluations, and Techniques	160
10.4.1	SDF Analyses and Evaluations	160
10.4.2	SDF Techniques and Tools.....	164
10.5	Sound Practices and SDF Team Contributions	166
Chapter 11	M&A and Joint Venture Projects	169
11.1	The Current State	170
11.2	M&A and JV Challenges and Issues.....	171
11.3	SDF Approach and Processes.....	173
11.4	SDF Tools and Techniques	177
11.5	SDF Analyses and Evaluations.....	182
11.6	Sound Practices and SDF Team Contributions	190
11.6.1	Sound Practices and Success Factors.....	191
11.6.2	SDF Team Contributions.....	193
Chapter 12	Product and Technology Licensing	195
12.1	The Current State and Causes of Failures.....	196
12.2	SDF Approach, Processes, and Evaluations.....	200
12.2.1	SDF Approach and Processes	200
12.2.2	SDF Analyses and Evaluations	205
12.3	SDF Techniques and Tools	208
12.3.1	Quantitative Technological Forecasting Techniques.....	209
12.3.2	Judgmental Technological Forecasting Techniques	209
12.3.3	Integrative Technological Forecasting Techniques	210

12.4	Success Factors and Beneficial Practices	211
12.4.1	Project Success Factors	211
12.4.2	Beneficial Practices	214
Chapter 13	Corporate Reorganizations and Turnarounds	217
13.1	Current State and Causes of Failures	217
13.2	SDF Approach and Techniques	221
13.3	SDF Analyses and Evaluations.....	229
13.4	Sound Practices and SDF Team Contributions	232
13.4.1	Sound Practices	233
13.4.2	SDF Team Contributions.....	234
Chapter 14	Uncertainty and Risk Management.....	237
14.1	The Current State	238
14.2	Unique Issues and Challenges	239
14.3	SDF Approach and Techniques	240
14.4	SDF Analyses and Evaluations.....	245
14.5	Success Factors and SDF Team Contributions.....	250
14.5.1	Sound Practices and Success Factors.....	250
14.5.2	SDF Team Contributions.....	252
Chapter 15	Major Capex and Project Financing.....	255
15.1	Current State.....	256
15.2	Particular Challenges and Issues	258
15.3	SDF Approach and Participation.....	260
15.4	SDF Analyses and Evaluations.....	262
15.5	Success Factors and SDF Team Contributions.....	266
15.5.1	Sound Practices and Success Factors.....	266
15.5.2	SDF Team Contributions.....	268
Chapter 16	Product Portfolio Management	271
16.1	The Current State	271
16.2	Particular Issues and Challenges.....	273
16.3	SDF Approach and Processes.....	275
16.4	SDF Analyses and Evaluations.....	280
16.5	SDF Tools and Techniques	283
16.6	Sound Practices and SDF Team Contributions	287
16.6.1	Sound Practices and Success Factors.....	287
16.6.2	SDF Team Contributions.....	290
Chapter 17	Negotiations and Investor Relations Support.....	293
17.1	Independent Validation and Verification.....	294
17.2	Negotiations Support	297
17.3	Investor Relations Support	301

17.4	Sound Practices and SDF Team Contributions	304
17.4.1	Sound Practices and Success Factors	305
17.4.2	SDF Team Contributions	306
Chapter 18	Future-State Realization Planning	309
18.1	Current State, Issues, and Challenges	311
18.2	SDF Approach, Processes, and Tools	313
18.3	SDF Analyses and Evaluations	315
18.4	Sound Practices and SDF Team Contributions	318
18.4.1	Sound Practices and Success Factors	318
18.4.2	SDF Team Contributions	319
Chapter 19	Business Cases, Plans, and Operational Targets	321
19.1	Current State, Issues, and Challenges	323
19.2	SDF Approach and Processes	325
19.3	Business Case Support	326
19.4	Business Plan Support	331
19.5	Target Development Support	333
19.6	Sound Practices and SDF Team Contributions	335
19.6.1	Sound Practices and Success Factors	335
19.6.2	SDF Team Contributions	336

PART IV Implementing Strategic Decision Forecasting

Chapter 20	Best-in-Class Strategic Forecasting Teams	341
20.1	Governance of SDF Teams	342
20.2	Forecaster Responsibilities and Qualifications	345
20.3	Best-in-Class Attributes and Practices	350
20.4	SDF Process and Principles	354
20.5	SDF Performance Factors and Measures	358
20.6	Success Factors and SDF Team Contributions	362
Chapter 21	SDF Organization Implementation Challenges	367
21.1	Attitudes and Organizational Mindset	368
21.2	Organizational Politics	369
21.3	Broad Scope and Responsibilities	371
21.4	Forecast Quality and Ownership of Forecast	373
21.5	Organization Knowledge Gaps	374
21.6	Availability of Qualified SDF Team Members	376
21.7	Outsourcing of Strategic Decision Forecasts	377
21.8	Management and Client Reassignments	378
21.9	Resource Constraints and Cost–Benefit Considerations	379
21.10	Implementing Processes and Performance Measures	380

Chapter 22	Summary and Conclusions.....	385
22.1	Conditions for Successful SDF Applications	386
22.2	Recurring Themes in Successful Strategic Projects.....	389
22.3	Conclusions.....	393
Bibliography		395

List of Figures

1.1	Key elements of decisions.	4
2.1	Strategic forecasting problems: Root cause analysis.	14
3.1	The overarching strategic decision forecasting framework.	29
4.1	Components of the SDF team's business definition.	44
4.2	Sample of a synergistic SDF team organizational structure.	58
4.3	Example 1 of a standalone SDF team organizational structure.	58
4.4	Example 2 of a standalone SDF team organizational structure.	59
4.5	Internal and external SDF team networks.	60
5.1	Determinants of SDF processes, solutions, and options.	67
5.2	Method used to develop the SDF team approach.	70
5.3	SDF team priorities, project phases, and key functions.	72
8.1	SDF management framework.	124
9.1	SDF approach for NPD.	137
9.2	SDF structuring of the NPD forecasting problem.	137
9.3	Factors determining the role of the SDF team.	144
10.1	SDF new market or business entry approach.	158
11.1	SDF approach for M&A and JV project support.	174
11.2	SDF strategic management model.	180
12.1	SDF team approach and roles in licensing projects.	201
12.2	Commercial aspects of licensing projects.	201
12.3	Typical licensing project process.	202
13.1	Restructuring and turnaround modes and instruments.	223
13.2	Outline of the generic CRRT process.	229
14.1	SDF approach to uncertainty and risk management.	242
14.2	Outline of the SDF uncertainty management process.	245
14.3	The role of the SDF team in risk management.	246
14.4	The SDF risk management plan progression.	248
15.1	General process used in project financing.	260
15.2	Enterprise model for off-balance sheet financing.	262
15.3	SDF focus aligned with client interests.	265
16.1	SDF portfolio management screens and team activities.	279
16.2	SDF analytical support for portfolio evaluation and optimization.	281
16.3	PPM alignment timeline balance.	284
16.4	Prioritizing portfolio rebalancing proposals.	285
16.5	Example of strategic buckets evaluation chart.	286
17.1	SDF IVV approach.	295
17.2	SDF negotiations support model.	298
17.3	SDF model for Investor Relations Support.	302
18.1	The SDF model for FSR planning purposes.	310
18.2	SDF framework for FSR plan development.	312
18.3	SDF future-state realization process activities.	313
18.4	SDF model to address FSR planning issues and challenges.	316
19.1	SDF business case, plan, and operational target creation approach.	325
19.2	SDF model for business case and business plan development.	326
19.3	Generic SDF business case and business plan development process.	327

19.4	SDF approach to developing performance targets.	334
20.1	The view that forecasting is the foundation of all planning.	342
20.2	Requirements determining the SDF team structure and functions.	343
20.3	Sample SDF team governance structure.	344
20.4	Real options, causal, and system dynamics framework.	348
20.5	Elements of a strategic decision-making tool.	353
20.6	Synopsis of the SDF differentiation approach.	353
20.7	Sample of SDF performance evaluation matrix.	361
20.8	Best-in-class SDF team balanced scorecard framework.	361
20.9	SDF team performance evaluation by senior managers and clients.	362
20.10	Best-in-class SDF teams: A source of competitive advantage.	366
21.1	Key elements of decisions.	368
21.2	SDF challenges in the midst of constant change.	372
22.1	Summary of critical SDF success factors.	392
22.2	Key attributes of strategic decision forecasting.	393

List of Tables

3.1	Average Strategic Project Duration and Forecast Horizons	27
13.1	Reasons for CRRT and SDF Team Support Provided	222
20.1	SDF Team Support Provided by Project Stakeholder.....	349
20.2	Uniqueness of Best-in-Class SDF Teams	363
21.1	Sample of SDF Team Member Personal Assessment Factors	383
21.2	Sample of General SDF Team Assessment Factors	384
22.1	Major Challenges Facing the SDF Team	386

Preface

EXPERIENCES THAT MOTIVATED THE BOOK

The nature of strategic decisions, large capital investments, and long-range planning necessitates forecasts 5, 10, even 20 years out in order to calculate the value of these projects. However, the focus of the forecasting profession has been on short-term sales forecasts, usually six months to two years out. These forecasts are based on statistical forecasting models that are often mechanized to accommodate a large number of forecasts and updates needed for supply chain management operations. As a result, most of the training of forecasters is in those areas, and the majority of them do not operate outside their statistical training comfort zone.

Most senior managers know that long-term statistical forecasts are not to be trusted; and in the absence of other alternatives, they rely on their own intuition. Other senior managers realize that forecasting for strategic decisions requires a lot of sophistication well beyond models and practical industry experience; and for that reason, they tend to outsource forecasting support for strategic projects. Outsourcing strategic forecasts is necessary in some instances. However, not only can valuable proprietary information be leaked to competitors and expected results rarely materialize, but also one-way valuable knowledge and experiences are transferred to outside experts.

We recognized a long time ago the need for a systematic approach to generate sound long-term forecasts and provide support for strategic decisions and projects. Our literature research showed that there was nothing to guide forecasting managers in creating strategic decision forecasting organizations, processes, methods, analyses, and long-term forecasts to drive decision making. While learning from participation in strategic projects and experimenting with different approaches, we also realized that to do justice to the discipline of providing forecasting support in strategic decisions and projects requires a lot of industry and practical knowledge and confluence of unique experiences. Thus, writing the book was delayed until sufficient knowledge and experiences were accumulated; and in the next section, we share, in brief, 15 actual experiences that provided the motivation for this book.

Assembling material for this book is the product of actual project experiences over forty years, researching the outcome of strategic projects, and recording lessons learned in different projects. Also, extensive interactions with strategic project team members and industry analysts added to our understanding of issues and challenges in different types of projects. Our experiences were augmented through collaboration with experts and seasoned consultants in the areas that impact strategic forecasting and by discussions with senior managers, clients, forecasters, and managers of strategic forecasting groups. Lastly, project assignments in benchmarking best-in-class processes and practices and reviewing accounts of competitor responses to strategic projects provided additional ideas and incentive to undertake this task.

A. MOTIVATING EXPERIENCES

1. *The client was the expert.* The author's first encounter with the need for long-term forecasting came when asked to generate a 20-year statistical forecast of freight rates for a foreign shipping company to be used in valuing an acquisition target company. We knew that anything beyond three years out would not have much credence because so many things can change to render the forecast useless. We also explained to the client that the necessary foreign trade and ship capacity variables projected out 20 years to generate a forecast of freight rates were not available. Instead of producing a causal model forecast, we recommended using expert opinions, analogs of previous 20-year

cycles, and scenarios to come up with a forecast. The client's reaction was that he was an expert himself and did not need any other expert's advice. So, we used his expertise to develop distinct scenarios, simulated projections, and assigned probabilities of occurrence to each scenario. And he selected the forecast he liked the best. What made that forecast the best? It served his purposes.

2. *Fifteen-year monthly forecast using Box–Jenkins models.* In the 1970s, Box–Jenkins models had become popular forecasting tools, and a superior asked the author to use a Box–Jenkins model to produce a 15-year out monthly demand forecast. The forecast was to be used in a large construction program for facilities to accommodate demand growth. We related to him that Box–Jenkins models were OK to use for short-term forecasts, but not for 15 years out and that we would need to use another method. He did not accept that and insisted on getting a forecast from a Box–Jenkins model.

We obliged and gave him a 15-year monthly forecast along with a plot of the historical and the forecast data. The forecast trended down from the first month and after the 11th year out the demand forecast turned negative. He was shocked when he saw the computer printout and asked how this was possible. We explained that recent demand data showed a decrease due to the recession and that downward trend was extrapolated by the Box–Jenkins models 15 years out. After that, he allowed us to explore other approaches, which we did and produced a reasonable, scenario simulation-based forecast 15 years out.

3. *No historical data, no forecast.* The third case came in the early 1980s when the author was the project leader for a telecom joint venture (JV) project to build a terrestrial network along the coast of India to connect all current and expected additions to the business centers with an international cable facility. Expecting that outsourcing to Indian IT companies was going to become a big business, our team felt that there could be adequate demand to support the development of a terrestrial network. However, evidence and an official company demand forecast were needed to do a feasibility study in order to proceed with the project.

The person in charge of the forecasting group happened to be a close friend and assigned the best person to support us in this forecast: a PhD statistician with years of forecasting experience, flexible, and easy to work with. We explained to him the essence of the project and asked him to produce a 15-year demand forecast to support the feasibility study. He was startled that the author, a professional former forecaster, would even ask for a forecast without giving him any of the historical data he thought he should have. We, in turn, were shocked that he could not even attempt to create a forecast using methodologies that do not rely on historical data, but on comparable projects and analogies. At that point, cooperation with the forecasting group manager and ingenuity kicked in and we created a joint, reasonable forecast. This forecast caused the project team to reject the opportunity due to insufficient demand to justify the high cost of installing a terrestrial network and looked at other alternatives.

4. *Purpose of the forecast—maintain the status quo.* The president of a subsidiary of an industrial US conglomerate hired the author's services in support of a project he wanted to undertake to grow internally the company revenue from approximately \$400 million a year to \$5 billion in five years. And, he specifically asked for a 15-year revenue forecast. Our environmental assessment and industry analysis, along with the evaluation of the company's history and its current capabilities, indicated that his expectations were overly optimistic. In a discussion over dinner, we found out that what motivated his ambitious growth expectations was the fear that his subsidiary would be spun off if substantial growth was not achieved soon.

In reviewing our analyses, he realized that organic growth was not sufficient to meet his objective and that something else had to be done; but at that time, his subsidiary had no budget for business development projects. Faced with the prospect of having to work with the 3–5% annual growth that we had forecasted, he questioned our skills and became angry with the corporate headquarters staff. We persisted and showed him other feasible avenues he could pursue to create growth through

off-balance sheet financing. We ended up helping his organization create a new strategy, generate conservative forecasts, create a Brazilian entity of his subsidiary, and implement operations which the 15-year forecast showed to be a financially viable venture, which produced growth much greater than the organic growth forecast.

5. Long-term forecast to set sales targets. A fifth encounter with the intricacies of long-term forecasting took place when the vice president of Marketing of a consumer products company insisted that a new product forecast be revised upward to more than 20% in the first three years. This was a huge and unwarranted adjustment to what we thought was a reasonable consensus forecast, which was created over a six-month period and had the buy-in of the key stakeholders. It turned out that he wanted a higher forecast to serve not only as the basis of the decision to proceed with the project but also as a target for the sales organization—something that he thought the sales organization should be working to achieve.

Reflecting on the situation, we realized that he did not have an adequate understanding of the workings of modeling, forecasting, and proper use of long-term forecasts. We performed a number of simulations and determined that a higher forecast could be realized through combination of large changes in the model drivers such as pricing and advertising expenditures, the net effect of which would be an increased cost structure by more than 28%. When he was shown the analysis and supporting evidence, he backed off his aggressive targets and took our recommendation to let the forecast stand as is to drive all planning but create separate, short-term performance targets for the sales organization. Subsequently, we worked closely with the vice president to create tools to identify initiatives and support levels needed to achieve certain sales targets.

6. Anything longer than a year is a strategic forecast. A case that demonstrated to the author lack of appreciation for strategic forecasting is the following incident: A vice president of Operations for a medium-sized company shared with us that, in his opinion, any forecast longer than one year is a strategic forecast and that he developed all strategic forecasts. When asked what he based his long-range plans for major capital expenditures on, he stated that he grew future requirements by 7.3%, the average growth rate of capital expenditures for the last three years. However, a new strategic project was about to start, and his estimates of new product demand ranged from a high of over 1000% growth a year down to 5% growth in the last year of a 20-year forecast horizon. That demand growth was sufficient to cover capital investment requirements, operating cost, and profit margin expectations.

Step by step, we produced evidence, pointed out the inconsistencies in his forecasts, and made the case for developing a more objective, balanced, evidence-based long-term forecast. His response was direct and firm: “Go ahead, but you make the forecast what we need it to be.”

7. The role of the forecasting group in new product introductions. A common practice in sizing up markets and developing long-term forecasts for new product launches is through market research, which is usually outsourced to firms that specialize in that area. So, when the author asked the head of a forecasting organization what role his group plays in generating such forecasts, he admitted that “the only involvement my group has in strategic forecasts is to come up with a factor, anywhere between 5 and 10 to scale down the revenue projections created by the market research companies we hire.”

When we showed astonishment to that statement, his reply was that this is a common practice in his industry. But what was even more surprising to us was the fact that senior management of this company was aware of this practice and did tolerate it despite the high costs of outsourced market research and the faults of this approach. Why? “That is how everybody in the industry does it,” was the reply.

8. Sponsor forecast for an infrastructure project. On one occasion as a project financing director, the author was on the receiving end of a “strategic forecast” of telephone demand that was to be used to support developing the financing for a large (over \$2 billion) infrastructure project

involving several underdeveloped countries. What we got was a “consensus” forecast created by the suppliers to the project: a forecast that had no country economic conditions evaluation or inputs, service pricing assumptions, ability to pay studies, or any real basis for their forecast. The suppliers’ motives underlying the forecast became clear when it was demonstrated that their forecast did not reflect the reality of developing country environments and market demand trends nor did it include any country, commercial, or political risk adjustments to the overly optimistic forecast.

Despite efforts to help the project sponsor representatives understand the issues and create reasonable long-term forecasts to assess the project economics, they thought our organization was not being cooperative. The validity of our position, however, was confirmed in meetings with the World Bank, which refused to participate in the financing of the project as did all the commercial banks that were invited to participate in the project. Why? Because of the poor quality of the forecasts underlying the projected financials was the joint response.

9. *Forecast request to drive the strategic plan.* A request came to a forecasting group in a health-care-related company which the author was advising during the 2000–2001 debate in Washington to create a drug reimbursement program. The request came from a client group responsible for developing strategic plans with the following instructions to the forecasting group: (a) provide a 20-year forecast for Medicare reimbursements for a certain class of drugs and (b) the forecast is needed in two weeks for input to the Spring Strategic Plan.

The client response to push back from the forecasting group on the timeline was “Just give us annual numbers for the next 20 years; we’ll look at them, change them to include actions we will be initiating, and develop the strategy to deal with this issue.” A number of scenarios were considered by the forecasting group and a middle-of-the-road, compromise scenario was picked and presented to the client with supporting facts and evidence. A summary of the client response: “Don’t bother us with details; our strategy will drive the financial outcome in this mess.” It did. And they are still living with the consequences of that mess.

10. *Divergence of partner objectives.* Why is our long-term demand forecast so much lower than our prospective partner’s? This question was addressed to the author and the client, a seasoned forecaster with outstanding credentials and broad industry experience in the healthcare industry. A new product forecast had been created for a drug licensing project using what we considered a sound methodology and a balanced approach. The forecasting group had done extensive product research, evaluation, and input from industry experts inside and outside the company. Also, they had considered and simulated several alternative scenarios with guidance from the author; performed sanity checks; and assessed the implications of the forecasts using analogs, industry standards, and benchmarks, among other things.

The client was a product manager who initially was not convinced that the company forecaster supporting him was as good a strategic decision forecaster as the one of the potential partner, a small biotech firm. The prospective partner’s forecast was substantially higher than that of the client firm, a large and well-regarded industry leader. And, in the course of discussions and negotiations over the following three months, it became apparent that the prospective partner wanted the project no matter what. Their key objective was to get brand recognition through a strategic alliance with a large, well-respected company; and to achieve that, they generated more optimistic forecasts than those of the large company’s forecasting group.

11. *Focus on second-order factors.* The author was the Business Development organization’s representative and served as the project team leader in a foreign JV project. Our responsibilities included coordination of partner contributions and screening of all assessments for the business case to be submitted to each partner company’s Board of Directors for approval. At one of the partners’ insistence, development of the 15-year demand forecast was assigned to seasoned Finance managers

from two of the major partner companies. Discussions on demand growth rates dragged on and on because of difference of opinion on a 4.5% versus a 6.2% growth rate to apply to calculate revenues 15 years out.

The Finance managers missed the deadline for submitting the forecast and upon inquiring about the source of the difference in perspective, we were told by one that they had different experiences than the other Finance manager and that they were representing companies with different objectives and perspective. When we asked if they had verified the basic assumption of guaranteed exclusivity of operations in the host country over the forecast horizon, they answered in the negative. At that point, our question to them was “If you don’t really know if the JV has an exclusive license and operation rights in the forecast period, does it matter if you assume a 4.5% or a 6.2% revenue growth rate?” With no hesitation, they both agreed to use an average growth rate of 5%; no problem. Geniuses, indeed.

12. Long-term forecasting group responsibility. The author met an old acquaintance who had recently been promoted to a senior management position in the energy industry at a conference where he was presenting a position paper. He related to us that he wanted to get some help to create a long-term, strategic project forecasting function to be implemented in-house. He approached the forecasting group manager and asked him to think about that idea and come back to him with his own plan outlining the strategic forecasting function, the organization, its scope, roles and responsibilities, headcount and costs, and the analyses, evaluations, modeling, and forecasting support his group would provide.

The forecasting group manager came back in four days with the following response:

We have considered your request and concluded that we are unable to do forecasting for strategic projects because that kind of forecasting is not taught in schools and we lack the experience. The consulting company which has been doing long-term forecasting has done a good job and it is not that expensive. However, we believe that the best use of the forecasting group is to take on the responsibility for updating and maintaining a data base of assumptions used to generate long term project forecasts and monitor their performance.

We ended up helping the forecasting group manager create a strategic forecasting team, put in place processes, and assisted in the development of the first strategic project forecast. It is truly amazing how people pass on opportunities to make a difference!

13. The financials validate the forecast. This is an experience the author encountered as a consultant brought in to help a company with strategic forecasting, strategic planning, and product portfolio management (PPM) issues. One of the business units of this company had major issues and growth challenges over a number of years. In one of the first meetings with the head of that business unit, he set the tone of the relationship by declaring: “I have my strategy in place. Why do I need strategic forecasts to develop strategies? What will they tell me that I don’t already know?”

We explained to the head of this business unit how good forecasts for strategic planning are done, how they help companies develop sound strategies, and how they help to make decisions and execute them successfully. His response was “Look, Finance has validated the forecasts and determined that we have a winning strategy in place.” After doing some joint analysis and evaluations with the CFO staff, we pointed out to this senior manager the holes in the logic, modeling, and risk analysis which was performed earlier. When he saw the deficiencies in the evidence that the long-term forecasts were based on and the implications of the scenario used, he began questioning the whole approach he had initially espoused. What he at first considered a validated forecast became a suspect forecast, and we started the process of developing sound long-term forecasts from ground zero. Were there ups and downs on the way? There were, every day, all the way to the end of the process.

What is a sound strategic forecast? This question comes up all the time and for our purposes, a sound strategic, long-term forecast is one that is characterized by the following key properties:

- It follows a structured and well-balanced approach in identifying forecasting needs and selecting appropriate methods, processes, and techniques to meet those needs.
- It identifies what needs to be known and knowable and is based on a comprehensive, model of company operations following preestablished processes.
- It validates and uses all the information and learning from company, industry, and external expert sources.
- It creates common assumptions driving project planning, which are subjected to sanity checks and consistency throughout the project.
- It incorporates external environment assessments, industry and market analyses, and company and competitor strength, weakness, opportunity, and threat (SWOT) evaluations.
- It has identified project uncertainty and risks and evaluated the forecast implications for company resources.
- It uses scenario planning to describe the events, timing, and transition from the current to the future state and has project team buy-in and client and senior management support.
- It has performance measures attached to it, is monitored closely, and includes a competitor reaction and future-state realization (FSR) plan.

14. *Outsourcing of strategic project forecasts.* More than a decade ago, a well-respected consumer products forecasting organization hired the author to assess and help with demand modeling and forecasting for all types of projects and forecast horizons. We first tackled tactical forecasts, had some successes, and the progress achieved was recognized by the senior management team. We then proceeded to address long-term market potential modeling and new product development (NPD) forecasting problems and issues.

At that point, we realized that the organization from the president of the company down to individual product managers and long-range planners did not consider the company's forecasting group qualified to sit at the table with them. They considered them technocrats who lacked business management skills and who did not have relationships with project clients to be asked to participate in strategic projects. Instead of using the internal forecasting group, the clients would invite an outside consultant to generate long-term forecasts for some existing products and forecasts for all projects of strategic nature. When we pointed out the inefficient use of human capital and corporate resources and several intellectual property and confidentiality issues, the reaction was "We don't trust them (*their own forecasting group*), we want a third party view."

15. *Conference themes and client inputs.* Over the past 30 plus years the author has participated in a number of industry analyst meetings. He has led forecasting conferences, industry workshops, and NPD, PPM, strategic planning, and project financing seminars across various industries both in the United States and abroad. A lot of good work, methods, and approaches are shared concerning demand analysis and tactical forecasting. In fact, progress made in the short-term, quantitative forecasting area has been truly impressive. However, when it comes to analysis and forecasting for strategic projects, that is, forecasting support for projects with long horizons and large impact, little is presented or shared. Everybody though is talking about the lack of a systematic approach, methods, and models, and techniques for strategic forecasting. Complaints are voiced openly about severe problems in this area, the lack of experience and qualified people, unreliable processes, lack of management support, lack of credibility, and so on.

Recently, we reviewed results of earlier client surveys, opinions of conference and workshop participants, and discussions with strategic project team members conducted over the past 15 years. The major recurring themes and key points made are the following:

1. There is a wide recognition of the need for a strategic decision, long-term forecasting discipline, but nobody knows how to do it or does anything about it.
2. The concepts and value of long-term forecasting for strategic projects are not well articulated nor are they understood by forecasters and clients alike.
3. The perception is that strategic forecasting is an expensive proposition with uncertain returns. It is an unknown quantity.
4. Strategic forecasting should be closely linked with strategic planning and other planning functions to be effective, but it requires new processes and skills not currently possessed by most forecasters.
5. Ideally, strategic forecasting should be done in-house to maintain the firm's intellectual property and competitive standing, but forecasting groups are not prepared to handle this challenge.
6. Forecasting groups do not have credibility and management support in forecasting for strategic decisions due to lack of sophistication, limited interpersonal skills, and undeveloped technical competencies and qualifications.
7. Strategic forecasting methodology and tools are either lacking or proprietary and not much of practical value is written about it or presented in professional forecasting forums.
8. Forecasters are good at tactical forecasting, but not trained or experienced in the area of supporting strategic project decisions. Somebody needs to create a curriculum to teach it, develop strategic forecasters, and advance the discipline.
9. Strategic forecasting is a discipline of complex networks, processes, methods, and experiences that come together to create long-term forecasts. It requires a confluence of industry knowledge, broad management skills, and specialized functional expertise that is rare.
10. Strategic forecasting groups belong in the Strategic Planning or the Portfolio Management organizations, but people do not know how to use them to create value.

B. OTHER REASONS AND MOTIVES

The author's involvement in business research, decision analysis, and demand evaluation and forecasting dates back to 1971 when we took on the first forecasting assignment. Since then, we have participated in many strategic decision projects in different capacities across several industries. We saw the absence of training, skills, methods, models, and tools to handle strategic decision forecasts as impediments to forecasters making valuable contributions. But, we did not undertake the challenge of writing a book on this topic until we felt qualified with sufficient practical experiences dealing with analysis, evaluations, developing long-term forecast solutions, establishing and training SDF teams, and supporting strategic decisions effectively with actionable recommendations.

Highlights of directly applicable experiences and knowledge obtained include the following positions, jobs, and projects both in the United States and abroad that enabled the author to pull together all the experiences required to do strategic decision forecasting successfully:

1. *Macroeconomic and international expertise.* This includes country research, economic modeling, and investment analysis experience with focus on adding value to international strategic projects:

- a. Country macroeconomic analysis, evaluation, and forecasting of business trends by major industry groups
- b. International macro, trade, and monthly foreign exchange forecasts for strategic investment decisions

- c. Model development and production of quarterly macro and international economic forecasts used in corporate planning functions and published in professional journals
- d. International project evaluations and financing of large infrastructure projects requiring understanding of government agency operations and the equipment supplier, project operator, and the commercial and investment banking industries
- e. Evaluation of privatization opportunities in developing countries in a lead consultant capacity

2. *Environmental assessment experiences.* These experiences came about through active participation or lead roles in strategic planning, portfolio management, and M&A and JV projects, the major ones being the following:

- a. In-depth business environment, industry, and market analysis for strategic and financial planning
- b. Assessment of megatrends and subtrends impacting a company's future operations
- c. Political, economic, social, technological, legal, educational, and demographic environment evaluations for product portfolio adjustments
- d. Analysis and evaluations for new market or business entry, business development, and materials sourcing from projects abroad
- e. Competitor and internal SWOT analyses to determine levels of competencies necessary to execute strategic projects successfully

3. *Forecasting experiences.* These are extensions expected of the author's educational background and encompass the following work or project experiences:

- a. Business research, competitive analysis, demand analysis, and forecasting in several industries
- b. Lifecycle management project support for product extensions and enhancements
- c. Managing forecasting for M&A, JV, product licensing projects, and PPM applications
- d. Creation of forecasting methodology for highly specialized applications, such as methodology to evaluate Rx to over-the-counter product switching projects
- e. Project managing the outsourcing function of lifecycle management and strategic decision forecasts and market research studies
- f. Establishing, training, managing, and developing tactical and strategic forecasting and business research organizations
- g. Advising clients on strategic forecasting issues, helping to create organizations to support strategic decisions, and leading the development of strategic decision forecasts
- h. Leading workshops on forecasting for strategic decisions, forecasting due diligence, Six Sigma forecasting, and forecast realization planning

4. *Strategic project experiences.* The author acquired and developed expertise supporting strategic projects through the following types of engagements:

- a. Creating or evaluating strategic, corporate, and new entity business plans and performance targets in different industries
- b. Structuring and project management of strategic projects along with guiding the strategic forecasting function
- c. Analytical and implementation support for NPD and portfolio management projects
- d. Creation, training, and development of project financing and portfolio management organizations
- e. Lead roles in M&A, JV, product licensing, and project financing undertakings
- f. Creation of trade-offs and negotiations support for M&A, JV, and product licensing projects

- g. Establishing, developing, and coaching strategic decision support groups and introducing Six Sigma and total quality management (TQM) principles to strategic forecasting projects
- h. Advising clients on benchmarking best practices to use in creating and developing strategic forecasting processes and organizations
- i. Developing large infrastructure project strategy, project structuring, and project financing for a multisponsor, multiuser project
- j. Developing management dashboards, EWSs, risk management plans, and development of competitive response plans
- k. Evaluations and lead consultant roles in evaluating and implementing privatizations, restructuring, and turnaround projects

We have been a recipient of forecasts in projects across a number of industries in several capacities, such as using forecasts for portfolio management, M&A, JV, product licensing, and financing projects. We have evaluated forecasts used in strategic planning, business development, long-range planning and have used business unit forecasts to create consensus forecasts for corporate planning. Other related experiences include helping forecasters and clients evaluate project uncertainty and forecast risks, create alternative scenarios, and manage decision risks. Also, we have been providing guidance to forecasting groups on strategic decision forecasting methodology, tools, and models and applying sanity checks to existing forecasts to rank project valuations, identify project risks, and select the higher value creation projects.

Knowledge obtained from assisting groups to create forecasts for strategic projects was transferred to others by demonstrating how to adapt known approaches and existing models to simulate alternative futures. We have also guided clients in assessing the feasibility of large projects, analyzing forecasting models to determine controllable levers, and creating the conditions needed for forecasts to materialize. Also, our independent verification and validation of long-range forecasts used in investment evaluations has produced numerous experiences in pricing, optimizing advertising spending, and assessing support requirements and reactions to market conditions to ensure successful product launches and forecast realization.

Fully realizing that no one has a monopoly on truth when it comes to forecasting for strategic decision making, we have humbly undertaken the project of writing this book with little guidance from the literature. However, we have had ample encouragement, support, and knowledge transfer from colleagues and clients in different disciplines and industry groups. Our expectation is that the book will help establish and broaden the acceptance of the discipline of analysis and forecasting for strategic decisions. It is our belief that this will increase forecaster effectiveness and provide the basis to improve the quality of the decision-making process through better long-term forecasts. And, in some cases, strategic forecasting forms a basis that can enable a company to create a competitive advantage through consistently making strategic decisions based on sound forecasts. This is worth the effort required to produce this book.

Acknowledgments

The concept of strategic decision forecasting as a discipline evolved from my experiences in market analysis, forecasting, strategic planning, financial management, business development, project financing, competitive analysis, and consulting projects as a business economist. The quest for sound processes, analysis, and forecasting for strategic decision making has been an integral part of my professional life, and it is difficult to be certain from whom or from which projects I have learned what.

My skills have been augmented a great deal by knowledge transfer from management consultants and the expertise of colleagues I worked with. I have also profited from presentations made in industry conferences and professional workshops I organized or attended, from valuable information and feedback provided by clients, and from cases shared by fellow business consultants.

In preparing this book, I have benefited by the constructive criticism and comments of Charlie Chase, John Hendricks, Hu Song, Dean Stamatis, and George Vozikis. I am thankful for their many useful comments and suggestions on an earlier draft of the manuscript. The ideas offered by Mark Covas and Dick Ross are also acknowledged. However, all errors and omissions are my own responsibility.

The encouragement and support of my wife during the preparation of the manuscript has been invaluable and enabled me to focus on completing this task. I also thank my friend and former mentor Dr. Elizabeth C. Bogan for her guidance and help through the years. Lastly, I acknowledge the help and support of the late James Sotirhos; without it, none of this would have been possible.

Author

John E. Triantis is a retired consulting economist, business strategist, and strategic decision forecaster with a track record of introducing effective processes and practices to strategic project decision making. He is an experienced business development project leader and a trusted advisor in large investment, international infrastructure financing, and organizational restructuring projects. His passion is helping clients minimize decision uncertainty and project risk by integrating analysis and forecasting with strategic planning, maximizing project value using unique methods and techniques, and creating world-class organizations, applying best practices, processes, and performance measures.

His broad experience encompasses customized analysis for strategic decisions, investment evaluations, project structuring, performance evaluations, and productivity enhancements. He develops practical methods, assessment tools, and early warning systems (EWSs) and uses well-balanced approaches to minimize time to decision, address uncertainty and risk management, and increase the chances of project success. And, he provides knowledge and hands-on coaching to clients on strategic forecasting, planning, pricing, and plan realization, opportunity assessments, business cases, and business planning to increase value creation.

John is currently managing director of Long Range Planning Associates, attending to strategic planning and forecasting, organization restructure and capability development, and business analysis and planning needs of decision makers. Prior to this, he served as a director of business analysis and forecasting in Gillette's oral care division and established forecasting and strategic business planning functions, processes, and models supporting Office of the Chairman needs. His international experience spans 30 plus years, further broadened while managing Forerunner Consultants, a startup company that served market assessment and forecasting, strategic planning, and business development needs of clients.

John's diverse background includes experiences as a senior advisor on international economics, strategic investment analysis, product licensing, product portfolio management, government working capital fund assessment and restructuring, and developing strategic competency groups. His 20-year AT&T experience includes industry competitive analysis, project financing, M&As and strategic alliances, privatizations, financial and strategic planning and pricing, macroeconomic analysis, country assessments, and market forecasting. He has served as an advisory board member at the Institute of Business Forecasting, editor of international economic affairs at the *Journal of Business Forecasting*, and advisor to the institute's professional forecasting certification program. He was also a long-standing editorial board member at the *Review of Business*.

To address needs and fill gaps in client understanding, he authored numerous position papers and published the book *Creating Successful Acquisition and Joint Venture Projects* and articles in professional domestic and international journals and books. He is currently publishing the book *Navigating Strategic Decisions: The Power of Sound Analysis and Forecasting* and working on a manuscript titled *Myths and Realities of Project Financing*. John holds a PhD in macroeconomics and international economics and a master's degree in statistics and econometrics from the University of New Hampshire. His bachelor's degree is in economics and mathematics from Fairleigh Dickinson University. He also served in the U.S. Army during the Vietnam conflict.

Part I

Preamble

1 Introduction

A forecast is a statement about the future and usually takes the form of a single number, which is always wrong. Another definition is that a forecast is a prognosis and forecasting is the process of identifying the future state of the business. Forecasting is an integral part of business management, and its purpose is to generate information that can be used to make intelligent decisions. It is the discipline responsible for developing projections to help decision makers make sound decisions. A broader definition of forecasting is the anticipation, expectation, and prognosis of how company operations will develop in the future.

Strategic decision forecasting (SDF) is a broad discipline focusing on the analysis, development, and validation of long-term forecasts that form the basis of major business decisions. First, it is an independent, critical, and objective assessment of the business intended to introduce discipline in decision making and the art of translating qualitative and quantitative information into usable inputs by computational models to predict future outcomes. It is the function that brings together data, analyses and evaluations, business experience, modeling techniques, and scenarios to describe the transition from the current to a future state. Stated alternatively, SDF predicts future performance based on a systematic approach using relevant data, competitive intelligence and environmental assessments, modeling tools, past performance, analogs, and industry knowledge. It is an activity that goes beyond projections in that it identifies uncertainty and risks and develops ways to manage them.

Forecasting is also a process used to identify enabling scenarios to produce more effective decision making and to create operational targets. But by its nature, whether tactical or strategic, forecasting creates conflict and is viewed as a liability by most organizations where teams are not set up, organized, and managed appropriately. Also, SDF solutions that come in various forms and shapes are misunderstood and are widely misused in the hands of amateurs. On the contrary, when the SDF function is appropriately structured, defined, and managed, it is a most useful tool in evaluating and projecting the long-term state of business.

Often, questions such as why we forecast and whether we can really predict the future many years out are raised. The simple answer is that we forecast because all decisions involve future expectations or predictions, whether they are implicit or made explicit. Every decision involves uncertainty and risks, but in the process of creating forecasts their sources and causes are understood and ways are created to reduce them and help to deal with them. But can we really forecast the future, especially for long horizons typical of strategic projects? There are two diametrically opposing viewpoints among professional forecasters, reflected in the following two perspectives:

1. “Those who have knowledge don’t predict. Those who predict don’t have knowledge,” according to Lao Tzu—a sixth-century Chinese poet.
2. “Forecasting is the foundation of all planning and if it must be done, we are the ones who can do it better” is the opinion of many forecasters.

Wake-up calls to forecasters who believe that forecasting is the foundation of all planning and decisions have come from forecast clients and senior management in several different ways. Figure 1.1 demonstrates the point that the basis of decisions is mostly relationships and processes. However, the implications of that chart go unnoticed and even some strategic forecasters focus mostly on the substance part of forecasting.

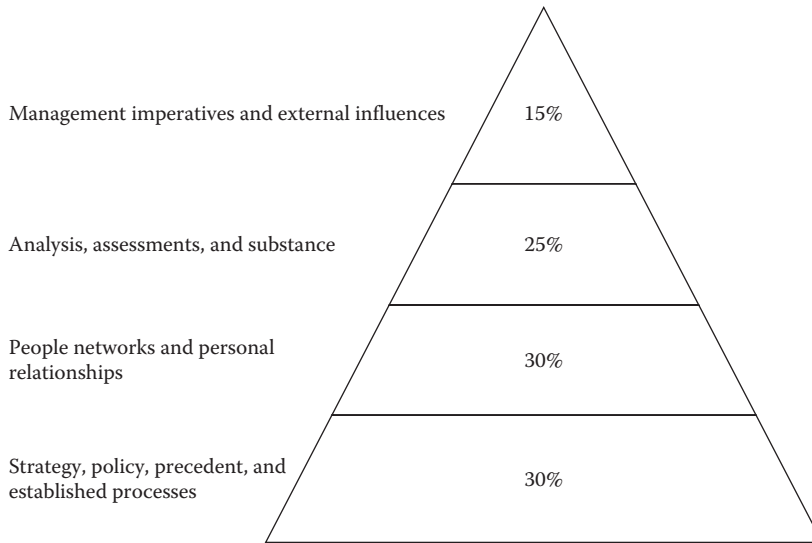


FIGURE 1.1 Key elements of decisions. (Based on Long Range Planning Associates research.)

The truth and reality of the situation is somewhere in the middle, and this has implications for how long-term forecasting is approached. Our view is a balanced perspective whereby forecasting is a tool to provide direction and guidance to reduce project uncertainty and that of surrounding decisions; and if one ignores it, they do so at their own peril.

1.1 FORECAST TYPES AND THEIR EVOLUTION

Forecasts may be classified under different criteria, but the most common classifications are those using the length of their horizon or their uses; short-term or tactical forecast, medium-term or lifecycle management forecast, and long-term or strategic management forecast. Following are the main differences along characteristic and usage lines:

1. *Tactical forecasts.* Tactical forecasts are data-intensive, short-term (six months to two years out), demand-driven, operational forecasts used for marketing and sales, production planning, and financial assessment purposes. They tend to have short turnaround timelines, and although they require familiarity with the market and may include causal factors, they do not incorporate environmental factor, industry, and SWOT (strengths, weaknesses, opportunities, and threats) analyses. Tactical forecasts tend to be subject to adjustments to facilitate client as well as senior management needs and objectives.
2. *Lifecycle management forecasts.* They are medium-term forecasts, two to four years out, with a focus on demand, competitive analysis, and future events. They may be number intensive, based on qualitative or quantitative methods, and more inventive in terms of including more causal factors and industry analysis. They are collaborative among forecast stakeholders and are used to develop product strategy, manage small investments in existing products and facilities, and are sometimes employed in product portfolio management (PPM) decisions.
3. *Strategic forecasts.* Strategic decision forecasts are long-term forecasts that are collaborative and integrative of qualitative and quantitative approaches in nature. Their emphasis is on environmental factor analysis, issue and project management, and industry and demand analysis. Importance is also attached to comprehensive modeling of company operations, scenario development and planning, and uncertainty and risk identification.

and management. These forecasts are used in developing or evaluating corporate strategy, project and investment evaluations, scenario planning, and future-state realization (FSR) plans.

Over the past forty years, extensive progress has been made in many aspects of forecasting and inclusion of strategic forecasts into planning functions. The discipline of forecasting has gone from delusions of grandeur to disappointment to realism; and in that path, advances have been made in the following areas:

1. Increased data sources; improved quality of data; and better data collection, validation, and analysis techniques
2. Development of internal and external databases, database management software, and enhanced, user-friendly statistical forecasting and simulation packages
3. Applications of new approaches, methods, tools, models, quantitative and qualitative techniques, and empirical validations
4. Improved tactical forecasting processes, forecaster qualifications and training, and spreading of collaborative forecasting and consensus forecast development
5. Enterprise resource management systems designed to achieve functional integration with large forecast subsystems that include monitoring forecast performance measures

The main beneficiaries of the progress achieved have been the tactical and lifecycle management forecasting areas with SDF still being in its infancy. In the current state of strategic forecasting, failures commonly occur due to narrowly focused and restrictive approaches, inadequate methods and models, and improper tools used. Ad hoc environmental assessments, undue reliance on mathematical models and analogs, inadequate forecasting processes, and poor organizational structures magnify the challenges of strategic forecasting. Long-term forecast failures are also caused by another sort of factors that include the following:

1. Scarcity of people skills, experience, and training in the long-term forecasting discipline
2. Lack of appropriate forecast ownership, accountability, and performance measures
3. Poor project management of the strategic forecasting process, communication, delivery of forecasts, and instructions for proper use

Strategic forecasting progress has been hindered by disagreements over who owns the forecast and what constitutes a good forecast. In tactical and lifecycle management forecasting, the forecasting organization owns the forecast. The components of a good forecast are the speed and cost with which it was created, the accuracy measured by some forecast error indicator, and the ability to meet client needs. By extension, under the current forecasting paradigm, good strategic decision forecasts are judged by the same criteria even though they are substantially different creatures, supporting unique situations and needs.

A common definition of a good long-term or strategic decision forecast is that it is a forecasting solution that incorporates all of the following elements:

1. Strategic intent, constancy of purpose, and consistency of assumptions underlying forecasts in different project phases
2. Ownership of and accountability for forecasts across organizations and timelines and project managed with appropriate performance measures
3. Integrative thinking and future scenario development and evaluation along with sanity checks, uncertainty and risk assessment and management, and FSR plans
4. Inclusion of the client perspective, other stakeholder inputs, and corporate interests used to manage respective expectations

5. High levels of communication, coordination, cooperation, and collaboration throughout the forecast development process
6. Integrity, respect for the evidence, and a sense of history and learning from past experiences

Because there are misconceptions about the nature of strategic forecasting, we have advanced the following definition: It is forecasting for large impact, strategic decisions and projects using an approach that entails customization of method, analyses, evaluations, models, scenario planning, sanity checks, and uncertainty and risk assessment. SDF is a versatile tool customized to the particulars of each strategic decision and situation; and, in the minds of experienced forecasters, it is like telling a convincingly unique story that enables them to gain acceptance of the forecast. It assumes basic knowledge of SDF team members in statistical modeling, demand analysis and forecasting, and exposure to strategic planning, PPM, financial analysis, new product development (NPD) principles, and widely used marketing and general managerial tools.

***Think about this:** The difference between good long-term forecasts and sound long-term forecasts: Sound forecasts are the gold standard; good forecasts are the minimum acceptable quality forecasts.*

In most tactical and lifecycle management cases, the forecaster owns the forecast and there is limited stakeholder involvement and input, and baseline forecasts do not drive big impact decisions; they are only another reference point. On the other hand, in SDF, collaboration is essential and the ownership of the forecast is shared by the three key stakeholders: (1) The client who provides information, support, and help with sanity checks; (2) senior management who shares strategic intent and insights, makes adjustments to the forecast, and provides the support needed; and (3) the forecaster who brings all the pieces together and manages the forecasting process. It is a collective effort managed by the forecaster.

1.2 WHY ARE GOOD FORECASTS AND SDF TEAMS NEEDED?

In companies where forecasting has been well established, the value of good forecasts of all types is recognized although creating good forecasts can be expensive. In companies where forecasting is viewed only as a cost center, one question still persists: Why do we need to spend so much to get good forecasts? Our experiences and research in the area of forecasting costs and benefits indicate that good forecasts are worth the investment and are needed for the following reasons:

1. Because strategic decision forecasts drive the long-range, business, and financial planning functions, it pays to do them well.
2. Errors in long-term forecasts compound and multiply in the planning horizon, give wrong project value estimates, and complicate the decision-making process.
3. It is a lot cheaper and quicker to develop good forecasts than fix problems in corporate planning areas caused by poor forecasts and ongoing revisions.
4. The impacts of controllable factors such as changes in price, competitive actions, and other business drivers on any decision variable can be predicted, and changing trends in a product's demand and revenue can be detected early on.
5. Valuable knowledge is gained from doing thorough external environment assessments, examining megatrends and subrends, evaluating industry trends, and quantifying their impacts on company performance.
6. They help to describe future states of business and how to get there, anticipate events, create appropriate responses to ensure forecast realization, and update business and corporate strategy.

7. Good strategic decision forecasts synthesize the results of the analyses, the evaluations performed, and the intelligence and insights they create into a solid decision foundation and actionable recommendations.
8. With appropriate monitoring, they can provide early warning signals, which would give sufficient time to respond to unexpected changes, threats, or new opportunities.
9. They enable the company's Investor Relations group to provide reasonable guidance to industry analysts and enhance its credibility with the investment community.

Good forecasts are also needed for the SDF team to gain recognition, build organizational competencies, participate in the decision process, and become a trusted advisor to decision makers. From that perspective, the underlying reasons for good forecasts are to:

1. Build the broader organization's confidence in the forecast solutions it creates and their usefulness.
2. Develop all-around credibility and gain the ongoing support of clients, senior management, and project stakeholders.
3. Help manage clients' expectations by educating them about forecast processes, principles, uses, implications, limitations, and support needed to achieve forecast expectations.
4. Ensure command of resources needed to perform the analyses and evaluations the SDF team must perform to develop sound long-term forecasts.
5. Enhance communication, coordination, cooperation, and collaboration, and manage more effectively the forecasting processes, issues, and politics.
6. Provide guidance and advice to help clients plan, navigate through project future uncertainty, and manage risks more effectively.

An SDF solution can take different forms, depending on the decision or problem at hand. In one instance, it can be the modeling of a business process and simulations of scenarios to forecast and test different model input ideas. Or, it can simply be a long-term numerical projection based on quantitative, qualitative, or integrated methods. On other occasions, an SDF solution may take the form of building distinct, plausible scenarios to capture the impacts of controllable and uncontrollable events on decisions and thereby describing future states and the necessary enabling conditions. The assessment of project uncertainty, the identification of competitive threats, and the creation of plans to respond to external threats are also forecast solutions as is the evaluation of proposed strategy changes or entry new business areas. Another example of an SDF solution is the modeling of negotiation positions, creation of trade-offs, and quantification of their impact on project value, which help company negotiators to evaluate efficiently different positions and trade-offs.

Strategic forecasting is a long-term forecasting approach whose process starts with the corporate strategy and business situation; develops its own strong strategic intent statement; and uses a holistic, seasoned, mature, and broad-thinking approach to forecasting. As such, it chooses from the many forecasting methods, models, and tools currently available; borrows from other disciplines; and creates innovative ways to evaluate future state of business options that reduce project uncertainty and risks. Because of that, it prepares the organization for changes that may be required to meet the objectives that drive a strategic project decision.

A salient feature of SDF is that it links with and integrates forecasting with other key planning functions in a large organization, such as Strategic Planning, Finance, R&D, Business Development, Corporate Business Planning, and PPM. By its nature, it focuses on helping clients to explore new and different future opportunities and helps to manage not only management expectations but also stakeholder relationships and organizational politics. When executed well, it serves senior management needs because it is a trusted source of objective recommendations and advice. Also, because of the assessment complexity of strategic projects passing over a number of decision stages and gates,

SDF teams project manage the forecasting function across all processes and stages. As a result, consistent SDF solutions are created.

1.3 THE ROLE OF SDF TEAMS AND MISCONCEPTIONS

Tactical and lifecycle management forecasts are demand driven, derived from statistical models, and are mostly mechanized. In the tactical case, the role of forecasting is to be a resource to clients and provide data and reports, conduct some analysis, and deliver forecasts as needed. In the life-cycle management case, forecasting plays a bigger role as a collaborator and, in addition to services performed in tactical forecasting, helps the project team to understand the external operating environment and marketplace trends.

In SDF, the weight of other forces acting on the forecast is assessed and incorporated into the forecast solution, such as the following:

1. Understanding of megatrend and subtrend effects on the company's future business
2. Assessment of the external operating environment, the industry, the company's SWOT vis-à-vis those of key competitors
3. Evaluation of project uncertainty and risks, the effects of external changes, and occurrence of black swans
4. Assessment of the implications and risks involved in different forecasts on corporate resources

In this type of forecasting, the SDF team becomes a business partner and is called upon to perform and synthesize the results of analyses, evaluations, and intelligence gathering in order to create insights, to assess the impacts of actions or events, and to help manage decision uncertainty. Hence, its focus is on broad thinking; integrative forecasting methods; identifying relationships, feedback loops, and causality; assessing the impacts of forecasts and uncertainty and risks; conducting sanity checks; and developing probable scenarios of the future business.

The SDF discipline has made some progress in its quest for acceptance and recognition, but it is facing a difficult context in which it operates because common misunderstandings among forecast users abound. While there is some clarity of purpose and process in tactical and medium-term forecasting, in long-term forecasting and SDF, many misconceptions are still present. The confusion between tactical and strategic forecasting is exemplified in the oxymoron piece of a major forecast consulting firm's services in 2001 claiming to perform "tactical strategic forecasting services."

Some of the recurring negative perceptions about the nature and value of SDF shared in forecasting workshops and discussions with strategic project participants are the following common themes:

1. Due to the high cost of carrying inventories, a number of companies consider short- and medium-term inventory forecasting strategic forecasting.
2. There is widespread confusion that since financial long-term projections are not tactical demand forecasting, they are of the strategic forecasting kind.
3. Often, anything beyond a year or two out in the minds of clients is considered a strategic forecast. Translation: It is a dated forecast that does not affect them directly; the focus is on the latest forecast.
4. Long-term forecasts do not really enhance the company's competitive responsiveness, nor do they impact business performance because things change and people move on to new jobs.
5. Regardless of the method used, errors increase as the forecast horizon increases and long-term forecasts have much larger errors than short- and medium-term forecasts. So, simply extrapolate the future from short-term, rolling forecasts.
6. Business forecasters lack the mindset, skills, tools, and experiences to do long-term forecasting properly. That is why the SDF function is outsourced.

7. The business forecasting discipline lacks comprehensive methods to forecast company performance for new market entry, technology evolution, product licensing, and PPM adjustments.
8. SDF processes are nonexistent; incomplete; inadequate; and, in most cases, very complex. The processes and models used require extensive training and experiences.
9. Logical inconsistencies in current processes and models and lack of forecast project management are reflected in the absence of forecast reliability and the plans it drives, but are routinely ignored.
10. Strategic forecasts should ordinarily be outsourced to industry consulting firms, although they have no real ownership of the forecasting function and no forecast realization responsibility assigned to them.

1.4 UNIQUENESS OF THE BOOK AND BENEFITS TO THE READER

SDF assumes understanding of computational modeling and sufficient knowledge of quantitative and qualitative techniques. Instead, it focuses on the analysis and evaluation of results and the integration and synthesis of disjoint assessments to generate long-term forecasts. Its uniqueness lies with the actionable recommendations that flow out of the long-term forecasts it creates. They form the foundation of decisions and support projects of large impact and consequences. And what makes those recommendations reliable are the knowledge and understanding gained through the following aspects of SDF, which we address in this book:

1. Customizing the approach, models, and techniques to the specific type, situation, and needs of each project
2. Creating close functional links with all planning functions, external contacts, and client groups and emphasizing the value of strong personal relationships and their continuous nourishment
3. Making megatrend, subtrend, industry, and market trend analyses integral parts of the SDF process
4. Assessing developments in the geopolitical, economic, social and demographic, technological, and legal and regulatory environments to draw conclusions about their likely effect on the future company business
5. Incorporating the results of SWOT analysis to determine internal and competitor competencies and capabilities and the support needed to achieve forecasted levels of performance
6. Using a highly disciplined, methodical, structured, well-balanced, validated and verified, and cost-benefit-oriented approach to create SDF solutions
7. Introducing extensive checks in determining project uncertainty and risks, analyses to reduce uncertainty to residual uncertainty and develop a strategic posture, and sanity checks when assessing the implications of forecasts
8. Creating assumptions after project uncertainty and risks are identified, testing them with reality checks and against benchmarks, and updating them as conditions warrant
9. Triangulating forecasts and integrating the key principles of system dynamics modeling, real options, and scenario planning to guide the development of SDF solutions
10. Creating management dashboards to monitor strategic project performance and early warning systems (EWSs) to communicate the need for action when risks appear on the horizon
11. Performing project postmortem reviews and sharing knowledge and lessons learned to improve the chances of success of future strategic projects
12. Developing FSR plans to ensure appropriate responses to competitor reactions and realization of project goals and objectives

We have witnessed substantial performance improvements in companies that have established SDF teams due to the application of the SDF paradigm, and similar results can be obtained by the readers by applying the knowledge and experiences shared in this book. Benefits are immediate, accrue over time, and build competence in the discipline. They are reflected in the example cases of SDF team, client, and senior management acknowledgments that follow, with the most commonly cited benefits being the following:

1. Forecasters become more integrative in mindset, approach, processes, and knowledge; and, as a result, there is an increase in communication, cooperation, coordination, and collaboration, which takes place in every project.
2. Once an SDF team is established, it can create a good business definition, develop key processes, and determine the analyses and evaluations that the team will perform in different types of projects.
3. Gaps in existing competencies and capabilities are identified, how they impact project execution and forecast realization is determined, and ways to fill those gaps are recommended.
4. The holistic SDF approach is applied successfully to provide support to clients of any type of strategic decision project.
5. SDF solutions are transparent, not black box, models that enable clients to see clearly the rationale for many descriptive future states and ways to get there.
6. Strategic forecasting can fashion several future states beyond status quo projections and can identify the factors and support needed to accomplish them.
7. The use of forecast and SDF team member performance metrics, management dashboards, and EWSs to monitor progress increases significantly the chances of project value being realized.
8. SDF teams create actionable recommendations based on well-balanced considerations, which translate into solid bases and good strategic decisions.
9. Time from idea to forecast to decision is reduced while understanding of project uncertainty and risks is enhanced enough to manage them more effectively.
10. Competitive response plans and FSR programs are created, which increase the chances of project success in the implementation stages.
11. Senior management and clients are able to see, evaluate, and reward the SDF team's contributions as a business partner present at the decision table.
12. SDF teams consistently provide sound long-term forecasts supporting strategic decisions, which over time can be a source of competitive advantage.

1.5 STRUCTURE OF THE BOOK AND DISCUSSION TOPICS

Due to the many failures of long-term forecasting and the misconceptions that exist about SDF, we devote Chapter 2 to discussing such failures and presenting the results of our root cause analyses. The chapter deals with the current SDF paradigm and its failures, which are traced back to several factors: the lack of forecaster collaborative relationships with clients and other planning organizations; wrong forecasting focus, approach, and methods; and broken processes and wrong practices. The lack of clear forecast accountability and ownership, organizational issues, and inappropriate performance measures contributing to failures are also examined. Lastly, the effects of limited communication and coordination, deficiency in forecaster skills and qualifications, and absence of project and knowledge management issues in forecast failures are discussed. These, in turn, provide a blueprint of what is needed to address the shortcomings of the current strategic forecasting paradigm and develop the methods, processes, and tools needed to do justice to this important forecasting discipline.

Chapter 3 introduces the promise of the SDF paradigm, with the expectation that it will clarify issues and eliminate the confusion that surrounds it. Here, the SDF function is defined in more

detail by describing its purpose, objectives, and focus; some universal process components and uses of SDF solutions; its organizational charter and structure; the role of SDF team members; and the benefits and limitations of the SDF paradigm.

Chapter 4 is devoted to the business definition of the SDF team, starting with the organization's mission, vision, values and principles, and forecasting stakeholders. A discussion of the SDF team's goals, objectives, and strategies follows and then some governance structures are sketched out. The scope, analyses, and services along with the team's roles and responsibilities are then spelled out. Because of their importance, the network links of the SDF team, its performance measures, and its communication plan are also discussed.

Chapter 5 addresses the mindset, processes, and principles that govern the operations of SDF teams. Here, the role of team's culture; the SDF team members' ways of thinking; and the approach, processes, and guidelines under which team members develop forecast solutions are captured from information in case examples and from client and other strategic project stakeholder statements shared in our discussions.

Chapters 6 and 7 are dedicated to discussing SDF techniques and implements used to enhance the team's effectiveness. It is a summary review of critical thinking concepts that form the foundation of the SDF approach. The mindset aids, anchoring analyses, and evaluations along with elements of the forecasting due diligence and forecast project management are discussed. The SDF systems used; how forecast solutions, options, and recommendations are developed; and the particulars of forecast performance measures, incentives, and the forecast realization plan elements are also presented.

To demonstrate the usefulness and practicality of SDF, Chapters 8 through 19 are devoted to the application of the methods, processes, principles, and techniques to the major types of strategic projects. Each chapter takes the reader through a review of the current state of strategic forecasting failures and the particular issues and challenges to each type of project. Then, the specific SDF approach and methods employed to develop appropriate, tailor-made solutions are articulated along with the analyses, evaluations, and techniques used. Each of these chapters ends with a review of either case examples of success factors or useful practices as well as expert testimonies and unique SDF team's contributions made through its participation in each kind of strategic project.

Chapter 8 deals with the application of SDF approach, processes, and tools in the evaluation of changes in corporate strategies and policies. This chapter is a precursor to the discussion of the role SDF teams play in supporting corporate reorganizations and turnarounds. The focus changes in Chapter 9 which shows how the SDF paradigm is applied to NPD projects. Namely, the approach, processes, models, and techniques used to improve the effectiveness of the traditional state-gate forecasting approach are shown. Here, the need for a high level of coordination, cooperation, collaboration, and communication to execute strategic projects successfully is demonstrated again.

Chapter 10 concentrates on forecasting to support a company's new market or business entry projects, be they domestic or international in market or geographic nature. The application of the SDF paradigm to merger and acquisition (M&A) and joint venture (JV) projects is treated extensively in Chapter 11, where the SDF team's participation is a crucial element to project success. The commercial evaluation aspects of product and technology licensing projects also require the application of the SDF paradigm to generate sound long-term forecasts in order to value such transactions. This is dealt with in Chapter 12.

Corporate reorganizations and turnarounds are another type of strategic projects that lend themselves to application of the SDF methods, processes, models, and techniques with good results. The analyses, evaluations, and success factors that the SDF paradigm brings to these projects are discussed in Chapter 13. Then, how the important issues of uncertainty, risk assessment, and their management in projects are executed under the SDF paradigm are illustrated in Chapter 14, while the application of the SDF framework to major capital expenditure and project financing undertakings is treated in Chapter 15.

Chapter 16 deals with the important topic of portfolio management adjustment projects and how the introduction of the new SDF paradigm in this area makes portfolio adjustments far more effective. The beneficial utilization of the SDF approach in strategic project negotiations and external relations support is articulated in Chapter 17. This is another area of valuable SDF contributions that increase project success rates. Chapter 18 deals with the area of FSR planning and management and describes how to do it successfully. The SDF applications section end with the more mundane, yet very important, subject of the SDF team support in the development and evaluation of business cases and business plans, which is the subject of discussion in Chapter 19.

The intent is to help the reader in all aspects of implementing the strategic forecasting paradigm. To that extent, an in-depth discussion of best-in-class SDF teams is presented in Chapter 20 where the SDF team governance, forecaster responsibilities and qualifications, and best-in-class processes, practices, and principles are discussed. Also, performance factors, measures, and success factors and beneficial practices are examined and illuminated. For the same reason, Chapter 21 addresses impediments and challenges to implementing SDF teams, processes, and performance measures. It also identifies the root causes of barriers and challenges and offers solutions that successful SDF teams have developed to deal with them.

The book ends with Chapter 22, which summarizes the key aspects of SDF and presents the consensus observations of different project stakeholders in the field of analysis and forecasting for large impact, strategic decisions. The main conclusion is that while the new SDF paradigm cannot solve all decision problems, when properly structured and managed by experienced professionals, SDF consistently creates value. And, over time, it can lead to creating a source of competitive advantage for the company.