Contents

Foreword xi
Preface xiii
Acknowledgments xxii

Introduction: A Comprehensive Overview 1
Predictive Management 8
IDEF Lexicon for Executives 10
Organization of This Book 12
Smart Data in Three Dimensions 14
Business Rule 16
Case Study: IT Capital Budgeting Using a Knapsack Problem 17
Case Study: Better Decision Making: Field Testing, Evaluation and Validation of a Web-Based MedWatch Decision Support System (MWDSS) 19
Engineering an Ubiquitous Strategy for Catalyzing Enterprise Performance Optimization 21
What Smart Data Provides 24
References 24
1 Context: The Case and Place for Smart Data Strategy 27
   1.1 Value of Data to the Enterprise 27
   1.2 Enterprise Performance Versus Enterprise Integration 46
   1.3 Current Problems and Deficiencies from Poor Data Strategy 54
   1.4 New Technologies 62
   1.5 Breaking from Tradition with Improved Results 78
       References 83

2 Elements: Smart Data and Smart Data Strategy 85
   2.1 Performance Outcomes and Attributes 85
   2.2 Policy and Business Rules 90
   2.3 Expectations: Managerial and Technical 92
   2.4 Capacity for Change and Improvement 93
   2.5 Iteration Versus Big Bang 94
       References 128

3 Barriers: Overcoming Hurdles and Reaching a New Performance Trajectory 129
   3.1 Barriers 129
   3.2 Overcoming Barriers 130
   3.3 Top–Down Strategy 151
   3.4 Balance of Consequences and Reinforcement 173
   3.5 Collaboration 173
   3.6 Enterprise Performance Optimization Process 174
   3.7 Enterprise Performance Optimization Architecture 175
   3.8 Scoping, Scheduling, Budgeting, and Project and Program Management 187
       References 189

4 Visionary Ideas: Technical Enablement 191
   4.1 Today’s Possibilities 191
   4.2 Calibrating Executive Expectations 236
   4.3 Five Years from Now 242
   4.4 Ten Years From Now 277
       References 277
5. CEO’s Smart Data Handbook

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1 Strategy</td>
<td>279</td>
</tr>
<tr>
<td>5.2 Policy</td>
<td>314</td>
</tr>
<tr>
<td>5.3 Organization</td>
<td>316</td>
</tr>
<tr>
<td>5.4 Actions</td>
<td>316</td>
</tr>
<tr>
<td>5.5 Timing</td>
<td>320</td>
</tr>
<tr>
<td>5.6 Funding and Costing Variables</td>
<td>320</td>
</tr>
<tr>
<td>5.7 Outcomes and Measurements</td>
<td>320</td>
</tr>
<tr>
<td>References</td>
<td>320</td>
</tr>
</tbody>
</table>

Index

Wiley Series in Systems Engineering and Management 329