

# Corporate Information Strategy *and* Management

*Seventh Edition*

**TEXT AND CASES**



Lynda M. Applegate  
Robert D. Austin  
F. Warren McFarlan

McGRAW-HILL INTERNATIONAL EDITION



# Contents

---

## Preface vi

## Introduction: Challenges of Managing in a Networked World 1

Case I-1: Li & Fung (A): Internet Issues 3

Appendix A 19

## MODULE ONE BUSINESS IMPACTS 21

### Chapter 1 IT and Strategy 25

Understanding the Forces that Shape Strategy 26

Conducting a Strategy Audit 27

*Strategic Shifts: Evolution and Revolution* 32

Assessing IT Impact and Alignment 34

*The Strategic Grid* 35

*The Strategic Alignment Model* 38

Opportunities and Risks 40

*The Search for Opportunities* 40

*Strategic Risk* 48

Summary 55

### Chapter 2 IT and Organization 57

The Need for New Capabilities 58

*Is History Repeating Itself?* 60

*Learning from Mistakes* 62

Information, Organization, and Control 64

*Organizing for Innovation and Execution* 64

*Organizing for Accountability and*

*Collaboration* 68

#### Appendix 2A

Characteristics of the Hierarchy, Entrepreneurial,  
and Networked Organization 72

Summary 77

## Chapter 3 Extending the Enterprise 79

Understanding Business Networks 80

*Framing Decisions Concerning Network*

*Differentiation and Unit Groupings* 82

*Framing Decisions Concerning Governance of*  
*Interdependencies* 84

*Framing Decisions Concerning Network*

*Ownership* 86

Designing Hybrid Governance Models 88

*NASDAQ Securities Exchange: A Collaborative*  
*Community in Action* 90

*Laying the Foundation* 91

*From Flawless Execution to Innovation* 92

*Role of IT in Operating and Governing the*

*NASDAQ Securities Exchange* 93

*Linking IT to the Evolution of Partnerships and*  
*Trust* 94

Building Collaborative Community: Lessons from  
the Field 95

*Key Insight: Hybrid Forms of Governance Are*  
*Emerging That Unite Hierarchy, Market, and*  
*Partnership* 96

*Key Insight: A Network Orchestrator Role is*  
*Emerging to Coordinate Inter-Firm*

*Interdependencies within Business Ecosystems.*  
*Like NASDAQ and GHX* 97

*Key Insight: Network Orchestrators Design*  
*Organizational Solutions That Reflect the*  
*Interests of All Parties* 97

*Key Insight: Collaborative Community and*  
*Trust Co-evolve Over Time* 98

Summary 99

#### Appendix 3A

Emerging Network Business Models 100

## Chapter 4 Making the Case for IT 115

Building the Business Case for IT 118

*Leveraging Infrastructure and Creating Options* 120  
*Driving Profitable Growth* 125  
*Achieving Proprietary Advantage* 126  
*IBM's Decade of Transformation: A Case Study in Turnaround Leadership and Delivering IT-Enabled Business Value* 126

Nicholas Carr Revisited 134

Summary 135

**Case 1-1: Charles Schwab in 2002 137**

**Case 1-2: Learning from LeapFrog 163**

**Case 1-3: Wyndham International:  
 Fostering High-Touch with  
 High-Tech 192**

**Case 1-4: Global Healthcare Exchange 220**

**Reading 1-5: IT Doesn't Matter 248**

## **MODULE TWO MANAGING INFRASTRUCTURE AND OPERATIONS 277**

### **Chapter 5 Understanding Internetworking Infrastructure 279**

The Drivers of Change: Better Chips,  
 Better Pipes 281

The Basic Components of Internetworking  
 Infrastructures 285

*The Technological Elements of Networks* 286

*The Technological Elements of Processing  
 Systems* 289

*The Technological Elements of Facilities* 292

*Operational Characteristics of  
 Internetworks* 294

The Rise of Internetworking: Business  
 Implications 296

*The Emergence of Real-Time  
 Infrastructures* 297

*Broader Exposure to Operational Threats* 299

*New Models of Service Delivery* 300

*Managing Legacies* 302

The Future of Internetworking Infrastructure 302

Summary 303

### **Chapter 6 Assuring Reliable and Secure IT Services 305**

Availability Math 307

*The Availability of Components in Series* 307

*The Effect of Redundancy on Availability* 309

High-Availability Facilities 310

*Uninterruptible Electric Power*

*Delivery* 310

*Physical Security* 311

*Climate Control and Fire Suppression* 311

*Network Connectivity* 311

*N + 1 and N + N Redundancy* 312

Securing Infrastructure against Malicious  
 Threats 314

*Classification of Threats* 315

*Defensive Measures* 319

*A Security Management Framework* 324

*Risk Management of Availability and  
 Security* 325

*Incident Management and Disaster  
 Recovery* 327

*Managing Incidents before They  
 Occur* 327

*Managing during an Incident* 328

*Managing after an Incident* 328

Summary 329

### **Chapter 7 Managing Diverse IT Infrastructures 331**

New Service Models 333

*On Demand, Utility, and Grid Computing  
 Models* 336

Managing Risk through Incremental  
 Outsourcing 338

*An Incremental Outsourcing Example:  
 Hosting* 340

Managing Relationships with Service Providers 342

*Selecting Service Partners* 343

*Relationship Management* 345

Managing Legacies 348

Managing IT Infrastructure Assets 351

Summary 352

**Case 2-1: CareGroup 353**

**Case 2-2: The iPremier Company: Denial of Service Attack (A) 369**

**Case 2-3: Ford Motor Company: Supply Chain Strategy 377**

**Reading 2-4: The Power of Virtual Integration: An Interview with Dell Computer's Michael Dell 384**

**Case 2-5: Postgirot Bank and Provment AB: Managing the Cost of IT Operations 395**

## MODULE THREE LEADERSHIP ISSUES 417

### Chapter 8 Organizing and Leading the IT Function 419

Organizational Issues in the Control of IT Activities 419

*1. From Centralized, IT-Driven Innovation to Decentralized, User-Driven Innovation* 421

*2. User-Driven Innovation over IT Department Protests* 421

*3. From Decentralized, User-Driven Innovation to Centralized IT Management* 421

*4. From Decentralized, User-Driven Innovation to Unexpected Centralized Innovation* 422

Implications and Conclusions 423

Drivers toward User Dominance 423

*Pent-Up User Demand* 423

*The Need for Staff Flexibility* 424

*Growth in the IT Services Industry* 424

*Users' Desire to Control Their Own Destiny* 424

*Fit with the Organization* 425

Drivers toward a Centralized IT Structure 425

*Staff Professionalism* 425

*Standard Setting and Ensuring System*

*Maintainability* 426

*Envisioning Possibilities and Determining Feasibility* 427

*Corporate Data Management* 427

*Cost Estimation and Analysis* 428

Coordination and Location of IT Policy 429

*IT Responsibilities* 429

*User Responsibilities* 431

*General Management Support and Policy*

*Overview* 431

IT Leadership and the Management of Budgets 433

Summary 434

### Chapter 9 Managing IT Outsourcing 437

Why Outsourcing Alliances Are So Difficult 438

Outsourcing in Retrospect 439

Outsourcing in the Twenty-First Century 439

*Acceptance of Strategic Alliances* 440

*IT's Changing Environment* 440

What Drives Outsourcing? 441

*General Managers' Concerns about Costs and Quality* 442

*Breakdown in IT Performance* 442

*Intense Vendor Pressures* 443

*Simplified General Management Agenda* 443

*Financial Factors* 443

*Corporate Culture* 444

*Eliminating an Internal Irritant* 444

*Other Factors* 444

When to Outsource 445

*Position on the Strategic Grid* 445

*Development Portfolio* 446

*Organizational Learning* 446

*A Firm's Position in the Market* 447

*Current IT Organization* 447

Structuring the Alliance 447

*Contract Flexibility* 447

*Standards and Control* 447

<i>Areas to Outsource</i>	448
<i>Cost Savings</i>	448
<i>Supplier Stability and Quality</i>	449
<i>Management Fit</i>	449
<i>Conversion Problems</i>	450
<b>Managing the Alliance</b>	450
<i>The CIO Function</i>	450
<i>Performance Measurement</i>	451
<i>Mix and Coordination of Tasks</i>	451
<i>Customer-Vendor Interface</i>	452
<b>Summary</b>	452

## **Chapter 10**

### **A Portfolio Approach to Managing IT Projects 453**

<i>Sources of Implementation Risk</i>	454
<i>Project Categories and Degrees of Risk</i>	455
<i>Assessing Risk for Individual Projects</i>	456
<i>Managing the "Dip" during Project Implementation</i>	457
<i>Portfolio Risk</i>	459
<b>Project Management: A Contingency Approach</b>	461
<i>Management Tools</i>	461
<i>Influences on Tool Selection</i>	462
<i>Relative Contribution of Management Tools</i>	466
<i>Emergence of Adaptive Project Management Methods</i>	466
<i>Software Development Life Cycles</i>	466
<i>Adaptive Methodologies</i>	468
<i>Adaptive Methods and Change Management</i>	469

<i>Process Consistency and Agility in Project Management</i>	470
--	-----

<b>Summary</b>	471
----------------	-----

### **Case 3-1: Cathay Pacific: Doing More with Less 473**

### **Case 3-2: Royal Caribbean Cruises Ltd. 495**

### **Case 3-3: Rakuten 521**

### **Case 3-4: Telecomunicacoes de São Paulo SA (Telesp) 541**

### **Case 3-5: Outsourcing IT: The Global Landscape in 2004 577**

## **CONCLUSION**

### **The Challenges of Managing in a Network Economy Revisited 591**

<i>Case C-1: UCB: Managing Information for Globalization and Innovation (A) (Abridged)</i>	594
--	-----

<i>Case C-2: Enabling Business Strategy with IT at the World Bank</i>	612
---	-----

### **Annotated Bibliography 637**

### **Index 641**