MODULE TWO  
THE BUSINESS OF IT   233

Chapter 5  
Understanding IT Infrastructure   235
The Drivers of Change: Better Chips, Bigger Pipes   236
The Basic Components of Internetworking Infrastructures   240
- The Technological Elements of Networks   242
- The Technological Elements of Processing Systems   245
- The Technological Elements of Facilities   248
- Operational Characteristics of Internetworks   250
The Rise of Internetworking: Business Implications   252
- The Emergence of Real-Time Infrastructures   252
- Broader Exposure to Operational Threats   254
- New Models of Service Delivery   255
- Managing Legacies   256
The Future of Internetworking Infrastructure   256
Summary   257

Chapter 6  
Assuring Reliable and Secure IT Services   259
Availability Math   260
- The Availability of Components in Series   261
- The Effect of Redundancy on Availability   262
High-Availability Facilities   263
- Uninterruptible Electric Power Delivery   264
- Physical Security   264
- Climate Control and Fire Suppression   265
- Network Connectivity   265
- Help Desk and Incident Response Procedures   265
- N + 1 and N + N Redundancy   265
Securing Infrastructure against Malicious Threats   267
- Classification of Threats   268
- Defensive Measures   273
- A Security Management Framework   277
Risk Management of Availability and Security   278
Incident Management and Disaster Recovery   280
- Managing Incidents before They Occur   281
- Managing during an Incident   281
- Managing after an Incident   282
Summary   282

Chapter 7  
Managing IT Service Delivery   285
New Service Models   287
- On Demand, Software as a Service, Utility, and Grid Computing Models   290
Managing Risk through Incremental Outsourcing   292
- An Incremental Outsourcing Example: Hosting   294
Managing Relationships with Service Providers   296
- Selecting Service Partners   296
- Relationship Management   299
Managing Large-Scale Outsourcing Arrangements   302
- Why Companies Enter into Large-Scale Outsourcing Relationships   303
- Designing Large-Scale Outsourcing Alliances   304
- Managing the Alliance   305
- Large-Scale Outsourcing: Here to Stay   306
Managing Legacies   306
Managing IT Infrastructure Assets   309
Summary   310

Chapter 8  
Managing IT Project Delivery   311
Managing Sources of Implementation Risk   312
- Managing the “Dip” during Project Implementation   313
- Portfolio Risk   314
Managing Project Execution   315
- Development Methodologies   316
- Adaptive Methodologies   318
- Adaptive Methods and Change Management   319
Process Consistency and Agility in Project Management   320
Summary   321
Case 2-1: CareGroup   322
Case 2-2: The IPremier Company (A): Denial of Service Attack   339
Case 2-3: Ford Motor Company: Supply Chain Strategy   348
Reading 2-4: The Power of Virtual Integration: An Interview with Dell Computer’s Michael Dell   356
Case 2-5: Strategic Outsourcing at Bharti Airtel Limited   368
Case 2-6: Cisco Systems, Inc.: Implementing ERP   385
Chapter 9

Governance of the IT Function 403

The Essentials of Enterprise Governance 404
  - The Benefits of Good Enterprise Governance 405
  - Introducing IT Governance 405
The Impetus for Better IT Governance 406
  - The Business Value of IT 407
  - Recognition of IT Impact 407
  - IT as an Enabler of Corporate Governance and Compliance 409
Benefits of Effective IT Governance 409
The Scope and Practice of IT Governance 413
  - IT-Business Alignment 413
  - Investment Value 415
  - Project Delivery 415
  - Service Delivery 416
  - Resource Management 416
  - Measurement of IT Performance 416
  - Risk Management 417
Designing IT Governance: Critical Success Factors and Good Practices 417
  - Intentional but Minimalist Design 418
  - Board-Level Leadership 418
  - Broad-Based Executive Involvement 419
  - Clear Ownership but Broad Participation 419
  - Enforce Execution but Accommodate Exception 420
  - Define Benefits and Target Expectations 421
  - Aim for Evolution Not Revolution in Implementation 421
Summary 422

Chapter 10

Leadership of the IT Function 423

Understanding the Role of IT in the Firm 423
  - Support 424
  - Factory 424
  - Turnaround 424
  - Strategic 425
Recognizing Transitions in the Role of IT 425
  - Turnaround Transitions 426
  - Factory Transitions 426
  - Strategic Transitions 427
Managing Tensions in the Changing Role of IT 428
  - Managing the Execution-Innovation Tension 428
  - Managing the IT-Business Relationship 429
Leadership Approaches to the Role of IT 430
  - Support: Organizing for Low-Cost Stability and Incremental Improvement 430
  - Factory: Organizing for Factory-like Efficiency and Reliability 431
  - Turnaround: Organizing for Experimentation and Rapid Exploitation 432
  - Strategic: Organizing for Operational Discipline and Business Agility 433
Summary 435

Appendix 10A: Leadership Implications of the Role of IT 436

Reading 3-1: Information Technology and the Board of Directors 438
Case 3-2: Volkswagen of America: Managing IT Priorities 449
Case 3-3: The AtekPC Project Management Office 462

Concluding Thoughts 475
Case C-1: The ITC eChoupal Initiative 477

Annotated Bibliography 495

Index 499