

*Preface*

*Foreword*

## **PART I FOUNDATIONS**

### **Chapter 1 Information Systems and the Role of General and Functional Managers**

#### **What You Will Learn in This Chapter**

#### **Introduction**

#### **General and Functional Managers**

#### **General and Functional Managers versus End Users**

#### **The Next Wave of CIOs**

#### **Fundamental IT Trends: The Staying Power of Moore's Law**

Processing Power and Memory Has Increased

Costs of Computing Power Have Declined

Computers Have Become Easier to Use

#### **Other IT Trends of Managerial Interest**

Declining Storage Costs

Ubiquitous Network Access

Ubiquitous Computing and Digital Data Genesis

#### **How Do These Trends Affect Today's Managers?**

#### **Why Can't We Just Hire Good IT People?**

#### **Summary**

#### **Study Questions**

#### **Further Readings**

#### **Glossary**

### **Chapter 2 Information Systems Defined**

#### **What You Will Learn in This Chapter**

#### **Introduction**

#### **Information Systems: Definition**

IS, Not IT

Information Systems as Sociotechnical Systems

The Four Components of an Information System

Systemic Effects

#### **Why Do Organizations Build Information Systems?**

Successful Information Systems

Information Systems Outcomes

#### **Information Systems in the Organizational Context**

Every Organization Is Unique

Bringing It All Together

#### **Information Systems and Organizational Change**

First-Order Change: Automate

Second-Order Change: Informate

Third-Order Change: Transform

#### **Culture and Information Systems**

National Culture

Organizational Culture and National Culture

How Culture Impacts Structure

#### **Implications**

Don't Put the Cart before the Horse

The Rock in the Pond

Information Systems Are in Flux

#### **Conclusion**

#### **Summary**

#### **Study Questions**

#### **Further Readings**

#### **Glossary**

### **Chapter 3 Organizational Information Systems and Their Impact**

## **What You Will Learn in This Chapter**

### **Introduction**

#### **Categorizing Systems**

Hierarchical Perspective

Functional Perspective

Process Perspective

#### **The Information System Cycle**

#### **The Integration Imperative**

Defining Integration

The Dimensions of Integration

#### **Enterprise Systems**

The Genesis of Enterprise Systems

Enterprise Systems: Definition

The Advantages of Enterprise Systems

The Limitations of Enterprise Systems

#### **Supply Chain Management**

A Brief History of Supply Chain Management

Modern Supply Chain Management

#### **Knowledge Management**

Knowledge: Definition

Knowledge Management: Definition

#### **Business Intelligence**

Business Intelligence: Definition

Components of the Business Intelligence Infrastructure

The Evolution of Business Intelligence

#### **From Business Intelligence to Big Data**

#### **Big Data: Technology**

#### **Customer Relationship Management**

Aspects of CRM

The Limitations of CRM

#### **Best-of-Breed Integration**

Enterprise Application Integration (EAI)

Ultimate Flexibility: Service-Oriented Architecture

#### **Integration: Concluding Remarks**

#### **Cloud Computing**

Cloud Software Architectures

Historical Context

The Cloud Today

#### **Summary**

#### **Study Questions**

#### **Further Readings**

#### **Glossary**

## **PART II COMPETING IN THE INTERNET AGE**

### **Chapter 4 The Changing Competitive Environment**

#### **What You Will Learn in This Chapter**

#### **Introduction**

#### **Network Economics**

Networks Are Different: Value in Plentitude

Physical and Virtual Networks

Key Concepts and Vocabulary

Two-Sided Networks

Implications for General and Functional Managers

#### **The Economics of Information**

Data and Information

Classic Information Goods

The Economic Characteristics of Information  
Implications

Information-Intensive Goods

### **Information in Networks**

The Richness and Reach Trade-Off

Implications

Obstacles

### **A Note about Disruptive Technology**

Sustaining Technology

Disruptive Technology

Implications for Managers

What to Do?

### **Summary**

### **Study Questions**

### **Further Readings**

### **Glossary**

## **Chapter 5 Electronic Commerce: New Ways of Doing Business**

### **What You Will Learn in This Chapter**

#### **Introduction**

#### **The Internet**

#### **Internet Services**

Distributed Ownership

Multiplicity of Devices

Open Standards

The Network: More than the Internet of Today

#### **The eCommerce Vocabulary**

eCommerce and eBusiness

The Enablers

Categorizing Electronic Commerce Initiatives

#### **Manifestations of eCommerce and eBusiness**

Business Models: Definition

Dominant Business Models

#### **The Implications of eCommerce**

Disintermediation

Reintermediation

Market Efficiency

Channel Conflict

Customer and Employee Self-Service

#### **eCommerce: From Novelty to the Mainstream**

The Web 2.0 Phenomenon

Web 2.0 Technologies

Web 2.0 and Business Innovation

### **Summary**

### **Study Questions**

### **Further Readings**

### **Glossary**

## **PART III THE STRATEGIC USE OF INFORMATION SYSTEMS**

### **Chapter 6 Strategic Information Systems Planning**

#### **What You Will Learn in This Chapter**

#### **Introduction**

A Word about Strategic and Operational Planning

Strategic Alignment

#### **Six Decisions Requiring Managerial Involvement**

#### **The Purpose of Strategic Information Systems Planning**

Plans Enable Communication

Plans Enable Unity of Purpose

Plans Simplify Decision Making over Time

### **The Strategic Information Systems Planning Process**

Know Who You Are: Strategic Business Planning

Know Where You Start:

Information Systems Assessment

Know Where You Want to Go: Information Systems Vision

Know How You Are Going to Get There: Information Systems Guidelines

Know How Well Equipped You Are to Get There: Information Systems SWOT

From Planning to Action: Proposed Strategic Initiatives

**Summary**

**Study Questions**

**Further Readings**

**Glossary**

## **Chapter 7 Value Creation and Strategic Information Systems**

### **What You Will Learn in This Chapter**

#### **Introduction**

The Analysis of Added Value

The Benefits of Disciplined Analysis

The Definition of Value

Defining the Components of Value Created

Computing the Total Value Created

Appropriating the Value Created

The Definition of Added Value

Added Value in a Competitive Market

Pricing Considerations

The Relationship between Added Value and Competitive Advantage

How Is Added Value Created?

Two Ways to Create New Value

Some Considerations about the Analysis of Added Value

#### **Strategic Information Systems**

Definition: Strategic Information Systems

IT-Dependent Strategic Initiatives

**Summary**

**Study Questions**

**Further Readings**

**Glossary**

## **Chapter 8 Value Creation with Information Systems**

### **What You Will Learn in This Chapter**

#### **Introduction**

#### **Traditional Models of Value Creation with IT**

Industry Analysis

Value Chain

Customer Service Life Cycle

Traditional Models, Not "Old" Models

#### **Emerging Frameworks**

Virtual Value Chain

Value Creation with Customer Data

Crafting Data-Driven Strategic Initiatives

#### **Conclusions**

**Summary**

**Study Questions**

**Further Readings**

**Glossary**

## **Chapter 9 Appropriating IT-Enabled Value over Time**

## **What You Will Learn in This Chapter**

### **Introduction**

#### **Not All IT Is Created Equal**

High-Speed Internet Access in Hotel Rooms

Business Intelligence at Caesars

Entertainment

Big Data for Orange Juice

The Need for A Priori Analysis

#### **Appropriating Value over Time: Sustainability Framework**

Sustainable Competitive Advantage

Resource-Based View

Response Lag

Four Barriers to Erosion

The Holistic Approach

The Dynamics of Sustainability

#### **Applying the Framework**

Prerequisite Questions

Sustainability Questions

#### **Making Decisions**

Develop the IT-Dependent Strategic Initiative Independently

Develop the IT-Dependent Strategic Initiative as Part of a Consortium. . .

Shelve the IT-Dependent Strategic Initiative

#### **Summary**

#### **Study Questions**

#### **Further Readings**

#### **Glossary**

### **PART IV GETTING IT DONE**

## **Chapter 10 Funding Information Systems**

### **What You Will Learn in This Chapter**

#### **Introduction**

#### **Information Systems Governance**

Steering Committee

#### **Funding Information Systems**

Chargeback

Allocation

Overhead

#### **The Budgeting and Project Prioritization Process**

Making the Budget

#### **Funding Information Systems Projects: Making the Business Case**

Limitations of the Business Case

Overcoming the Limitations of the Business Case

Individual Project Risk

Portfolio Management

#### **Outsourcing**

Drivers of Outsourcing

The Risks of Outsourcing

Offshoring

Making Optimal Outsourcing Decisions

#### **Summary**

#### **Study Questions**

#### **Further Readings**

#### **Glossary**

## **Chapter 11 Creating Information Systems**

### **What You Will Learn in This Chapter**

#### **Introduction**

How Hard Can IT Be?

### **Fulfilling Information Processing Needs**

Three Approaches

Make versus Buy

Buy and Make

### **Build Your Own: Systems Design and Development**

Systems Development Life Cycle

Prototyping

Agile Development

Outsourced Development

### **Buying Off-the-Shelf Applications**

Definition

Build

Implementation

### **End-User Development**

The Benefits of End-User Development

The Risks of End-User Development

**Summary**

**Study Questions**

**Further Readings**

**Glossary**

## **Chapter 12 Information System Trends**

### **What You Will Learn in This Chapter**

#### **Introduction**

#### **The Mobile Platform**

Characteristics of the Mobile Platform

Mobile Commerce

Location-Based Social Networking

Augmented Reality

#### **Green IS**

#### **Digital Data Genesis and Streaming**

Analyzing Digital Data Genesis Opportunities

Digital Data Streams: Value Comes in Little Streams

Anatomy of a DDS

#### **The Internet of Things**

#### **Wearable Devices**

#### **Digital Manufacturing**

#### **Advanced Analytics**

The Advent of Supercrunchers

#### **Customer Managed Interactions**

#### **Open Source**

Open Source: Definition

Open Source Is Open for Business

Advantages and Disadvantages of Open Source Software

**Summary**

**Study Questions**

**Further Readings**

**Glossary**

## **Chapter 13 Security, Privacy, and Ethics**

### **What You Will Learn in This Chapter**

#### **Introduction**

#### **IT Risk Management and Security**

Why Is Security *Not* an IT Problem?

Risk Assessment

Risk Mitigation

The Internal Threat

The External Threat

Responding to Security Threats

Managing Security: Overall Guidelines

**Privacy**

Privacy Defined

Privacy Risks

Safeguarding Privacy

**Ethics**

Ethics: Definition

Information Systems Ethics

Ensuring Ethical Uses of Information Systems

**Summary**

**Study Questions**

**Further Readings**

**Glossary**

***Index***