IS for Business: An Experiential Approach

Table of Contents

Chapter 1: The Value of Information

- Focusing Story: How Information Cost Me (a Lot of) Money
- Learning Activity 1.1: The Rapid Growth of Information
- Learning Activity 1.2: A Day in My Technology-Free Life

Information and Emerging Technologies

- Stats Box 1.1: Top IoT Application Areas
- Business Example Box 1.1: Artificial Intelligence's Impact on Business
- Learning Activity 1.3: Using AI Tools Responsibly
- Learning Activity 1.4: Autonomous Vehicles

Data, Information, Knowledge, and Wisdom

- Business Example Box 1.2: Business Impacts of Information Quality

Information Literacy

- Learning Activity 1.5: Dimensions of Information Quality

Information Quality

- Business Example Box 1.3: Information Quality as an Ethical Issue
- Learning Activity 1.6: How I Use Information

Uses of Information

- Learning Activity 1.7: How Businesses Use Information

Information and Your Career

- Business Example Box 1.4: Promising Information Careers
- Glossary

Chapter 2: Introduction to Information Systems

- Focusing Story: Registering for Classes in 1981
- Learning Activity 2.1: Identifying My Information Systems

Why All Business Professionals Need to Be Information Systems Managers

- Learning Activity 2.2: Components of a System

Overview of Systems

- Learning Activity 2.3: Components of a Business Information System

Foundations of Information Systems

How Information Systems Help Us Deal with Information
Business Example Box 2.1: How Uber Provides On-Demand Service with Information Systems
Learning Activity 2.4: Information Systems and Change

How Information Systems Facilitate Organizational Change
Business Example Box 2.2: AgTech—Making Farming More Efficient and Sustainable

Common Information Systems
Glossary

Chapter 3: Storing and Organizing Information
Focusing Story: The Database Behind Facebook
Learning Activity 3.1: Comparing Chatbots
Learning Activity 3.2: Data for an Amazon Order
Stats Box 3.1: Digital Data

Overview of Relational Databases
Learning Activity 3.3: Connecting Data Elements

Databases versus Spreadsheets: When to Use a DBMS

Database Diagrams
Learning Activity 3.4: Finding Business Databases Online
iTunes Match

Online Database

Big Data
Learning Activity 3.5: Fitness Trackers
Big Data at Facebook
Glossary

Chapter 4: Analyzing Information for Business Decision-Making
Focusing Story: How a Spreadsheet Helped Me Make a Hard Decision
Learning Activity 4.1: Information and Decision-Making

The Importance of Good Decision-Making Skills
Learning Activity 4.2: What Kind of Information Do I Need?

Using Information for Decision-Making

Business Example Box 4.1: Why Do Managers Make Bad Decisions?

Types of Decisions

A Decision-Making Process

Learning Activity 4.3: What Kind of Information Do I Need?

Information Retrieval and Analysis Tools

Learning Activity 4.4: "What If" I Get a 75% on the Final?

Learning Activity 4.5: Generative AI and Spreadsheets

Stats Box 4.1: The Cost of Spreadsheet Errors

Glossary

Chapter 5: Information and Knowledge for Business Decision-Making

Focusing Story: Managing Knowledge by Texting

Learning Activity 5.1: How You Manage Knowledge

Knowledge Management

Why Managing Knowledge Is Important

Main Processes for Knowledge Management

Business Example Box 5.1: The Issue of Trust in Knowledge Management

Learning Activity 5.2: Wikis for Managing Knowledge

Knowledge Management Technologies

Learning Activity 5.3: Using a Decision Support System

Decision Support Systems and Collaboration Systems

Learning Activity 5.4: Slack for Student Team Projects

Business Analytics

Business Example Box 5.2: Explaining Profitability Problems through Visualizations

Learning Activity 5.5: Effective Visualizations

Artificial Intelligence

Business Example Box 5.3: Applications of AI

Business Example Box 5.4: Agricultural Robots

Learning Activity 5.6: Are AI and Robots Good or Bad for Society?

Glossary

Chapter 6: Transmitting Information

Focusing Story: The Rise of Mobile Wi-Fi: Hotspots

Learning Activity 6.1: How Does That Car Drive Itself?

Introduction and Definitions

Types of Networks

Learning Activity 6.2: Broadband in Developed Countries

The Internet

Learning Activity 6.3: Who Is Using the Internet?

Business Example Box 6.1: Internet Application of the Day: Get a Degree Online!

Learning Activity 6.4: A Future Internet? Internet2 and Business

Networking Architectures

Learning Activity 6.5: Architecture and Principles

Communicating Information in Modern Organizations

The Power of Wikinomics (Crowdsourcing)

Learning Activity 6.6: Web 3.0 versus the Internet of Things

Stats Box 6.1: Diffusion of Innovations Timeline

Glossary

Chapter 7: Securing Information

Focusing Story: My Mac Is More Secure than Your Windows-Based PC!

Introduction and Definitions

Learning Activity 7.1: How Protected Is Your Computer?

Information Security Threats

Learning Activity 7.2: Detecting Phishing

Learning Activity 7.3: What Do Hackers Break into the Most?

Business Example Box 7.1: Even Big Technology Companies Can Be Hacked

Business Example Box 7.2: Costs of Data Breaches

Security Technologies and Solutions

Learning Activity 7.4: How Strong Is Your Password?

Learning Activity 7.5: Biometrics on the PC

Stats Box 7.1: Security Policy Violations

Learning Activity 7.6: Breaking the Encryption

Business Example Box 7.3: Expert Advice on Protecting Your Home Wireless Network

Learning Activity 7.7: IoT Security

Learning Activity 7.8: Where Is the Security?

Artificial Intelligence and Cybersecurity

Glossary

Chapter 8: Protecting the Confidentiality and Privacy of Information
Focusing Story: Perceptions of Anonymity
Introduction and Definitions
Information Privacy Threats
Learning Activity 8.1: Privacy and Smartphones
Learning Activity 8.2: Concern for Information Privacy
Learning Activity 8.3: Privacy How To: Voices of Privacy
Stats Box 8.1: Perceptions of Monitoring
Consequences of Privacy Violations
Stats Box 8.2: Fraud Type from Identity Theft
Technologies and Solutions for Information Privacy
Stats Box 8.3: The Black Market for Stolen Identities
Learning Activity 8.4: Surveillance Societies Around the World
Learning Activity 8.5: Privacy Policy Creation
Business Example Box 8.1: Privacy and Facebook (Meta)
Learning Activity 8.6: Why Your Advisor Cannot Talk to Your Parents
Mobile Information Privacy
Government Information Privacy Regulations
Business Example Box 8.2: COPPA in Practice
IoT and Privacy
Privacy and Ethics
Learning Activity 8.7: PAPA, Privacy Policies, and FERPA
Ethical Decisions
Learning Activity 8.8: Making Ethical Decisions
Relationship Between Security and Privacy
Glossary
Chapter 9: Developing Information Systems
Focusing Story: Software Failure Ruined My Vacation
Time, Cost, and Quality
Learning Activity 9.1: Determining Requirements
Software Development Methodologies
Traditional Systems Development Life Cycle

Learning Activity 9.2: Advantages and Disadvantages of the SDLC
Stats Box 9.1: Information Technology Failures
Learning Activity 9.3: Developing by Modeling
Alternative Methodologies
Learning Activity 9.4: Comparing the Methods
Learning Activity 9.5: App Developers Needed!
Build or Buy Decision
Learning Activity 9.6: How Open Source Software Impacts Build versus Buy
Using Open Source Software in Business
Business Example Box 9.1: Open Android versus Closed iOS
Learning Activity 9.7: What to Outsource
Outsourcing Information Systems
Business Example Box 9.2 Reversing the Outsourcing Decision
Glossary
Chapter 10: Information-Based Business Processes
Focusing Story: Improving Processes Is for Everyone!
Learning Activity 10.1: How Many Steps in This Process?
What Is a Process?
Process Modeling
Learning Activity 10.2: Model This!
Technology and Processes
Process Improvement
Business Example Box 10.1: Banking Process Improved via Blockchain
Learning Activity 10.3: Informal Business Processes
Learning Activity 10.4: Redesign This!
Business Example Box 10.2: Quicken Loans Rocket Mortgage: Moving the Mortgage Process Online
Learning Activity 10.5: Mendix
Glossary
Chapter 11: Enterprise Information Systems
Focusing Story: Supply Chain Innovations at Walmart
Learning Activity 11.1: Finding the Components of an Enterprise System
Enterprise Systems

Enterprise Resource Planning (ERP)
Learning Activity 11.2: The Online Beer Game
Stats Box 11.1: ERP Market
Business Example Box 11.1: ERP Is Not Always a Horror Story: Cisco Implementation on Time and Budget
Supply Chain Management Systems
Stats Box 11.2: Supply Chain's Impact on Company Performance
Learning Activity 11.3: Blockchain and Supply Chain Management
Learning Activity 11.4: Customer Relationship Management
Customer Relationship Management Systems
Stats Box 11.3: CRM Vendors
Learning Activity 11.5: Successfully Implementing Enterprise Systems
Customer-Managed Interactions (CMI)
Warehouse Automation and Robotics
Learning Activity 11.6: Warehouse Automation with AI
Glossary
Chapter 12: Information for Electronic Business
Focusing Story: How Artificial Intelligence Impacts Electronic Business
Learning Activity 12.1: Why Is E-Business Important?
Introduction to E-Business
Stats Box 12.1: Retail E-Commerce in the United States
E-Business Models
Business Example Box 12.1: Adapting Its Business Model: Amazon.com
E-Business Enablers
E-Business Impacts
Learning Activity 12.2: Why Would I Trust Them or Buy from Them?
Design for E-Business
Business-to-Business (B2B)
Learning Activity 12.3: B2C versus B2B
Search Engine Optimization
Learning Activity 12.4: Where Is My Web Page?
Trends in E-Business

Stats Box 12.2: The Global Nature of E-Business
Glossary
Chapter 13: Gaining Strategic Value from Information
Focusing Story: Health Care on My Smartphone
Strategic Information Systems
Strategic Planning Process
Learning Activity 13.1: Trends in Top Management Concerns
Frameworks for Strategic Information Systems
SWOT Analyses in Practice
Evaluating Strategic Initiatives
Learning Activity 13.2: What Does This Company Need for Success?
Stats Box 13.1: CSFs for Implementing Web Portals in Australia
Learning Activity 13.3: AI for Competitive Advantage
Hypercompetition: Sustainability of Competitive Advantage
Learning Activity 13.4: Disrupting an Established Market!
Glossary
Index
Appendix A: Computer Hardware
Appendix B: Computer Software
Appendix C: Access Fundamentals
Appendix D: Advanced Access
Appendix E: Advanced Database Concepts
Appendix F: Excel Fundamentals
Appendix G: Advanced Excel
Appendix H: Networking Basics
Appendix I: Security and Privacy
Appendix J: Funding Information Technology
Appendix K: Managing IS Projects
Appendix L: Evaluating Information