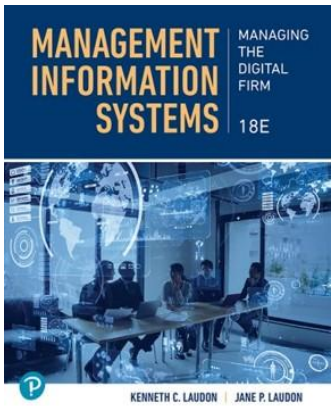
Management Information Systems: Managing the Digital Firm

Eighteenth Edition



Chapter 4

Ethical and Social Issues in Information Systems

Learning Objectives (1 of 2)

4.1 Describe IT/IS-related ethical, social, and political issues.

4.2 Describe principles for ethical conduct.

4.3 Discuss information rights and privacy issues.

4.4 Discuss intellectual property issues.

Learning Objectives (2 of 2)

4.5 Discuss system quality issues.

4.6 Discuss accountability and control issues.

4.7 Discuss quality of life issues.

4.8 Understand how the information in this chapter can help your career.

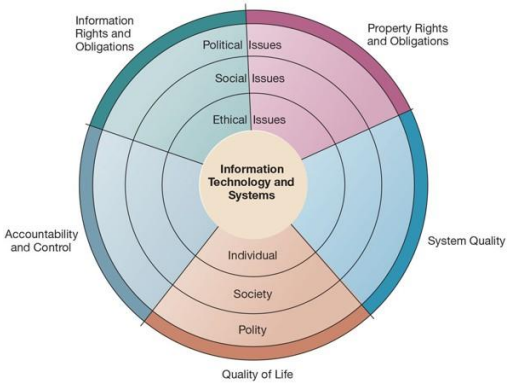
Describe IT/IS-related Ethical, Social, and Political Issues

- Ethics
  - Principles of right and wrong that individuals, acting as free moral agents, use to make choices to guide their behaviors
- Information systems raise new ethical questions because they create opportunities for
  - Intense social change, threatening existing distributions of power, money, rights, and obligations
- New opportunities for crime
- New kinds of crimes

A Model for Thinking About Ethical, Social, and Political Issues

- Imagine society as a more or less calm pond on a summer day
  - Individuals know how to act in this pond because social institutions
  - Until . . .
  - I T drops a rock in the pond, creating ripples of new situations not covered by old rules
- Social and political institutions cannot respond overnight to these ripples—it may take years to develop etiquette, expectations, laws

Figure 4.1 The Relationship Between Ethical, Social, and Political Issues in an Information Society



Five Moral Dimensions of the Information Age

- Information rights and obligations
- Property rights and obligations
- Accountability and control
- System quality
- Quality of life

Key IT Trends That Raise Ethical Issues (1 of 3)

- Ever-increasing rise in computing power
- Rapid decline of data storage costs
- Advances in data analysis
- Proliferation of mobile devices
- Artificial intelligence (AI)

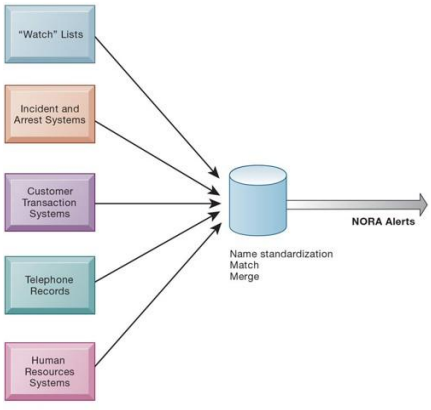
Key IT Trends That Raise Ethical Issues (2 of 3)

- Advances in data storage techniques and rapidly declining storage costs have enabled the collection o
  - Big data
  - Have been responsible for the proliferation of databases on individuals

Key IT Trends That Raise Ethical Issues (3 of 3)

- Profiling
  - Combining data from multiple sources to create dossiers of detailed information on individuals
- Nonobvious relationship awareness (N O R A)
  - Combining data from multiple sources to find obscure hidden connections that might help identify criminals or terrorists

Figure 4.2 Nonobvious Relationship Awareness (N O R A)



Describe Principles for Ethical Conduct

- Responsibility
  - Accepting the potential costs, duties, and obligations for decisions
- Accountability
  - Mechanisms for identifying responsible parties
- Liability
  - Permits individuals (and firms) to recover damages done to them
- Due process
  - Laws are well-known and understood, with an ability to appeal to higher authorities

Ethical Analysis

Five-step process for ethical analysis

1. Identify and describe the facts clearly
2. Define the conflict or dilemma and identify the higher-order values involved
3. Identify the stakeholders
4. Identify the options that you can reasonably take
5. Identify the potential consequences of your options

Ethical Principles (1 of 2)

- Golden Rule
  - Do unto others as you would have them do unto you
- Immanuel Kant's categorical imperative
  - If an action is not right for everyone to take, it is not right for anyone
- Slippery slope rule
  - If an action cannot be taken repeatedly, it is not right to take at all

Ethical Principles (2 of 2)

- Utilitarian principle
  - Take the action that achieves the higher or greater value
- Risk aversion principle
  - Take the action that produces the least harm or potential cost
- Ethical no-free lunch rule
  - Assume that virtually all tangible and intangible objects are owned by someone unless there is a specific declaration otherwise

Professional Codes of Conduct

- Professional codes of conduct are promulgated by associations of professionals
  - American Medical Association (A M A)
  - Association of Information Technology Professionals (AITP)
  - American Bar Association (A B A)
  - Association for Computing Machinery (A C M)
- Promises by professions to regulate themselves in the general interest of society

Governance Codes

- A tool that organizations use to help ensure ethical decision making
  - Codes establish guidelines and policies
  - Implement technical guardrails with respect to conduct

Real-World Ethical Dilemmas

- One set of interests pitted against another
- Examples
  - Many companies use voice recognition software to reduce the size of their customer support staff by enabling computers to recognize a customer's responses to a series of automated questions.
  - Many companies monitor what their employees are doing on the Internet to prevent them from wasting company resources on nonbusiness activities.

Discuss Information Rights and Privacy Issues (1 of 3)

- Information rights
  - Rights that individuals and organizations have with respect to the information that pertains to them
- Privacy
  - Claim of individuals to be left alone, free from surveillance or interference from other individuals, organizations, or state; claim to be able to control information about yourself

Discuss Information Rights and Privacy Issues (2 of 3)

- In the United States, privacy is protected by:
  - First Amendment (freedom of speech and association)
  - Fourth Amendment (unreasonable search and seizure)
  - Fifth and Fourteenth Amendments' guarantee of due process

Discuss Information Rights and Privacy Issues (3 of 3)

- Fair information practices (FIP)
  - Set of principles governing the collection and use of information
    - Basis of most U.S. and European privacy laws
  - Used to drive changes in privacy legislation
    - C O P P A
    - Gramm-Leach-Bliley Act
    - H I P A A

The European General Data Protection Regulation (1 of 3)

- In 2018, the European Commission implemented the European Union's General Data Protection Regulation (GDPR)
  - Arguably the most important privacy legislation since the FTC's FIP principles
    - Applies to all firms and organizations that collect, store, or process personal information of EU citizens
    - Protections apply worldwide regardless of where the processing takes place

The European General Data Protection Regulation (2 of 3)

- The GDPR is an updated framework for protecting personally identifiable information (PII)
  - Replaces an earlier Data Protection Directive
- Safe harbor
  - A private self-regulating policy and enforcement mechanism
  - Meets the objectives of government regulators and legislation but does not involve government regulation or enforcement

The European General Data Protection Regulation (3 of 3)

- AI is not explicitly mentioned in the GDPR
  - But, the broad definition of "processing" under the GDPR makes it clear that the GDPR does apply to AI systems

Challenges Posed by the Internet
(1 of 3)

- Cookies
  - Identify browser and track visits to site
- Web beacon (also called a web bug)
  - Tiny graphics embedded in e-mails and web pages
  - Monitor who is reading email message or visiting site
- Adware
  - Can secretly install itself on an Internet user's computer by piggybacking on larger applications

Figure 4.3 How First-Party Cookies Identify Web Visitors

1. The web server reads the user's web browser and determines the operating system, browser name, version number, Internet address, and other information.
2. The server transmits a tiny text file with user identification information called a cookie, which the user's browser receives and stores on the user's computer.
3. When the user returns to the website, the server requests the contents of any cookie it deposited previously in the user's computer.
4. The web server reads the cookie, identifies the visitor, and calls up data on the user.

Challenges Posed by the Internet
(2 of 3)

- Spyware
  - A more malicious version of adware
  - Tracks the user's browsing habits
- Informed consent
  - Consent given with knowledge of all the facts needed to make a rational decision
  - The United States allows businesses to gather transaction information and use this for other marketing purposes

Challenges Posed by the Internet
(3 of 3)

- Opt-out v s. opt-in model
  - Online industry promotes self-regulation over privacy legislation.
    - Complex/ambiguous privacy statements
    - Opt-out models selected over opt-in
    - Online "seals" of privacy principles

Challenges Posed by AI

- AI is the latest information technology that poses a threat to privacy
- The development of more specifically focused AI tools on a firm-wide level raise concerns
  - Training in regard to sensitive data
  - Detailed profiles of individuals based on their online behavior
  - Collection of data for use by facial recognition systems

Discuss Intellectual Property Issues
(1 of 2)

- Intellectual property
  - Tangible and intangible products of the mind created by individuals or corporations
- Protected in four main ways:
  - Copyright
  - Patents
  - Trademarks
  - Trade secrets

Discuss Intellectual Property Issues (2 of 2)

- Digital media is different from physical media
  - Ease of replication
  - Ease of transmission (networks, Internet)
  - Ease of alteration
  - Compactness
  - Difficulties in establishing uniqueness
- Digital Millennium Copyright Act (D M C A)
  - Implements a World Intellectual Property Organization Treaty that makes it illegal to circumvent technology-based protections of copyrighted materials

Challenges Posed by AI

- AI raises numerous issues with respect to the protection of various forms of intellectual property
  - Challenges with copyrighted works to train AI models
  - Challenges with the use of AI in the creation of inventions (patents)
  - Challenges with the use of generative AI raises trademark concerns
  - Challenges with a potential threat to the protection of trade secrets

Discuss System Quality Issues

- What is an acceptable, technologically feasible level of system quality?
- Three principal sources of poor system performance
  - Software bugs and errors
  - Hardware or facility failures
  - Poor input data quality

Discuss Accountability and Control Issues (1 of 2)

- Software and Internet liability issues
  - Software can sometimes result in injury or economic loss
  - From a legal standpoint, it is a complicated issue
- AI liability issues
  - Most AI algorithms operate as a “black box”
    - Lack of transparency, makes it difficult to hold anyone accountable for incorrect output or decisions

Discuss Accountability and Control Issues (2 of 2)

- Computer crime and abuse
  - Computer crime: Generally defined as the commission of illegal acts through the use of a computer or against a computer system
  - Computer abuse: The commission of acts involving a computer that may not be illegal but are considered unethical

Discuss Quality of Life Issues (1 of 4)

- Negative social consequences of systems
- Big tech: Economic and political power concentrated in just a few companies
- Equity and access: Does everyone have equal opportunity to participate in the digital age?
  - The digital divide
    - The disparity in access to computers and the Internet
  - The use of AI can also lead to increased levels of bias

Discuss Quality of Life Issues (2 of 4)

- Reengineering of work
  - Typically hailed in the information systems community as a major benefit of new information technology
  - Leaves millions of people out and unemployed
- Rapidity of change
- Family, work, and leisure boundaries

Discuss Quality of Life Issues (3 of 4)

- Physical, mental, and cognitive health risks
  - Repetitive stress injury (R S I)
  - Carpal tunnel syndrome (C T S)
  - Computer vision syndrome (C V S)

Discuss Quality of Life Issues (4 of 4)

- Information technology has become part of our lives personally as well as socially, culturally, and politically
- It is unlikely that the issues and our choices will become easier as information technology continues to transform our world

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