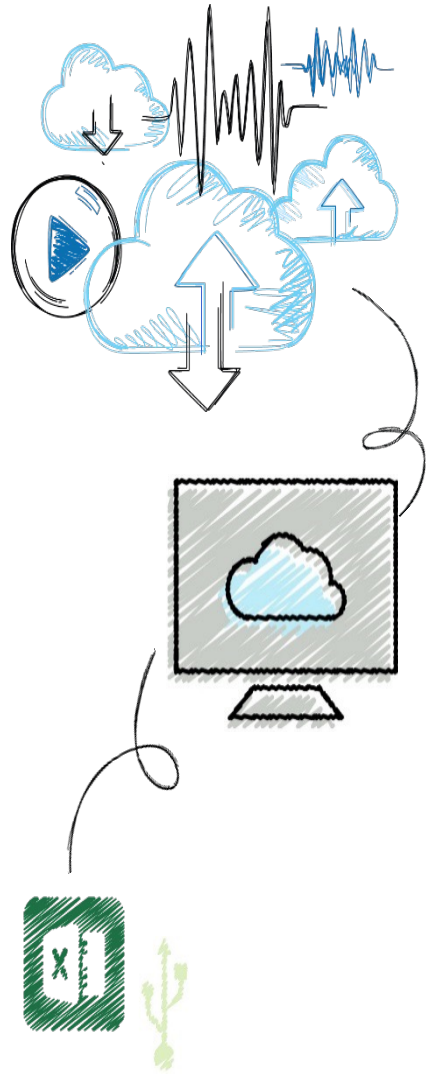


Principles of Information Systems, Thirteenth Edition

Chapter 14

Ethical, Legal, and Social Issues of Information Systems





Objectives

In this chapter, we will discuss:

Waste and mistakes in an IS environment, their causes, and possible solutions

Privacy issues

Health and environmental problems related to information systems

Ethical issues in information systems



Computer Waste

- Unintegrated information systems make it difficult to collaborate and share information
 - Leads to missed opportunities, increased costs, and lost sales
- Systems acquired in different organizational units that perform the same functions
 - Increases hardware and software costs
- Improper use of information systems and resources by employees
 - Sending texts and personal email, playing computer games, surfing the Web, shopping online, checking for updates on Instagram or Facebook, etc.



Computer-Related Mistakes

- Common causes
 - Inadequate training and feedback
 - Program development that contains errors
 - Incorrect input by a data-entry clerk
- Some examples:
 - Data-entry or data-capture errors
 - Programming errors
 - Errors in handling files
 - Mishandling of computer output
 - Inadequate planning for and control of equipment malfunctions



Preventing Computer-Related Waste and Mistakes

- IS efficiency and effectiveness involves:
 - Establishing/implementing policies and procedures
 - Training and communication are key
 - Monitoring policies and procedures
 - Implement internal audits to measure actual results against established goals, such as:
 - Percentage of end-user reports produced on time
 - Percentage of data-input errors detected
 - Number of input transactions entered per eight-hour shift
 - Audits can also be used to track the amount of time employees spend on non-work-related Web sites
 - Reviewing policies and procedures
 - Do current policies cover existing practices adequately?
 - Does the organization plan any new activities in the future? Who will handle them and what must be done?



Privacy Issues

- Issue of privacy deals with the right to be left alone or to be withdrawn from public view
- Data is constantly being collected and stored on each of us
 - The data is often distributed over easily accessed networks without our knowledge or consent
 - Who owns this information and knowledge?



FIGURE 1.14
Much information is being gathered about people
Personal privacy is difficult to safeguard.



Privacy and the Federal Government

TABLE 14.1 Key federal privacy laws and their provisions

Law	Provisions
Fair Credit Reporting Act of 1970 (FCRA)	Regulates operations of credit-reporting bureaus, including how they collect, store, and use credit information
Family Education Privacy Act of 1974	Restricts the collection and use of data by federally funded educational institutions, including specifications for the type of data collected, access by parents and students to the data, and limitations on disclosure
Tax Reform Act of 1976	Restricts collection and use of certain information by the Internal Revenue Service
Right to Financial Privacy Act of 1978	Restricts government access to certain records held by financial institutions
Foreign Intelligence Surveillance Act of 1978	Defines procedures to request judicial authorization for electronic surveillance of persons engaged in espionage or international terrorism against the United States on behalf of a foreign power
Electronic Communications Privacy Act of 1986	Defines provisions for the access, use, disclosure, interception, and privacy protections of electronic communications
Computer Matching and Privacy Act of 1988	Regulates cross-references between federal agencies' computer files (e.g., to verify eligibility for federal programs)
Cable Act of 1992	Regulates companies and organizations that provide wireless communications services, including cellular phones
Gramm-Leach-Bliley Act of 1999	Requires all financial institutions to protect and secure customers' nonpublic data from unauthorized access or use
USA Patriot Act of 2001	Requires Internet service providers and telephone companies to turn over customer information, including numbers called, without a court order, if the FBI claims that the records are relevant to a terrorism investigation; Section 215 allowed for the bulk collection of domestic telecommunications metadata (phone numbers, time stamps, call duration, etc.); some provisions of this act were extended by President Barack Obama in 2011, and some provisions (most significantly, the Section 215 provisions allowing for the bulk collection of metadata) briefly expired in June 2015 before being restored in somewhat modified form under the USA Freedom Act
E-Government Act of 2002	Requires federal agencies to post machine-readable privacy policies on their Web sites and to perform privacy impact assessments on all new collections of data of 10 or more people
Fair and Accurate Credit Transactions Act of 2003	Combats the growing crime of identity theft by allowing consumers to get free credit reports from each of the three major consumer credit-reporting agencies every 12 months and to place alerts on their credit histories under certain circumstances
Foreign Intelligence Surveillance Act (FISA) Amendments Act of 2008	Renews the U.S. government's authority to monitor electronic communications of foreigners abroad and authorizes foreign surveillance programs by the NSA, such as PRISM and some earlier data-collection activities
USA Freedom Act (2015)	Imposes limitations on the bulk collection of the telecommunications metadata of U.S. citizens; prohibits large-scale indiscriminate data collection (such as all records from an entire zip code); requires the NSA to obtain permission from the Foreign Intelligence Surveillance Court (FISC) to access the metadata records, which are now held by telecommunication companies rather than by the government; restored in a modified form some other provisions of the USA Patriot Act that lapsed in June 2015, including authorization for roving wiretaps and for tracking so-called lone-wolf terrorists; and allows challenges of national security letter gag orders



Privacy at Work

- Employers use technology and corporate policies to manage worker productivity and protect the use of IS resources
 - Employers are concerned about inappropriate Web surfing
- Organizations monitor employees' email
 - More than half retain and review messages
- Most employers have a policy that explicitly eliminates any expectation of privacy when an employee uses any company-owned computer, server, or e-mail system
- The courts have ruled that, without a reasonable expectation of privacy, there is no Fourth Amendment protection for the employee



Privacy and Email

- Federal law permits employers to monitor email sent and received by employees
- Email messages that have been erased can be retrieved and used in lawsuits
- Email use among public officials might violate “open meeting” laws



Privacy and the Internet

- Privacy concerns with the Internet
 - Sending email messages
 - Visiting a Web site
 - Buying products over the Internet
- The Children's Online Privacy Protection Act (COPPA) of 1998
 - Impacts the design and operations of Web sites that cater to children
- Social network services
 - Examples: Facebook, Twitter, LinkedIn, Pinterest, TikTok, and Instagram
 - Parents should discuss potential dangers, check their children's profiles, and monitor children's activities



Privacy and Internet Libel Concerns

- Libel: publishing an intentionally false written statement that is damaging to a person's or organization's reputation
- Individuals:
 - Can post information to the Internet using anonymous e-mail accounts or screen names
 - Must be careful what they post on the Internet to avoid libel charges



Privacy and Fairness in Information Use

- Selling information to other companies can be very lucrative; many companies store and sell the data they collect on customers, employees, and others
 - When is this information storage and use fair and reasonable to the people whose data is stored and sold?
 - Do people have a right to know about and to decide what data is stored and used?

TABLE 14.2 The right to know and the ability to decide federal privacy laws and regulations

Fairness Issues	Database Storage	Database Usage
The right to know	Knowledge	Notice
The ability to decide	Control	Consent
Knowledge. Should people know what data is stored about them? In some cases, people are informed that information about them is stored in a corporate database. In others, they are unaware that their personal information is being stored.		
Control. Should people be able to correct errors in corporate database systems? This ability is possible with most organizations, although it can be difficult in some cases.		
Notice. Should an organization that uses personal data for a purpose other than the original designated purpose be required to notify individuals in advance? Most companies don't do this.		
Consent. If information on people is to be used for other purposes, should these people be asked to give their consent before data on them is used? Many companies do not give people the ability to decide if such information will be sold or used for other purposes.		



Privacy and Filtering and Classifying Internet Content

- Filtering software screens Internet content
- Children’s Internet Protection Act (CIPA)
 - Schools and libraries subject to CIPA are encouraged to have certain Internet safety measures in place to block or filter “visual depictions that are obscene, child pornography, or are harmful to minors”

TABLE 14.3 Top-rated Internet filtering software

Windows Systems	Mac Systems
NetNanny (\$28.99)	Net Nanny (\$28.99)
SpyAgent (\$69.95)	Safe Eyes (\$49.95)
Qustodio (\$44.95)	Spector Pro (\$99.95)



Corporate Privacy Policies

- Most organizations realize that invasions of privacy can:
 - Damage their reputation
 - Turn away customers
 - Dramatically reduce revenues and profits
- Most organizations maintain privacy policies



Corporate Privacy Policies

Privacy Notice

This privacy notice discloses the privacy practices for [\[Web site address\]](#). This privacy notice applies solely to information collected by this web site. It will notify you of the following:

1. What personally identifiable information is collected from you through the web site, how it is used and with whom it may be shared.
2. What choices are available to you regarding the use of your data.
3. The security procedures in place to protect the misuse of your information.
4. How you can correct any inaccuracies in the information.

Information Collection, Use, and Sharing

We are the sole owners of the information collected on this site. We only have access to/collect information that you voluntarily give us via email or other direct contact from you. We will not sell or rent this information to anyone.

We will use your information to respond to you, regarding the reason you contacted us. We will not share your information with any third party outside of our organization, other than as necessary to fulfill your request, e.g. to ship an order.

Unless you ask us not to, we may contact you via email in the future to tell you about specials, new products or services, or changes to this privacy policy.

Your Access to and Control Over Information

You may opt out of any future contacts from us at any time. You can do the following at any time by contacting us via the email address or phone number given on our Web site:

- See what data we have about you, if any.
- Change/correct any data we have about you.
- Have us delete any data we have about you.
- Express any concern you have about our use of your data.

Security

We take precautions to protect your information. When you submit sensitive information via the Web site, your information is protected both online and offline.

Wherever we collect sensitive information (such as credit card data), that information is encrypted and transmitted to us in a secure way. You can verify this by looking for a closed lock icon at the bottom of your web browser, or looking for "https" at the beginning of the address of the web page.

While we use encryption to protect sensitive information transmitted online, we also protect your information offline. Only employees who need the information to perform a specific job (for example, billing or customer service) are granted access to personally identifiable information. The computers/servers in which we store personally identifiable information are kept in a secure environment.

If you feel that we are not abiding by this privacy policy, you should contact us immediately via telephone at [XXX-YYY-ZZZZ](#) or via email.

FIGURE 14.3

Sample privacy notice

The BBB provides this sample privacy notice as a guide to businesses to post on their Web sites.

Source: The Better Business Bureau



Corporate Privacy Policies

TABLE 14.4 Links to sample corporate privacy policies

Company	URL
Intel	www.intel.com/content/www/us/en/privacy/intel-privacy-notice.html
Starwood Hotels & Resorts	www.starwoodhotels.com/corporate/privacy_policy.html
TransUnion	www.transunion.com/corporate/privacyPolicy.page
United Parcel Service	www.ups.com/content/corp/privacy_policy.html
Visa	http://usa.visa.com/legal/privacy-policy/index.jsp
Walt Disney Company	https://disneyprivacycenter.com/



Individual Efforts to Protect Privacy

- Many people take steps to increase their own privacy protection
- To protect personal privacy:
 - Find out what is stored about you in existing databases
 - Be careful when you share information about yourself
 - Be proactive to protect your privacy
 - Take extra care when purchasing anything from a Web site



Avoiding Health and Environmental Problems

- While information systems increase productivity and efficiency, there are inherent concerns with their use
- Two primary causes of computer-related health problems are
 - A poorly designed work environment
 - Failure to take regular breaks to stretch the muscles and rest the eyes
- Ergonomics is the science of designing machines, products, and systems to maximize safety, comfort, and efficiency of people who use them
 - Flexibility is a major component of ergonomics and an important consideration in the design of computer devices



Avoiding Health and Environmental Problems



FIGURE 14.4

Ergonomics

Developing certain ergonomically correct habits can reduce the risk of adverse health effects when using a computer.



Avoiding Health and Environmental Problems

TABLE 14.5 Avoiding common discomforts associated with heavy use of computers

Common Discomforts Associated with Heavy Use of Computers	Preventative Action
Red, dry, itchy eyes	Change your focus away from the screen every 20 or 30 minutes by looking into the distance and focusing on an object for 20 to 30 seconds.
	Make a conscious effort to blink more often.
	Consider the use of artificial tears.
	Use an LCD screen, which provides a better viewing experience for your eyes by eliminating most screen flicker while still being bright without harsh incandescence.
Neck and shoulder pain	Use proper posture when working at the computer.
	Stand up, stretch, and walk around for a few minutes every hour.
	Shrug and rotate your shoulders occasionally.
Pain, numbness, or tingling sensation in hands	Use proper posture when working at the computer.
	Do not rest your elbows on hard surfaces.
	Place a wrist rest between your computer keyboard and the edge of your desk.
	Take an occasional break and spread fingers apart while keeping your wrists straight. Taken an occasional break with your arms resting at your sides and gently shake your hands.

Source: Pekker, Michael, "Long Hours at Computer: Health Risks and Prevention Tips," <http://webfreebies4u.blogspot.com/2011/01/long-hours-at-computer-health-risks-and.html>, January 4, 2011.



Avoiding Health and Environmental Problems

- Checklist to determine if properly seated at a correctly positioned keyboard:
 - Your elbows are near your body in an open angle to allow circulation to the lower arms and hands
 - Your arms are nearly perpendicular to the floor
 - Your wrists are nearly straight
 - The height of the surface holding your keyboard and mouse is 1 or 2 inches above your thighs
 - The keyboard is centered in front of your body
 - The monitor is about one arm's length (20 to 26 inches) away
 - The top of your monitor is at eye level
 - Your chair has a backrest that supports the curve of your lower (lumbar) back



Ethical Issues in Information Systems

- Ethical issues
 - Deal with what is generally considered right or wrong
- IS professionals are often faced with their own unique set of ethical challenges
- Some IS professional organizations have developed code of ethics to guide people working in IS professions
- The use of information about people
 - Requires balancing the needs of those who want to use the information against the rights and desires of the people whose information may be used



What Is Ethics?

- Ethical behavior conforms to generally accepted social norms
- Morals are one's personal beliefs about right and wrong
- Law is a system of rules that tells us what we can and cannot do



Including Ethical Considerations in Decision Making

- Some decisions may become complicated because they involves significant value conflicts

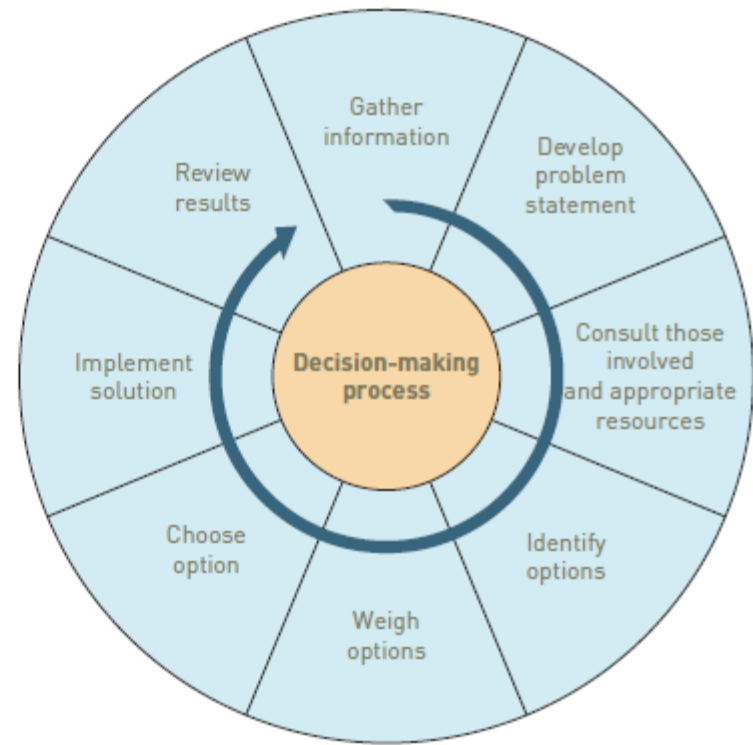


FIGURE 14.5
Steps involved in the decision-making process

Most of us have developed a decision-making process that we execute almost automatically, without thinking about the steps we go through.



Including Ethical Considerations in Decision Making

TABLE 14.6 Key questions to ask at each step in the decision-making process

Questions to Consider
Step 1: Gather information <ul style="list-style-type: none">• Have you spoken to everyone directly involved and gathered all the facts necessary to define the problem?• Have you avoided assuming facts, motivations, or actions for which there is no evidence?
Step 2: Develop a problem statement <ul style="list-style-type: none">• Do you know the answers to the following questions:<ul style="list-style-type: none">• What do people observe that causes them to think there is a problem?• Who is directly affected by the problem?• Is anyone else affected?• How often does the problem occur?• What is the impact of the problem?• How serious is the problem?• What are the ethical issues involved?• When is a solution needed?• Have you shared the problem statement with the stakeholders, and do they concur?
Step 3: Consult those involved as well as other appropriate resources <ul style="list-style-type: none">• Have you discussed this issue with your manager?• Have you sought input from human resources, legal, or other appropriate subject matter experts?
Step 4: Identify options <ul style="list-style-type: none">• Have you identified the success criteria for a “good solution”?• Have the stakeholders had an opportunity to offer solutions?
Step 5: Weigh options <ul style="list-style-type: none">• How does each alternative fit with your organization’s code of ethics, policies, regulations, and organizational norms?• Is each alternative legal and consistent with industry standards?• Does each alternative have possible unintended consequences? If so, how will you deal with those?



Including Ethical Considerations in Decision Making

TABLE 14.6 Key questions to ask at each step in the decision-making process (*continued*)

Questions to Consider
Step 6: Choose an option <ul style="list-style-type: none">• Have you considered how choice of this option might appear to others?• Would you be comfortable explaining your decision and describing your decision-making process to others?• Is your decision grounded in a basic sense of fairness to all affected parties?
Step 7: Implement a solution <ul style="list-style-type: none">• Have you provided to all stakeholders answers to the following questions:<ul style="list-style-type: none">• Why are we doing this?• What is wrong with the current way we do things?• What are the benefits of the new way for you?• Do you have a clear transition plan that explains to people how they will move from the old way of doing things to the new way?
Step 8: Review results <ul style="list-style-type: none">• Were the success criteria fully met?• Were there any unintended consequences?• Is there a need for further refinements?



Including Ethical Considerations in Decision Making



Deamies for Sale/Shutterstock.com

FIGURE 14.6

There are many factors to weigh in decision making



Code of Ethics

- A code of ethics:
 - States the principles and core values essential to a set of people and, therefore, govern their behavior
 - Can become a reference point for weighing what is legal and what is ethical
- Mishandling of the social issues discussed in this chapter—including waste and mistakes, crime, privacy, health, and ethics—can devastate an organization
- Prevention of these problems and recovery from them are important aspects of managing information and information systems as critical corporate assets



Code of Ethics

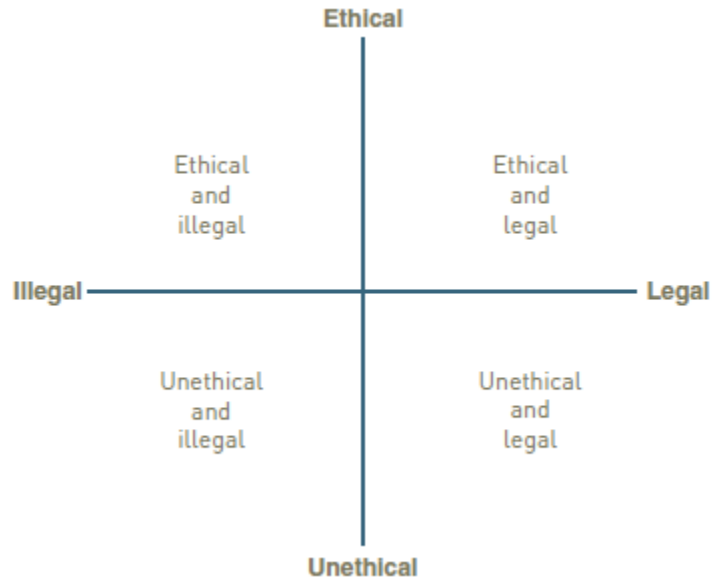


FIGURE 14.7

Legal versus ethical

Just because an activity is defined as legal does not mean that it is ethical.



Summary

- Policies and procedures must be established to avoid waste and mistakes associated with computer usage
- The use of technology requires balancing the needs of those who use the information that is collected against the rights of those whose information is being used
- Jobs, equipment, and working conditions must be designed to avoid negative health effects from computers
- Practitioners in many professions subscribe to a code of ethics that states the principles and core values that are essential to their work