

Chapter- 4

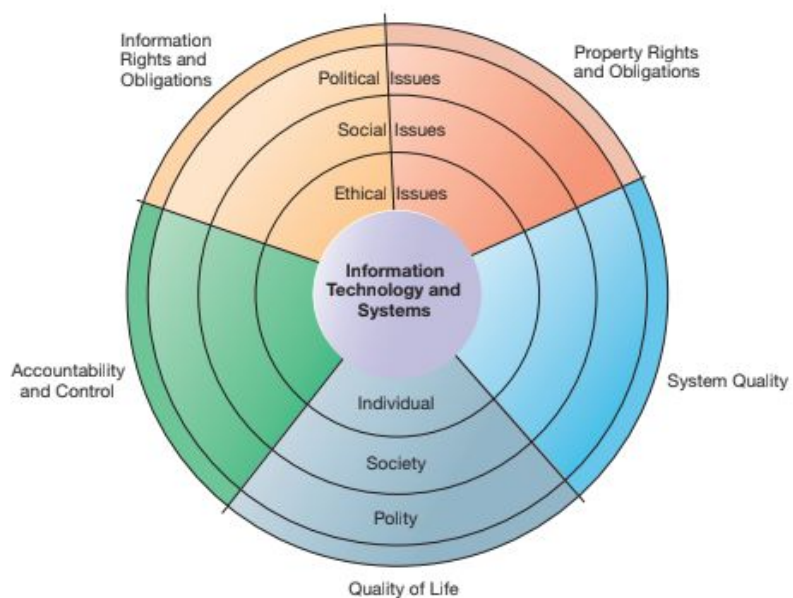
Ethical and Social Issues in Information Systems

🚩 **Topic- 6.1: What ethical, social, and political issues are raised by information systems?**

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

Ethical, social, and political issues are closely linked. The ethical dilemma you may face as a manager of information systems typically is reflected in social and political debate. One way to think about these relationships is shown in Figure 4.1. Imagine society as a more or less calm pond on a summer day, a delicate ecosystem in partial equilibrium with individuals and with social and political institutions. Individuals know how to act in this pond because social institutions (family, education, organizations) have developed well-honed rules of behavior, and these are supported by laws developed in the political sector that prescribe behavior and promise sanctions for violations. Now toss a rock into the center of the pond. What happens? Ripples, of course.

FIGURE 4.1 THE RELATIONSHIP BETWEEN ETHICAL, SOCIAL, AND POLITICAL ISSUES IN AN INFORMATION SOCIETY



Imagine instead that the disturbing force is a powerful shock of new information technology and systems hitting a society more or less at rest. Suddenly, individual actors are confronted with new situations often not covered by the old rules. Social institutions cannot respond overnight to these ripples—it may take years to develop the etiquette, expectations, social responsibility, politically correct attitudes, or approved rules. Political institutions also require time before developing new laws and often require the demonstration of real harm before they act. In the meantime, you may have to act. You may be forced to act in a legal gray area.

We can use this model to illustrate the dynamics that connect ethical, social, and political issues. This model is also useful for identifying the main moral dimensions of the information society, which cut across various levels of action—individual, social, and political.

6.1.3.: Moral Dimensions of the Information Age and Key Technology Trends that Raise Ethical Issues

Five Moral Dimensions of the Information Age

The major ethical, social, and political issues that information systems raise include the following moral dimensions.

- **Information rights and obligations** What information rights do individuals and organizations possess with respect to themselves? What can they protect?
- **Property rights and obligations** How will traditional intellectual property rights be protected in a digital society in which tracing and accounting for ownership are difficult and ignoring such property rights is so easy?
- **Accountability and control** Who can and will be held accountable and liable for the harm done to individual and collective information and property rights?
- **System quality** What standards of data and system quality should we demand to protect individual rights and the safety of society?
- **Quality of life** What values should be preserved in an information- and knowledge-based society? Which institutions should we protect from violation? Which cultural values and practices does the new information technology support?

Key Technology Trends that Raise Ethical Issues

Ethical issues long preceded information technology. Nevertheless, information technology has heightened ethical concerns, taxed existing social arrangements, and made some laws obsolete or severely crippled. Five key technological trends are responsible for these ethical stresses, summarized in Table 4.2.

The doubling of computing power every 18 months has made it possible for most organizations to use information systems for their core production processes. As a result, our dependence on systems and our vulnerability to system errors and poor data quality have increased.

TREND	IMPACT
Computing power doubles every 18 months	More organizations depend on computer systems for critical operations and become more vulnerable to system failures.
Data storage costs rapidly decline	Organizations can easily maintain detailed databases on individuals. There are no limits on the data collected about you.
Data analysis advances	Companies can analyze vast quantities of data gathered on individuals to develop detailed profiles of individual behavior. Large-scale population surveillance is enabled.
Networking advances	The cost of moving data and making it accessible from anywhere falls exponentially. Access to data becomes more difficult to control.
Mobile device growth impact	Individual cell phones may be tracked without user consent or knowledge. The always-on device becomes a tether.

Topic- 6.2: What specific principles for conduct can be used to guide ethical decisions?

6.2.1: Basic Concepts: Responsibility, Accountability, and Liability

Ethical choices are decisions made by individuals who are responsible for the consequences of their actions. Responsibility is a key element of ethical action. Responsibility means that you accept the potential costs, duties, and obligations for the decisions you make. Accountability is a feature of systems and social institutions; it means that mechanisms are in place to determine who took action and who is responsible. Systems and institutions in which it is impossible to find out who took what action is inherently incapable of ethical analysis or ethical action. Liability extends the concept of responsibility further to the area of laws. Liability is a feature of political systems in which a body of laws is in place that permits individuals to recover the damages done to them by other actors, systems, or organizations. Due process is a related feature of law-governed societies. and is a process in which laws are known and understood, and ability exists to appeal to higher authorities to ensure that the laws are applied correctly.

These basic concepts form the underpinning of an ethical analysis of information systems and those who manage them. First, information technologies are filtered through social institutions, organizations, and individuals. Systems do not have an impact on themselves. Whatever information system effects exist are products of institutional, organizational, and individual actions and behaviors. Second, responsibility for the consequences of technology falls clearly on the institutions, organizations, and individual managers who choose to use the technology. Using information technology in a socially responsible manner means that you can and will be held accountable for the consequences of your actions. Third, in an ethical, political society, individuals and others can recover damages done to them through a set of laws characterized by due process.

6.2.2: Ethical Analysis

When confronted with a situation that seems to present ethical issues, how do you analyze it? The following five-step process should help.

- **Identify and describe the facts clearly** Find out who did what to whom and where, when, and how. In many instances, you will be surprised at the errors in the initially reported facts, and often you will find that simply getting the facts straight helps define the solution. It also helps to get the opposing parties involved in an ethical dilemma to agree on the facts.
- **Define the conflict or dilemma and identify the higher-order values involved** Ethical, social, and political issues always reference higher values. The parties to a dispute all claim to be pursuing higher values (e.g., freedom, privacy, protection of property, and the free enterprise system). Typically, an ethical issue involves a dilemma: two diametrically opposed courses of action that support worthwhile values. For example, the chapter-opening case study illustrates

two competing values: the need to make organizations more efficient and cost-effective and the need to respect individual privacy.

- **Identify the stakeholders** Every ethical, social, and political issue has stakeholders: players in the game who have an interest in the outcome, who have invested in the situation, and usually who have vocal opinions. Find out the identity of these groups and what they want. This will be useful later when designing a solution.
- **Identify the options that you can reasonably take** You may find that none of the options satisfy all the interests involved but that some options do a better job than others. Sometimes arriving at a good or ethical solution may not always be a balancing of consequences to stakeholders.
- **Identify the potential consequences of your options** Some options may be ethically correct but disastrous from other points of view. Other options may work in one instance but not in similar instances. Always ask yourself, “What if I choose this option consistently over time?”

6.2.3: Candidate Ethical Principles

Five Moral Dimensions of the Information Age

The major ethical, social, and political issues that information systems raise include the following moral dimensions.

- Do unto others as you would have them do unto you (the **Golden Rule**). Putting yourself in the place of others, and thinking of yourself as the object of the decision, can help you think about fairness in decision making.
- If an action is not right for everyone to take, it is not right for anyone (**Immanuel Kant’s categorical imperative**). Ask yourself, “If everyone did this, could the organization, or society, survive?”
- If an action cannot be taken repeatedly, it is not right to take it at all. This is the **slippery slope rule**: An action may bring about a small change now that is acceptable, but if it is repeated, it would bring unacceptable changes in the long run. In the vernacular, it might be stated as “once started down a slippery path, you may not be able to stop.”
- Take the action that achieves the higher or greater value (**utilitarian principle**). This rule assumes you can prioritize values in rank order and understand the consequences of various courses of action.
- Take the action that produces the least harm or the least potential cost (**risk aversion principle**). Some actions have extremely high failure costs of very low probability (e.g., building a nuclear generating facility in an urban area) or extremely high failure costs of moderate probability (speeding and automobile accidents). Avoid actions that have extremely high failure costs; focus on reducing the probability of accidents occurring.
- Assume that virtually all tangible and intangible objects are owned by someone else unless there is a specific declaration otherwise. (This is the ethical **no-free-lunch rule**.) If something someone

else has created is useful to you, it has value, and you should assume the creator wants compensation for this work.

Topic- 7.1: Protection of individual privacy and intellectual property

7.1.2: Internet Challenges to Privacy Internet

Internet technology has posed new challenges for the protection of individual privacy. Information sent over this vast network of networks may pass through many computer systems before it reaches its final destination.

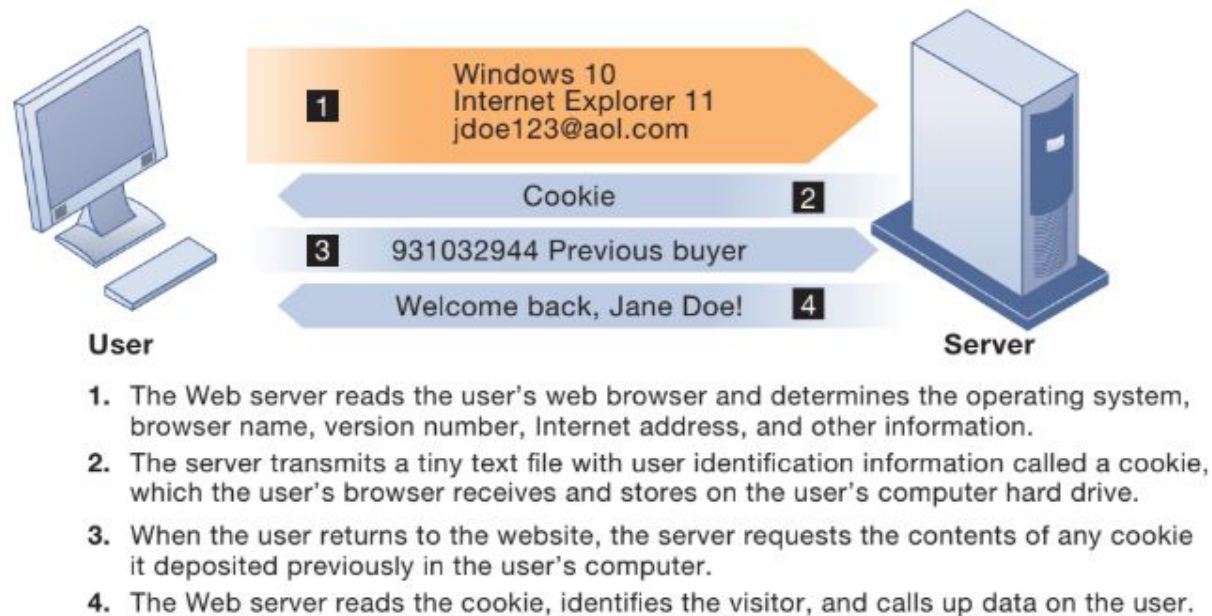
Each of these systems is capable of monitoring, capturing, and storing communications that pass through it. Websites track searches that have been conducted, the websites and web pages visited, the online content a person has accessed, and what items that person has inspected or purchased over the web. This monitoring and tracking of website visitors occur in the background without the visitor's knowledge. It is conducted not just by individual websites but by advertising networks such as Microsoft Advertising, Yahoo, and Google's DoubleClick that are capable of tracking personal browsing behavior across thousands of websites. Both website publishers and the advertising industry defend tracking of individuals across the web because doing so allows more relevant ads to be targeted to users, and it pays for the cost of publishing websites. In this sense, it's like broadcast television: advertiser-supported content that is free to the user. The commercial demand for this personal information is virtually insatiable. However, these practices also impinge on individual privacy.

Cookies are small text files deposited on a computer hard drive when a user visits websites. Cookies identify the visitor's web browser software and track visits to the website. When the visitor returns to a site that has stored a cookie, the website software searches the visitor's computer, finds the cookie, and knows what that person has done in the past. It may also update the cookie, depending on the activity during the visit. In this way, the site can customize its content for each visitor's interests. For example, if you purchase a book on Amazon.com and return later from the same browser, the site will welcome you by name and recommend other books of interest based on your past purchases. DoubleClick, uses cookies to build its dossiers with details of online purchases and examine the behavior of website visitors. Figure 4.3 illustrates how cookies work.

Websites using cookie technology cannot directly obtain visitors' names and addresses. However, if a person has registered at a site, that information can be combined with cookie data to identify the visitor. Website owners can also combine the data they have gathered from cookies and other website monitoring tools with personal data from other sources, such as offline data collected from surveys or paper catalog purchases, to develop very detailed profiles of their visitors.

There are now even more subtle and surreptitious tools for the surveillance of Internet users. So-called super cookies or Flash cookies cannot be easily deleted and can be installed whenever a person clicks a Flash video.

FIGURE 4.3 HOW COOKIES IDENTIFY WEB VISITORS



7.2.1: Information Rights: Privacy and Freedom in the Internet Age Privacy

Contemporary information systems have severely challenged existing laws and social practices that protect intellectual property. Intellectual property is considered to be tangible and intangible products of the mind created by individuals or corporations. Information technology has made it difficult to protect intellectual property because computerized information can be so easily copied or distributed on networks. Intellectual property is subject to a variety of protections under three legal traditions: trade secrets, copyright, and patent law.

Trade Secrets: Any intellectual work product—a formula, device, pattern, method of manufacture, or compilation of data—used for a business purpose can be classified as a trade secret, provided it is not based on information in the public domain. Protections for trade secrets vary from state to state. In general, trade secret laws grant a monopoly on the ideas behind a work product, but it can be a very tenuous monopoly.

Software that contains novel or unique elements, procedures, or compilations can be included as a trade secret. Trade secret law protects the actual ideas in a work product, not only their manifestation. To make

this claim, the creator or owner must take care to bind employees and customers with nondisclosure agreements and prevent the secret from falling into the public domain.

The limitation of trade secret protection is that, although virtually all software programs of any complexity contain unique elements of some sort, it is difficult to prevent the ideas in the work from falling into the public domain when the software is widely distributed.

Copyright: Copyright is a statutory grant that protects creators of intellectual property from having their work copied by others for any purpose during the life of the author plus an additional 70 years after the author's death. For corporate- owned works, copyright protection lasts for 95 years after their initial creation. Congress has extended copyright protection to books, periodicals, lectures, dramas, musical compositions, maps, drawings, artwork of any kind, and motion pictures. The intent behind copyright laws has been to encourage creativity and authorship by ensuring that creative people receive the financial and other benefits of their work. Most industrial nations have their own copyright laws, and there are several international conventions and bilateral agreements through which nations coordinate and enforce their laws.

Patents: A patent grants the owner an exclusive monopoly on the ideas behind an invention for 20 years. The congressional intent behind patent law was to ensure that inventors of new machines, devices, or methods receive the full financial and other rewards of their labor and yet make widespread use of the invention possible by providing detailed diagrams for those wishing to use the idea under license from the patent's owner. The granting of a patent is determined by the United States Patent and Trademark Office and relies on court rulings.

7.2.2: Difference Between Copyrights, Trademarks, Patents and Designs

COPYRIGHTS, DESIGNS, PATENTS AND TRADE MARKS WHAT'S THE DIFFERENCE?

