



# Chapter 12

## **Ethical and Social Issues in Information Systems**

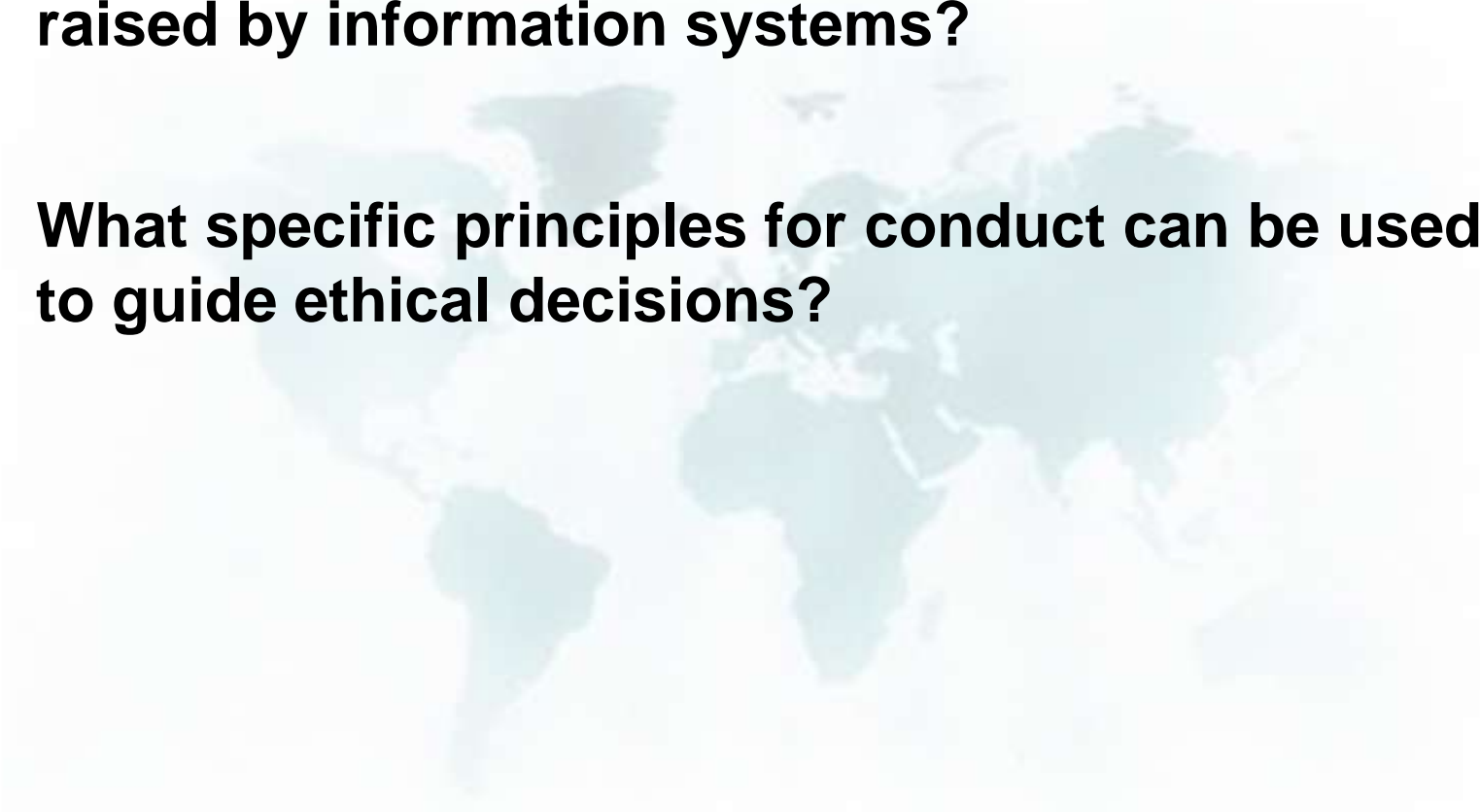


# Essentials of Management Information Systems

## Chapter 12 Ethical and Social Issues in Information Systems

### STUDENT OBJECTIVES

- **What ethical, social, and political issues are raised by information systems?**
- **What specific principles for conduct can be used to guide ethical decisions?**





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## Chapter 12 Ethical and Social Issues in Information Systems

### STUDENT OBJECTIVES

- **Why do contemporary information systems technology and the Internet pose challenges to the protection of individual privacy and intellectual property?**
- **How have information systems affected everyday life?**



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## Chapter 12 Ethical and Social Issues in Information Systems

### Behavioral Targeting and Your Privacy: You're the Target

- **Problem:** inability to efficiently target online ads.
- **Solutions:** behavioral targeting allows businesses and organizations to more precisely target desired demographics.





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### Behavioral Targeting and Your Privacy: You're the Target

- **Google monitors user activity on thousands of sites; businesses monitor activity on their own sites to better understand customers.**
- **Demonstrates IT's role in organizing and distributing information.**
- **Illustrates the ethical questions inherent in online information gathering.**

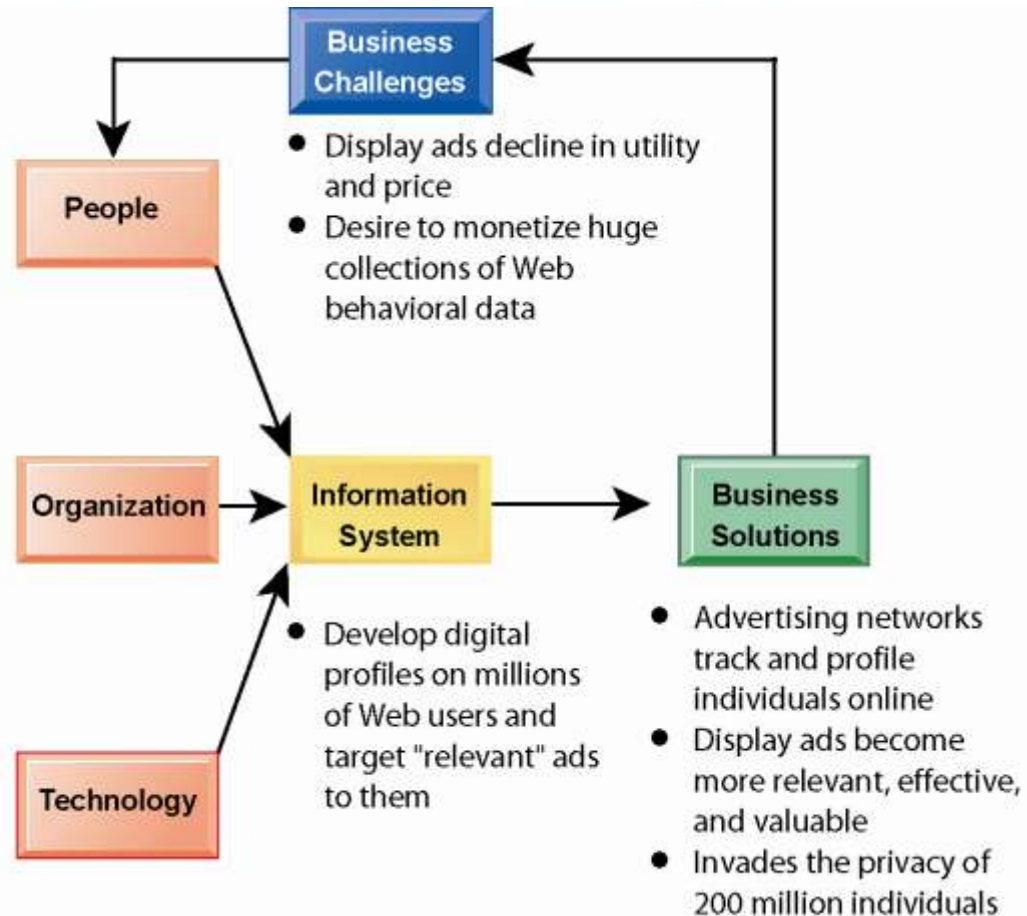


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## Chapter 12 Ethical and Social Issues in Information Systems

### Behavioral Targeting and Your Privacy: You're the Target

- Develop expertise
- Develop information policies
- Combine search engine firms with advertising networking firms
- Develop strategies to fend off privacy critics and federal government legislation
- Coordinate industry-wide responses to claims of privacy invasion
- Develop huge databases to track individual behavior online
- Develop software to profile individuals





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## Chapter 12 Ethical and Social Issues in Information Systems

### Understanding Ethical and Social Issues Related to Systems

- **Recent cases of failed ethical judgment in business**
  - **Bear Stearns, Galleon Group, Pfizer**
  - **In many, information systems used to bury decisions from public scrutiny**
- **Ethics**
  - **Principles of right and wrong that individuals, acting as free moral agents, use to make choices to guide their behaviors**



- **Information systems and ethics**
  - **Information systems raise new ethical questions because they create opportunities for:**
    - **Intense social change, threatening existing distributions of power, money, rights, and obligations**
    - **New kinds of crime**





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

- **Society as a calm pond**
- **IT as rock dropped in 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**
  - **Requires understanding of ethics to make choices in legally gray areas**



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## Chapter 12 Ethical and Social Issues in Information Systems

### Understanding Ethical and Social Issues Related to Systems

## The Relationship Among Ethical, Social, Political Issues in an Information Society

The introduction of new information technology has a ripple effect, raising new ethical, social, and political issues that must be dealt with on the individual, social, and political levels. These issues have five moral dimensions: information rights and obligations, property rights and obligations, system quality, quality of life, and accountability and control.

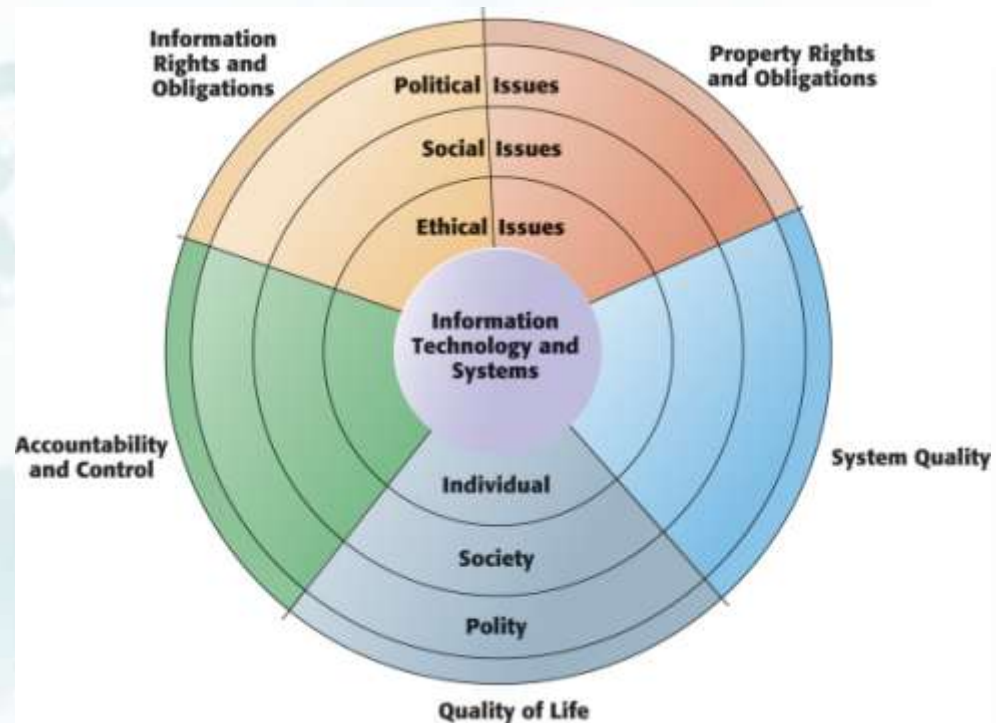


Figure 12-1



## **Five Moral Dimensions of the Information Age**

- 1. Information rights and obligations**
- 2. Property rights and obligations**
- 3. Accountability and control**
- 4. System quality**
- 5. Quality of life**



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### Understanding Ethical and Social Issues Related to Systems

## Key Technology Trends That Raise Ethical Issues

- **Doubling of computer power**
  - More organizations depend on computer systems for critical operations
- **Rapidly declining data storage costs**
  - Organizations can easily maintain detailed databases on individuals
- **Networking advances and the Internet**
  - Copying data from one location to another and accessing personal data from remote locations are much easier



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### Understanding Ethical and Social Issues Related to Systems

## Key Technology Trends That Raise Ethical Issues

- **Advances in data analysis techniques**
  - **Companies can analyze vast quantities of data gathered on individuals for:**
    - **Profiling**
      - **Combining data from multiple sources to create dossiers of detailed information on individuals**
    - **Nonobvious relationship awareness (NORA)**
      - **Combining data from multiple sources to find obscure hidden connections that might help identify criminals or terrorists**



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### Understanding Ethical and Social Issues Related to Systems

***Credit card purchases can make personal information available to market researchers, telemarketers, and direct-mail companies. Advances in information technology facilitate the invasion of privacy.***





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## Chapter 12 Ethical and Social Issues in Information Systems

### Understanding Ethical and Social Issues Related to Systems

## Nonobvious Relationship Awareness (NORA)

NORA technology can take information about people from disparate sources and find obscure, nonobvious relationships. It might discover, for example, that an applicant for a job at a casino shares a telephone number with a known criminal and issue an alert to the hiring manager.

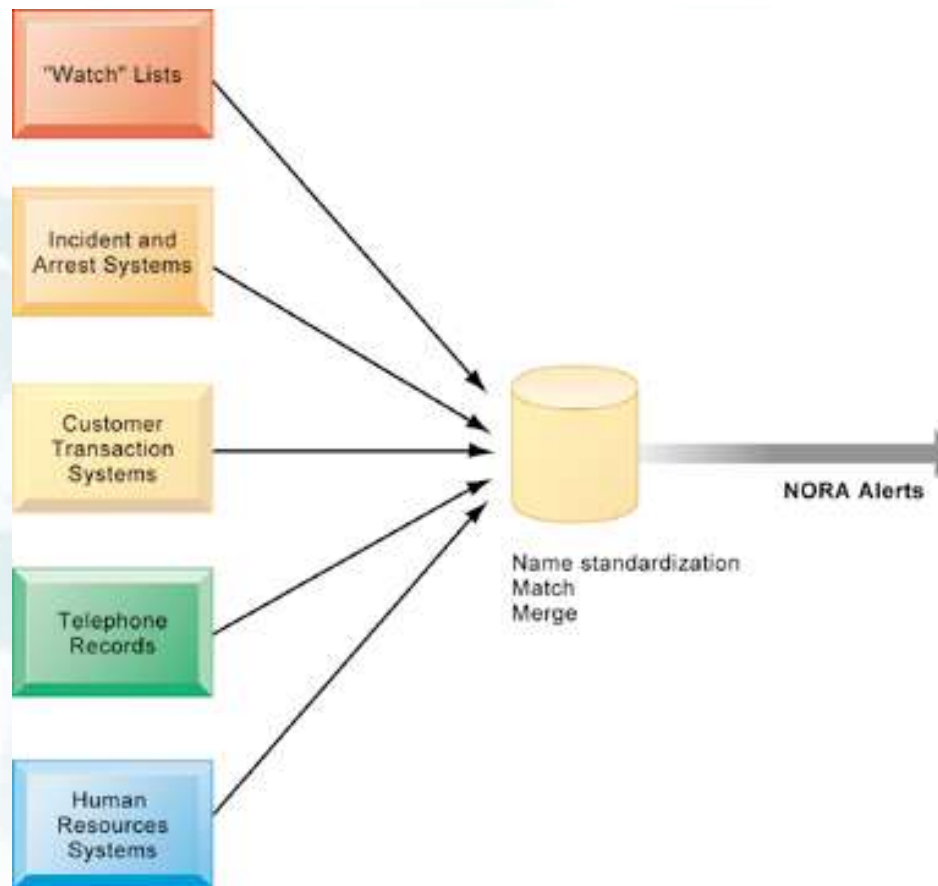


Figure 12-2



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## Chapter 12 Ethical and Social Issues in Information Systems

### Ethics in an Information Society

- **Basic concepts for ethical analysis**
  - **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





**Ethics in an Information Society**

- **Ethical analysis: A five-step process**
  1. **Identify and clearly describe the facts.**
  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.**



**Ethics in an Information Society**

- **Candidate Ethical Principles**
  - **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.
  - **Descartes' Rule of Change**
    - If an action cannot be taken repeatedly, it is not right to take at all.



**Ethics in an Information Society**

- **Candidate Ethical Principles (cont.)**
  - **Utilitarian Principle**
    - Take the action that achieves the higher or greater value.
  - **Risk Aversion Principle**
    - Take the action that produces the least harm or least 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.



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## Chapter 12 Ethical and Social Issues in Information Systems

### Ethics in an Information Society

- **Professional codes of conduct**
  - **Promulgated by associations of professionals**
    - E.g., AMA, ABA, AITP, ACM
  - **Promises by professions to regulate themselves in the general interest of society**
- **Real-world ethical dilemmas**
  - **One set of interests pitted against another**
  - **E.g., right of company to maximize productivity of workers versus workers right to use Internet for short personal tasks**



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## Chapter 12 Ethical and Social Issues in Information Systems

### The Moral Dimensions of Information Systems

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

- **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.**
- **In the United States, privacy protected by:**
  - **First Amendment (freedom of speech)**
  - **Fourth Amendment (unreasonable search and seizure)**
  - **Additional federal statutes (e.g., Privacy Act of 1974)**



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## Chapter 12 Ethical and Social Issues in Information Systems

### The Moral Dimensions of Information Systems

- **Fair information practices:**
  - **Set of principles governing the collection and use of information**
  - **Basis of most U.S. and European privacy laws**
  - **Based on mutuality of interest between record holder and individual**
  - **Restated and extended by FTC in 1998 to provide guidelines for protecting online privacy**
  - **Used to drive changes in privacy legislation**
    - **COPPA**
    - **Gramm-Leach-Bliley Act**
    - **HIPAA**



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## Chapter 12 Ethical and Social Issues in Information Systems

### The Moral Dimensions of Information Systems

- **FTC FIP principles:**
  - **Notice/awareness (core principle):**
    - **Web sites must disclose practices before collecting data.**
  - **Choice/consent (core principle):**
    - **Consumers must be able to choose how information is used for secondary purposes.**
  - **Access/participation:**
    - **Consumers must be able to review, contest accuracy of personal data.**



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## Chapter 12 Ethical and Social Issues in Information Systems

### The Moral Dimensions of Information Systems

- **FTC FIP principles (cont.)**
  - **Security:**
    - **Data collectors must take steps to ensure accuracy, security of personal data.**
  - **Enforcement:**
    - **Must be mechanism to enforce FIP principles.**





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### The Moral Dimensions of Information Systems

- **European Directive on Data Protection:**
  - Requires companies to inform people when they collect information about them and disclose how it will be stored and used.
  - Requires **informed consent** of customer.
  - EU member nations cannot transfer personal data to countries without similar privacy protection (e.g., the United States).
  - U.S. businesses use **safe harbor** framework.
    - Self-regulating policy and enforcement that meets objectives of government legislation but does not involve government regulation or enforcement.



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## Chapter 12 Ethical and Social Issues in Information Systems

### The Moral Dimensions of Information Systems

- **Internet Challenges to Privacy:**
  - **Cookies**
    - Tiny files downloaded by Web site to visitor's hard drive.
    - Identify visitor's browser and track visits to site.
    - Allow Web sites to develop profiles on visitors.
  - **Web bugs**
    - Tiny graphics embedded in e-mail messages and Web pages
    - Designed to monitor who is reading message and transmit information to another computer
  - **Spyware**
    - Surreptitiously installed on user's computer
    - May transmit user's keystrokes or display unwanted ads

**The Moral Dimensions of Information Systems**

**How Cookies Identify Web Visitors**

Cookies are written by a Web site on a visitor's hard drive. When the visitor returns to that Web site, the Web server requests the ID number from the cookie and uses it to access the data stored by that server on that visitor. The Web site can then use these data to display personalized information.



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 hard drive.
3. When the user returns to the Web site, 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.

**Figure 12-3**



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### The Moral Dimensions of Information Systems

- **The United States allows businesses to gather transaction information and use this for other marketing purposes.**
- **Online industry promotes self-regulation over privacy legislation.**
- **However, extent of responsibility taken varies:**
  - **Statements of information use**
  - **Opt-out selection boxes**
  - **Online “seals” of privacy principles**
- **Most Web sites do not have any privacy policies.**



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## Chapter 12 Ethical and Social Issues in Information Systems

### The Moral Dimensions of Information Systems

- **Technical solutions**
  - **The Platform for Privacy Preferences (P3P)**
    - **Allows Web sites to communicate privacy policies to visitor's Web browser—user**
    - **User specifies privacy levels desired in browser settings**
    - **E.g., “medium” level accepts cookies from first-party host sites that have opt-in or opt-out policies but rejects third-party cookies that use personally identifiable information without an opt-in policy.**

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## Chapter 12 Ethical and Social Issues in Information Systems

### The Moral Dimensions of Information Systems

***Web sites are posting their privacy policies for visitors to review. The TRUSTe seal designates Web sites that have agreed to adhere to TRUSTe's established privacy principles of disclosure, choice, access, and security.***



The screenshot shows a web browser window displaying the "Privacy Statement" page for InterContinental Hotels & Resorts. The page header includes the company logo and navigation links for "RESERVATIONS", "LOCATIONS", and "INSIDER EXPERIENCES". The main content area is titled "PRIVACY STATEMENT" and includes the following text:

**BIG**  
InterContinental Hotels Group | Privacy and Security

**HOW WE PROTECT YOUR PRIVACY**

The privacy and security of your personal information is very important to us. We do not share your personal information in ways not disclosed in our privacy statement or without your informed permission. We value your trust very highly, and will work to protect the security and privacy of any personal information you provide to us and will only use it as we have described in our [Privacy Policy](#).

InterContinental Hotels Group is a licensee of the TRUSTe Privacy Program. TRUSTe is an independent, non-profit organization whose mission is to enable individuals and organizations to establish trusting relationships based on respect for personal identity and information by promoting the use of fair information practices. This privacy statement covers the TRUSTe certified InterContinental Hotel Group Websites. To view a complete list of these validated InterContinental Hotel Group sites please click on the TRUSTe seal.

Because this Web site wants to demonstrate its commitment to our users' privacy, it has agreed to disclose its information practices and have its privacy practices reviewed for compliance by TRUSTe.

If there are questions or concerns regarding this statement, we ask that you first contact:

InterContinental Hotels Group  
Attn: Privacy Office  
Three Ravinia Drive  
Atlanta, Georgia 30346  
Phone: 1-770-604-6347  
Fax: 1-770-604-6375  
Email: [privacyoffice@ihg.com](mailto:privacyoffice@ihg.com)

If satisfactory response or resolution is not received within a reasonable timeframe, TRUSTe is available as a contact. Please see additional information at [TRUSTe Website Dispute Resolution Process](#). TRUSTe will serve as a liaison with the Web site to resolve user concerns.

**SECURE RESERVATIONS**

On the right side of the page, there is a TRUSTe seal with the text "TRUSTe" and "CLICK TO VERIFY" below it.



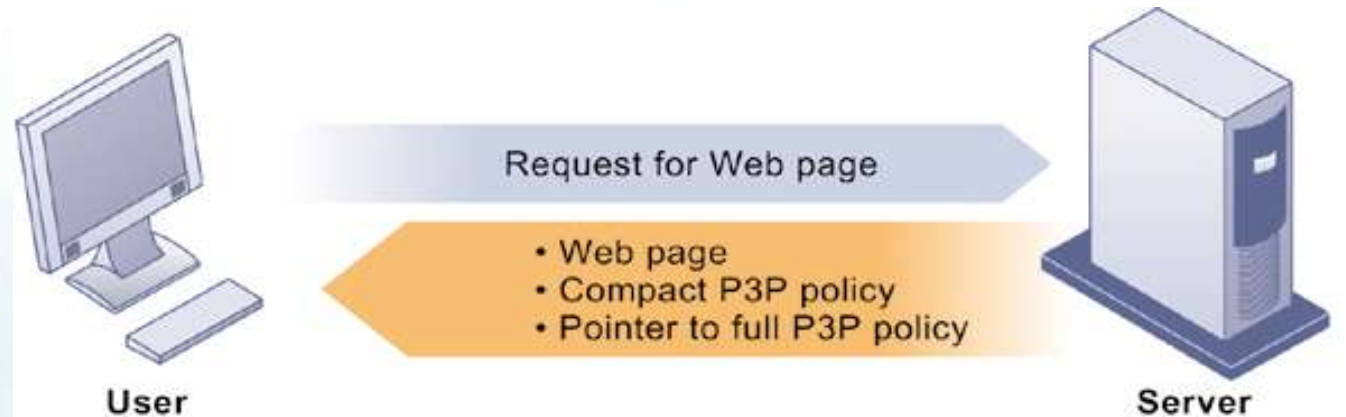
# Essentials of Management Information Systems

## Chapter 12 Ethical and Social Issues in Information Systems

### The Moral Dimensions of Information Systems

## The P3P Standard

P3P enables Web sites to translate their privacy policies into a standard format that can be read by the user's Web browser software. The user's Web browser software evaluates the Web site's privacy policy to determine whether it is compatible with the user's privacy preferences.



1. The user with P3P Web browsing software requests a Web page.
2. The Web server returns the Web page along with a compact version of the Web site's policy and a pointer to the full P3P policy. If the Web site is not P3P compliant, no P3P data are returned.
3. The user's Web browsing software compares the response from the Web site with the user's privacy preferences. If the Web site does not have a P3P policy or the policy does not match the privacy levels established by the user, it warns the user or rejects the cookies from the Web site. Otherwise, the Web page loads normally.

Figure 12-4



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## Chapter 12 Ethical and Social Issues in Information Systems

### The Moral Dimensions of Information Systems

## Property Rights: Intellectual Property

- **Intellectual property: intangible property of any kind created by individuals or corporations**
- **Three main ways that intellectual property is protected**
  - **Trade secret: intellectual work or product belonging to business, not in the public domain**
  - **Copyright: statutory grant protecting intellectual property from being copied for the life of the author, plus 70 years**
  - **Patents: grants creator of invention an exclusive monopoly on ideas behind invention for 20 years**





# Essentials of Management Information Systems

## Chapter 12 Ethical and Social Issues in Information Systems

### The Moral Dimensions of Information Systems

- **Challenges to intellectual property rights**
  - **Digital media different from physical media (e.g., books)**
    - **Ease of replication**
    - **Ease of transmission (networks, Internet)**
    - **Difficulty in classifying software**
    - **Compactness**
    - **Difficulties in establishing uniqueness**
- **Digital Millennium Copyright Act (DMCA)**
  - **Makes it illegal to circumvent technology-based protections of copyrighted materials**



# Essentials of Management Information Systems

## Chapter 12 Ethical and Social Issues in Information Systems

### The Moral Dimensions of Information Systems

- **Accountability, liability, control**
  - **Computer-related liability problems**
    - **If software fails, who is responsible?**
      - **If seen as part of machine that injures or harms, software producer and operator may be liable.**
      - **If seen as similar to book, difficult to hold author/publisher responsible.**
      - **What should liability be if software seen as service? Would this be similar to telephone systems not being liable for transmitted messages?**



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## Chapter 12 Ethical and Social Issues in Information Systems

### The Moral Dimensions of Information Systems

- **System quality: data quality and system errors**
  - **What is an acceptable, technologically feasible level of system quality?**
    - **Flawless software is economically unfeasible.**
  - **Three principal sources of poor system performance:**
    - **Software bugs, errors**
    - **Hardware or facility failures**
    - **Poor input data quality (most common source of business system failure)**



# Essentials of Management Information Systems

## Chapter 12 Ethical and Social Issues in Information Systems

### The Moral Dimensions of Information Systems

## Quality of Life: Equity, Access, and Boundaries

- **Negative social consequences of systems**
  - **Balancing power:** although computing power decentralizing, key decision making remains centralized
  - **Rapidity of change:** businesses may not have enough time to respond to global competition
  - **Maintaining boundaries:** computing, Internet use lengthens work-day, infringes on family, personal time
  - **Dependence and vulnerability:** public and private organizations ever more dependent on computer systems



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### The Moral Dimensions of Information Systems

- **Computer crime and abuse**
  - **Computer crime: commission of illegal acts through use of compute or against a computer system—computer may be object or instrument of crime**
  - **Computer abuse: unethical acts, not illegal**
    - **Spam: high costs for businesses in dealing with spam**
- **Employment:**
  - **Reengineering work resulting in lost jobs**
- **Equity and access—the digital divide:**
  - **Certain ethnic and income groups in the United States less likely to have computers or Internet access**



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### The Moral Dimensions of Information Systems

- **Health risks:**
  - **Repetitive stress injury (RSI)**
    - Largest source is computer keyboards
    - Carpal Tunnel Syndrome (CTS)
  - **Computer vision syndrome (CVS)**
  - **Technostress**
  - **Role of radiation, screen emissions, low-level electromagnetic fields**



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### The Moral Dimensions of Information Systems

***Although some people enjoy the convenience of working at home, the do anything anywhere computing environment can blur the traditional boundaries between work and family time.***





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## Chapter 12 Ethical and Social Issues in Information Systems

### The Moral Dimensions of Information Systems

***Repetitive stress injury (RSI) is the leading occupational disease today. The single largest cause of RSI is computer keyboard work***

