Ethical and Social Issues Related to Information/Data

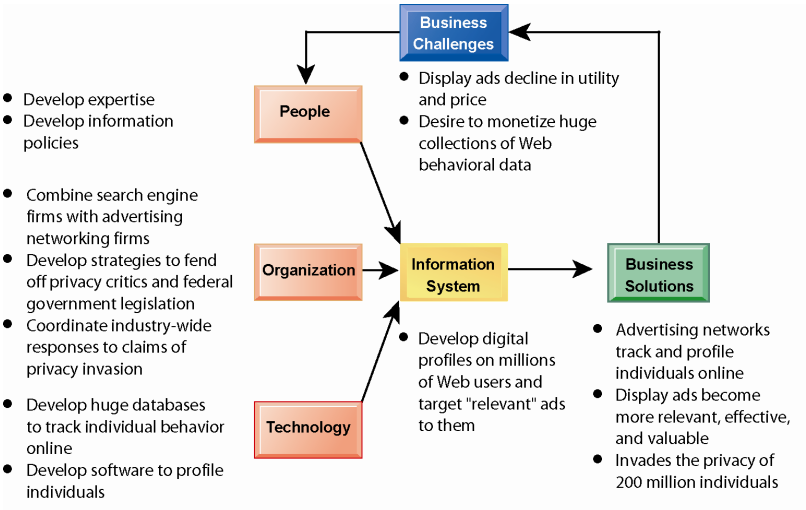
Behavioral Targeting and Your Privacy: You're the Target

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

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.**

Behavioral Targeting and Your Privacy: You're the Target



Understanding Ethical and Social Issues Related to Systems

- **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**
  - **Employers have the right to monitor network traffic on employee systems used at work**

Five Moral Dimensions of the Information Age

1. **Information rights and obligations -** What do individuals have a right to protect (i.e their personal data)? Did ChoicePoint violate this?
2. **Property rights and obligations**
3. **Accountability and control**
4. **System quality -** what standards of data and system quality should we demand to protect individual rights and the safety of society?
5. **Quality of life -** what values should be preserved in an information- and knowledge-based society?

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
- The government requires schools and public libraries to have filtering software on their computers to receive discounts for affordable Internet access.

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

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.

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.

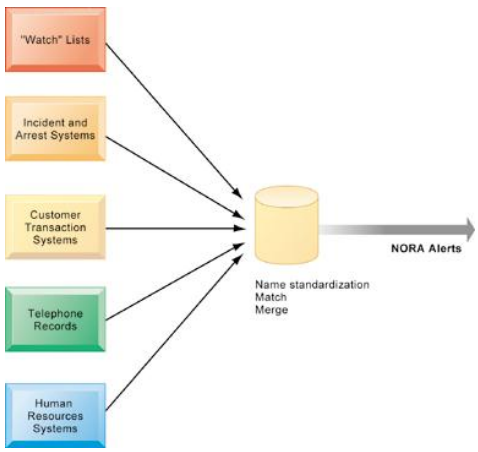


Figure 12-2

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

- **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.**

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 statues**
    - **Privacy Act of 1974 -** restricts the information the federal government can collect and regulates what they can do with the information**)**

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 (**the individual wants to engage in a transaction, and the record holder needs information about the individual to support the transaction)
- **Restated and extended by FTC in 1998 to provide guidelines for protecting online privacy**
- **Used to drive changes in privacy legislation**
  - **COPPA – Children's Online Privacy Protection Act**
  - **Gramm-Leach-Bliley Act -**requires financial institutions to explain their information-sharing practices to customers and to safeguard sensitive data.
  - **HIPAA - Health Insurance Portability and Accountability Act**

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.**

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.**

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.**
- **European privacy protection is much more stringent than in the United States.**
  - There is no junk postal mail because advertising firms are prohibited from using personal information obtained from third parties, and without the consent of the individual

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.

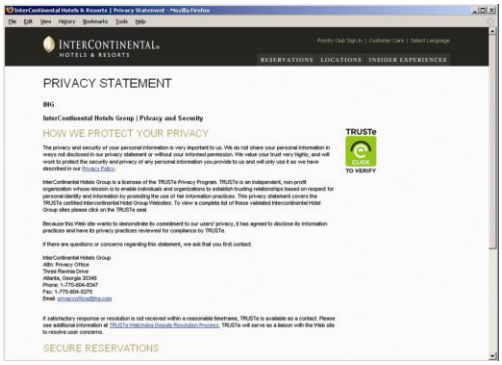
Figure 12-3

- 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.

- Technical solutions
  - The Platform for Privacy Preferences (P3P)
  - Concerned with blocking or limiting cookies
    - intended to provide Web surfers more information about the sites they visit
      - 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.

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 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

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

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?

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)

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
    - 75 percent of all e-mail traffic and is relatively unlikely to decrease, because it is so difficult to regulate and so cheap to send.
- Employment:
  - Reengineering work resulting in lost jobs