TISHK INTERNATIONAL UNIVERSITY
FACULTY OF APPLIED SCIENCE
Department of Information Technology

E-COMMERCE & E-BUSINESS
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Lecture 6

E-commerce Security and Payment Systems

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Adapted from
E-commerce: business. technology. society

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Lecture 6

- Understand the key dimensions of e-commerce security.

- Identify the major e-commerce payment systems in use today.

- Illustrate how an online credit card transaction works.

The six key dimensions of e-commerce security

1. **Integrity**—ensures that information displayed on a Web site or sent or received via the Internet has not been altered in any way by an unauthorized party.

2. **Nonrepudiation**—ensures that e-commerce participants do not deny their online actions.

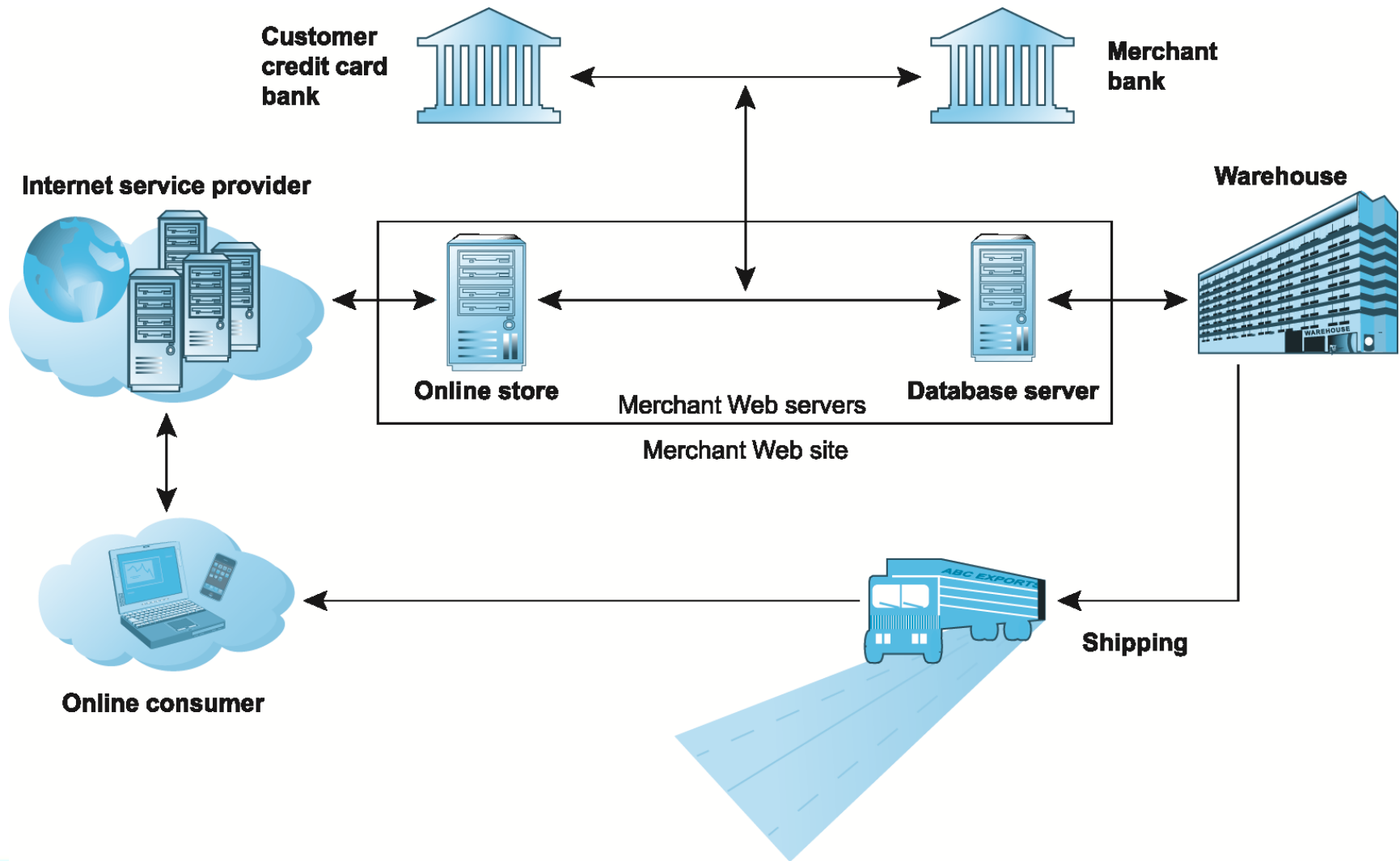3. **Authenticity**—verifies an individual's or business's identity.

The six key dimensions of e-commerce security

4. **Confidentiality**—determines whether information shared online, such as through e-mail communication or an order process, can be viewed by anyone other than the intended recipient.

5. **Privacy**—deals with the use of information shared during an online transaction. Consumers want to limit the extent to which their personal information can be disclosed by other organizations, while merchants want to protect such information from falling into the wrong hands.

6. **Availability**—determines whether a Web site is accessible and operational at any given moment.

TABLE 5.3	CUSTOMER AND MERCHANT PERSPECTIVES ON THE DIFFERENT DIMENSIONS OF E-COMMERCE SECURITY	
DIMENSION	**CUSTOMER'S PERSPECTIVE**	**MERCHANT'S PERSPECTIVE**
Integrity	Has information I transmitted or received been altered?	Has data on the site been altered without authorization? Is data being received from customers valid?
Nonrepudiation	Can a party to an action with me later deny taking the action?	Can a customer deny ordering products?
Authenticity	Who am I dealing with? How can I be assured that the person or entity is who they claim to be?	What is the real identity of the customer?
Confidentiality	Can someone other than the intended recipient read my messages?	Are messages or confidential data accessible to anyone other than those authorized to view them?
Privacy	Can I control the use of information about myself transmitted to an e-commerce merchant?	What use, if any, can be made of personal data collected as part of an e-commerce transaction? Is the personal information of customers being used in an unauthorized manner?
Availability	Can I get access to the site?	Is the site operational?

A Typical E-commerce Transaction

The two major types of E-commerce Payment Systems

1. **Online Credit cards Transaction**
   ➢ Examples (Master card , Visa)

2. **Online stored value payment system**
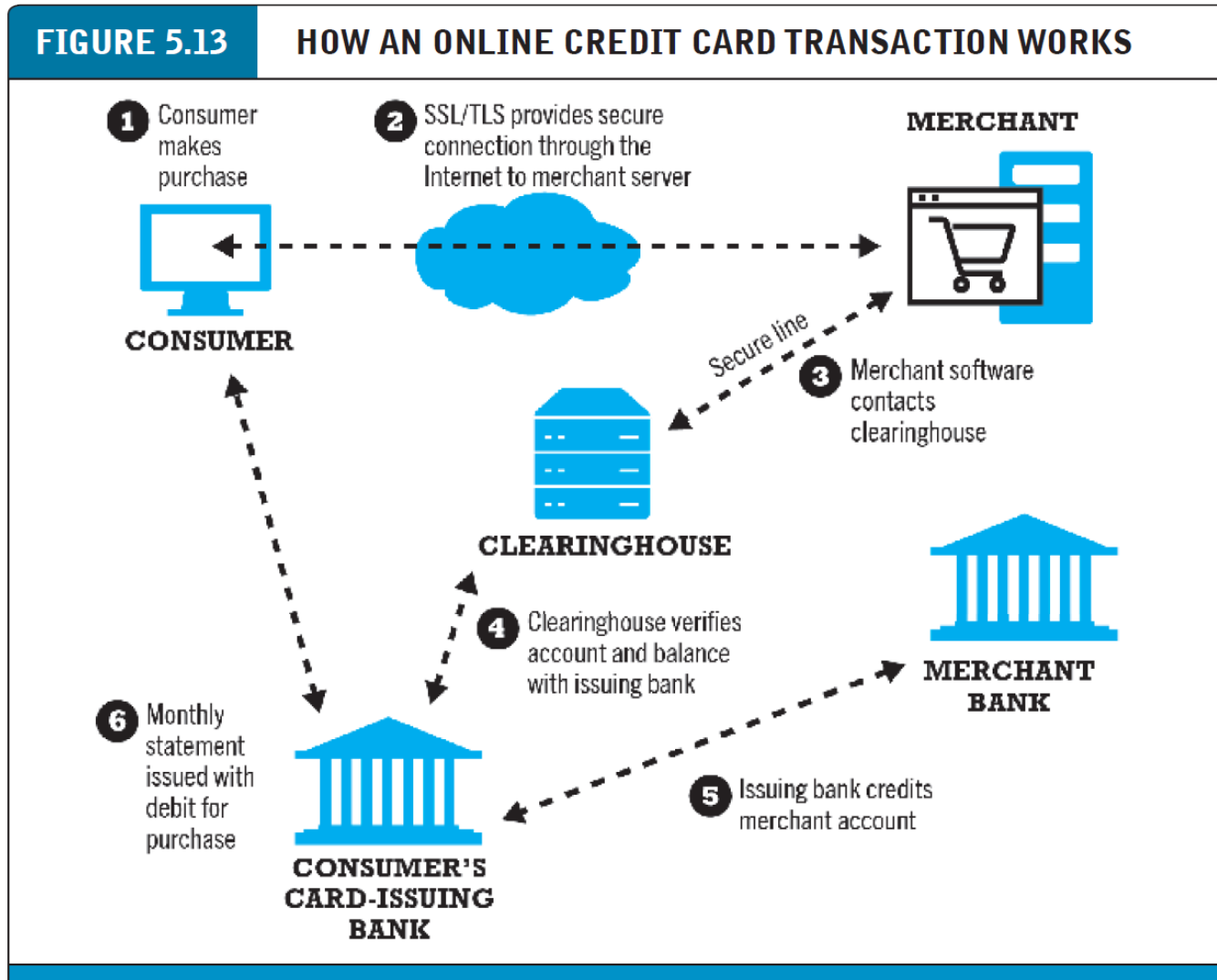   ➢ Example (PayPal)

The two major types of E-commerce Payment Systems

1.   **Online Credit cards Transaction**

- Online credit card are the **primary** form of online payment system.

- Examples of the online credit card transactions are master card and visa card.

- Payment by credit card remains the **dominant** form of online payment.

- Issuing bank: bank that actually issues credit cards and processes transactions.

HOW AN ONLINE CREDIT CARD TRANSACTION WORKS

FIGURE 5.13 HOW AN ONLINE CREDIT CARD TRANSACTION WORKS

1. Consumer makes purchase
2. SSL/TLS provides secure connection through the Internet to merchant server
3. Merchant software contacts clearinghouse
4. Clearinghouse verifies account and balance with issuing bank
5. Issuing bank credits merchant account
6. Monthly statement issued with debit for purchase

The two major types of E-commerce Payment Systems

2. **Online stored value payment system**

■ PayPal, which is an example of an online stored value payment system that permits consumers to make instant, online payments to merchants and other individuals based on value stored in an online account.

REFERENCES

- Laudon, K. C., & Traver, C. G. (2021). *E-commerce 2021–2022: business. technology. society*. Pearson Education Limited.

Review Questions

- Q1: List the six key dimensions of e-commerce security.

- Q2: List the six key dimensions of e-commerce security, then explain two of them in detail.

- Q3: Fill in the blanks:

A. Integrity ensures _____.

B. Nonrepudiation ensures _____.

C. Authenticity verifies an _____or _____ identity.

D. Confidentiality determines_____.

E. Privacy deals with the use of _____ shared during an _____.

F. Availability determines _____.

G. _____ is an example of an online stored value payment system.

H. _____ is an example of online credit cards transaction.

Review Questions

- Q4: Explain the two major types of e-commerce payment systems and give an example of each.

- Q5: _____ are the primary form of online payment system.

- Q6: Examples of the online credit card transactions are _____ and _____.

- Q7: Payment by _____ remains the dominant form of online payment.

Lecture 7

Ethical, Social, and Political Issues in E-commerce

Dr. Hala Najwan Sabeh

Adapted from
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Kenneth C. Laudon
Carol Guercio Traver

Lecture 7

L E A R N I N G O B J E C T I V E S

- Understand why e-commerce raises ethical, social, and political issues.
- Understand the various forms of intellectual property

Understanding Ethical, Social, and Political Issues in E-commerce

- **Internet, like other technologies, can:**
  - ❖ Enable new crimes
  - ❖ Affect environment
  - ❖ Threaten social values

A Model for Organizing the Issues

■ **Issues raised by Internet and e-commerce can be viewed at <u>individual</u>, <u>social</u>, and <u>political</u> levels**

■ **Four major categories of issues:**

❖ Information rights

❖ Property rights

❖ Governance

❖ Public safety and welfare

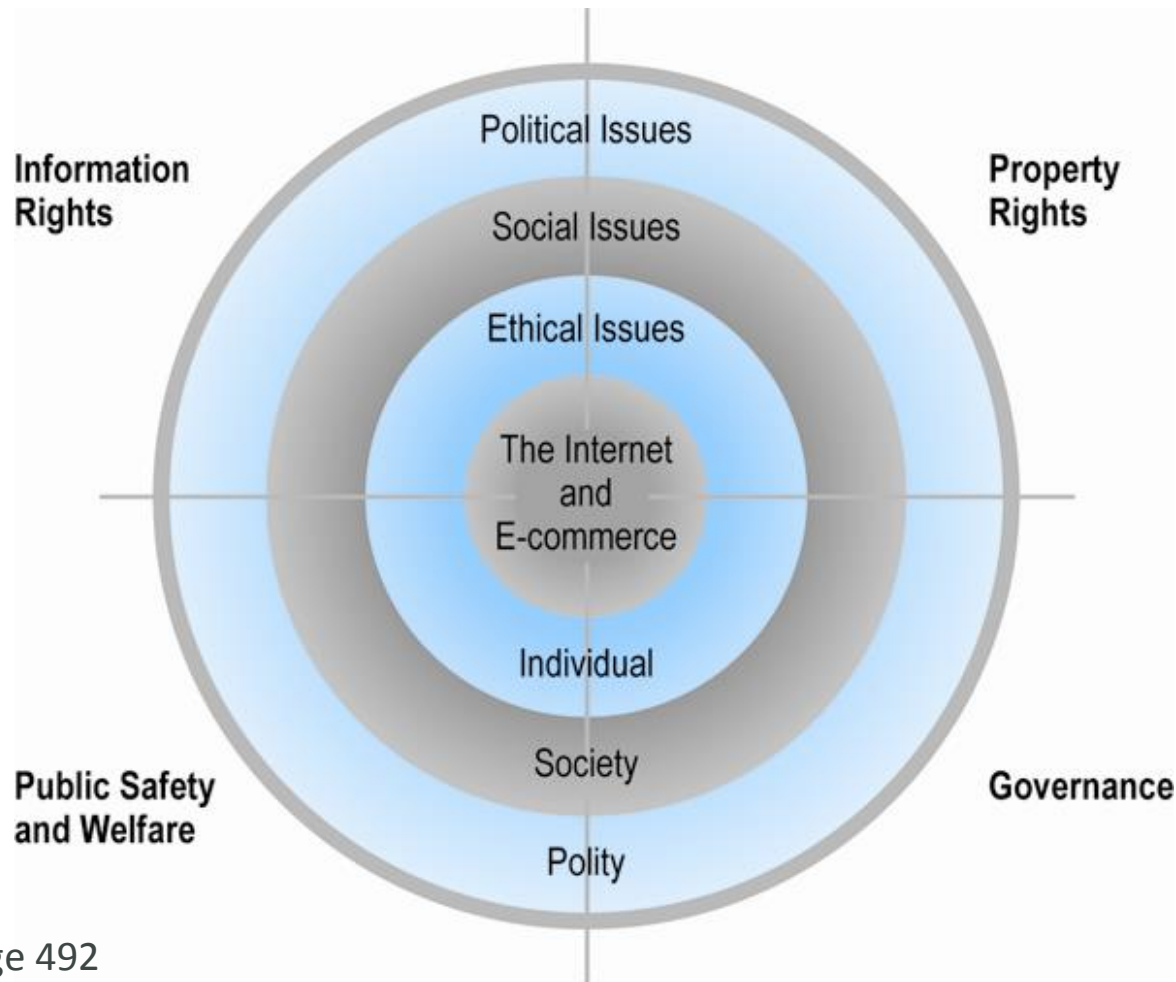# The Moral Dimensions of an Internet Society

Figure 8.1, Page 492

A Model for Organizing the Issues

Information rights: What rights to their own personal information do individuals have in a public marketplace, or in their private homes, when Internet technologies make information collection so efficient? What rights do individuals have to access information about business firms and other organizations?

Property rights: How can traditional intellectual property rights be enforced in an Internet world where perfect copies of protected works can be made and easily distributed worldwide in seconds?

Governance: Should the Internet and e-commerce be subject to public laws?

Public safety and welfare: What efforts should be undertaken to ensure equitable access to the Internet and e-commerce channels? Should governments be responsible for ensuring that schools and colleges have access to the Internet? Are certain online content and activities—such as fake news or tweeting of hateful language—a threat to public safety and welfare?

Information Collected at E-commerce Sites

(Review Questions-Q3)

■ **Types of data collected**

❖ Name, address, phone, e-mail

❖ Bank and credit accounts, gender, age, occupation, education

❖ Preference data, transaction data, clickstream data, browser type

Information Collected at E-commerce Sites

(Review Questions-Q3)

TABLE 8.5	PERSONAL INFORMATION COLLECTED BY E-COMMERCE SITES	
Name	Gender	Education
Address	Age	Preference data
Phone number	Occupation	Transaction data
E-mail address	Location	Clickstream data
Social security number	Location history	Device used for access
Bank account numbers	Likes	Browser type
Credit card numbers	Photograph	

Intellectual Property Protection

- **Three main types of protection:**
  1. Copyright
  2. Patent
  3. Trademark law

- **Goal of intellectual property law:**
  - ❖ Balance two competing interests—public and private

- **Maintaining this balance of interests is always challenged by the invention of new technologies**

Copyright

- **Copyright:** **Protects original forms of expression (but not ideas) from being copied by others for a period of time**

Patents

- **Patents: Grant owner 20-year monopoly on ideas behind an invention**
  - ❖ Machines
  - ❖ Man-made products
  - ❖ Processing methods

- **Invention must be new and novel**

- **Encourages inventors**

- **Promotes dissemination of new techniques through licensing**

Trademarks

- **Trademarks: Identify, distinguish goods, and indicate their source**

- **Purpose**
  - Ensure consumer gets what is paid for/expected to receive
  - Protect owner against piracy and misappropriation

- **Single words, pictures, shapes, packaging, and colors used to identify and distinguish goods are protected under trademark law.**

REFERENCES

- Laudon, K. C., & Traver, C. G. (2021). *E-commerce 2021–2022: business. technology. society*. Pearson Education Limited.

Review Questions

- Q1:The four major dimensions of e-commerce ethical, social, and political issues are <u>public safety and welfare</u>; <u>property rights</u>; <u>information rights</u>; and _____.

- Q2: Single words, pictures, shapes, packaging, and colors used to identify and distinguish goods are protected under _____ law.

- Q3: e-commerce companies routinely collect a variety of information from or about consumers who visit and/or make purchases at their websites or mobile apps. What are the types of data collected by e-commerce sites?

- Q4: Define the following terms:
  - ❖ Copyright, Patent, Trademark.