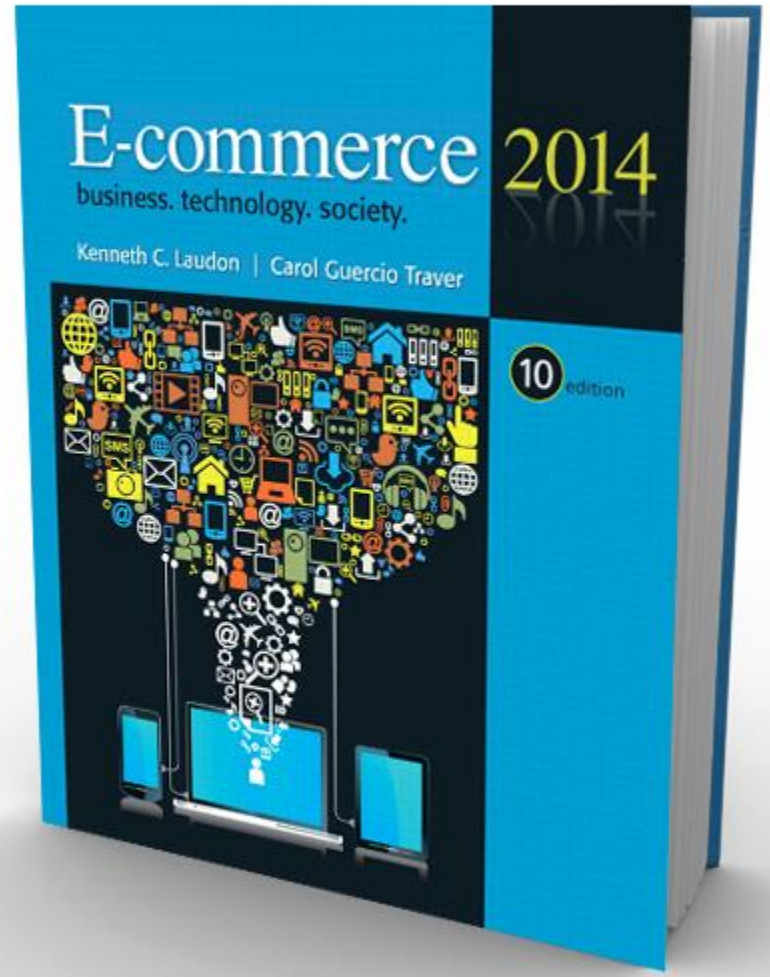

E-commerce 2014

business. technology. society.

tenth edition

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Chapter 5

E-commerce Security and Payment Systems

e Commerce Course :

Parts of Chapters
1.1 & 1.2,
5.1
8.1, 8.2 & 8.3
10.1

Complete Chapters
2, 3, 4, 6, 7 and 9

TABLE 4.1 WHAT'S NEW IN E-COMMERCE SECURITY 2016–2017

- Large-scale data breaches continue to expose data about individuals to hackers and other cybercriminals.
- Mobile malware presents a tangible threat as smartphones and other mobile devices become more common targets of cybercriminals, especially as their use for mobile payments rises.
- Malware creation continues to skyrocket and ransomware attacks rise.
- Distributed Denial of Service (DDoS) attacks are now capable of slowing Internet service within entire countries.
- Nations continue to engage in cyberwarfare and cyberespionage.
- Hackers and cybercriminals continue to focus their efforts on social network sites to exploit potential victims through social engineering and hacking attacks.
- Politically motivated, targeted attacks by hacktivist groups continue, in some cases merging with financially motivated cybercriminals to target financial systems with advanced persistent threats.
- Software vulnerabilities, such as the Heartbleed bug and other zero day vulnerabilities, continue to create security threats.
- Incidents involving celebrities raise awareness of cloud security issues.

Definitions Of Risk

International Organization for Standardization (ISO):

"The potential that a given threat will exploit vulnerabilities of an asset or group of assets to cause loss or damage to the assets. The impact or relative severity of the risk is proportional to the business value of the loss/damage and to the estimated frequency of the threat."

Risk Reduction Methods

- Terminate the Risk,
- Minimize Probability of Occurrence,
- Minimize Impact,
- Transfer/Insurance

What Is Good E-commerce Security?

- **To achieve highest degree of security**
  - New technologies
  - Organizational policies and procedures
  - Industry standards and government laws
- **Other factors**
  - Time value of money
  - Cost of security vs. potential loss
  - Security often breaks at weakest link

FIGURE 4.1 THE E-COMMERCE SECURITY ENVIRONMENT

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?

Table 5.3, Page 254

The Tension Between Security and Other Values

- **Ease of use**
  - The more security measures added, the more difficult a site is to use, and the slower it becomes
- **Public safety and criminal uses of the Internet**
  - Use of technology by criminals to plan crimes or threaten nation-state