Learning Objectives

Upon completion of this unit, students should be able to:

1. Describe the major types of B2B models.
2. Discuss the characteristics of the sell-side marketplace, including auctions.
3. Explain the characteristics of the buy-side marketplace and e-procurement.
4. Illustrate the various ownership and revenue models of exchanges.
5. Demonstrate integration issues of e-marketplaces and exchanges.
6. Interpret issues in managing exchanges, including the critical success factors of exchanges.
7. Define the e-supply chain and describe its characteristics and components.
8. Describe collaborative planning and Collaboration, Planning, Forecasting, and Replenishing (CPFR) and list the benefits of each.

Unit Summary

This unit describes the technical infrastructure for e-commerce covering important e-commerce payment and security systems. There are five basic types of payment systems: cash, checks, credit cards, stored value, and accumulating balance. While the Web has not created completely new methods of payment, it has greatly changed how methods of payment are implemented. Moreover, Web consumers in the U.S. predominantly use credit cards for purchases, and efforts to wean consumers away from their credit card have generally failed. The one exception is P2P payment systems such as PayPal, which still rely on the stored value provided by credit cards or checking accounts. Credit card fraud on the Web is about 3-5 times larger than credit card fraud in the general economy, yet still represents only 3-5% of all Web transactions. Moreover, the merchant, not the consumer, faces the greatest risks given the nature of banking laws and regulations in the country. The opening case summarizes a number of credit card fraud situations that outline the risks to merchants.

Good security has many elements, there are six key ingredients required for e-commerce sites and how the key stakeholders (consumers and merchants) view the issue. Students will be introduced to e-commerce environment threats for both consumers and merchants during transactions and vulnerable points in the transaction process. Malicious code, hacking, and cybervandalism are covered.

Students are also introduced to how security threats can be ameliorated through technology, such as encryption techniques, public key encryption, and digital signatures. Protecting the integrity, authenticity, and confidentiality of Internet communications is an important aspect of preventing security breaches. Students are introduced to SSL-- the most common form of encryption used in E-commerce transactions--and how firewalls and proxy servers are used to protect merchant servers and networks from hackers.

Key Terms

1. Advanced planning and scheduling (APS) systems
2. B2B portals
3. Bartering exchange
4. Bullwhip effect
5. Business-to-business e-commerce
6. Direct Materials
7. Dynamic pricing
8. E-procurement
9. E-procurement
10. E-sourcing
11. Exchange
12. Horizontal exchange
13. Supplier relationship management
14. Supply chain management
15. Value-added networks
16. Vertical marketplaces
17. Voice-over-IP
There are limitations to technical security measures, and they often presume a secure organizational environment before they can work. Encryption of any kind is susceptible to disloyal or disgruntled employees and poor client side security (such as keeping your passwords on an insecure PC directory). Encryption also slows processors and the entire transaction process; the better the security, the worse the performance.

Even the best technical security is insufficient to protect e-commerce sites, and what is needed is effective policies, procedures and laws. The student is introduced to what is necessary to make effective organizational policies and procedures to deter security breaches. Students will also read about laws that are necessary to prevent future crime and punishing e-commerce criminal behavior. Students will analyze what is necessary for an effective security planning.

The unit also summarizes the great variety of payment systems available on the Web. There are five generic types of payment systems, each with different characteristics. These include: cash, personal check, credit card, stored value, and accumulating balance. In this unit, the student will examine each of these systems, focusing on credit card e-commerce transactions, which is the most common form of e-commerce payment. These transactions carry risks for merchants in particular, and moreover, credit cards are not equally distributed. Millions of U.S. citizens do not have a credit card, making it difficult for them to shop on the Web, raising an issue of a digital payment divide. As it turns out, for the millions of Americans without a credit card, shopping online can be quite difficult. Other payment systems of E-commerce Digital Payment Systems, Electronic Billing Presentment and Payment, and B2B Payment Systems are discussed in this unit.