

Chapter 13

Electronic Payment Systems

Learning Objectives

Upon completion of this chapter, you will be able to:

1. Understand the crucial factors that determine the success of e-payment methods.
2. Discuss the players and processes involved in using credit cards online.
3. Discuss the different categories and potential uses of smart cards.
4. Discuss various online alternatives to credit card payments and identify under what circumstances they are best used.
5. Describe the processes and parties involved in e-checking.
6. Describe payment methods in B2B EC, including payments for global trade.
7. Discuss bill presentment and payment.
8. Describe special payment methods.

Content

LensDoc Organizes Payments Online

- 13.1 Electronic Payments: A Critical Element in EC Support Services
- 13.2 Electronic Cards and Smart Cards
- 13.3 E-Cash and Innovative Payment Methods
- 13.4 E-Checking
- 13.5 B2B Electronic Payments
- 13.6 Electronic Bill Presentment and Payment
- 13.7 Special Payment-Related Issues

Managerial Issues

Real-World Case: GUESS Overcomes Online Fraud

Answers to Pause/Break Section Review Questions

Section 13.1 Review Questions

1. *Why is credit card payment so popular in EC? What are the problems with using credit cards for EC?*

Credit card payments are very popular in EC because of the ease-of-use and the ability to use the existing credit card infrastructure. Two major problems with using credit cards in EC are trust and security.

2. *List all of the parties that may be involved in e-payment.*

The parties involved include: issuer, customer/payer/buyer, and merchant/payee/seller, and regulator.

3. *List the major e-payment methods that are good for B2B.*

These include e-checks, purchase cards, e-letters of credit, EFT, and EBT.

4. *List the various factors (characteristics) that determine the acceptance of an e-payment method.*

The characteristics include: independence, with interoperability/portability, security, anonymity, divisibility, ease-of-use and transaction fees.

5. *What are some of the benefits of e-payments?*

The benefits include the reduction transaction costs, increased speed of transactions, and increased geographic reach in transactions.

6. *Describe the various e-payment security issues.*

The security issues in e-payments relate to the acronym PAIN.

Section 13.2 Review Questions

1. *List the common types of payment cards.*

The three common types of payment cards include credit cards, charge cards, and debit cards.

2. *Describe how online credit card processing works.*

The cardholder orders merchandise from an EC site using their credit card. The EC site authorizes the card for the correct amount and ships the item. An authorization network debits the amount from the cardholder's account and credits the merchant's account that amount.

3. *List security issues related to payment cards.*

Some of these issues include stolen cards, reneging by the customer, and theft of card details stored on the merchant's computer.

4. *Describe how a purchase card works.*

A purchase card is a special-purpose payment card issued to a company's employees to be used solely for the purchase of nonstrategic materials and services up to a preset dollar

limit. These cards act in much the same way as standard credit cards, with the exception that they are issued by a company and are to be used for specific types of purchases.

5. *Define smart cards and list some major applications.*

A smart card is an electronic card containing an embedded microchip that enables predefined operations or the addition, deletion, or manipulation of information on the card. These cards can be used in loyalty programs, financial institutions, IT applications, health-care programs, transportation, and identification.

6. *List the advantages of smart cards.*

Smart cards can contain information or microchips that give them a greater flexibility and ease-of-use not found in other card systems.

Section 13.3 Review Questions

1. *Describe the drivers of e-cash.*

E-cash is a digital equivalent of paper currencies in points, which secure anonymous purchases of low-priced items. It could be used in places where standard payment cards are not practical and would thus be a benefit to EC.

2. *Define micropayments. Why are they suitable for e-cash?*

A micropayment is a small payment, usually under \$10. They are suitable for e-cash because they would work in areas where traditional payment cards are not applicable.

3. *What are stored-value cards?*

A stored-value card is a payment card that has a certain value stored in it that can be debited against until the balance reaches zero.

4. *Describe e-loyalty programs.*

These programs reward repeat customers who continue to shop at the EC site or refer others to the site. The rewards take the form of merchandise credits.

5. *Describe P2P payment methods.*

These are electronic payment schemes that enable the transfer of funds between two individuals. Paypal.com is an example.

6. *Describe some non-Internet payment methods.*

Two methods would include letters of credit and TradeCard payments.

Section 13.4 Review Questions

1. *Define e-check.*

An e-check is the electronic version or representation of a paper check.

2. *List some of the benefits of e-checks.*

The major benefits include decreased transaction costs, ability to use existing infrastructure, and ability to use advanced security techniques.

3. *Why are e-checks used in B2C? In B2B?*

Checks can be used in business-to-consumer situations because many consumers have access and regularly use checks. In business-to-business situations checks may be used because of a large dollar amount changing hands, but this requires a higher standard of security.

Section 13.5 Review Questions

1. *List the major B2B e-payment methods.*

These include e-checks, purchase cards, e-letters of credit, EFT, and EBT.

2. *Describe purchasing cards and list their benefits.*

A purchase card is a special-purpose payment card issued to a company's employees to be used solely for the purchase of nonstrategic materials and services up to a preset dollar limit. These cards act in much the same way as standard credit cards, with the exception that they are issued by a company and are to be used for specific types of purchases.

3. *Describe an electronic letter of credit and its use.*

An e-letter of credit is a guarantee from a bank regarding the trustworthiness of a business up to a certain dollar value.

4. *Describe TradeCard and its advantages.*

TradeCard is a third-party validation and payment system used in lieu of an LC by SMEs.

Section 13.6 Review Questions

1. *Describe the process of bill presentment and payment.*

Online bill presentation is the presentation and hosting on a specialized Web server of information that is typically printed on a bill. Payment can also take place electronically.

2. *Describe the benefits of EBPP.*

Advantages include reduced costs, improved service, advertising and decreased paperwork.

Section 13.7 Review Questions

1. *Describe the EC tax-calculation problem.*

In the U.S., there are numerous tax districts with varying rules.

2. *Describe the possible solutions to the tax-collection problem.*

One solution might be a national clearinghouse.

3. *Describe non-payment-related financial services used for supplementing payments in B2B.*

Other services include credit reporting, risk analysis and financial matching, and exchange insurance.

Answers to EC Application Case Questions

EC Application Case 13.1: The Highway 91 Project

1. *Explain the benefits of this payment method.*

It is intelligent payment/billing that uses a smart card to identify the user. Billing is sent monthly, with no waiting for same-time payment.

2. *Can you think of a better payment system? Explain.*

Student answers will vary.

3. *Can this system be transferred to the Internet?*

Yes, motorists could be billed online or access their accounts online.

4. *Can the concept be used in other applications? Explain.*

Yes, the same smart card can be used in different scenarios. Student answers will vary.

EC Application 13.2: TAL Apparel Takes Online Goods to the Next Stage with TradeCard

1. *Describe the benefits of TradeCard to TAL's buyers and suppliers*

The system provides several advantages, with the largest being transaction speed and efficiency.

2. *What are the benefits of combining the payment system with other processes?*

It allows the processes to work together seamlessly.

3. *The system is good for local and global trade. What are the particular benefits of global trade*

It eases the burdens of communications and the use of letters of credit.

Answers to Discussion Questions

1. *Credit cards were able to overcome the "chicken-and-egg" problem with regard to online payments. However, to date, various e-cash methods have failed. What are some of the reasons for their failures? What does an e-cash company need to do to break the barrier?*

Student answers will vary. Most systems were unable to reach a critical mass of users because of difficulties in use or lack of perceived need. New companies would need to overcome these issues, specifically the issue of a critical mass of users.

2. *A small business owner wants to sell handcrafted jewelry to teenagers on the Web. What methods of e-payment would you recommend the owners accept and why?*

Student answers will vary. Examples might include credit cards, electronic checks, or InternetCash type methods.

3. *Recently, a merchant who accepts online credit card payments has experienced a wave of fraudulent purchases. What sorts of security measures can the merchant impose without hindering legitimate customers?*

Student answers will vary. One option would be to authorize and authenticate users before allowing them to make a purchase. This could be done by requiring users to create an account with a password before they could make a purchase.

4. *You receive an online e-check. What security methods can be used to ensure the identity of the sender? (Consult Chapter 12 for info on PKI.)*

The techniques used would be similar to the techniques used to verify the authenticity of a paper check.

5. *You invite a group of friends to lunch. At the end of lunch, you pick up the check and your friends agree to repay you later. How could they pay you online?*

Student answers will vary. Your friends would use a P2P payment system such as Paypal.com.

6. *Compare solutions such as PayPal to InternetCash.*

Both solutions allow for the payment of goods and services online. PayPal is a peer-to-peer payment method that utilizes existing credit card and bank accounts. InternetCash is a stored-value arrangement that does not rely on existing accounts.

7. *How would you suggest your furniture company pay its online office-supply vendor? What about the supplier of wood? Also, the company exports products to several countries using an online ordering system. How should your overseas buyers pay?*

Student answers will vary.

8. *Discuss the workflow of B2B payments. Visit surepay.com for hints. Relate this workflow to e-procurement.*

Student answers will vary.

Internet Exercises

(Note: URLs may change over time; please check the Internet Exercises on the Turban Web site for possible updates: www.prenhall.com/turban.)

1. *Visit **verisign.com** and take the guided tour of e-payment processing solutions. While at VeriSign, sign-up for a digital ID that can be used with e-mail. Use the ID to encrypt and e-mail a message to your instructor.*

Student reports will vary.

2. *Go to **checkfree.com** and run the e-billing demo. Check the “Pay Everyone” and other services. What features and functions does CheckFree provide? Would you use the service? Why or why not?*

Student reports will vary. The firm provides a variety of bill management and payment features. Users can pay from a variety of accounts including checking, savings and credit card.

3. *Go to the RocketCash site (**rocketcash.com**). What is RocketCash? What is RocketFuel? Approximately how many stores accept RocketCash? What types of stores are they and to whom do they cater?*

Rocketcash is a stored-value system aimed at children and teenagers. RocketFuel is not currently mentioned on the site. The site currently has over 100 stores you can shop at.

4. *Visit the following Web sites: **toysrus.com**, **kbkids.com**, **amazon.com**, **lego.com**, and **dogtoys.com**. Find out what delivery options are offered by each company. Then examine delivery options offered by **starbucks.com** and **carsdirect.com**. Prepare a report based on your findings.*

Student reports will vary.

5. *Enter **tradecard.com**. Review a demo or a video Webcast about the process. Summarize the process and the benefits to a small exporter.*

This system allows smaller companies to quickly utilize a trusted financial agent (tradecard.com) in international trading. This enables trading where it would have been impossible due to payment issues and makes an LC unnecessary.

6. *Enter **projectliberty.com** and **passport.net/Consumer**. Compare the two products (also see Costa 2002). Write a report.*

Student reports will vary.

7. *Enter **paypal.com** and **c2it.com** and compare their modes of operations. What do you like and dislike about each service?*

Both services allow personal and business payments over the Web using credit cards and other accounts. Student reports will vary.

8. *Enter **gemplus.com** and identify the smart-card-based applications. Prepare a list of applications not cited in the text.*

Student reports will vary.

9. *Visit **qpass.com** and identify the services offered by the company.*

Student reports will vary.

10. Visit **firstdata.com**. Identify all the services they provide to B2B payments. Examine the nature of their partners. Write a report. Compare its services to those offered by **surepay.com**.

Student reports will vary.

11. Enter **checkagain.com**. Review the services offered. Use a calculator to calculate savings in a scenario that you create.

Student reports will vary.

Team Assignments and Role Playing

1. Select some B2C sites that cater to teens (e.g., **alloy.com**) and some that cater to older consumers (e.g., **seniorcitizens.com** and **snow-bird.net**). Have team members visit these sites. What types of e-payment methods do they provide? Are there any differences among the methods used on different types of sites? What other types of e-payment would you recommend for the various sites and why?

Student reports will vary.

2. Organize teams to explore successful smart card applications by application areas and/or countries. Prepare a report.

Student reports will vary.

3. Have a team represent Mondex while another represents Visa Cash. The task of each team is to convince a company that their product is superior.

Student reports will vary.

4. Have each team member interview three to five people who have made a purchase or sold an item at auction over the Internet. Find out how they paid. What security and privacy concerns did they have regarding the payment? Is there an ideal payment method?

Student reports will vary.

End-of-Chapter Real-World Case Questions: GUESS Overcomes Online Fraud

1. This system is used for online credit card payments. Can it be used for other e-payment methods? Explain.

The system could potentially be used for other payment systems if fraud modeling equations existed for them.

2. *What are the advantages of such a system for GUESS?*

The system reduces fraud, which decreases the company's costs and exposure.

3. *Review the benefits of international export.*

Several benefits exist, with the largest being the ability to reach a larger group of customers.

4. *Relate this case to the opening case of this chapter. Do you think that this solution could be applied to LensDoc's problem? Why or why not?*

Student responses will vary.

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