Unit 5

Payment

Text A

Accepting Online Payments

For many small businesses, accepting payments online offers major benefits. Customers increasingly expect this facility and it can improve your cashflow significantly.

It's easy to accept cheques or invoices[1] for your online sales and to process payments in the traditional way. However, because buyers often use the Internet for a speedy service, most sales are paid for with credit and debit cards. To accept cards online, you will have to make special banking arrangements.

Online payments using cards are "card-not-present" transactions. There are higher risks of fraud with this type of payment and banks require you to operate within a well-defined set of rules and accept a higher level of commercial risk than a conventional swiped card transaction in a shop.

1. Online payment jargon

Debit and credit card[2] payments and their application online involve some key concepts and jargon.

1.1 Acquirers

An acquirer[3] can be a high street bank or other financial institution that offers credit and debit card accepting/processing services. It acquires the money from the customer, processes the transaction and credits your account.

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1 An invoice is a commercial document issued by a seller to the buyer, indicating the products, quantities, and agreed prices（定价） for products or services the seller has provided the buyer. An invoice indicates the buyer must pay the seller, according to the payment terms.

2 A credit card is a small plastic card（塑料卡） issued to users as a system of payment. It allows its holder（持有人） to buy goods and services based on the holder's promise to pay for these goods and services.

3 An acquirer (or acquiring bank) is a member of a card association, for example MasterCard（万事达卡） and/or Visa（维萨卡）, which maintains merchant relationships and receives all bankcard transactions from the merchant.

1.2 Internet Merchant Accounts (IMAs)

You need to apply for a merchant service agreement if you want a bank to handle your electronic payments. For Web-based online transactions you need an IMA.

Obtaining an IMA from an acquirer may be quicker and easier if you already have "offline" card-processing facilities set up. In this case, just ask your acquirer for an additional IMA ID for use exclusively with Internet transactions. This process is normally quick, especially if the risk to your business does not change.

To help protect merchants and cardholders from fraud, the card schemes have developed a service that allows cardholders to authenticate themselves when shopping online.

1.3 Payment Service Providers (PSPs)[1]

A PSP will provide you with a "virtual" till or terminal that collects card details over the Internet and passes them to the acquiring bank. To take electronic payments over the Web, you will need a PSP.

Your choice of PSP will depend on its cost and compatibility with your chosen e-commerce software solution. A fixed monthly fee starts at around £10, but there are some cheaper options available, starting as low as 5 pence per transaction. Usually, the higher your transaction volume the lower the rate you will be charged.

Some acquiring banks offer PSP services as part of their product and there are other less expensive options available.

2. Payment Card Industry Data Security Standard Compliance

The Payment Card Industry Data Security Standard (PCI DSS) is a worldwide security standard developed by the Payment Card Industry (PCI)[2] Security Standards Council to protect cardholder information, such as credit and debit card numbers and cardholders' personal details. It includes requirements for security management, network architecture, software design, security policies and procedures, and other protection of customer account data. The standard is applicable to any organisation that stores, transmits or processes cardholder information; be they a merchant, third-party processor or acquirer.

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1 A Payment Service Provider (PSP) offers merchants online services for accepting electronic payments by a variety of payment methods including credit card, bank-based payments such as direct debit(直接借记), bank transfer(银行转账), and real-time bank transfer based on online banking. Some PSPs provide unique services to process other next generation methods including cash payments, wallets such as PayPal, prepaid cards or vouchers(凭证，凭单), and even paper or e-check processing.

2 The Payment Card Industry (PCI) denotes the debit, credit, prepaid, e-purse (电子钱包), ATM, and POS cards and associated businesses.

The term is sometimes more specifically used to refer to the Payment Card Industry Security Standards Council, an independent council originally formed by American Express, Discover Financial Services, JCB, MasterCard Worldwide and Visa International on Sept. 7, 2006, with the goal of managing the ongoing evolution of the Payment Card Industry Data Security Standard.

PCI DSS is a set of 6 principles that encompass 12 specific requirements. These requirements are equally applicable to any organisation holding personal information and are intended to reduce the organisation's risk of a data breach.

Principle 1: Build and maintain a secure network.

(1) install and maintain a firewall configuration to protect your cardholders' data.

(2) do not use vendor defaults for system passwords or other security actions.

Principle 2: Protect your cardholder data.

(1) protect any stored cardholder data.

(2) encrypt transmission of your cardholders' data across open, public networks.

Principle 3: Keep a vulnerability management plan.

(1) always use and regularly update your anti-virus software.

(2) develop and maintain secure systems and applications.

Principle 4: Implement strong access control practices.

(1) limit access to cardholder data to only those who need to know.

(2) give every person with computer access a unique ID.

(3) limit physical access to cardholder data.

Principle 5: Monitor and test your networks on a regular basis.

(1) track and monitor all access to your network resources and cardholder data.

(2) regularly test security systems and procedures.

Principle 6: Keep an information security policy.

Always keep a policy that addresses your information security.

The PCI Security Standard Council encourages businesses that store payment data to comply with PCI DSS and become certified to help reduce financial risks from data compromises. However, it is the payment card schemes that manage the actual compliance programme. In practical terms this means the programme is managed by acquirers and you should check with your bank to seek advice on your specific compliance obligations and how your business can become certified.

Failure to be annually certified can become an issue if you have a security breach and your customers' card details are stolen, in which case penalties levied by the card schemes and costs can be heavy depending on the number of cards compromised. Even where a merchant is certified this does not protect them from potential penalties if it is deemed that their own actions through negligence, omission or accident contributed to a breach.

3. Selecting the best online payment option

You can use the following scenarios to help you choose the best option for your business.

3.1 Internet Merchant Account (IMA)

Your business already accepts debit and credit card payments for face-to-face transactions.

You expect a fairly high number of online transactions, most of which will be simple and low risk. You need the greatest amount of flexibility in operating your business and cashflow is very important. If this sounds like your business, then you should:

(1) apply directly for an IMA and discuss your requirements with the acquiring bank.

(2) find the information on setting up an Internet merchant account.

3.2 Payment-processing company

Your business will not have a large number of online transactions and you do not currently accept debit or credit card transactions so do not have an IMA. You have not been trading long and cannot provide a well-documented operations history.

You value the ability to attract online sales more highly than the ability to collect sales income quickly. Your business will need some flexibility in the way in which it designs and operates its Web site, so you should:

(1) consider the facilities that a payment-processing company could offer, with the possibility of moving to a less costly option later.

(2) find the information on using a payment-processing company.

3.3 Online shopping mall

Your business is small, you do not currently offer debit or credit card sales and you have very limited IT skills. Your products are fairly standardised and easily understood. You do not think that your Web site needs any unusual features. You are prepared to pay higher transaction and fixed costs just to establish a Web presence. If this applies to your business, you should:

(1) look at the facilities that an online shopping mall could offer.

(2) find the information on selling through an online shopping mall.

New Words

expect	[iksˈpekt]	*vt*. 期待，预期，盼望，指望
significantly	[sigˈnifikəntli]	*adv*. 重要地，有意义地
cheque	[tʃek]	*n*. 支票
traditional	[trəˈdiʃənəl]	*adj*. 传统的，惯例的
speedy	[ˈspiːdi]	*adj*. 快的，迅速的
swipe	[swaip]	*vt*. 刷（磁卡）；偷盗，扒窃
jargon	[ˈdʒɑːgən]	*n*. 行话
acquirer	[əˈkwaiərə]	*n*. 发卡行，收单银行
offline	[ˈɔːflain]	*adj*. 未联机的，脱机的，离线的
exclusively	[ikˈsklu:sivli]	*adv*. 排外地，专有地
protect	[prəˈtekt]	*vt*. 保护

merchant	['mə:tʃənt]	*n.* 商人，批发商，贸易商，店主 *adj.* 商业的，商人的
cardholder	['kɑ:dˌhəuldə]	*n.* 持有信用卡的人，持有正式成员证的人，持卡人
virtual	['və:tjuəl]	*adj.* 虚拟的，实质的
volume	['vɔlju:m]	*n.* 大量
expensive	[iks'pensiv]	*adj.* 花费的，昂贵的
procedure	[prə'si:dʒə]	*n.* 程序，步骤，流程，手续
transmit	[trænz'mit]	*vt.* 传输，转送
encompass	[in'kʌmpəs]	*v.* 包围，环绕
requirement	[ri'kwaiəmənt]	*n.* 需求，要求，必要条件
breach	[bri:tʃ]	*n.* 违背，破坏，破裂，裂口 *vt.* 打破，突破
password	['pɑ:swə:d]	*n.* 密码，口令
vulnerability	['vʌlnərə'biləti]	*n.* 弱点，攻击
unique	[ju:'ni:k]	*adj.* 唯一的，独特的
regular	['regjulə]	*adj.* 规则的，有秩序的，经常的
encourage	[in'kʌridʒ]	*v.* 鼓励
compromise	['kɔmprəmaiz]	*v.* 危及……的安全
scheme	[ski:m]	*n.* 安排，配置，计划，方案 *v.* 计划，设计
compliance	[kəm'plaiəns]	*n.* 依从，顺从
obligation	[ˌɔbli'geiʃən]	*n.* 义务，职责
annually	['ænjuəli]	*adv.* 一年一次，每年
penalty	['penlti]	*n.* 处罚，罚款
negligence	['neglidʒəns]	*n.* 疏忽
omission	[əu'miʃən]	*n.* 疏忽；遗漏；不作为
accident	['æksidənt]	*n.* 意外事件，事故
flexibility	[ˌfleksə'biliti]	*n.* 灵活性，弹性，适应性
discuss	[dis'kʌs]	*vt.* 讨论，论述
attract	[ə'trækt]	*vt.* 吸引 *vi.* 有吸引力，引起注意
income	['inkəm]	*n.* 收入，收益，进款，所得
skill	[skil]	*n.* 技能，技巧
establish	[is'tæbliʃ]	*vt.* 建立，设立，安置
presence	['prezns]	*n.* 到场，存在

Phrases

online payment	在线支付
swiped card transaction	刷卡交易
high street	大街，主要街道
financial institution	金融机构
Internet Merchant Account (IMA)	因特网商家账号
apply for	请求，申请
acquiring bank	收单银行
Payment Service Providers (PSPs)	支付服务提供商
monthly fee	月费
Payment Card Industry (PCI)	支付卡行业
Data Security Standard (DSS)	数据安全标准
network architecture	网络体系结构
financial risk	财务风险
in practical terms	实际上
face-to-face transaction	面对面交易
online shopping mall	在线购物中心，网上购物商城

Abbreviations

ID (identification, identity)	身份证明

Exercises

I. Answer the following questions according to the text.

1. Why are most sales paid for with credit and debit cards?
2. What does an acquirer do?
3. What do the card schemes have done to help protect merchants and cardholders from fraud?
4. What is PCI DSS?
5. How many specific requirements do the PCI DSS principles have? What are they intended to do?
6. What does the PCI Security Standard Council encourages businesses that store payment data to do?
7. What manages the actual compliance programme?

8. When can failure to be annually certified become an issue?
9. What will happen if your customers' card details are stolen?
10. Which is the best online payment option offered in the passage for your business?

II. Translate the following terms or phrases from English into Chinese and vice versa.

1.	acquiring bank	1.	
2.	financial institution	2.	
3.	face-to-face transaction	3.	
4.	Internet Merchant Account	4.	
5.	online payment	5.	
6.	支付卡行业	6.	
7.	在线购物中心，网上购物商城	7.	
8.	刷卡交易	8.	
9.	支付服务提供商	9.	
10.	*n*. 发卡行，收单银行	10.	

III. Fill in the blanks with the words given below.

accurate	structure	simplified	form	software
prompted	abandon	unauthorized	fail	page

Digital Wallets

A client side digital wallet requires minimal setup and is relatively easy to use. Once the ___1___ is installed, the user begins by entering all the pertinent information. The digital wallet is now setup. At the purchase/check-out ___2___ of an e-commerce site, the digital wallet software has the ability to automatically enter the user information in the online ___3___. By default, most digital wallets prompt when the software recognizes a form in which it can fill out, if you chose to automatically fill out the form, you will be ___4___ for a password. This keeps ___5___ users from viewing personal information stored on a particular computer.

Digital wallets are designed to be ___6___ when transferring data to retail checkout forms; however, if a particular e-commerce site has a peculiar checkout system, the digital wallet may ___7___ to recognize the forms fields properly. This problem has been eliminated by sites and wallet software that use ECML technology. Electronic Commerce Modeling Language is a protocol that dictates how online retailers ___8___ structure and setup their checkout forms. Participating e-commerce vendors who incorporate both digital wallet technology and ECML include: Microsoft, Discover, IBM, Omaha Steaks and Dell Computers.

Upwards of 25% of online shoppers ___9___ their order due to frustration in filling in forms. The digital wallet combats this problem by giving users the option to transfer their information securely and accurately. This ___10___ approach to completing transactions

results in better usability and ultimately more utility for the customer.

IV. Translate the following passage from English into Chinese.

Digital Wallet

A digital wallet allows users to make electronic commerce transactions quickly and securely.

A digital wallet functions much like a physical wallet. The digital wallet was first conceived as a method of storing various forms of electronic money (e-cash), but with little popularity of such e-cash services, the digital wallet has evolved into a service that provides Internet users with a convenient way to store and use online shopping information.

A digital wallet has both a software and information component. The software provides security and encryption for the personal information and for the actual transaction. Typically, digital wallets are stored on the client side and are easily self-maintained and fully compatible with most e-commerce Web sites. A server-side digital wallet, also known as a thin wallet, is one that an organization creates for and about you and maintains on its servers. Server-side digital wallets are gaining popularity among major retailers due to the security, efficiency, and added utility it provides to the end-user, which increases their enjoyment of their overall purchase.

Text B

Mobile Payment

Mobile payment is a new and rapidly-adopting alternative payment method – especially in Asia and Europe. Instead of paying with cash, cheque or credit cards, a consumer can use a mobile phone to pay for a wide range of services and digital or hard goods such as:

(1) Music, videos, ringtones, online game subscription or items, wallpapers and other digital goods.

(2) Transportation fare (bus, subway or train), parking meters and other services.

(3) Books, magazines, tickets and other hard goods.

There are four primary models for mobile payments:

(1) Premium SMS based transactional payments.

(2) Direct Mobile Billing.

(3) Mobile Web Payments (WAP[1]).

1 Wireless Application Protocol (WAP) is an open international standard. A WAP browser is a commonly used Web browser for small mobile devices such as cell phones（手机）.

(4) Contactless NFC (Near Field Communication[1]).

1. Premium SMS/USSD based transactional payments

The consumer sends a payment request via an SMS text message or an USSD[2] to a short code and a premium charge is applied to their phone bill or their mobile wallet. The merchant involved is informed of the payment success and can then release the paid for goods.

Since a trusted delivery address has typically not been given these goods are most frequently digital with the merchant replying using a Multimedia Messaging Service[3] to deliver the purchased music, ringtones, wallpapers etc.

A Multimedia Messaging Service can also deliver barcodes[4] which can then be scanned for confirmation of payment by a merchant. This is used as an electronic ticket for access to cinemas and events or to collect hard goods.

Transactional payments have been popular in Asia and Europe but are now being overtaken by other mobile payment methods such as mobile Web payments (WAP), mobile payment client (Java ME, Android[5]…) and Direct Mobile Billing for a number of reasons:

(1) Poor reliability—transactional payments can easily fail as messages get lost.

(2) Slow speed—sending messages can be slow and it can take hours for a merchant to get receipt of payment. Consumers do not want to be kept waiting more than a few seconds.

(3) Security—The SMS/USSD encryption ends in the radio interface, and then the message is a plaintext.

(4) High cost—There are many high costs associated with this method of payment. The cost of setting up short codes[6] and paying for the delivery of media via a Multimedia Messaging Service and the resulting customer support costs to account for the number of messages that get lost or are delayed.

(5) Low payout rates—Operators also see high costs in running and supporting transactional payments which results in payout rates to the merchant being as low as 30%. Usually around 50%.

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1 Near Field Communication or NFC, is a short-range high frequency（高频） wireless communication technology which enables the exchange of data between devices over about a 10 centimeter (around 4 inches) distance.

2 USSD is a protocol used by GSM cellular telephones（移动电话） to communicate with the service provider's computers. USSD can be used for WAP browsing, prepaid callback service, location-based content services, menu-based information services, and as part of configuring the phone on the network.

USSD 是一种操作简便、服务扩展性强的移动网的补充业务。它提供多次交互、快捷的无线数据业务。

3 Multimedia Messaging Service is a standard way to send messages that include multimedia content to and from mobile phones. It extends the core SMS capability that allowed exchange of text messages only up to 160 characters in length.

4 A barcode is an optical machine-readable representation of data, which shows certain data on certain products. Barcodes can be read by optical scanners called barcode readers, or scanned from an image by special software.

5 Android is a mobile operating system initially developed by Android Inc. Android was purchased by Google in 2005. Android is based upon a modified version of the Linux kernel.

6 Short codes（also known as short numbers，短号） are special telephone numbers, significantly shorter than full telephone numbers, that can be used to address SMS and MMS messages from mobile phones or fixed phones.

(6) Low follow-on sales—Once the payment message has been sent and the goods received there is little else the consumer can do. It is difficult for them to remember where something was purchased or how to buy it again. This also makes it difficult to tell a friend and friend.

2. Direct mobile billing

The consumer uses the mobile billing option during checkout at an e-commerce site-such as an online gaming site-to make a payment. After two-factor authentication involving a PIN and One Time Password, the consumer's mobile account is charged for the purchase. It is a true alternative payment method that does not require the use of credit/debit cards or pre-registration at an online payment solution such as PayPal, thus bypassing banks and credit card companies altogether. This type of mobile payment method, which is extremely prevalent and popular in Asia, provides the following benefits:

(1) Security—Two-factor authentication and a risk management engine prevents fraud.

(2) Convenience—No pre-registration and no new mobile software is required.

(3) Easy—It's just another option during the checkout process.

(4) Fast—Most transactions are completed in less than 10 seconds.

(5) Proven—70% of all digital content purchased online in some parts of Asia uses the Direct Mobile Billing method.

3. Mobile Web payments

The consumer uses Web pages displayed or additional applications downloaded and installed on the mobile phone to make a payment. It uses WAP (Wireless Application Protocol) as underlying technology and thus inherits all the advantages and disadvantages of WAP. However, using a familiar Web payment model gives a number of proven benefits:

(1) Follow-on sales where the mobile Web payment can lead back to a store or to other goods the consumer may like. These pages have a URL and can be bookmarked making it easy to re-visit or share with friends.

(2) High customer satisfaction from quick and predictable payments.

(3) Ease of use from a familiar set of online payment pages.

However, unless the mobile account is directly charged through a mobile network operator, the use of a credit/debit card or pre-registration at online payment solution such as PayPal is still required just as in a desktop environment.

Mobile Web payment methods are now being mandated by a number of mobile network operators[1].

1 A mobile network operator (MNO), also known as mobile phone operator (or simply mobile operator or mobo), carrier service provider (CSP), wireless service provider, wireless carrier, or cellular company, is a telephone company that provides services for mobile phone subscribers（手机用户）.