Chapter 5 Electronic and Mobile Commerce and Enterprise Systems

An Introduction to Electronic Commerce

● Electronic commerce: – Conducting business activities electronically over computer networks ● Business activities that are strong candidates for conversion to e-commerce: – Paper-based – Time-consuming – Inconvenient for customers

Business-to-Business (B2B) E-Commerce

● Subset of e-commerce ● All the participants are organizations ● Useful tool for connecting business partners in a virtual supply chain to cut resupply times and reduce costs

Business-to-Consumer (B2C) E-Commerce

● Form of e-commerce in which customers deal directly with an organization and avoid intermediaries ● Disintermediation: – The elimination of intermediate organizations between the producer and the consumer

Consumer-to-Consumer (C2C) E-Commerce

● Subset of e-commerce that involves consumers selling directly to other consumers

Consumer-to-Consumer (C2C) E-Commerce (continued)

e-Government ● Use of information and communications technology to: – Simplify the sharing of information – Speed formerly paper-based processes – Improve the relationship between citizen and government ● Forms of e-Government – Government-to-consumer (G2C) – Government-to-business (G2B) – Government-to-government (G2G)

Electronic and Mobile Commerce Applications

● Many B2B, B2C, C2C, and m-commerce applications are being used in: – Retail and wholesale – Manufacturing – Marketing and advertising – Price comparison – Couponing – Investment and finance – Banking and e-boutiques

Retail and Wholesale

● Electronic retailing (e-tailing): – Direct sale from business to consumer through electronic storefronts ● Cybermall: – Single Web site that offers many products and services at one Internet location ● Manufacturing, repair, and operations (MRO): – Purchases often approach 40 percent of a manufacturing company's total revenues

Manufacturing

● Electronic exchange: – Electronic forum where manufacturers, suppliers, and competitors buy and sell goods, trade market information, and run back-office operations ● Private exchanges: – Owned and operated by a single company ● Public exchanges: – Owned and operated by industry groups

Marketing

● Market segmentation: – Identification of specific markets to target them with advertising messages

Advertising

● Mobile ad impressions are generally bought at: – Cost per thousand (CPM), cost per click (CPC), or cost per action (CPA) ● Price comparison: – Mobile phone services enable shoppers to compare prices and products on the Web ● Couponing: – Shoppers can subscribe to mobile coupon aggregators

Investment and Finance

● The Internet: – Has revolutionized the world of investment and finance ● The brokerage business: – Adapted to the Internet faster than any other arm of finance

Banking

● Online banking customers: – Can check balances of their savings, checking, and loan accounts – Transfer money among accounts – Pay their bills

Advantages of Electronic and Mobile Commerce

Web Server Software ● Each e-commerce Web site must have Web server software to perform fundamental services: – Security and identification – Retrieval and sending of Web pages – Web site tracking – Web site development – Web page development

E-Commerce Software

● Investigate and install e-commerce software to support five core tasks: – Catalog management to create and update the product catalog – Product configuration to help customers select the necessary components and options – Shopping cart facilities to track the items selected for purchase – E-commerce transaction processing – Web traffic data analysis to provide details to adjust the operations of the Web site

Electronic Payment Systems

● Digital certificate: – Attachment to an e-mail message or data embedded in a Web site that verifies the

identity of a sender or Web Site ● Certificate authority (CA): – Trusted third-party organization or company that issues digital certificates Electronic Payment Systems (continued) ● Secure Sockets Layer (SSL): – Used to secure sensitive data ● Electronic cash: – An amount of money that is computerized, stored, and used as cash for e-commerce transactions ● Credit, charge, debit, p-, and smart cards: – Smart card: ● Credit card-sized device with an embedded microchip to provide electronic memory and processing capability Electronic Payment Systems (continued) ● P-Card: – Credit card used to streamline the traditional purchase order and invoice payment processes ● Payments using cell phones: – Available options: ● Payments linked to your bank account ● Payments added to your phone bill Traditional Transaction Processing Methods and Objectives ● Batch processing system: – Data processing in which business transactions are: ● Accumulated over a period of time ● Prepared for processing as a single unit or batch ● Online transaction processing (OLTP): – Data processing in which each transaction is processed immediately Data Collection ● Capturing and gathering all data necessary to complete the processing of transactions ● Data collection can be: – Manual – Automated via special input devices ● Data should be: – Collected at source – Recorded accurately, in a timely fashion Data Editing ● Checking data for validity and completeness to detect any problems ● Examples: – Quantity and cost data must be numeric – Names must be alphabetic Data Correction ● Reentering data that was not typed or scanned properly ● Error messages must specify the problem so proper corrections can be made Data Manipulation ● Performing calculations and other data transformations related to business transactions ● Can include: – Classifying data – Sorting data into categories – Performing calculations – Summarizing results – Storing data in the organization's database for further processing Data Storage ● Updating one or more databases with new transactions ● After being updated, this data can be further processed and manipulated by other systems Enterprise Resource Planning ● ERP systems: – Central to the organization – Ensure information can be shared across all business functions – Employ a database of key operational and planning data that can be shared by all An Overview of Enterprise Resource Planning ● ERP systems: – Evolved from materials requirement planning systems (MRP) ● Large organizations: – The first to take on the challenge of implementing ERP Advantages of ERP ● Improved access to data for operational decision making ● Elimination of costly, inflexible legacy systems ● Improvement of work processes ● Upgrade of technology infrastructure Disadvantages of ERP Systems ● Expense and time in implementation ● Difficulty implementing change ● Difficulty integrating with other systems ● Difficulty in loading data into new ERP system ● Risks in using one vendor ● Risk of implementation failure