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Electronic Business

E-commerce Technology

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Objectives

In this chapter, you will learn about:

- Finding and evaluating Web-hosting services
- Basic functions of electronic commerce software
- Advanced functions of electronic commerce software



Web Hosting Alternatives

A *Web host* is in the business of providing server space, Web services and file maintenance for Web sites controlled by individuals or companies that do not have their own web server.

1-1 Self-hosting

- Running servers in-house
- Most often used by large companies

1-2 Commerce service providers (CSPs)

- Provide Internet access and Web-hosting services
- Help companies conduct electronic commerce
- Offer Web server management and rent application software



Basic Functions of E-Commerce Software

Software and hardware products for building sites

- Externally hosted stores with software tools
- Sophisticated electronic commerce software suites

Electronic commerce software needs determined by - Expected enterprise size

- Projected traffic and sales
- Budget
 - Consider online store creation costs versus brick and mortar costs
 - Consider external or in-house host costs



Basic Functions of E-Commerce Software

- Catalog display
- Shopping cart capabilities
- Transaction processing

Larger complex sites may include:

- Software adding features and capabilities to basic commerce tool set



Catalog Display

Catalog organizes goods and services being sold

- Organizes offerings into departments
- Web store advantage
 - Single product may appear in multiple categories

Catalog: listing of goods and services





Shopping Cart

Electronic commerce early days

- Used forms-based shopping
 - Shoppers selected items by filling out online forms
 - Awkward if ordering more than one or two items
- Problems
 - Need to write down product codes, unit prices, other information before ordering
 - Customers forgot whether submit button clicked
- Confusing and error prone



Shopping Cart

Electronic shopping carts:

- Now the standard method for processing sales
- Keep track of items customer selected
- May view cart contents, add items, remove items
- Ordering requires a simple click
 - Item details stored automatically in cart
- Button click executes the purchase transaction
- Shopping cart software
 - BIZNET Internet Services, SalesCart, WebGenie Software

Web unable to remember anything from one transmission or session to another

- To retrieve shopping cart information later use cookies



ADD TO BAG





Shopping Basket (1 item)



The Summer Hatbox

Size: Bouquet - Standard

Price: £26.00

Quantity: 1

You'll Pay: £26.00

[Remove Item](#)[View & Edit Item](#)[Review Your FREE Gift Message](#)[Edit](#)[Want a Similar Copy?](#)[Duplicate](#)

Order Summary

Subtotal: £26.00

Postage: Calculated at Checkout

Total: £26.00

[Proceed to Secure Checkout](#)[Continue Shopping](#)[I Have a Promo/Discount Code](#)

Transaction Processing

- Transaction processing: occurs when shopper proceeds to virtual checkout counter
 - Click checkout button
- Electronic commerce software performs necessary calculations
- Web browser software and seller's Web server software switch into secure communication state.
- Most companies use accounting software package
 - Records sales and inventory movements
 - Requires integration with accounting software



Transaction Processing

- FedEx and UPS shipping rate software integrates with e-commerce software
- Other calculations
 - Coupons, special promotions, time-sensitive offers
- Large companies
 - Integration may be complex



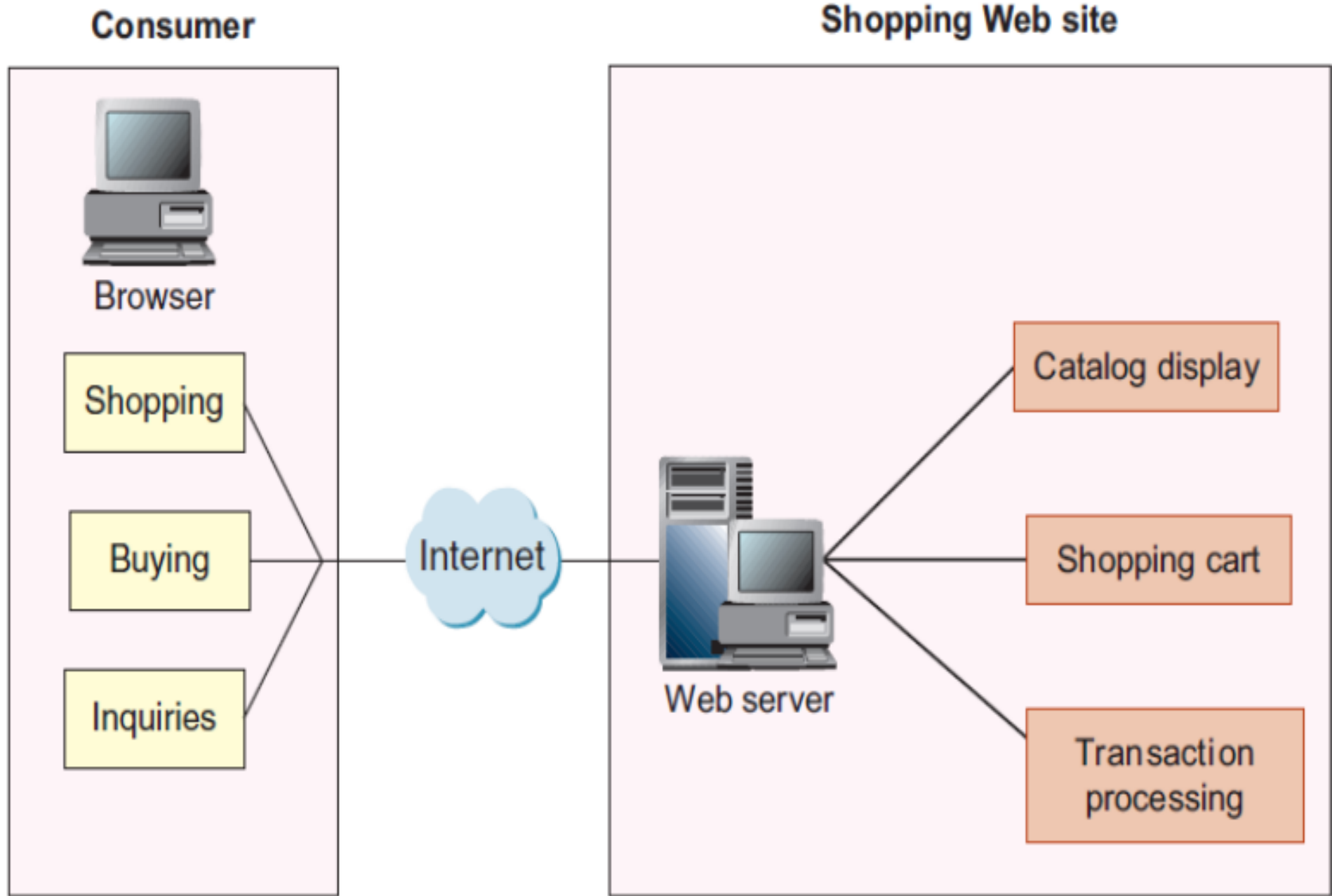


FIGURE 9-6 Basic electronic commerce Web site architecture

Advanced functions of E-commerce software

- Section topic
 - Electronic commerce software features
- Most large companies have:
 - Electronic commerce operations
 - Substantial business activity
- Important to integrate
 - Electronic commerce activities into the company's other operations
- Basic element: collection of databases



Databases

- **Databases:** Collection of information
 - Stored on a computer in a highly structured way
- **Database manager** (database management software)
 - Makes it easy for users to: Enter, edit, update, retrieve information in the database
 - Examples: Microsoft Access, IBM DB2, Microsoft SQL Server, Oracle
- **Distributed information systems**
 - Large information systems storing data in many different physical locations
- **Distributed database systems**
 - Databases within distributed information systems
- **Determine database support level:**
 - Provided by any electronic commerce software



Middleware

- Takes sales and inventory shipments information from electronic commerce software
 - Transmits to accounting and inventory management software
 - Companies can write own middleware
 - Companies can purchase customized middleware
- **Interoperability**
 - Making information systems work together
 - Important goal when installing middleware



Web Services

- Web services
 - Software systems supporting interoperable machine-to-machine interaction over a network
 - Set of software and technologies allowing computers to use the Web to interact with each other directly
- **Application program interface (API)**
 - General name for the ways programs interconnect with each other
- **Web APIs:** interaction over the Web



What Web Services can do

- Offer improved customer service, reduced costs
- Transmit XML-tagged data
 - From one enterprise integrated application to another
- Provide data feeds between two different companies



How Web Services work

- Key element
 - Programmers write software accessing business application logic units without knowing details
- Machine-to-machine communication
 - Allows programs written in different languages on different platforms to communicate, accomplish transaction processing, and perform other business tasks
 - Originally accomplished with HTML
 - Implemented with XML today
- First Web services
 - Information sources
 - Incorporate information sources into software applications



How Web Services work

- More advanced example
 - Web services purchasing software used to obtain vendor price information
 - Purchasing agent authorizes purchase using software to submit order, track until shipment received
 - Vendor's Web services software checks buyer's credit, contracts with freight company



Mall-Style commerce service providers

- Provide small businesses with:
 - Internet connection, Web site creation tools
 - Little or no banner advertising clutter
 - Charges
 - Low monthly fee
 - One-time setup fees
 - Percentage of (or fixed) amount for each transaction



Mall-Style commerce service providers

- Provides:
 - Online store design tools and storefront templates
 - Easy-to-use interface
 - Web page-generation capabilities
 - Page maintenance
 - Shopping cart software capabilities
 - Payment processing services



Estimating Operating Expenses for a Small Web Business

Operating costs	Cost estimates	
	Low	High
Initial site setup fee	\$ 0	\$ 200
Annual CSP maintenance fee (12 x \$20 to \$150)	240	1800
Domain name registrations	0	200
Scanner for photo conversion or digital camera	300	900
Photo editing software	60	600
Occasional HTML and site design help	100	800
Merchant credit card setup fees	0	200
Total first-year costs	\$700	\$4700

FIGURE 9-9 Approximate costs to put a small store online

Customer relationship management software

- Goal
 - Understand each customer's specific needs
 - Customize product or service to meet those needs
- Idea
 - If customer needs met exactly
 - *Customer will pay more for goods or services
- Customer relationship management (CRM) software
 - Obtains data from operations software
 - Gathers data about customer activities
 - Uses data to conduct analytical activities



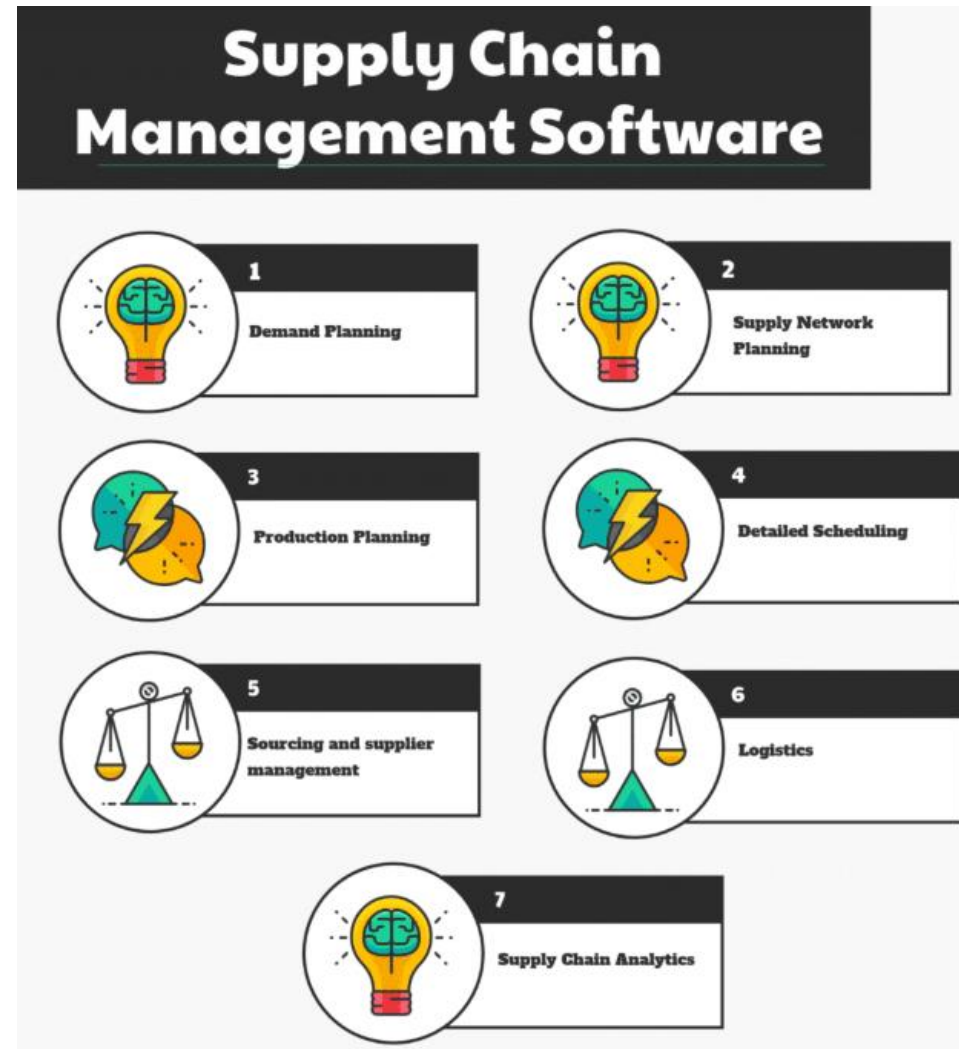
Customer relationship management software

- Basic form of CRM
 - Uses customer information to sell more goods or services
- Advanced form of CRM
 - Delivers extremely attractive, positive customer experiences
- CRM business importance
 - Maintaining customer loyalty
 - Maintaining positive, consistent contacts at the purchasing company
- CRM software source
 - Companies create their own



Supply chain management software

- Helps companies coordinate planning and operations with industry partners
- Two general function types: planning and execution
 - SCM planning software: Uses information from each supply chain participant
 - SCM execution software: Helps with warehouse and transportation management



Content management software

- Controls large amounts of text, graphics, media files
- Importance heightened due to:
 - Increased use of smart phones, netbook computers, pad computing devices
- E-commerce software
 - May come with wizards and other automated helpers for creating template driven pages
- Businesses often customize Web pages with company and product pictures and text



Knowledge management software

- Systems managing knowledge itself
 - Rather than documentary representations of that knowledge
- Four main tasks
 - Collect and organize information
 - Share information among users
 - Enhance ability of users to collaborate
 - Preserve knowledge gained through information use





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Questions & Answers

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