E-commerce

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LEARNING OBJECTIVES

- Describe the unique features of e-commerce, digital markets, and digital goods
- Describe the principal e-commerce business and revenue models
- Explain how e-commerce has transformed marketing
- Explain how e-commerce has affected business-to-business transactions
- Describe the role of m-commerce in business and the most important m-commerce applications
- Describe the issues that must be addressed when building an e-commerce presence
E-commerce

“The use of the Internet and the Web to transact business”

E-commerce is about digitally enabled commercial transactions between and among organizations and individuals.

E-commerce

- B2B
- B2C
- B2G
- C2C
E-commerce and the Internet

- E-commerce: Use of the Internet and Web to transact business
- Began in 1995 and grew exponentially; still stable even in a recession
- Companies that survived the dot-com bubble burst and now thrive
- E-commerce revolution is still in its early stages
Retail e-commerce revenues grew 15–25 percent per year until the recession of 2008–2009, when they slowed measurably. In 2012, e-commerce revenues are growing again at an estimated 15 percent annually.
Adoption of technology

Tech Adoption

Historical adoption rates of communication technologies

- Telephone
- Radio
- Color TV
- VCR
- Cellphone
- Computer
- Internet


Percentage: 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100
Adoption of technology

Total data consumed by Opera Mini users worldwide (TB)
E-commerce and the Internet

Eight unique features of Internet and Web as commercial medium

- Ubiquity
- Global reach
- Universal standards
- Richness
- Interactivity
- Information density
- Personalization/customization
- Social technology
Ubiquitous computing

“An advanced computing concept where computing is made to appear everywhere and anywhere”
E-commerce and the Internet

- Ubiquity
  - Internet/Web technology available everywhere: work, home, and so on, anytime.
  - Effect:
    - Marketplace removed from temporal, geographic locations to become “marketspace”
    - Enhanced customer convenience and reduced shopping costs
  - Reduces transaction costs
    - Costs of participating in market
Opportunities by technology
E-commerce and the Internet

Global reach

- The technology reaches across national boundaries, around Earth
- Effect:
  - Commerce enabled across cultural and national boundaries seamlessly and without modification.
  - Marketspace includes, potentially, billions of consumers and millions of businesses worldwide.
E-commerce and the Internet

Universal standards

- One set of technology standards: Internet standards
- Effect:
  - Disparate computer systems easily communicate with one another
  - Lower market entry costs—costs merchants must pay to bring goods to market
  - Lower consumers’ search costs—effort required to find suitable products
E-commerce and the Internet

Richness

- Supports video, audio, and text messages
- Effect:
  - Possible to deliver rich messages with text, audio, and video simultaneously to large numbers of people.
  - Video, audio, and text marketing messages can be integrated into single marketing message and consumer experience.
Media richness theory

- High
  - Face-to-Face
  - Telephone
  - Email
  - Letter
  - Note
  - Memo
  - Flier
- Low
E-commerce and the Internet

Interactivity

- The technology works through interaction with the user.
- Effect:
  - Consumers engaged in dialog that dynamically adjusts experience to the individual.
  - Consumer becomes co-participant in process of delivering goods to market.
E-commerce and the Internet

Information density

- Large increases in information density—the total amount and quality of information available to all market participants

- Effect:
  - Greater price transparency
  - Greater cost transparency
  - Enables merchants to engage in price discrimination
Information in quantity

- Petabyte (1,000,000,000,000,000 bytes of $10^{15}$)
- Google processes ~20 PB a day
- Facebook stores >1 PB photographs

source Wikipedia
E-commerce and the Internet

Personalization/Customization

- Technology permits modification of messages, goods
- Effect:
  - Personalized messages can be sent to individuals as well as groups.
  - Products and services can be customized to individual preferences.
E-commerce and the Internet

Social technology

- The technology promotes user content generation and social networking

Effect:

- New Internet social and business models enable user content creation and distribution, support social networks
- Many-to-many model
E-commerce and the Internet

Effect of the Internet on the marketplace:

- Reduces information asymmetry
- Offers greater flexibility and efficiency because of:
  - Reduced search costs and transaction costs
  - Lower menu costs
  - Greater price discrimination
  - Dynamic pricing
- May reduce or increase switching costs
- Increased market segmentation
- Stronger network effects
- More disintermediation
The typical distribution channel has several intermediary layers, each of which adds to the final cost of a product, such as a sweater. Removing layers lowers the final cost to the consumer.
E-commerce and the Internet

Digital goods

- Goods that can be delivered over a digital network
  - For example: music tracks, video, software, newspapers, books
- Cost of producing first unit is almost entire cost of product
- Costs of delivery over the Internet very low
- Marketing costs remain the same; pricing highly variable
- Industries with digital goods are undergoing revolutionary changes (publishers, record labels, etc.)
E-commerce: Business and Technology

E-commerce revenue models

- Advertising
- Sales
- Subscription
- Free/Freemium
- Transaction fee
- Affiliate
Affiliate marketing

“Performance based marketing” (Wikipedia)
Versioning

- Free
- Trial
  - Functionality
  - 30 days
- Functionality
  - Web version
  - Server version
  - Full, pro, limited
- Embedded adds
E-commerce: Business and Technology

Social networking and the wisdom of crowds

- Most popular Web 2.0 service: social networking
  - Social shopping sites: Swap shopping ideas with friends
- Wisdom of crowds
- Crowdsourcing
  - Large numbers of people can make better decisions about topics and products than a single person.
- Prediction markets
  - Peer-to-peer betting markets on specific outcomes (elections, sales figures, designs for new products)
E-commerce: Business and Technology

E-commerce marketing
- Internet provides new ways to identify and communicate with customers.
- Long tail marketing:
  - Ability to reach a large audience inexpensively
- Behavioral targeting:
  - Tracking online behavior of individuals on thousands of Web sites
- Internet advertising formats
  - Search engine marketing, display ads, rich media, e-mail, and so on
E-commerce Web sites have tools to track a shopper’s every step through an online store. Close examination of customer behavior at a Web site selling women’s clothing shows what the store might learn at each step and what actions it could take to increase sales.

Web Site Visitor Tracking

The shopper clicks on the home page. The store can tell that the shopper arrived from the Yahoo! portal at 2:30 PM (which might help determine staffing for customer service centers) and how long she lingered on the home page (which might indicate trouble navigating the site). Tracking beacons load cookies on the shopper’s browser to follow her across the Web.

The shopper clicks on blouses, clicks to select a woman’s white blouse, then clicks to view the same item in pink. The shopper clicks to select this item in a size 10 in pink and clicks to place it in her shopping cart. This information can help the store determine which sizes and colors are most popular. If the visitor moves to a different site, ads for pink blouses will appear from the same or different vendor.

From the shopping cart page, the shopper clicks to close the browser to leave the Web site without purchasing the blouse. This action could indicate the shopper changed her mind or that she had a problem with the Web site’s checkout and payment process. Such behavior might signal that the Web site was not well designed.
Firms can create unique personalized Web pages that display content or ads for products or services of special interest to individual users, improving the customer experience and creating additional value.
Advertising networks and their use of tracking programs have become controversial among privacy advocates because of their ability to track individual consumers across the Internet.

Figure 10-5
How an Advertising Network Works
E-commerce: Business and Technology

Social e-commerce:
- Based on digital social graph
  - Mapping of all significant online relationships

Four features of social e-commerce driving its growth
- Social sign-on
- Collaborative shopping
- Network notification
- Social search (recommendations)
The Mobile Digital Platform and Mobile E-commerce

M-commerce

- In 2012 is 10% of all e-commerce
- Fastest growing form of e-commerce
  - Some areas growing at 50%
- Four billion mobile phone users worldwide
- Main areas of growth
  - Retail sales at top Mobile 400 (Amazon, eBay, etc.)
  - Sales of digital content (music, TV, etc.)
  - Local search for restaurants, museums, stores
Mobile e-commerce is the fastest growing type of B2C e-commerce although it represents only a small part of all e-commerce in 2011.
Building an E-commerce Web Site

- Pieces of the site-building puzzle

  - Assembling a team with the skills required to make decisions about:
    - Technology
    - Site design
    - Social and information policies
    - Hardware, software, and telecommunications infrastructure

  - Customer’s demands should drive the site’s technology and design.
Building an E-commerce Web Site

- **Business objectives**
  - The capabilities the site should have
    - Business decisions should drive technology
  - Example: execute a transaction payment

- **System functionality**
  - Technology needed to achieve objective
  - Example: a shopping cart or other payment system

- **Information requirement**
  - Specific data and processes needed
  - Example: secure credit card clearing, multiple payment options
Building an E-commerce Web Site

- Alternatives in building the Web site:
  - Completely in-house
  - Mixed responsibility
  - Completely outsourced
    - Co-location

- Web site budgets
  - Several thousand to millions per year
  - 50% of budget is system maintenance and content creation
You have a number of alternatives to consider when building and hosting an e-commerce site.

**Choices in Building and Hosting Web Sites**

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<th>BUILDING THE SITE</th>
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*Figure 10 - Choices in Building and Hosting Web Sites*
Components of a Web Site Budget

- Hardware: 10%
- Marketing: 20%
- Design: 30%
- Content development: 15%
- Software: 10%
- Hosting service: 10%
- Telecommunications: 5%
E-Commerce

Summary

- Growth in technology and adoption
- Opportunities in E-commerce models
- Integration of social media
- Implementing E-commerce
Questions