Chapter 1

What Is E-commerce?

- Use of Internet and Web to transact business
- More formally: Digitally enabled commercial transactions between and among organizations and individuals Copyright.

What Is E-business?

- Digital enabling of transactions and processes within a firm, involving information systems under firm's control.
- Does not include commercial transactions involving an exchange of value across organizational boundaries.

- E-commerce technology is different, more powerful than previous technologies
- E-commerce brings fundamental changes to commerce.

Traditional commerce:

* Consumer as passive targets *Sales-force drive *Fixed prices *Information asymmetry

Eight Unique Features of E-commerce Technology!

1. Ubiquity 2. Global reach 3. Universal standards 4. Information richness 5.Interactivity
6. Information density 7. Personalization/customization 8. Social technology

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What is the web 2.0?

User-centered applications and social media technologies !

- User-generated content and communication
- Highly interactive, social communities
- Large audiences; yet mostly unproven business models

E.g.: Twitter, YouTube, Facebook, Instagram, Wikipedia, StumbleUpon, Tumblr, Pinterest.

Types of E-commerce

1. Business-to-Consumer (B2C) 2. Business-to-Business (B2B)
3. Consumer-to-Consumer (C2C) 4. Social e-commerce
5. Mobile e-commerce (M-commerce) 6. Local e-commerce

Origins and Growth of E-commerce Precursors:

- Baxter Healthcare
- Electronic Data Interchange (EDI)
- French Minitel
- None had functionality of Internet

- E-commerce fastest growing form of commerce in the United States

Potential Limitations on the Growth of B2C E-commerce

- Expensive technology
- Sophisticated skill set
- Persistent cultural attraction of physical markets and traditional shopping experiences
- Persistent global inequality limiting access to telephones and computers
- Saturation and ceiling effect

Understanding E-commerce - Just Read ...

Technology: Development and mastery of digital computing and communications technology

Business: New technologies present businesses with new ways of organizing production and transacting business

Society: Intellectual property, individual privacy, public welfare policy

Academic Disciplines Concerned with E-commerce

Technical approach

1. Computer science 2.Management science 3. Information systems

Behavioral approach

1. Information systems 2.Economics 3. Marketing 4.Management
5.Finance/accounting 6. Sociology

Chapter 3

Internet

- Interconnected network of thousands of networks and millions of computers
- Links businesses, educational institutions, government agencies, and individuals

World Wide Web (Web)

- One of the Internet's most popular services
- Provides access to billions, possibly trillions, of Web pages

The Internet: Key Technology Concepts

Defined as a network that:

- ✓ Uses IP addressing
- ✓ Supports TCP/IP
- ✓ Provides services to users, in manner similar to telephone system

Packet Switching

- Slices digital messages into packets
- Sends packets along different communication paths as they become available
- Reassembles packets once they arrive at destination
- Uses routers
  - Special purpose computers that interconnect the computer networks that make up the Internet and route packets
  - Routing algorithms ensure packets take the best available path toward their destination
- Less expensive, wasteful than circuit-switching

TCP/IP

- Transmission Control Protocol (TCP):
  - ❖ Establishes connections among sending and receiving Web computers
  - ❖ Handles assembly of packets at point of transmission, and reassembly at receiving end
- Internet Protocol (IP):
  - ❖ Provides the Internet's addressing scheme
- Four TCP/IP layers
  - ❖ Network interface layer / Internet layer / Transport layer / Application layer

Internet (IP) Addresses

IPv4:

- ❖ 32-bit number
- ❖ Four sets of numbers marked off by periods: 201.61.186.227
- ❖ Class C address: Network identified by first three sets, computer identified by the last set

- IPv6 128-bit addresses, able to handle up to 1 quadrillion addresses (IPv4 can only handle 4 billion)
- Domain name: IP address expressed in natural language
- Domain name system (DNS): Allows numeric IP addresses to be expressed in natural language
- Uniform resource locator (URL): Address used by Web browser to identify local

Client/Server Computing

- Powerful personal computers (clients) connected to network with one or more servers
- Servers perform common functions for the clients

- ✓ Storing files
- ✓ Software applications
- ✓ Access to printers, etc.

The New Client: The Mobile Platform

- In a few years, primary Internet access will be through:
  - ❖ Tablet ➢ Supplementing PCs for mobile situations
  - ❖ Smartphones ➢ Disruptive technology:

  Shift in processors, operating systems ➢ 25% of all cell phones

Cloud Computing

- Firms and individuals obtain computing power and software over Internet

  e.g., Google Apps
- Fastest growing form of computing

- Radically reduces costs of:
  - Building and operating Web sites
  - Infrastructure, IT support
  - Hardware, software

Other Internet Protocols and Utility Programs

- Internet protocols
  - HTTP / E-mail: SMTP, POP3, IMAP / FTP, Telnet, SSL/TLS
- Utility programs Ping .. Tracert

Internet Service Providers (ISPs)

- Provide the lowest level of service to individuals, small businesses, some institutions
- Types of service
  - Narrowband (dial-up)
  - Broadband: Digital Subscriber Line (DSL) / Cable modem / T1 and T3 / Satellite.

Intranets and Extranets

- Intranet: TCP/IP network located within a single organization for communications and processing
- Extranet: Formed when firms permit outsiders to access their internal TCP/IP networks

Who Governs the Internet?

Organizations that influence the Internet and monitor its operations include:

1) Internet Architecture Board (IAB)
2) Internet Engineering Steering Group (IESG)
3) Internet Society (ISOC)
4) World Wide Web Consortium (W3C)
5) International Telecommunications Union (ITU)
6) Internet Corporation for Assigned Names and Numbers (ICANN)
7) Internet Society (ISOC)
8) Internet Engineering Task Force (IETF)
9) World Wide Web Consortium (W3C)

The First Mile and the Last Mile

- GENI Initiative Proposed by NSF to develop new core functionality for Internet
- Most significant private initiatives Fiber optics, Mobile wireless Internet services.

Wireless Internet Access Network Technologies

- Wi-Fi High-speed, fixed broadband wireless LAN (WLAN). Different versions of home and business market. Limited range
- WiMax High-speed, medium range broadband wireless metropolitan area network
- Bluetooth Low-speed, short-range connection
- Ultra-Wideband (UWB) Low power, short-range high bandwidth network
- ZigBee Short-range, low-power wireless network technology for remotely controlling digital devices
- The Internet of Things (IoT)
  - ✓ Objects connected via sensors/RFID to the Internet
  - ✓ Spearheaded by EU and China

- Hypertext
  - ✓ Text formatted with embedded links
  - ✓ Links connect documents to one another, and to other objects
  - ✓ such as sound, video, or animation files o Uses Hypertext Transfer Protocol (HTTP) and URLs to locate resources on the Web

- Markup Languages

  Hypertext Markup Language (HTML)
  - Fixed set of pre-defined markup "tags" used to format text
  - Controls look and feel of Web pages
  - HTML5 the newest version

  eXtensible Markup Language (XML)
  - Designed to describe data and information
  - Tags used are defined by user

Web server software: Enables a computer to deliver Web pages to clients on a network that request this service by sending an HTTP request

Web client: Any computing device attached to the Internet that is capable of making HTTP requests and displaying HTML pages

Features o Features on which the foundations of e-commerce are built:

1. E-mail 2. Instant messaging 3. Search engines 4.Online forums and chat
5. Streaming media 6. Cookies

E-mail

- Most used application of the Internet
- Uses series of protocols for transferring messages with text and attachments from one Internet user to another

Instant Messaging

- Displays words typed on a computer almost instantly, and recipients can respond immediately in the same way

Online forum:

- Also known as a message board, bulletin board, discussion board, discussion group, board or forum
- Web application that enables Internet users to communicate with each other, although not in real time
- Members visit online forum to check for new posts

Online chat:

- Similar to IM, but for multiple users /Typically, users log into chat room

Streaming Media

- Enables music, video, and other large files to be sent to users in chunks so that when received and played, file comes through uninterrupted
- Allows users to begin playing media files before file is fully downloaded

Cookies

- Small text files deposited by Website on user's computer to store information about user, accessed when user next visits Website
- Can help personalize Website experience
- Can pose privacy threat

Online Social Networks Services that support communication among networks of friends, peers
Blogs Personal Web page of chronological entries
Really Simple Syndication (RSS) Program that allows users to have digital content automatically sent to their computers over the Internet
Podcasting Audio presentation stored as an audio file and available for download from Web
Wikis Allows user to easily add and edit content on Web page
Music and video services

- Online video viewing
- Digital video on demand

Internet telephony (VOIP) Voice over Internet Protocol (VOIP) uses Internet to transmit voice communication
Intelligent Personal Assistants Software that interacts with the user through voice commands

Features

- Natural language; conversational interface
- Situational awareness
- Interpret voice commands to interact with various Web services o e.g., Siri, Google Now

Chapter 4

Imagine Your E-commerce Presence

- ❖ What's the idea?

Vision/ Mission statement/ Target audience/ Intended market space / Strategic analysis/ Internet marketing matrix/ Development timeline and preliminary budget

- ❖ Where's the money?

Business model: Portal, e-tailer, content provider, transaction broker, market creator, service provider, community provider

Revenue model: Advertising, subscriptions, transaction fees, sales, and affiliate revenue.

- ❖ Who and where is the target audience?

Describing your audience

- ✓ Demographics (Age, gender, income, location)
- ✓ Behavior patterns (lifestyle)
- ✓ Consumption patterns (purchasing habits)
- ✓ Digital usage patterns
- ✓ Content creation patterns (blogs, Facebook)
- ✓ Buyer Personas

Characterize the marketplace

- ✓ Demographics / Size, growth, changes / Structure (Competitors/Suppliers/Substitute products)

Most important management challenges:

- ✓ Developing a clear understanding of business objective
- ✓ Knowing how to choose the right technology to achieve those objectives

Main areas where you will need to make decisions:

- ✓ Human resources and organizational capabilities
  - ▪ Creating team with skill set needed to build and manage a successful site
- ✓ Hardware/software
- ✓ Telecommunications
- ✓ Site design

The Systems Development Life Cycle

Methodology for understanding business objectives of a system and designing an appropriate solution.

Five major steps:

Systems analysis/planning * Systems design * Building the system * Testing * Implementation.

System Analysis/Planning

Business objectives: List of capabilities you want your site to have

System functionalities: List of information system capabilities needed to achieve business objectives

Information requirements: Information elements that system must produce in order to achieve business objectives

Systems Design:

System design specification: Description of main components of a system and their relationship to one another

Two components of system design:

- ✓ Logical design: Data flow diagrams, processing functions, databases
- ✓ Physical design: Specifies actual physical, software components, models, etc.

Build/Host Your Own vs. Outsourcing

Outsourcing: Hiring vendors to provide services involved in building site

Build your own requires team with diverse skill set; choice of software tools; both risks and possible benefits

Hosting: Hosting company responsible for ensuring site is accessible 24/7, for monthly fee

Co-location: Firm purchases or leases Web server (with control over its operation), but server is located at vendor's facility

Testing: Unit testing*System testing*Acceptance testing

Implementation and maintenance:

- ✓ Maintenance is ongoing / Maintenance costs: Similar to development costs / Benchmarking

System architecture Arrangement of software, machinery, and tasks in an information system needed to achieve a specific functionality

Two-tier Web server and database server

Multi-tier Web application servers *Backend, legacy databases

Site Management Tools

Basic tools Included in all Web servers, e.g.,

- ✓ Verify that links on pages are still valid
- ✓ Identify orphan files

Dynamic Page Generation Tools
Dynamic page generation: Contents stored in database and fetched when needed
Common tools: CGI, ASP, JSP, ODBC
Advantages:
- ✓ Lowers menu costs
- ✓ Permits easy online market segmentation
- ✓ Enables cost-free price discrimination
- ✓ Enables content management system (CMS)

Web application servers: Provide specific business functionality required for a Web
E-commerce Merchant Server Software
Provides basic functionality for sales
- ✓ Online catalog List of products available on Website
- ✓ Shopping cart Allows shoppers to set aside, review, edit selections, and then make purchase
- ✓ Credit card processing Typically works in conjunction with shopping cart

And Verifies card and puts through credit to company's account at checkout.
Merchant Server Software Packages
Integrated environment that includes most of the functionality needed
Key factors in selecting a package
1. Functionality
2. Business process modeling tools
3. Performance and scalability
4. Compliance with standards
5. Local sales tax and shipping rules
6. Support for different business models
7. Visual site management and reporting
8. Connectivity to existing business systems
9. Global and multicultural capability

Hardware platform: Underlying computing equipment needed for e-commerce functionality
Objective: Enough platform capacity to meet peak demand without wasting money
Important to understand the factors that affect speed, capacity, and scalability of a site

Right-Sizing Your Hardware Platform:
Scalability: Ability of site to increase in size as demand warrants
Ways to scale hardware:
- ✓ Vertically; Increase processing power of individual components
- ✓ Horizontally; Employ multiple computers to share workload
- ✓ Improve processing architecture

Tools for Website optimization
*Metatags, titles, content *Identify market niches, localize site *Offer expertise
*Links *Search engine add *Local e-commerce

Tools for Interactivity and Active Content
- Web 2.0 design elements: Widgets, mashups
- ASP (Active Server Pages)
- ActiveX and VBScript

CGI (Common Gateway Interface)
Java, JSP, and JavaScript
ColdFusion

Personalization Ability to treat people based on personal qualities and prior history with site
Customization Ability to change the product to better fit the needs of the customer
Cookies: Primary method to achieve personalization
Privacy policy Set of public statements declaring how site will treat customers' personal information that is gathered by site
Accessibility rules Set of design objectives that ensure disabled users can effectively access site
Three types of m-commerce software
1. Mobile Website - Responsive web design
2. Mobile Web app
3. Native app

Planning and building mobile presence
Use systems analysis/design to identify unique and specific business objectives
Developing a Mobile Web Presence
Performance and cost
1. Mobile Website: Least expensive
2. Mobile app: Can utilize browser API
3. Native app: Most expensive; requires more programming

Chapter 5

What Is Good E-commerce Security?
To achieve the highest degree of security

- New technologies
- Organizational policies and procedures
- Industry standards and government laws

Other factors

- Time value of money
- Cost of security vs. potential loss
- Security often breaks at weakest link

The Tension Between Security and Other Values

- Ease of use The more security measures added, the more difficult a site is to use, and the slower it becomes
- Public safety and criminal uses of the Internet Use of technology by criminals to plan crimes or threaten nation-state

Three key points of vulnerability in e-commerce environment:

1. Client
2. Server
3. Communications pipeline (Internet communications channels)

Most Common Security Threats in the E-commerce Environment
Malicious code

1. Viruses 2. Worms 3. Trojan horses 4. Drive-by downloads
   5.Backdoors 6. Bots, botnets 7.Threats at both client and server levels

Potentially unwanted programs (PUPs)

1. Browser parasites 2. Adware 3. Spyware

Phishing

1. E-mail scams 2. Social engineering 3. Identity theft

Hacking

1. Hackers vs. crackers
2. Types of hackers: White, black, grey hats
3. Hacktivism

Cybervandalism: Disrupting, defacing, destroying Website
Data breach: Losing control over corporate information to outsiders
Credit card fraud/theft Hackers target merchant servers; use data to establish credit under false identity
Spoofing (Pharming)
Spam (junk) Websites
Denial of service (DoS) attack Hackers flood site with useless traffic to overwhelm network
Distributed denial of service (DDoS) attack
Sniffing
Eavesdropping program that monitors information traveling over a network
Insider attacks
Poorly designed server and client software
Social network security issues
Mobile platform security issues Same risks as any Internet device
Cloud security issues

Technology Solutions

- Protecting Internet communications (Encryption)
- Securing channels of communication (SSL, VPNs)
- Protecting networks (Firewalls)
- Protecting servers and clients

Encryption Transforms data into ciphertext readable only by sender and receiver
Secures stored information and information transmission

Provides 4 of 6 key dimensions of e-commerce security:

1. Message integrity 2. Nonrepudiation 3.Authentication 4.Confidentiality

Symmetric Key Encryption Sender and receiver use the same digital key to encrypt and decrypt the message and Requires different set of keys for each transaction.
Strength of encryption Length of binary key used to encrypt data
Advanced Encryption Standard (AES) Most widely used symmetric key encryption

Public Key Encryption
Uses two mathematically related digital keys

1. The public key (widely disseminated) 2. Private key (kept secret by owner)

Both keys used to encrypt and decrypt message
Once key used to encrypt message, the same key cannot be used to decrypt message
The sender uses recipient's public key to encrypt the message; recipient uses the private key to decrypt it.

Hash function: a Mathematical algorithm that produces a fixed-length number called message or hash digest.

- Hash digest of message sent to recipient along with message to verify integrity
- Hash digest and message encrypted with recipient's public key

Address weaknesses of:

- Public key encryption: Computationally slow, decreased transmission speed, increased processing time
- Symmetric key encryption: Insecure transmission lines
  - ✓ Uses symmetric key encryption to encrypt document
  - ✓ Uses public key encryption to encrypt and send symmetric key

Digital Certificates and Public Key Infrastructure (PKI)
The digital certificate includes:
1.Name of subject/company 2. Subject's public key 3.Digital certificate serial number
4. The expiration date, issuance date 5.Digital signature of CA

Public Key Infrastructure (PKI):

- ✓ CAs and digital certificate procedures
- ✓ PGP

Secure Sockets Layer (SSL) and Transport Layer Security (TLS)

- ✓ Establishes a secure, negotiated client-server session in which URL of requested document, along with contents, is encrypted

Virtual Private Network (VPN):
Allows remote users to securely access internal network via the Internet

Protecting Networks
Firewall

- ✓ Hardware or software
- ✓ Uses security policy to filter packet
- ✓ Two main methods: Packet filters / Application gateways

Proxy servers (proxies) Software servers that handle all communications originating from or being sent to the Internet
Protecting Servers and Clients
Operating system security enhancements Upgrades, patches

Anti-virus software:
- Easiest and least expensive way to prevent threats to system integrity
- Requires daily updates

Managing risk includes
Technology - Effective management policies - Public laws and active enforcement

Types of Payment Systems Cash
1- Most common form of payment
2- Instantly convertible into other forms of value
3- No float

Checking transfer Second most common payment form in the United States
Credit card

Credit card associations
1. Issuing banks 2. Processing centers 3. Credit card associations

Stored value
- Funds deposited into account, from which funds are paid out or withdrawn as needed
- Debit cards, gift certificates
- Peer-to-peer payment systems

Accumulating balance
- Accounts that accumulate expenditures and to which consumers make period payments
- Utility, phone, American Express accounts

Payment System Stakeholders
1. Consumers Low-risk, low-cost, refutable, convenience, reliability
2. Merchants Low-risk, low-cost, irrefutable, secure, reliable
3. Financial intermediaries Secure, low-risk, maximizing profit
4. Government regulators Security, trust, protecting participants and enforcing reporting

E-commerce Payment Systems
- Credit cards / Debit cards
- Limitations of online credit card payment: Security, merchant risk and Cost and Social equity

Mobile Payment Systems
- Use of mobile phones as payment devices established in Europe, Japan, South Korea
- Near field communication (NFC)

Digital cash Based on algorithm that generates unique tokens that can be used in "real" world e.g., Bitcoin
Virtual currencies Circulate within internal virtual world

Chapter 6

Study of consumer behavior Attempts to explain what consumers purchase and where, when, how much, and why they buy

Consumer behavior models

- Predict wide range of consumer decisions
- Based on background demographic factors and another intervening, more immediate variables

Background Demographic Factors

- Culture: Affects entire nations
- Subculture Subsets formed around major social differences (ethnicity, age, lifestyle, geography)
- Social networks and communities

✓ Direct reference groups / Indirect reference groups / Opinion leaders / Lifestyle groups

- Psychological profile

The Online Purchasing Decision

Psychographic research

✓ Combines demographic and psychological data
✓ Divides market into various groups based on social class, lifestyle, and/or personality characteristics

Stages of consumer decision process:

1. Awareness of need
2. Evaluation of alternatives
3. Post-purchase contact with firm
4. Search for more information
5. Actual purchase decision

General online behavior model

1. Consumer skills
2. Attitudes toward online purchasing
3. Website features: latency, usability, security
4. Product characteristics
5. Perceptions about control over Web environment

Clickstream behavior

Clickstream factors include:

1. A number of days since last visit
2. Speed of clickstream behavior
3. A number of products viewed during last visit
4. Number of pages viewed
5. Supplying personal information
6. Number of days since last purchase
7. Number of past purchases

Clickstream marketing Developed dynamically as customers use Internet

✓ One-third of offline retail purchases influenced by online activities
✓ Online traffic also influenced by offline brands and shopping
✓ E-commerce and traditional commerce are coupled: Part of a continuum of consuming behavior

Two most important factors shaping the decision to purchase online:

- Utility: Better prices, convenience, speed
- Trust: Asymmetry of information can lead to opportunistic behavior by sellers

Sellers can develop trust by building strong reputations for honesty, fairness, delivery

Marketing (Concepts)

- Strategies and actions to establish relationship with consumer and encourage purchases
- Addresses competitive situation of industries and firms
- Seeks to create unique, highly differentiated products or services that are produced or supplied by one trusted firm

Net Pricing Strategies

- Pricing Integral part of marketing strategy and Traditionally based on:

Fixed cost / Variable costs / Demand curve

- Price discrimination Selling products to different people and groups based on willingness to pay
- Free and freemium Can be used to build market awareness
- Versioning Creating multiple versions of product and selling essentially same product to different market segments at different prices

- Bundling Offers consumers two or more goods for one price
- Dynamic pricing: Auctions / Yield management / Flash marketing

Long-Tail Marketing
- Internet allows for sales of obscure products with little demand
- Substantial revenue because

Near zero inventory costs / Little marketing costs / Search and recommendation engines

Channels: Different methods by which goods can be distributed and sold
Channel conflict: When new venue for selling products or services threatens or destroys existing sales venues

The Revolution in Internet Marketing Technologies
Internet's main impacts on marketing:
- Scope of marketing communications broadened
- Richness of marketing communications increased
- Information intensity of marketplace expanded
- Always-on mobile environment expands marketing opportunities

Internet marketing technologies:
- Web transaction logs
- Tracking files
- Databases, data warehouses, data mining
- Hadoop and Big Data
- Customer relationship management systems

Tracking Files Users browsing tracked as they move from site to site

Four types of tracking files
1. Cookies Small text file placed by Web site and Allows Web marketers to gather data
2. Flash cookies 3. Beacons ("bugs") 4. Apps

Database:
Stores records and attributes
Database management system :
Software used to create, maintain, and access databases
SQL (Structured Query Language):
Industry-standard database query and manipulation language used in a relational database
Relational database:
Represents data as two-dimensional tables with records organized in rows and attributes in columns; data within different tables can be flexibly related as long as the tables share a common data element
Data warehouse:
Collects firm's transactional and customer data in single location for offline analysis by marketers and site managers

Data mining: Analytical techniques to find patterns in data, model behavior of customers, develop customer profiles
- ✓ Query-driven data mining
- ✓ Model-driven data mining
- ✓ Rule-based data mining

Big data" Web traffic, e-mail, social media content
- Traditional DBMS unable to process the volumes—petabytes and exabytes

Hadoop
- ✓ Open-source software solution
- ✓ Distributed processing among inexpensive servers

Customer Relationship Management (CRM) Systems
Create customer profiles:
1. Product and usage summary data
2. Profitability measures
3. Marketing and sales information
4. Demographic and psychographic data
5. Contact history

Customer data used to:
1. Develop and sell additional products 2. Identify profitable customers 3. Optimize service delivery, etc.

Chapter 7

Marketing Communications have Two main purposes:
1) Sales—promotional sales communications
2) Branding—branding communications

Online marketing communications;
Takes many forms, Online ads, e-mail, public relations, Websites

Online Advertising;
Advantages:
1) Internet is where audience is moving 3) Ad targeting
2) Greater opportunities for interactivity

Disadvantages:
1) Cost vs. benefit 3) How to adequately measure results
2) Supply of good venues to display ads

Forms of Online Advertisements
1) Display ads 2) Rich media 3) Video ads 4) Sponsorships 5) Referrals
6) Search engine advertising 7) Mobile and local advertising
7) Social network advertising: social networks, blogs, and games
8) E-mail marketing 10) Online catalogs

Display Ads
a) Banner Ads
- May include animation / Link to advertiser's Web site
- Can track user /IAB guidelines - Internet Architecture Board (IAB)

b) Pop-up ads
- Appear without user calling for them
- Provoke negative consumer sentiment
- Twice as effective as normal banner ads

Rich Media Ads
- Use Flash, HTML5, Java, JavaScript + about 5% of online advertising expenditures
- Tend to be more about branding and Boost brand awareness by 10%
- Far more effective than banner ads and Interstitials
  (full-page ad between Web pages)

Video Ads
- Fastest growing form of online advertising
- IAB standards Internet Architecture Board (IAB)
  - ✓ Linear video ad / Non-linear video ad
  - ✓ In-banner video ad /In-text video ad
- Specialized video advertising networks
- Retail sites are largest users of video ads
  - ✓ Zappos—created video for each of 100,000 product

Search Engine Advertising
Types:
1) Keyword paid inclusion
2) Advertising keywords
3) Network keyword advertising or context advertising

Social search Reviews friends recommendations, searches, Likes, and Web site visits
Search engine issues:
1) Paid inclusion and placement practices
2) Link farms 3) Content farms 4) Click fraud

Mobile and Local Advertising
- ✓ 122 million users access the Internet from smartphones, tablets
- ✓ Messaging Very effective for local advertising
- ✓ Display ads /Search /Video

Local advertising Enabled by mobile platform and 50% of mobile advertising
Social advertising Uses social graph to promote message and Many-to-many model
Social network advertising Social network sites are advertising platforms

- ✓ Corporate Facebook pages
- ✓ Twitter ads: Promoted Tweets and Promoted Trends and Promoted accounts

Blog advertising

- ✓ Top tactic / 72 million read blogs /Blog readers are ideal demographic

Game advertising

- ✓ In-game billboard display ads / Branded virtual goods
- ✓ Sponsored banners /Branded games "advergames"

Sponsorships

- ✓ Paid effort to tie advertiser's name to particular information, event, and venue in a way that reinforces brand in positive yet not overtly commercial manner

Referrals

- ✓ Affiliate relationship marketing
- ✓ Permits firm to put logo or banner ad on another firm's Web site from which users of that site can click through to affiliate's site

Direct e-mail marketing Primary cost is purchasing addresses

Spam: Unsolicited commercial e-mail

Efforts to control spam:

- ✓ Technology (filtering software)
- ✓ Government regulation (CAN-SPAM and state laws)
- ✓ Voluntary self-regulation by industries (DMA)

قراءة فقط:

- Using consumer offline and online behavior to modify advertising message
- Personal information sold to third-party advertisers, who deliver ads based on profile
- Search engine queries, browsing history, social network data, offline data
- Ad exchanges: Enable advertisers to retarget ads at users as they browse
- Most successful marketing campaigns incorporate both online and offline tactics

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Offline marketing Drives traffic to Web sites / Increases awareness and builds brand equity

How Well Does Online Advertising Work?

- ✓ Use ROI to measure ad campaign
- ✓ Highest click-through rates: Search engine ads, permission e-mail campaigns
- ✓ Rich media, video interaction rates high
- ✓ Online channels compare favorably with traditional
- ✓ Most powerful marketing campaigns use multiple channels, including online, catalog, TV, radio, newspapers, stores

The Costs of Online Advertising

- Pricing models
  - ✓ Barter /Cost per thousand (CPM)
  - ✓ Cost per click (CPC) /Cost per action (CPA)
- Online revenues only Sales can be directly correlated
- Both online/offline revenues Offline purchases cannot always be directly related to online campaign
- In general, online marketing more expensive on CPM basis, but more effective

The Web Site As a Marketing Communications Tool

Effective use requires

- ✓ Appropriate domain name
- ✓ Proper Website design
- ✓ Search engine optimization
  - Search engines registration / Keywords in Website description
  - Metatags and page title keywords / Links to other sites

Main factors in effectiveness of interface Utility / Ease of use

Top factors in credibility of Websites

- ✓ Design look
- ✓ Information design/structure
- ✓ Information focus.

Chapter 8

قراءة فقط:

Internet, like other technologies, can:

- Enable new crimes - Affect environment - Threaten social values
- Costs and benefits must be carefully considered, especially when there are no clear-cut legal or cultural guidelines
- Issues raised by Internet and e-commerce can be viewed at individual, social, and political levels

Four major categories of issues:

1. Information right
2. Governance
3. Property rights
4. Public safety and welfare

Basic Ethical Concepts

✓ Study of principles used to determine right and wrong courses of action

Liability Laws permitting individuals to recover damages

Due process

✓ Laws are known, understood

✓ Ability to appeal to higher authorities to ensure laws applied correctly

Process for analyzing ethical dilemmas:

1. Identify and clearly describe the facts
2. Define the conflict or dilemma and identify the higher-order values involved
3. Identify the stakeholders
4. Identify the options that you can reasonably take
5. Identify the potential consequences of your options

Privacy and Information Rights

Privacy

✓ Moral right of individuals to be left alone, free from surveillance, or interference from other individuals or organizations

information privacy Claims:

✓ Certain information should not be collected at all

✓ Individuals should control the use of whatever information is collected about them

Major social issue:

Development of "expectations of privacy" and privacy norms

Major political issue:

Development of statutes that govern relations between recordkeepers and individuals

Information Collected at E-commerce Sites

Data collected includes

✓ Personally identifiable information (PII)

✓ Anonymous information

Types of data collected

✓ Name, address, phone, e-mail, social security

✓ Bank and credit accounts, gender, age, occupation, education

✓ Preference data, transaction data, clickstream data, browser type

Social networks

✓ Encourage sharing personal details

✓ Pose unique challenge to maintaining privacy

- Facebook's facial recognition technology and tagging
- Personal control over personal information vs. organization's desire to monetize social network

Mobile and Location-based Privacy Issues

Smartphone apps

✓ Funnel personal information to mobile advertisers for targeting ads

✓ Track and store user locations

Mobile Device Privacy Act
- ✓ Not yet passed
- ✓ Requires informing consumers about data collection

Profiling and Behavioral Targeting

Profiling
- ✓ Creation of digital images that characterize online individual and group behavior
- ✓ Anonymous profiles
- ✓ Personal profiles

Advertising networks
- ✓ Track consumer and browsing behavior on Web
- ✓ Dynamically adjust what user sees on screen
- ✓ Build and refresh profiles of consumers

Business perspective:
- ✓ Increases effectiveness of advertising, subsidizing free content
- ✓ Enables sensing of demand for new products and services

Critics' perspective:
- ✓ Undermines expectation of anonymity and privacy
- ✓ Consumers show significant opposition to unregulated collection of personal information

The FTC's Fair Information Practices

Guidelines (not laws)
- ✓ Used to base assessments and make recommendations
- ✓ Sometimes used as basis for law (COPPA)

Fair Information Practice principles

Notice - Choice - Access - Security - Enforcement - Restricted collection

New privacy framework (2010)

Scope - Privacy by design - Simplified choice - Greater transparency

2012 Report: Industry best practices

Do not track - Mobile privacy - Data brokers - Large platform providers –Development of self-regulatory codes

Private Industry Self-Regulation

Safe harbor programs:
- ✓ Private policy mechanism to meet objectives of government regulations without government involvement
- ✓ Privacy seal programs
- ✓ TRUSTe

Industry associations include:
- ✓ Online Privacy Alliance (OPA)
- ✓ Network Advertising Initiative (NAI)

Technological Solutions
- ✓ Spyware blockers / Pop-up blockers
- ✓ Secure e-mail /Anonymous remailers, surfing
- ✓ Cookie managers /Disk/file erasing programs
- ✓ Policy generators /Privacy Policy Reader—P3P
- ✓ Public key encryption

Intellectual Property Rights
- intellectual property: All tangible and intangible products of the human mind
- Major ethical issue: How should we treat property that belongs to others?
- Major social issue: Is there continued value in protecting intellectual property in the Internet age?
- Major political issue: How can Internet and e-commerce be regulated or governed to protect intellectual property?

Three main types of protection: Copyright – Patent - Trademark law
Goal of intellectual property law: Balance two competing interests—public and private

- ✓ Maintaining this balance of interests is always challenged by the invention of new technologies

Copyright

- Protects original forms of expression (but not ideas) from being copied by others for a period of time
- "Look and feel" copyright infringement lawsuits
- Fair use doctrine
- Digital Millennium Copyright Act, 1998
  - ❖ First major effort to adjust copyright laws to Internet age
  - ❖ Implements WIPO (World Intellectual Property Organization) treaty that makes it illegal to make, distribute, or use devices that circumvent technology-based protections of copyrighted materials
- Grant owner 20-year monopoly on ideas behind an invention
  - ✓ Machines - Man-made products - Compositions of matter - Processing methods
- Invention must be new, non-obvious, novel
- Encourages inventors
- Promotes dissemination of new techniques through licensing
- Stifles competition by raising barriers to entry

Trademarks Identify, distinguish goods and indicate their source

Purpose

- ❖ Ensure consumer gets what is paid for/expected to receive
- ❖ Protect owner against piracy and misappropriation

Infringement

- ❖ Market confusion
- ❖ Bad faith

Dilution Behavior that weakens connection between trademark and product
Cybersquatting Anticybersquatting Consumer Protection Act (ACPA)

Chapter 9

قراءة فقط :

The Retail Sector

- The most important theme in online retailing is an effort to integrate online and offline operations.
- 7 segments (clothing, durable goods, etc.)
- For each, uses of Internet may differ
- Mail order/telephone order (MOTO) sector most similar to online retail sector

E-commerce Retail: The Vision

1) Reduced search and transaction costs; customers able to find lowest prices
2) Lowered market entry costs, lower operating costs, higher efficiency
3) Traditional physical store merchants forced out of business
4) Some industries would be disintermediated

- Few of these assumptions were correct—structure of retail marketplace has not been revolutionized
- Internet has created new venues for multi-channel firms and supported a few pure-play merchants
- Growing at faster rate than offline segments
- Primary beneficiaries:
  - ✓ Established offline retailers with online presence
  - ✓ First mover dot-com companies (e.g., Amazon)

Multi-channel Integration

- Integrating Web operations with traditional physical store operations
  - ✓ Provide integrated shopping experience
  - ✓ Leverage value of physical store
- Types of integration
  - ✓ Online order, in-store pickup
  - ✓ Web promotions to drive customers to stores
  - ✓ Gift cards usable in any channel

Economic viability: Ability of firms to survive as profitable business firms during specified period (i.e., 1–3 years)

Two business analysis approaches:

1) Strategic analysis; Focuses on both industry as a whole and firm itself
2) Financial analysis; How firm is performing

Key industry strategic factors

- ✓ Barriers to entry /Power of suppliers
- ✓ Power of customers /Existence of substitute products
- ✓ Industry value chain /Nature of intra-industry competition

Firm-specific factors

- ✓ Firm value chain /Core competencies /Synergies
- ✓ Technology /Social and legal challenges

Financial Analysis Factors

Statements of Operations

- ✓ Revenues / Cost of sales /Gross margin /Operating expenses /Operating margin
- ✓ Net margin - Pro forma earnings—EBITDA

Balance sheet

- ✓ Assets, current assets
- ✓ Liabilities, current liabilities, long-term debt
- ✓ Working capital

E-tailing Business Models

- Virtual merchant; Amazon
- Bricks and clicks; Walmart, J.C. Penney, Sears
- Catalog merchant; Lands' End, L.L. Bean, Victoria's Secret
- Manufacturer-direct; Dell

E-commerce in Action: Amazon.com

- Vision: Earth's biggest selection, most customer-centric
- Business model: Retail, Third-Party Merchants, and Amazon Web Services (merchant and developer services)
- Financial analysis: Continued explosive revenue growth, profitable
- Strategic analysis/business strategy: Maximize sales volume, lower costs and cut prices, acquisitions, mobile shopping, Kindle
- Strategic analysis/competition: Online and offline general merchandisers, Web services
- Strategic analysis/technology: Largest, most sophisticated collection of online retailing technologies available
- Strategic analysis/social, legal: Sales tax, patent lawsuits

قراءة فقط:

- Online retail fastest growing channel on revenue basis
- Profits for startup ventures have been difficult to achieve
- Disintermediation has not occurred
- Established merchants need to create integrated shopping experience to succeed online
- Growth of online specialty merchants, e.g. the Blue Nile
- Extraordinary growth of social, local, and mobile e-commerce

The Service Sector: Offline and Online

Service sector:

- Largest and most rapidly expanding part of economies of advanced industrial nations
- Concerned with performing tasks in and around households, business firms, and institutions
  Includes doctors, lawyers, accountants, business consultants, etc.

Major service industry groups:

1) Finance 2) Insurance 3) Real estate 4) Travel 5) Professional services—legal, accounting
6) Business services—consulting, advertising, marketing, 7) Health services 8) Educational services

Service Industries have two categories

1) Transaction brokers **2)** Hands-on service providers

Features:

1) Knowledge-and information-intense; Makes them uniquely suited to e-commerce applications
2) Personalization and customization; Level differs depending on type of service, e.g., medical vs. financial

Financial Service Industry Trends

Two important global trends

1) Industry consolidation
2) Movement toward integrated financial services Financial supermarket model

Online Financial Consumer Behavior

- Consumers attracted to online financial sites because of desire to save time and access information rather than save money
- Most online consumers use financial services firms for mundane financial management
  - Check balances
  - Pay bills
- Number of people using mobile devices for financial services is surging

Multi-channel vs. Pure Online Financial Service Firms

Multi-channel firms ;

- Growing faster than pure online firms
- Lower online customer acquisition costs

Pure online firms

- Cannot provide all services that require face-to-face interaction

Financial Portals and Account Aggregators

Financial portals

- Comparison shopping services, independent financial advice, financial planning
- Revenues from advertising, referrals, subscriptions e.g., Yahoo! Finance

Account Aggregators

- Pulls together all of a customer's financial data at a personalized Web site
- e.g., Yodlee: provides account aggregation technology
- Privacy concerns; control of personal data, security, etc.

Online Insurance Services

Online term life insurance:

- One of few online insurance with lowered search costs, increased price comparison, lower prices
- Commodity
- Most insurance not purchased online

Online industry geared more toward

- Product information, search / Price discovery / Online quotes / Influencing the offline purchasing decision

,

the major impact is influencing of purchases offline

- Impossible to complete property transaction online
- Main services are online property listings, loan calculators, research and reference material, with mobile apps increasing

قراءة فقط

Online Travel Services

Travel an ideal service/product for Internet

- Information-intensive product
- Electronic product—travel arrangements can be accomplished for the most part online
- Does not require inventory
- Does not require physical offices with multiple employees
- Suppliers are always looking for customers to fill excess capacity
- Does not require an expensive multi-channel presence

The Online Travel Market

Four major sectors:

- Airline tickets
- Hotel reservations
- Car rentals
- Cruises/tours

Online Recruitment Industry Trends

- Consolidation
- Diversification: Niche employment sites
- Localization: Local vs. national, Craigslist
- Job search engines/aggregators: "Scraping" listings
- Social networking:
- LinkedIn; Facebook apps
- Mobile Websites and apps

Chapter 10

قراءة فقط

Four Internet titans compete for ownership of online content ecosystem:
Apple, Google, Amazon, and Facebook

Cloud storage grows to serve market for mobile computing
Multimedia—reduces cannibalization impact for some visual, aural media

Internet users
- Spend relatively less time with traditional media
- Consume more media of all types than non-Internet users
- often "multitask" with media consumption

Online content delivery revenue models
1. Subscription 2. A la carte 3. Advertising-supported (**free**/freemium)

- Free content can drive users to paid content
- Users increasingly paying for high-quality, unique content

Digital Rights Management (DRM):
Technical and legal means to protect digital content from unlimited reproduction and distribution

- Issue often cast as moral contest
- Telecommunications and device industries benefit from increased traffic

Media Industry Structure
Three separate segments; Print, Movies, Music

Media Convergence
Technological convergence: Hybrid devices

Content convergence:
Three aspects: Design, production, distribution
New tools for digital editing and processing

Industry convergence: Merger of media enterprises into firms that create and cross-market content on different platforms

Four factors required to charge for online content
✓ Focused market / Specialized content / Sole source monopoly / High perceived net value.

Online Publishing Industry
Three segments Online newspapers / E-books / Online magazines
✓ Aggregators are recognizing need for high-quality content to distribute and use for advertisements

Disruptive Technologies
Newspapers: A classic case of disruptive technology? And Industry still in flux
Newspapers have significant assets:
Content - Readership - Local advertising - Audience (wealthier, older, better educated)
Online audience will continue to grow in numbers and sophistication

Challenges of E-book Platform
Cannibalization Fewer physical sales / More e-book sales, more purchases of readers

Finding the right business model
- Wholesale model
- Retailers pay wholesale price and establish retail price
- Agency model
- Distributor as agent must charge publisher's retail price

Online Entertainment Industry

Four traditional players, one newcomer

Television - Radio broadcasting - Hollywood films - Music - Video games (new arrival)

the internet is transforming industry:

Platform development:

- ✓ Smartphones, tablets, music platform
- ✓ Online streaming and cloud storage
- ✓ Social networks as distributors

Viable business models

- ✓ Music subscription services
- ✓ Closed platforms that eliminate need for DRM
  - Widespread growth of broadband

Online Entertainment Audience Size

Online video has largest audiences, followed by music, games

User-generated content:

- Substitutes for and complements traditional commercial entertainment
- Two dimensions: 1. User focus 2. User control
- Sites that offer high levels of both will grow

Television and Premium Video

TV industry transitioning to new delivery platforms

OTT: Over-the-top (Internet) delivery

Three factors in TV industry transformation

- Broadband penetration
- New mobile platforms
- Willing industry with library of high-quality content
  - ✓ Social network influences and Hulu: Joint venture of industry players

Movies

Three types of online movie sales

1. Subscription video on demand (SVOD)
2. Transactional video on demand (TVOD)
3. Electronic sell-through

Music

Most changed of content industries

- Move from physical to digital product
- Unbundling of single songs
- Distributor market dominated by Apple

Games

- ✓ Online gaming has had explosive growth
- ✓ **Types of online gamers** Casual / Social / Mobile—fastest growing market / Console

Online Entertainment Industry Structure

- Inefficient, fractured: Many players and forces shape industry
- Reorganization of value chain needed for aggressive move to Web
- Possible alternative models
  - Content owner direct model
  - Internet aggregator model
  - Internet innovator model

Chapter 11

What Is an Online Social Network?

Working definition

- Group of people / Shared social interaction
- Common ties /Sharing an area for period of time

Portals and social networks:

- Moving closer together
- Community sites adding portal-like services; Searching, news, e-commerce services

- Social networks monetizing audiences through advertising

Business use of social networks

- Marketing and branding tool Facebook pages, "fans" / Twitter feeds
- Listening tool; Monitoring online reputation
- Extension of CRMS

Types of Social Networks and their Business Models

General communities:

- Offer opportunities to interact with general audience organized into general topics
- Advertising-supported by selling ad space on pages and videos

Practice networks:

- Offer focused discussion groups, help, and knowledge related to area of shared practice
- Maybe profit or nonprofit; rely on advertising or user donations

Interest-based social networks:

- Offer focused discussion groups based on shared interest in some specific subject
- Usually, advertising-supported

Affinity communities:

- Offer focused discussion and interaction with other people who share same affinity (self or group identification)
- Advertising and revenues from sales of products

Sponsored communities:

- Created by government, nonprofit, or for-profit organizations for purpose of pursuing organizational goals

Social Network Features and Technologies

- Profiles - Friends network - Network discovery - Favorites - Games, widgets, apps - E-mail
- Storage - Instant messaging - Message boards - Online polling – Chat - Discussion groups –
- Experts online - Membership management tools

Online Auctions

- ✓ Online auction sites are among the most popular C2C sites on the Internet
- ✓ eBay: Market leader

Dynamic pricing ;

- Airline tickets, coupons, college scholarships
- Prices based on demand characteristics of customer and supply situation of seller

Many types of dynamic pricing

- Bundling - Trigger pricing - Utilization pricing - Personalization pricing
- C2C auctions Auction house an intermediary
- B2C auctions Business owns assets; often used for excess goods
- **Can be used to**
  - ✓ Sell goods and services
  - ✓ Allocate resources
  - ✓ Allocate and bundle resources

Benefits of Auctions

- Liquidity - Price discovery - Price transparency - Market efficiency - Lower transaction costs
- Consumer aggregation - Network effects

Monitoring costs Possible solutions include:
Fixed pricing - Watch lists - Proxy Bidding

Different from traditional auctions
- Last much longer (usually a week)
- Variable number of bidders who come and go from auction arena

Market power and bias in dynamically priced markets
- **Neutral:** Number of buyers and sellers is few or equal
- **Seller bias**: Few sellers and many buyers
- **Buyer bias**: Many sellers and few buyers

Price Allocation Rules
- **Uniform pricing rule:** Multiple winners who all pay the same price
- **Discriminatory pricing rule**: Winners pay different amount depending on what they bid

Unintended results of participating in auctions:
- Winner's regret
- Seller's lament
- Loser's lament

When Auction Markets Fail: Fraud and Abuse in Auctions
Markets fail to produce socially desirable outcomes in four situations:
1) Information asymmetry
2) Monopoly power
3) Public Goods
4) Externalities

قراءة فقط

E-commerce Portals
- Most frequently visited sites on Web
- Original portals were search engines As search sites, attracted huge audiences
- Enterprise portals; Help employees find important organizational content

Types of Portals
1) **General purpose portals:**
   - Attempt to attract very large general audience
   - Retain audience by providing in-depth vertical content channels e.g., Yahoo, MSN
2) **Vertical market portals**:
   - Attempt to attract highly-focused, loyal audiences with a specific interest in:
     - ✓ Community (affinity group); e.g., iVillage
     - ✓ Focused content; e.g., ESPN.com

قراءة فقط

Portal Business Models
- General advertising revenue
- Tenancy deals; Fixed charge for number of impressions, exclusive partnerships, "sole providers"
- Commissions on sales
- Subscription fees; Charging for premium content
- Applications and games

Chapter 12

قراءة فقط

Defining B2B Commerce

- Before Internet: B2B transactions called trade or procurement process
- Total inter-firm trade: Total flow of value among firms
- B2B commerce: All types of computer-enabled inter-firm trade
- The portion of B2B commerce enabled by the Internet

Industry Forecasts

- Not all industries similarly affected by B2B e-commerce
- Not all industries would benefit equally

Factors influencing move to e-commerce

- Significant utilization of EDI
- Large investments in IT and Internet infrastructure e.g., aerospace and defense, computer
- Market concentrated on purchasing or selling e.g., energy, chemical industries

Potential Benefits of B2B E-commerce

- Lower administrative costs
- Lower search costs for buyers
- Reduced inventory costs; Increasing competition among suppliers Reducing inventory carried
- Lower transaction costs: Automation, eliminating paperwork
- Increased production flexibility by ensuring just-in-time parts delivery
- Improved quality of products by increasing cooperation among buyers and sellers
- Decreased product cycle time
- Increased opportunities for collaboration
- Greater price transparency
- Increased visibility, real-time information sharing

The Procurement Process and the Supply Chain

Procurement process: The way firms purchase materials they need to make products

Supply chain: Firms that purchase goods, their suppliers, and their suppliers' suppliers, relationships and processes involved

Steps in procurement process

- Deciding who to buy from and what to pay
- Completing transaction

Types of Procurement

- Firms purchase two types of goods
  - Direct goods: Integrally involved in production process
  - Indirect goods: All goods not directly involved in production process (MRO goods)
- Firms use two methods to purchase
  - Contract purchasing: Involves long-term written agreements to purchase specified products, with agreed-upon terms and quality
  - Spot purchasing: Involves purchase of goods based on immediate needs in larger marketplaces that involve many suppliers
- Procurement is highly information intensive and labor intensive
  - Requires managing information among many corporate systems
- Multi-tier supply chain
  - Complex series of transactions between firm and thousands of suppliers, supplying thousands of goods

Legacy computer systems

Generally, older mainframe and minicomputer systems used to manage key business processes within firm

Enterprise systems

- Corporate-wide
- Support/control all aspects of production, including
  - Procurement
  - Finance
  - Human resources

Trends in Supply Chain Management

Supply chain management (SCM) Activities used to coordinate key players in the procurement process

Major developments in SCM

1) Just-in-time and lean production
2) Adaptive supply chains
3) Sustainable supply chains
4) Supply chain management systems
5) Supply chain simplification
6) Accountable supply chains
7) Electronic data interchange
8) Collaborative commerce

Just-in-Time production

- Method of inventory cost management
- Seeks to eliminate excess inventory to bare minimum

Lean production

- Set of production methods and tools
- Focuses on elimination of waste throughout customer value chain, not just inventory

Adaptive Supply Chains:

- **Reducing size of supply chain:** Working with strategic group of suppliers to reduce product and administrative costs and improving quality
- **Reducing centralization:** Reduce risks caused by relying on single suppliers who are subject to local instability
- **Creating regional or product-based supply chains:** Allowing production to be moved to temporary safe harbors in case of local manufacturing disruptions

Supply Chain Management Systems: Continuously link activities of buying, making, and moving products from suppliers to purchasing firms

Social Networks and B2B: Social networks can provide personal connections that can help decision making in supply chain

Main Types of Internet-based B2B Commerce:

- **Net marketplaces:**
  - Bring together potentially thousands of sellers and buyers in single digital marketplace operated over Internet
  - Transaction-based
  - Support many-to-many as well as one-to-many relationships
- **Private industrial networks:**
  - Bring together small number of strategic business partner firms that collaborate to develop highly efficient supply chains
  - Relationship-based
  - Support many-to-one and many-to-few relationships
  - Largest form of B2B e-commerce

- What is the difference between E-commerce and E-business?
- Explain Eight Unique Features of E-commerce Technology! (مُكرر لونق انسر)
- What are the Types of E-commerce with explain?
- What are The Features on which the foundations of e-commerce are built with explain?
- Define The Systems Development Life Cycle and explain Five major steps?
- Most Common Security Threats in the E-commerce Environment?

الاسئلة المُهمة والمُكررة + أي تعريف واضح او تعداد واضح مُهم + اسئلة الميد راجعوها والتست بانك غالباً يغطي سؤال الاختياري .. كُل التوفيق ..