Week 12
ECOM13003 Electronic Commerce

Review
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Outcomes
On successful completion of this course, students should have a working knowledge of:
- technologies that are associated with EC and the way that they are currently used in organisations
- the major issues that are attracting interest by researchers in areas related to EC - the major opportunities and pitfalls (social, political, and commercial) that are associated with EC.

The Exam – Final T2 2007
- Is NOT multiple choice
- ANSWERS are to be written in the exam booklet
- **YOU ARE NOT EXPECTED TO WRITE ANOTHER ESSAY**
  - Short [50 - 100 words] and long [300 words] answers only
  - Use examples in your discussions to illustrate your main points.
- Questions are based on the content in the text: E-commerce, Laudon & Traver, 2007

The Exam [2]
- Your exam answers **will** be marked on your understanding of the course content and how well you answer the exam questions drawn from the Laudon & Traver [2007] text
- You will **not** be marked on your
  - Grammar
  - Spelling
  - English expression

Practice for the Exam
- Do the tutorial questions [written answers]
- These are similar to the questions that you will have in the exam

Class Discussion
Any questions regarding the exam?
E-commerce vs. E-business

- We use the term e-business to refer primarily to the digital enablement of transactions and processes within a firm, involving information systems under the control of the firm.
- E-business does not include commercial transactions involving an exchange of value across organizational boundaries.

Seven Unique Features of E-commerce:

Technology and Their Significance

- Is ubiquitous (available everywhere, all the time)
- Offers global reach (across cultural/national boundaries)
- Operates according to universal standards (lowers market entry for merchants and search costs for consumers)
- Provides information richness (more powerful selling environment)
- Is interactive (can simulate face-to-face experience, but on a global scale)
- Increases information density (amount and quality of information available to all market participants)
- Permits personalization/customization

Types of E-commerce

Classified by nature of market relationship

- Business-to-Consumer (B2C)
- Business-to-Business (B2B)
- Consumer-to-Consumer (C2C)

Classified by type of technology used

- Peer-to-Peer (P2P)
- Mobile commerce (M-commerce)

Potential Limitations:

Growth of B2C E-commerce

- Expensive technology
- Complex software interface
- Sophisticated skill set
- Persistent cultural attraction of physical markets and traditional shopping experiences
- Persistent global inequality limiting access to telephones and computers

Limitations of the Current Internet

- Bandwidth limitations
- Quality of service limitations
- Network architecture limitations
- Language development limitations
- Wired Internet limitations
E-commerce Business Models—Definitions
- Business model: set of planned activities designed to result in a profit in a marketplace
- Business plan: document that describes a firm’s business model
- E-commerce business model: aims to use and leverage the unique qualities of Internet and Web

Industry Structure Figure 2.5, Page 91
- E-commerce changes the nature of players in an industry and their relative bargaining power by changing:
  - the basis of competition among rivals
  - the barriers to entry
  - the threat of new substitute products
  - the strength of suppliers
  - the bargaining power of buyers

The Procurement Process and the Supply Chain
- Procurement process: The way firms purchase the goods they need to produce the goods they sell
- Supply chain: Firms that purchase goods, their suppliers, and their suppliers’ suppliers
- Includes not just the firms themselves, but also the relationships among them and the processes that connect them

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Trends in Supply Chain Management and Collaborative Commerce
- To understand B2B e-commerce, you must also understand developments in supply chain management
- Supply chain management (SCM): Refers to a wide variety of activities that firms and industries use to coordinate the key players in their procurement process
  - Major developments in supply chain management
    - Supply chain simplification
    - Electronic data interchange
    - Supply chain management systems
    - Collaborative commerce

Multi-tier Supply Chains Figure 12.5, Page 691
- Involves a complex series of transactions that exists between a single firm with multiple primary suppliers, the second suppliers who do business with those primary suppliers, and the tertiary suppliers who do business with the secondary suppliers

Supply Chain Simplification
- Firms work closely with a strategic group of suppliers to reduce product and administrative costs, while improving quality
- Typically involves purchasing under long-term contracts that contain pre-specified product quality requirements and pre-specified timing goals
- Often involve tight coupling (method of ensuring that suppliers precisely deliver ordered parts at specific time and to particular location, to ensure production process is not interrupted)
Supply Chain Management Systems

Figure 12.7, Page 696
- Continuously link the activities of buying, making, and moving products from suppliers to purchasing firms, as well as integrating the demand side of the business equation by including the order entry system in the process
- Example: Hewlett Packard

Collaborative Commerce Figure 12.8, Page 700
- An extension of supply chain management systems and supply chain simplification
- Involves the use of digital technologies to permit organizations to collaboratively design, develop, build, and manage products through their life cycles
- Involves a move from a transaction focus to a relationship focus
- Example: Group Dekko

Private Industrial Networks and Collaborative Commerce Figure 12.18, Page 728
- Collaboration among businesses can take following forms:
  - Collaborative resource planning, forecasting, and replenishment (CPFR): Involves working with network members to forecast demand, develop production plans, and coordinate shipping, warehousing and stocking activities to ensure that retail and wholesale shelf space is replenished with just the right amount of goods
  - Demand chain visibility
  - Marketing coordination and product design—closed loop marketing

Types of Payment Systems
- Cash
- Cheque Transfer
- Credit Card
- Stored Value
- Accumulating Balance

Unique Features of E-Commerce Technology and Their Potential Ethical, Social and/or Implications

A Model for Organizing the Issues Figure 9.1, Page 503
- Issues raised by Internet and e-commerce can be viewed at individual, social, and political levels
- Four major categories of issues
  - Information rights
  - Property rights
  - Governance
  - Public safety and welfare
The Concept of Privacy

- **Privacy:** The moral right of individuals to be left alone, free from surveillance or interference from other individuals or organizations.
- **Information privacy:** Includes both the claim that certain information should not be collected at all, as well as the claim of individuals to control the use of whatever information is collected about them.

E-commerce and Privacy

- **Major ethical issue related to e-commerce and privacy:** Under what conditions should we invade privacy of others?
- **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

- **Personally identifiable information (PII):** Data that can be used to identify, locate, or contact an individual.
- **Anonymous information:** Demographic and behavioral information that does not include any personal identifiers.
- **Almost all e-commerce companies collect PII and use cookies to track clickstream behavior.**

Informed Consent

- **Consent given with knowledge of all the material facts needed to make a rational decision.**
- **Two models:**
  - **Opt-in**
  - **Opt-out**
- **Many U.S. e-commerce firms merely publish information practices as part of privacy policy without providing for any form of informed consent.**

The European Directive on Data Protection

- **Privacy protection much stronger in Europe than in United States.**
- **European approach:** Comprehensive and regulatory in nature.
- **European Commission’s Directive on Data Protection:** Standardizes and broadens privacy protection in European Union countries.
- **Department of Commerce safe harbor program for U.S. firms that wish to comply with Directive.**

Governance

- **Involves issue of social control.**
- **Primary questions:**
  - Who will control Internet and e-commerce?
  - What elements will be controlled and how?
- **Stages of governance and e-commerce:**
  - Self-Regulation (1995-present)
  - Government Regulation (1998-present)
Who Governs E-commerce and the Internet?
- Currently we are in a mixed mode policy environment where self-regulation, through a variety of Internet policy and technical bodies, co-exists with limited government regulation.
- Not true that Internet cannot be controlled. In fact, Internet can be very easily controlled, monitored, and regulated from a central location (such as done by China, Singapore, etc.)

Dimensions of E-commerce Security
- Integrity: ability to ensure that information being displayed on a Web site or transmitted/received over the Internet has not been altered in any way by an unauthorized party.
- Nonrepudiation: ability to ensure that e-commerce participants do not deny (repudiate) online actions.
- Authenticity: ability to identify the identity of a person or entity with whom you are dealing on the Internet.
- Confidentiality: ability to ensure that messages and data are available only to those authorized to view them.
- Privacy: ability to control use of information a customer provides about himself or herself to merchant.
- Availability: ability to ensure that an e-commerce site continues to function as intended.

Symmetric Key Encryption
- Also known as secret key encryption.
- Both the sender and receiver use the same digital key to encrypt and decrypt message.
- Requires a different set of keys for each transaction.
- Data Encryption Standard (DES): Most widely used symmetric key encryption today; uses 56-bit encryption key; other types use 128-bit keys up through 2048 bits.

Public Key Encryption
- Public key cryptography solves symmetric key encryption problem of having to exchange secret key.
- Uses two mathematically related digital keys – public key (widely disseminated) and private key (kept secret by owner).
- Both keys are used to encrypt and decrypt message.
- Once key is used to encrypt message, same key cannot be used to decrypt message.
- For example, sender uses recipient’s public key to encrypt message; recipient uses his/her private key to decrypt it.

Public Key Encryption using Digital Signatures and Hash Digests
- Application of hash function (mathematical algorithm) by sender prior to encryption produces hash digest that recipient can use to verify integrity of data.
- Double encryption with sender’s private key (digital signature) helps ensure authenticity and nonrepudiation.

Limits to Encryption Solutions
- PKI applies mainly to protecting messages in transit.
- PKI is not effective against insiders.
- Protection of private keys by individuals may be haphazard.
- No guarantee that verifying computer of merchant is secure.
Why More People Don't Shop Online

- Major online buying concerns:
  - Security
  - Privacy
  - Shipping costs
  - Return policy
  - Product availability
  - Shipping issues/delays

Trust, Utility, and Opportunism in Online Markets

- Trust and utility among the most important factors shaping decision to purchase online
- Consumers are looking for utility (better prices, convenience)
- Asymmetry of information can lead to opportunistic behavior by sellers
- Consumers also need to trust merchants before willing to purchase
- Sellers can develop trust by building strong reputations for honesty, fairness, delivery

Types of Online Services

- Financial
  - Banking, Mortgage, Insurance, Brokerage
- Real Estate
  - House sales, rentals
- Travel
  - Webjet
- Career
  - Seek

Next Week

- Study period
- Good luck with your exams