E – Commerce (CSC 370) (60+20+20)

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Reference Books

1. Kenneth C. Laudon and Carol Guercio Traver, E-commerce Business Technology Society, Pearson
2. Electronic Transaction ACT of Nepal
3. SET Secure Electronic Transaction Specification Book 1: Business Description
4. Efraim Turban, Jon Outland, David King, Jae Kyu Lee, Ting-Peng Liang, Deborrah C. Turban, Electronic Commerce A Managerial and Social Networks Perspective, Springer
5. Gary P. Schneider, Electronic Commerce, Course Technology, Cengage Learning
6. Colin Combe, Introduction to E-business Management and strategy, Elsevier
7. Dave Chaffey, E-Business & E-Commerce Management Strategy, Implementation And Practice, Pearson
8. Cristian Darie and Emilian Balanescu, Beginning PHP and MySQL E-Commerce From Novice to Professional, Apress
9. Cristian Darie and Karli Watson, Beginning ASP.NET E-Commerce in C# From Novice to Professional, Apress
10. Larry Ullaman, Effortless E-commerce with PHP and MySQL, New Riders
11. Eric Enge, Stephan Spencer, Rand Fishkin, and Jessie C. Stricchiola foreword by John Battelle, The Art of SEO: Mastering Search Engine Optimization, O‟Reilly
12. Adam Clarke, SEO Learn Search Engine Optimization With Smart Internet Marketing Strategies: Learn SEO with smart internet marketing strategies
13. Charu C. Aggrawal, Recommender Systems, Springer

- **Course Description:**

  This course covers the fundamental concepts of E-commerce and E-business models, and components of E-commerce system.

- **Course Objectives:**

  The main objective of this course is to provide basic concepts of E-commerce, E-commerce Business Models, E-Payments, E-commerce Security, Digital Marketing, Search Engine Optimization, and Basics of Recommendation System.

Unit 1: Introduction (4 Hrs.)
INTRODUCTION TO ELECTRONIC COMMERCE

- Electronic commerce (e-commerce) remains a relatively new, emerging and constantly changing area of business management and information technology.

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

- *Digitally enabled transactions* include all transactions mediated by digital technology e.g. Internet.

- For the most part, this means transactions that occur over the Internet and the Web

Some of the definitions of e-commerce

- Electronic Commerce (EC) is where business transactions take place via telecommunications networks, especially the Internet.

- Electronic commerce describes the buying and selling of products, services, and information via computer networks including the Internet.

- Electronic commerce is about doing business electronically.

- E-commerce is defined as the conduct of a financial transaction by electronic means.

THE DIFFERENCE BETWEEN E-COMMERCE AND E-BUSINESS

FIGURE 1.1 THE DIFFERENCE BETWEEN E-COMMERCE AND E-BUSINESS
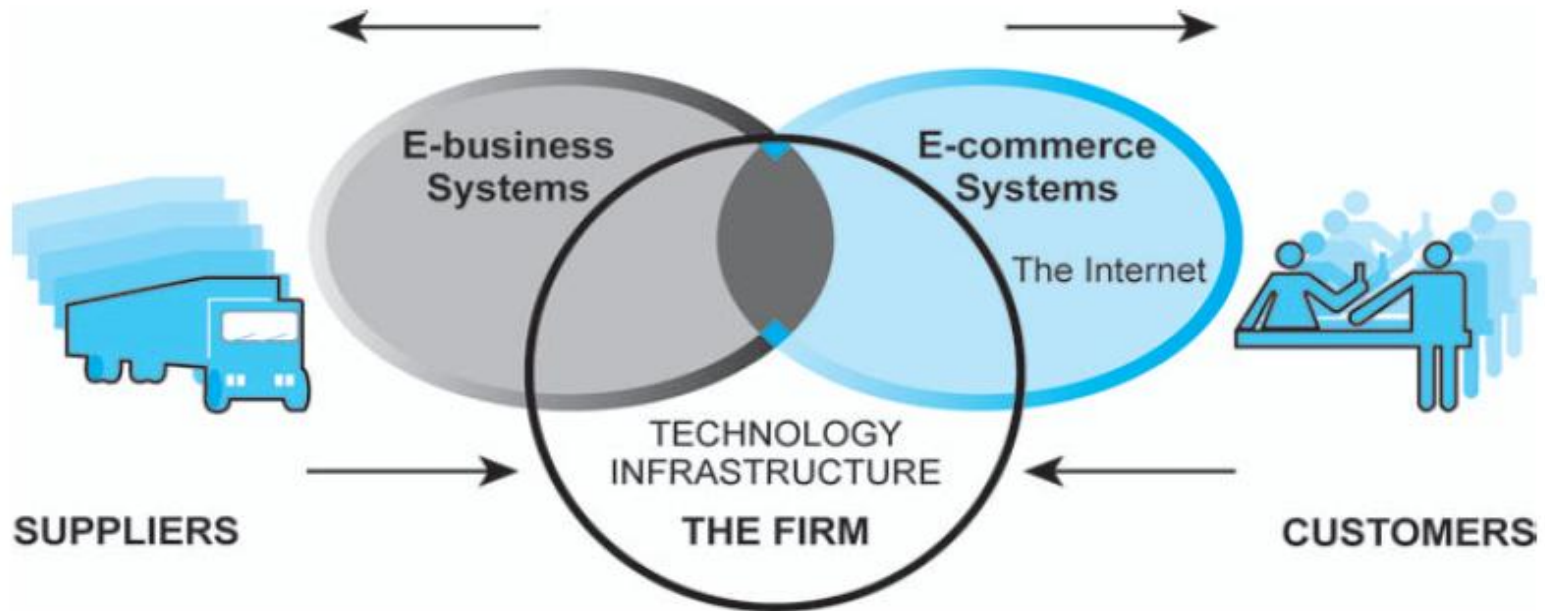
E-commerce primarily involves transactions that cross firm boundaries. E-business primarily involves the application of digital technologies to business processes within the firm.

- **E-business** refers 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.
- For example, a company's online inventory control mechanisms are a component of e-business, but such internal processes do not directly generate revenue for the firm from outside businesses or consumers, as e-commerce, by definition, does.
- It is true, however, that a firm's e-business infrastructure provides support for online e-commerce exchanges; the same infrastructure and skill sets are involved in both e-business and e-commerce.
- E-commerce and e-business systems blur together at the business firm boundary, at the point where internal business systems link up with suppliers or customers, for instance.
- E-business applications turn into e-commerce precisely when an exchange of value occurs

BENEFITS OF E-COMMERCE

1. **Benefits of e-commerce to organizations**
- *International marketplace*
- *Operational cost savings*
- *Mass customization*
- *Enables reduced inventories*
- *Lower telecommunications cost*
- *Digitisation of products and processes*
- *No more 24-hour-time constraints*

2. Benefits of e-commerce to consumers

- *24/7 access*
- *More choices*
- Customers can 'shop' around the world
- *Improved delivery processes*
- *An environment of competition*

3. Benefits of e-commerce to society

- *Enables more flexible working practices*

- *Connects people*

- *Facilitates delivery of public services*

LIMITATIONS OF E-COMMERCE

1. **Limitations of e-commerce to organisations**
- *Lack of sufficient system security, reliability, standards and communication protocols*
- *Rapidly evolving and changing technology*
- *Under pressure to innovate* and develop business models to exploit the new opportunities
- *Facing increased competition* from both national and international competitors
- *Problems with compatibility of older and 'newer' technology*

2. **Limitations of e-commerce to consumers**
- *Computing equipment* is needed for individuals
- *A basic technical knowledge* is required
- *Cost of access to the Internet*
- *Cost of computing equipment*
- *Lack of security and privacy of personal data*
- *Physical contact and relationships are replaced by electronic processes*
- *A lack of trust because they are interacting with faceless computers*

3. Limitations of e-commerce to society

- *Breakdown in human interaction*
- *Social division*
- *Reliance on telecommunications infrastructure, power and IT skills*
- *Wasted resources*
- *Facilitates Just-In-Time manufacturing*
- *Difficulty in policing the Internet*

UNIQUE FEATURES OF E-COMMERCE TECHNOLOGY

1. **Ubiquity**
- E-Commerce is ubiquitous meaning that it is available just about everywhere, at all times.
- It is no longer necessary that you spend time and money traveling to a market.

2. **Global Reach**
- e-commerce technology permits commercial transaction to cross cultural and national boundaries far more conveniently and cost effectively.
- As a result, the potential market size for e-commerce merchants is roughly equal to the size of the world's online population.

3. **Universal Standards**
- One strikingly unusual feature of e-commerce technologies is that the technical standards of the Internet, and therefore the technical standards for conducting e-commerce, are universal standards – they are shared by all nation around the world
- The universal technical standards of e-commerce greatly lower market entry cost –the cost merchants must pay just to bring their goods to market.

4. Richness

- With the use of e-commerce technology merchant can present their message in effective way.
- Information richness refers to the complexity and content of the message.

5. Interactivity

- E-Commerce technologies are interactive, meaning they allow two-way communication between merchant and consumer
- All of these activities are possible on an e-commerce Web site.
- Interactivity allows an online merchant to engage a consumer in a ways similar to a face-to-face experience, but on a much more massive, global scale.

6. Information density

- The Internet and the Web vastly increase information density – the total amount and quality of the information available to all market participants, consumers and merchants alike.
- E-commerce technologies reduce information collection, storage, processing and communication costs

7. Personalization/Customization

- E-commerce technologies permit **personalization**: Merchants can target their marketing message to specific individuals by adjusting the message.

- The technology also permits **customization** – changing the delivered product or service based on a user's preference or prior behavior.

8. Social Technology

- USER-GENERATED CONTENT AND SOCIAL NETWORKS

- In a way quite different from all previous technologies, e-commerce technologies have evolved to be much more social by allowing users to create and share content with a worldwide community.

- Using these forms of communication, users are able to create new social networks and strengthen existing ones.

E-COMMERCE FRAMEWORK

- The framework for e-Commerce consists of three parts as shown in below figure:

1. The first part consists of a *variety of electronic commerce applications* including both inter- and intra-organizational and electronic market examples such as Supply Chain Management, Video-on-Demand, Procurement and purchasing, On-line marketing and advertising, Home shopping etc.

2. The second part of the building blocks of the infrastructure consists of:

- **Common business services**, for facilitating the buying and selling process.

- **Messaging and information distribution**, as a means of sending and retrieving information (ex-EDI, e-mail, P2P file transfer)

- **Multi-media content and network publishing**, for creating a product and a means to communicate about it.

- **Information Superhighway infrastructure** consisting of telecommunication, cable operator, ISPs , Wireless technologies and Internet.

3. The third part consists of the _public policy_ and _technical standards_ necessary to support the applications and the infrastructure.

- **Public policies** govern issues like universal access, privacy, and information pricing. The public policy infrastructure affects not only the specific business but also direct and indirect competitors. It should take into consideration of:
  - Cost of accessing information
  - Regulation to protect consumers from fraud and protect their right to privacy.
  - Policies of global information traffic to detect information pirating and obscene sites.
- **Technical Standards** governs issues like technology for communication and as well as for Internet

Electronic Commerce Applications

Supply Chain Management	Online Marketing and Advertising
Procurement & Purchasing	Online Shopping
Audio and Video on Demand	Online Financial Transaction
Entertainment and Gaming	Education and Research

Common Business Services Infrastructure
(Security/Authentication, Electronic Payment, Directories/Catalogs)

Multimedia Content & Network Publishing Infrastructure
(Digital Video, Electronic Books, World Wide Web)

Messaging & Information Distribution Infrastructure
(EDI, E-Mail, HyperText Transfer Protocol)

Information Superhighway Infrastructure
(Telecom, Cable TV, Wireless, Internet)

Public policy, legal, economical development, and privacy issues

Technical standards for electronic documents, multimedia contents, business transactions, and network protocols

Fig: Generic Framework of Electronic Commerce

Types of E Commerce

- There are a number of different types of e-commerce and many different ways to characterize them.

- For the most part, we distinguish different types of e-commerce by the nature of the market relationship—who is selling to whom.

- Mobile, social, and local e-commerce can be looked at as subsets of these types of e-commerce.

BUSINESS-TO-CONSUMER (B2C) E-COMMERCE

- The most commonly discussed type of e-commerce is **business-to-consumer (B2C) e-commerce, in which online businesses attempt to reach individual consumers.**

- **B2C** e-commerce includes purchases of retail goods, travel and other types of services, and online content.

- B2C has grown exponentially since 1995 and is the type of e-commerce that most consumers are likely to encounter.

- Within the B2C category, there are many different types of business models.

- There is obviously much room to grow.

- However, it's not likely that B2C e-commerce revenues will continue to expand forever at current rates.

- As online sales become a larger percentage of all sales, online sales growth will likely eventually decline.

- However, this point still appears to be a long way off.

- Online content sales, everything from music, to video, medical information, games, and entertainment, have an even longer period to grow before they hit any ceiling effects.

BUSINESS-TO-BUSINESS (B2B) E-COMMERCE

- **Business-to-business (B2B) e-commerce, in which businesses focus on selling to** other businesses, is the largest form of e-commerce, with around $6.7 trillion in transactions in the United States in 2016.

- This is a small portion of total B2B commerce (which remains largely non-automated), suggesting that B2B e-commerce has significant growth potential.

- The ultimate size of B2B e-commerce is potentially huge.

- There are two primary business models used within the B2B arena: Net marketplaces - which include e-distributors, e-procurement companies, exchanges and industry consortia, and private industrial networks.

CONSUMER-TO-CONSUMER (C2C) E-COMMERCE

- **Consumer-to-consumer (C2C) e-commerce provides a way for consumers to sell** to each other, with the help of an online market maker (also called a platform provider) such as eBay or Etsy, the classifieds site Craigslist, or on-demand service companies such as Airbnb and Uber.

- In C2C e-commerce, the consumer prepares the product for market, places the product for auction or sale, and relies on the market maker to provide catalog, search engine, and transaction-clearing capabilities so that products can be easily displayed, discovered, and paid for.

- Given that in 2015, eBay by itself generated around $82 billion in gross merchandise volume, it is probably safe to estimate that the size of the C2C market in 2016 is more than €100 billion (eBay, 2016).

MOBILE E-COMMERCE (M-COMMERCE)

- **Mobile e-commerce (m-commerce), refers to the use of mobile devices to enable** online transactions.
- M-commerce involves the use of cellular and wireless networks to connect smartphones and tablet computers to the Internet.
- Once connected, mobile consumers can purchase products and services, make travel reservations, use an expanding variety of financial services, access online content, and much more.
- M-commerce purchases are expected to reach almost €70 billion in the EU-5 (France, Germany, Italy, Spain and the United Kingdom) in 2016 and to grow rapidly over the next five years.
- **Factors that are driving the growth of m-commerce** include the increasing amount of time consumers are spending using mobile devices, larger smartphone screen sizes, greater use of responsive design enabling e-commerce sites to be better optimized for mobile use and mobile checkout and payment, and enhanced mobile search functionality .

SOCIAL E-COMMERCE

- **Social e-commerce is e-commerce that is enabled by social networks and online** social relationships.
- The growth of social e-commerce is being driven by a number of factors, including the increasing popularity of social sign-on (signing onto websites using your Facebook or other social network ID), network notification (the sharing of approval or disapproval of products, services, and content), online collaborative shopping tools, social search (recommendations from online trusted friends), and the increasing prevalence of integrated social commerce tools such as Buy buttons, Shopping tabs, and virtual shops on Facebook, Instagram, Pinterest, YouTube, and othermsocial network sites.
- Social e-commerce is still in its relative infancy.
- Social e-commerce is often intertwined with m-commerce, particularly as more and more social network users access those networks via mobile devices.
- A variation of social e-commerce known as *conversational commerce leverages the mobile connection* even further.
- Conversational commerce involves the use of mobile messaging apps such as Facebook Messenger, WhatsApp, Snapchat, Slack, and others as a vehicle for companies to engage with consumers.

LOCAL E-COMMERCE

- **Local e-commerce, as its name suggests, is a form of e-commerce that is focused on** engaging the consumer based on his or her current geographic location.

- Local merchants use a variety of online marketing techniques to drive consumers to their stores.

- Local e-commerce is the third prong of the mobile, social, local e-commerce wave and, fueled by an explosion of interest in local on-demand services such as Uber, is expected to grow in the United States to over $40 billion in 2016.

Assignments

- See at your Teams.