E-Commerce Implementation, Management and Security
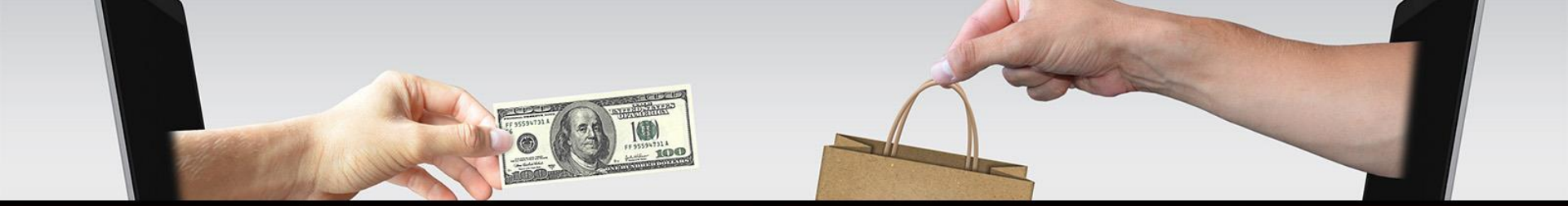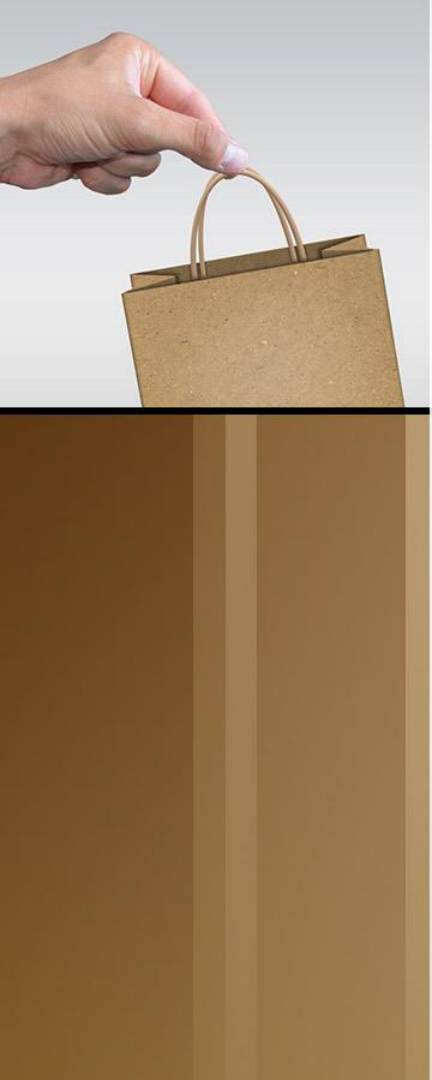# ICT 2152

Akila Brahmana
Dept. Of ICT
Faculty of Technology
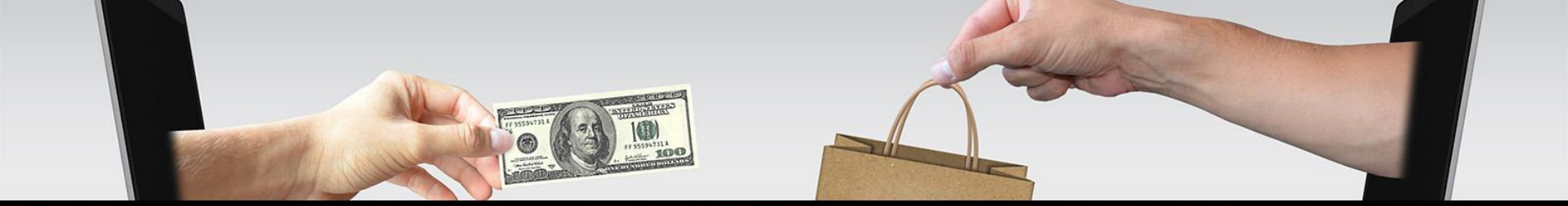**University of Ruhuna**

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Introduction

- Course Unit
  - E-Commerce Implementation, Management and Security
  - ICT 2152
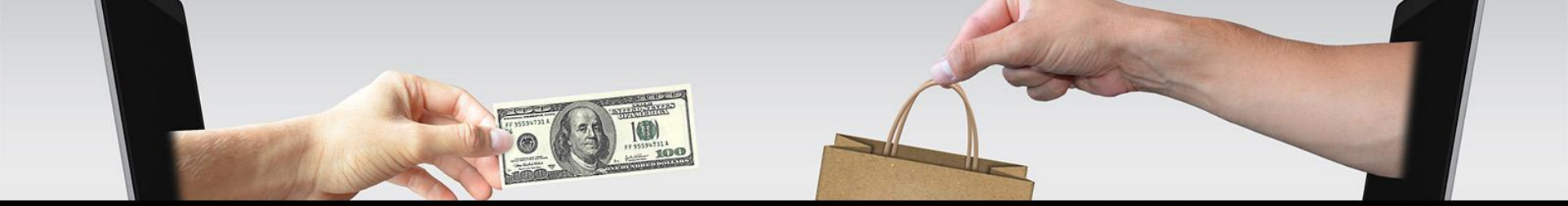- Credits
  - 2
- Lecture Hours
  - 30h

Module Objectives

- To develop an understanding of standard approaches to **structuring, designing,** and **producing** the content for an e-commerce site and **managing** the site.

- To provide understanding about **security** issues related with ecommerce.

Course Content

- Introduction to electronic commerce
- Selling on the web: Revenue models and building a web presence
- Marketing on the web
- Business to Business strategies: From electronic data interchange to e-commerce
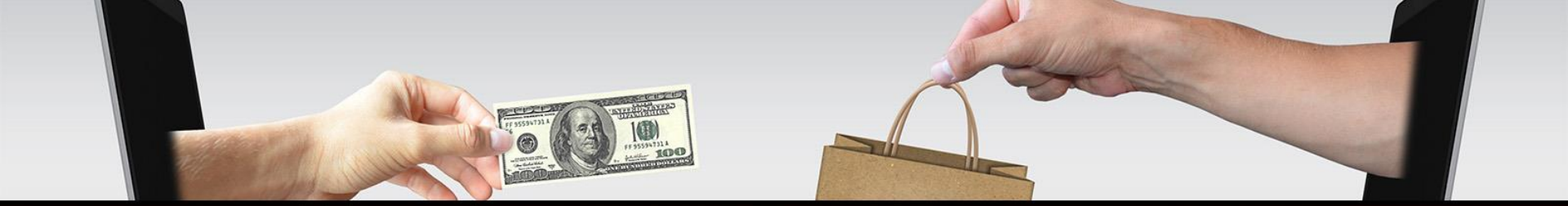- Online auctions, Virtual communities, and web portals

Course Content

- The environment of electronic commerce: International Legal, ethical and tax issues
- Web server hardware and software
- Electronic commerce software
- Electronic commerce security
- Payment systems for electronic commerce
- Managing E-Commerce Implementations
- Emerging trends in E-Commerce

References

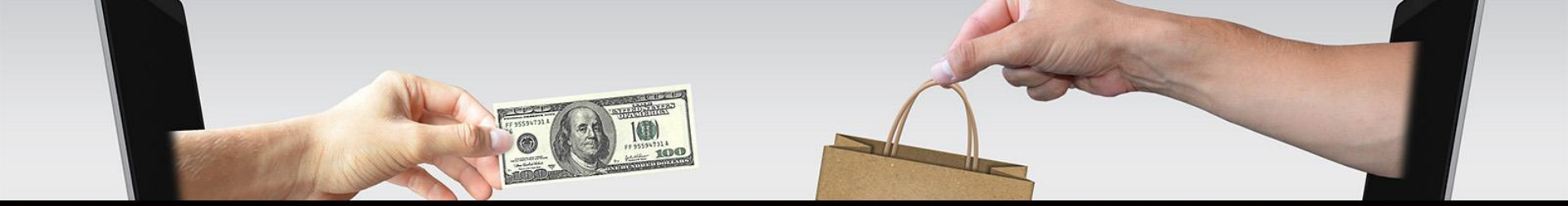- E-Commerce Essentials by Kenneth C. Laudon and Carol Traver

- ELECTRONIC COMMERCE by Gary P. Schneider

Evaluation Criteria

- Theory Exam: 60%

- Continuous Assessment : 40%
  Mid Term Test: 10%
  Mini Project: 30%

Introduction to Electronic Commerce

Objectives

- What electronic commerce is?

- The development of e- commerce.

- How businesses use SWOT analysis to analyze and evaluate business opportunities
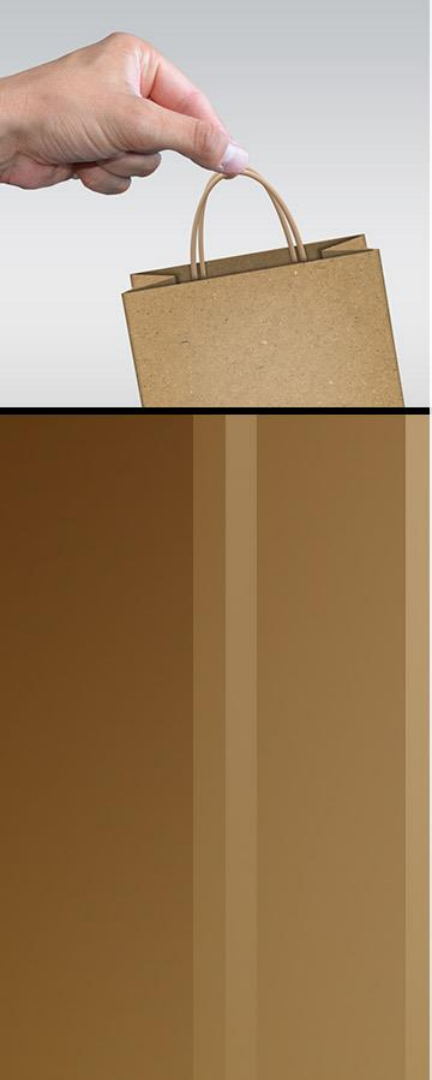
Electronic Commerce

- **Electronic business (e-business)**
  - Doing business electronically by completing business processes over open networks, thereby substituting information for physical business process.

- **Electronic commerce (e-commerce)**

  - E-commerce (electronic commerce) is the buying and selling of goods and services, over an electronic network, primarily the internet.
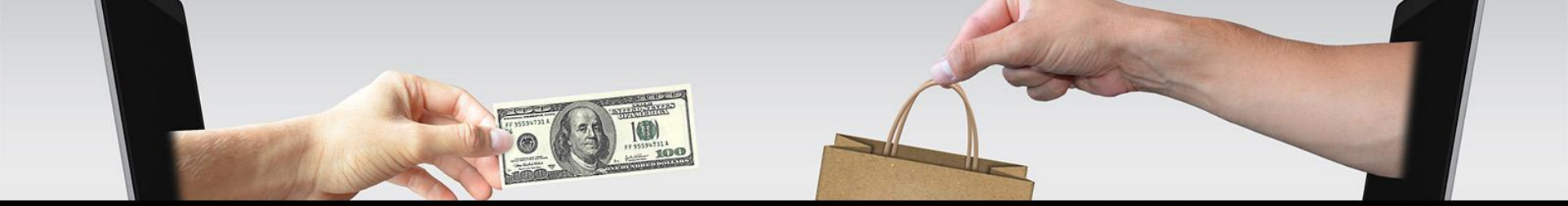
eBusiness vs eCommerce

- eBusiness = eCommerce +
  - o Customer relationship management +
  - o Supply chain management +
  - o Knowledge management +
  - o Business intelligence +
  - o Collaborative technologies

eBusiness vs eCommerce

BASIS FOR COMPARISON	E-COMMERCE	E-BUSINESS
Meaning	Trading of merchandise, over the internet is known as E-commerce.	Running business using the internet is known as E-business.
What is it?	Subset	Superset
Is it limited to monetary transactions?	Yes	No
What they carry out?	Commercial transactions	Business transactions
Requires	Website	Website, CRM, ERP, etc.
Which network is used?	Internet	Internet, Intranet and Extranet.

Objectives of E -Commerce

- Primarily, increasing the speed and efficiency of
  - Business transactions and processes

- Moreover,
  - Enhanced competitiveness
  - Job creation
  - Economic growth
  - Lower price for goods and services through competition
  - Streamline and much simpler business processes

Categories of Electronic Commerce

- Five general e-commerce categories
  - Business-to-consumer
  - Business-to-business
  - Business processes
  - Consumer-to-consumer
  - Business-to-government

Electronic Commerce Categories

| Category	Description	Example
Business-to-consumer (B2C)	Businesses sell products or services to individual consumers.	Walmart.com sells merchandise to consumers through its Web site.
Business-to-business (B2B)	Businesses sell products or services to other businesses.	Grainger.com sells industrial supplies to large and small businesses through its Web site.
Business processes that support buying and selling activities	Businesses and other organizations maintain and use information to identify and evaluate customers, suppliers, and employees. Increasingly, businesses share this information in carefully managed ways with their customers, suppliers, employees, and business partners.	Dell Computer uses secure Internet connections to share current sales and sales forecast information with suppliers. The suppliers can use this information to plan their own production and deliver component parts to Dell in the right quantities at the right time.
Consumer-to-consumer (C2C)	Participants in an online marketplace can buy and sell goods to each other. Because one party is selling, and thus acting as a business,	Consumers and businesses trade with each other in the eBay.com online marketplace.
Business-to-government (B2G)	Businesses sell goods or services to governments and government agencies.	CAL-Buy portal for businesses that want to sell online to the State of California.

Figure 1-2   *Electronic commerce categories*

# The First Wave of Electronic Commerce (1995-2003)

The Technology is put in place and we learn that we like online shopping

- Internet open for commercial use (1991)

- Netscape's version 1.0 include Secure Socket Layer(SSL) protocol (1994)

- Paypal (1998)
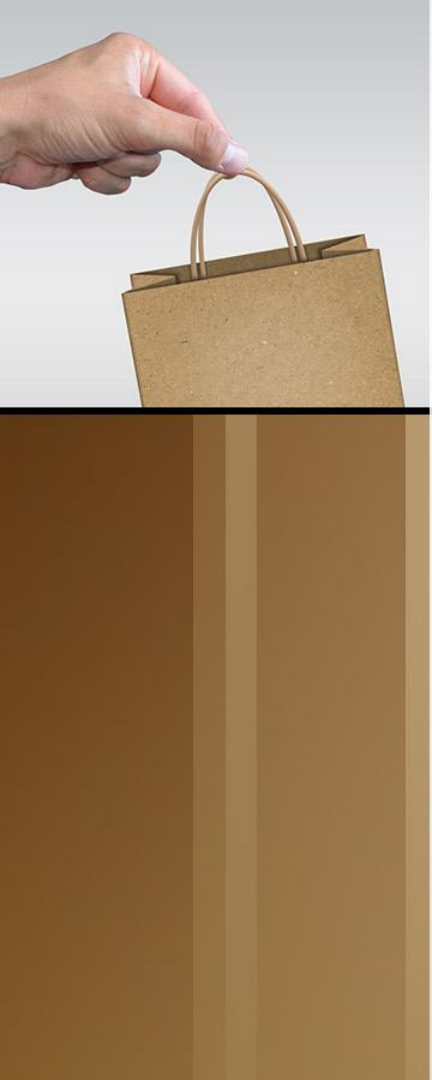
The Second Wave of Electronic Commerce (2004-2009)

- As online choices increased, people started looking for guidance in picking products.

- As the Internet moved toward becoming an interactive community, people began sharing opinions about products on sites like MySpace (2003) and Facebook (2006).

- Social shopping platforms began to emerge; they combined product sharing and social engagement.

- Blogging also came into being during this wave, which turned ordinary folks into influencers as they wrote about their experiences with products.
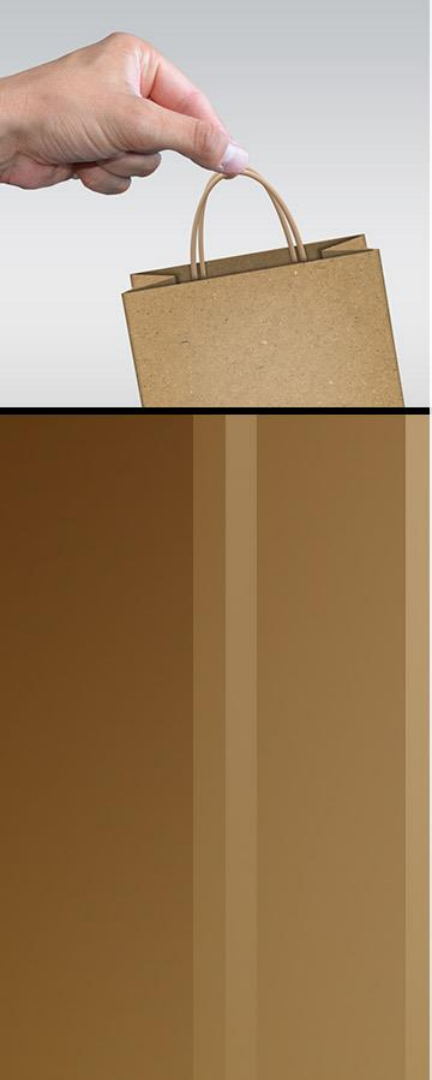
- Twitter started in 2006
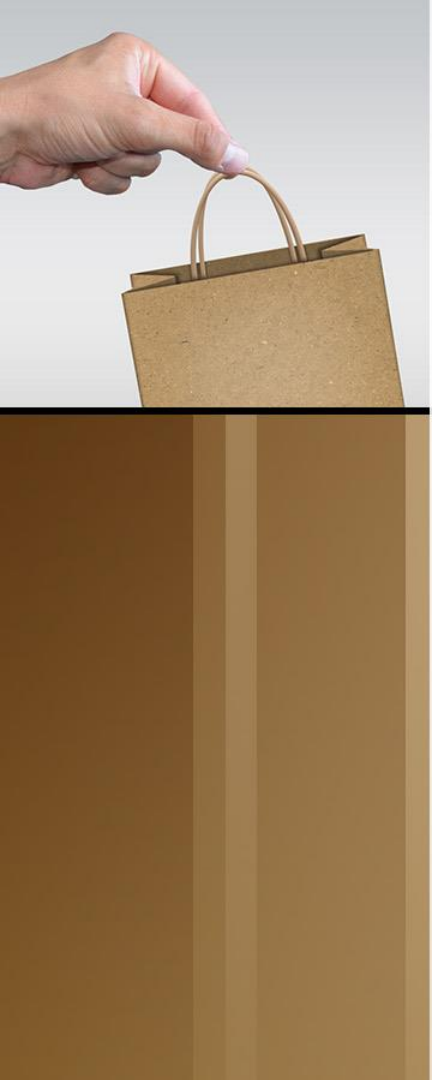
The Second Wave of Electronic Commerce (2004-2009)

- International use of the Internet was growing during this time as well.

- The Internet expands internationally and online communities begin to form and discuss products.

The Third Wave of Electronic Commerce (2010- Early 2020)

- Emergence of m-commerce

  – Widespread Social Networking
 – Increased Participation by Small Businesses

The Fourth Wave of Electronic Commerce (2020-Present)

- The era of smart and sustainable commerce

    - Integration of the Internet of Things (IoT), voice commerce (e.g., Alexa, Google Assistant), and AR/VR for enhanced customer experience. Increased Participation by Small Businesses.
    - Increased focus on sustainability: eco-friendly packaging, carbon-neutral shipping.
    - Rise of direct-to-consumer (D2C) brands bypassing traditional retailers.
    - Growth of marketplaces and collaborative commerce (e.g., shared inventory systems).
    - E-commerce integration with blockchain for secure transactions and supply chain transparency.
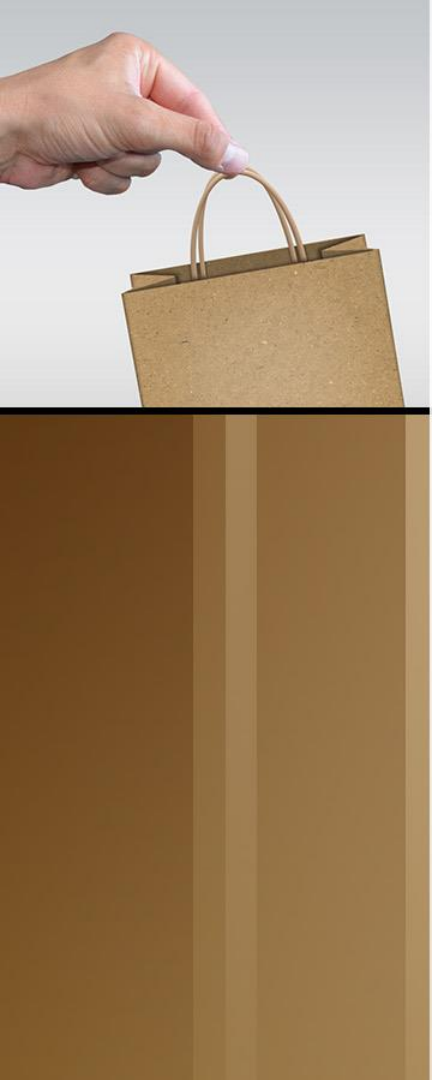
Advantages of Electronic Commerce

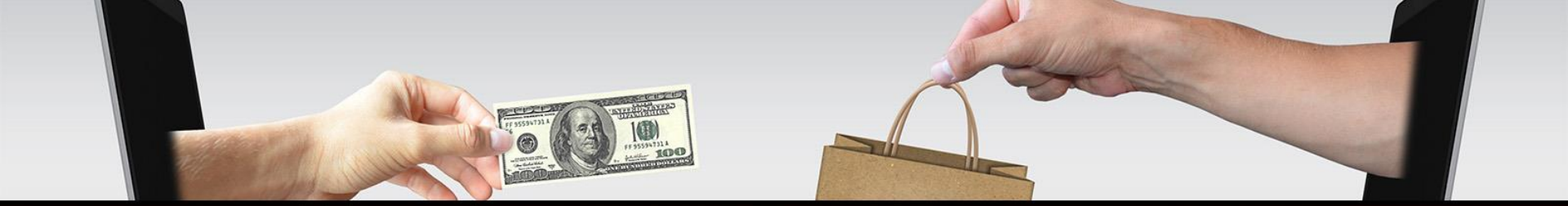- Faster buying/selling procedure, as well as easy to find products.
- Buying/selling 24/7.
- More reach to customers, there is no theoretical geographic limitations.
- No need of physical company set-ups.
- Low operational costs and better quality of services.
- Easy to start and manage a business.
- Customers can easily select products from different providers without moving around physically.
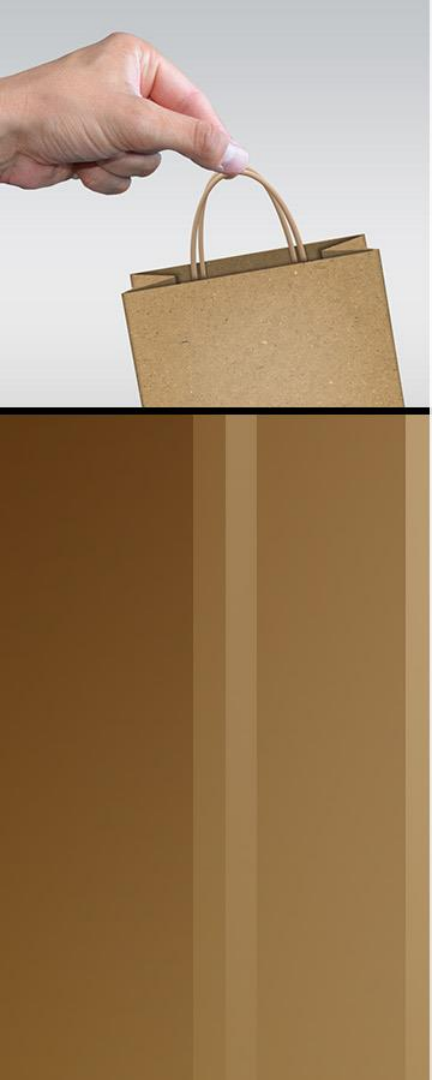
Disadvantages of Electronic Commerce

- Perishable grocery products are much harder to sell online.
- Any one, good or bad, can easily start a business. And there are many bad sites which eat up customers' money.
- There is no guarantee of product quality.
- No one can buy during a site crash.
- As there is minimum chance of direct customer to company interactions, customer loyalty is always on a check.
- There are many hackers who look for opportunities, and thus an ecommerce site, service, payment gateways, all are always prone to attack.

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SWOT Analysis

SWOT analysis

- Analyst first looks into the business unit to identify its strengths and weaknesses

- Analyst then reviews operating environment and identifies opportunities and threats
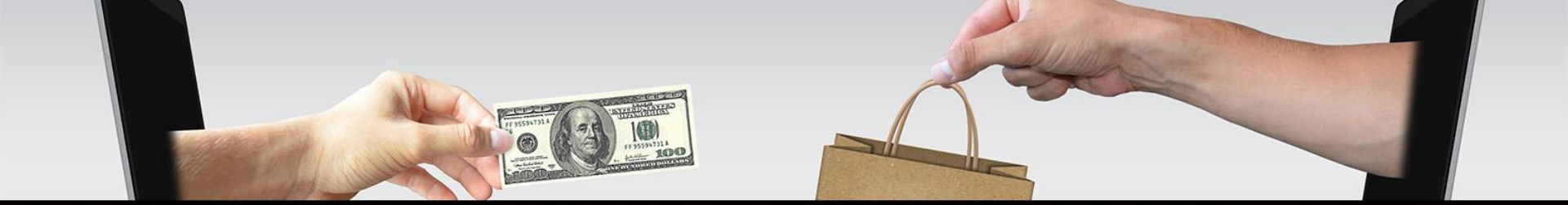
SWOT Analysis Questions

Strengths
- What does the company do well?
- Is the company strong in its market?
- Does the company have a strong sense of purpose and the culture to support that purpose?
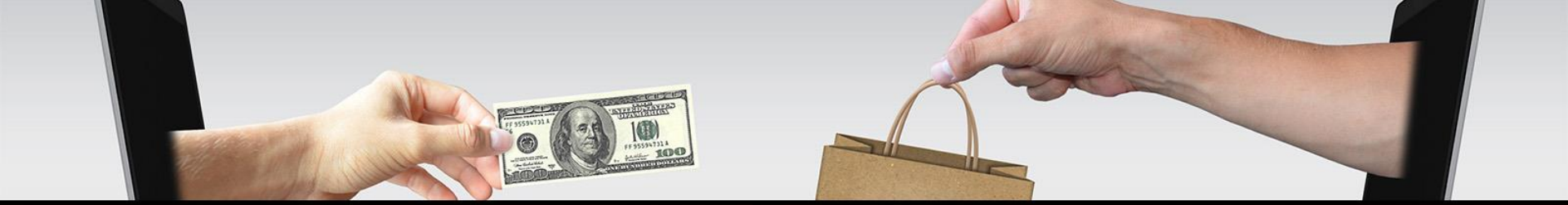
Weaknesses
- What does the company do poorly?
- What problems could be avoided?
- Does the company have serious financial liabilities?

Opportunities
- Are industry trends moving upward?
- Do new markets exist for the company's products/services?
- Are there new technologies that the company can exploit?

Threats
- What are competitors doing well?
- What obstacles does the company face?
- Are there troubling changes in the company's business environment (technologies, laws, and regulations)?

Figure 1-10   *SWOT analysis questions*

Results of Dell's SWOT Analysis

Strengths	Weaknesses
• Sell directly to consumers • Keep costs below competitors' costs	• No strong relationships with computer retailers

Opportunities	Threats
• Consumer desire for one-stop shopping • Consumers know what they want to buy • Internet could be a powerful marketing tool	• Competitors have stronger brand names • Competitors have strong relationships with computer retailers

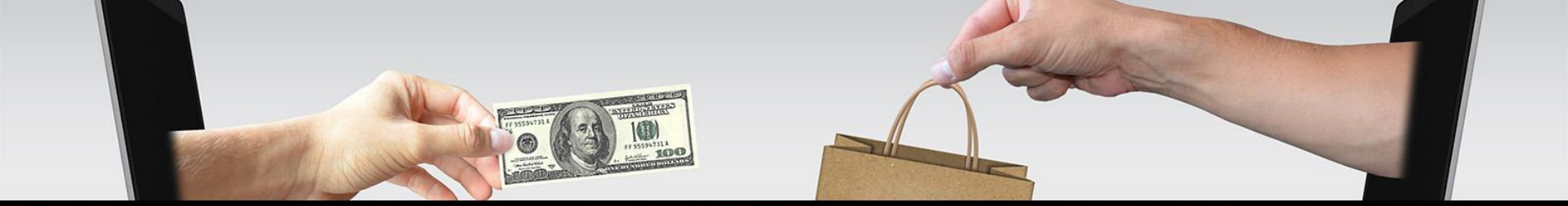**Figure 1-11**   *Results of Dell's SWOT analysis*

Summary

- Electronic commerce
  - Application of new technologies to conduct business more effectively
- First wave of electronic commerce
  - Ended in 2000
- Second wave of electronic commerce
  - New approaches to integrating Internet technologies into business processes

Summary

- Third Wave – m commerce
- Fourth Wave – The era of smart and sustainable commerce.
- Using electronic commerce, businesses have
  - Created new products and services
  - Improved promotion, marketing, and delivery of existing offerings

Thank you