

## Competency 12

Explores applicability of ICT to business organizations and the competitive marketplace

12.2 Analyses the relationship between ICT and business operations

Time: 4 periods

### **Learning Outcomes**

- Distinguishes the e-commerce and e-business
- Investigates the scope of e - commerce and e-business
- Lists and briefly describes the types of e-business transactions
- Identifies the advantages and disadvantages of e-business

### **Electronic Business (e-business)**

- Electronic business (E-business) could be simply explained as doing business electronically.
- This means that the business processes are conducted with the help of a computer network based on Internet technology.
- It helps data and information to be shared quickly within and across business functions, as well as external parties, and thereby the business processes to be conducted effectively and efficiently.
- As most early security concerns pertaining to the use of the Internet have now been addressed, we could see major organizations re-thinking their businesses in terms of the Internet and conducting e-business to buy parts and supplies from other companies, collaborate on sales promotions, and conduct joint research.

## **Electronic Commerce (e-commerce)**

- E-commerce is actually a part of e-business. E-commerce is buying and selling using an electronic medium (online).
- For example,
  - o An e-commerce transaction takes place when you buy a book from Amazon over the Internet.
  - o When you transfer money from your account to someone else's account using your bank's e-banking service, an e-commerce transaction takes place. The difference, in this case, is the transaction involves a service, not a product.
- E-commerce could be seen as a system of various components and actors that act and interact to enable online transactions to happen to exchange goods and services.

## **E- Commerce Business Models**

- Those factors include,
  - o online marketplaces
  - o virtual storefronts
  - o information brokers
  - o Virtual storefronts
  - o content providers
  - o portals
  - o online service providers
  - o Virtual communities.

**Online marketplace:**

- Online marketplace is an e-commerce site which acts as a platform for multiple large and small-scale sellers to offer their products and services to a global pool of customers.
- For example,
  - o Individual merchants can open virtual stores on Amazon's platform (Amazon's online marketplace) and sell their products and services.
  - o Rover.com is another interesting online marketplace on which a range of products and services related to pet care is being offered.



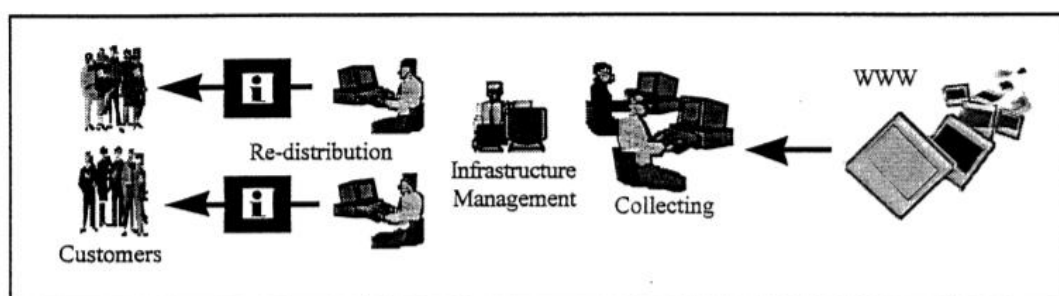
## Virtual storefronts:

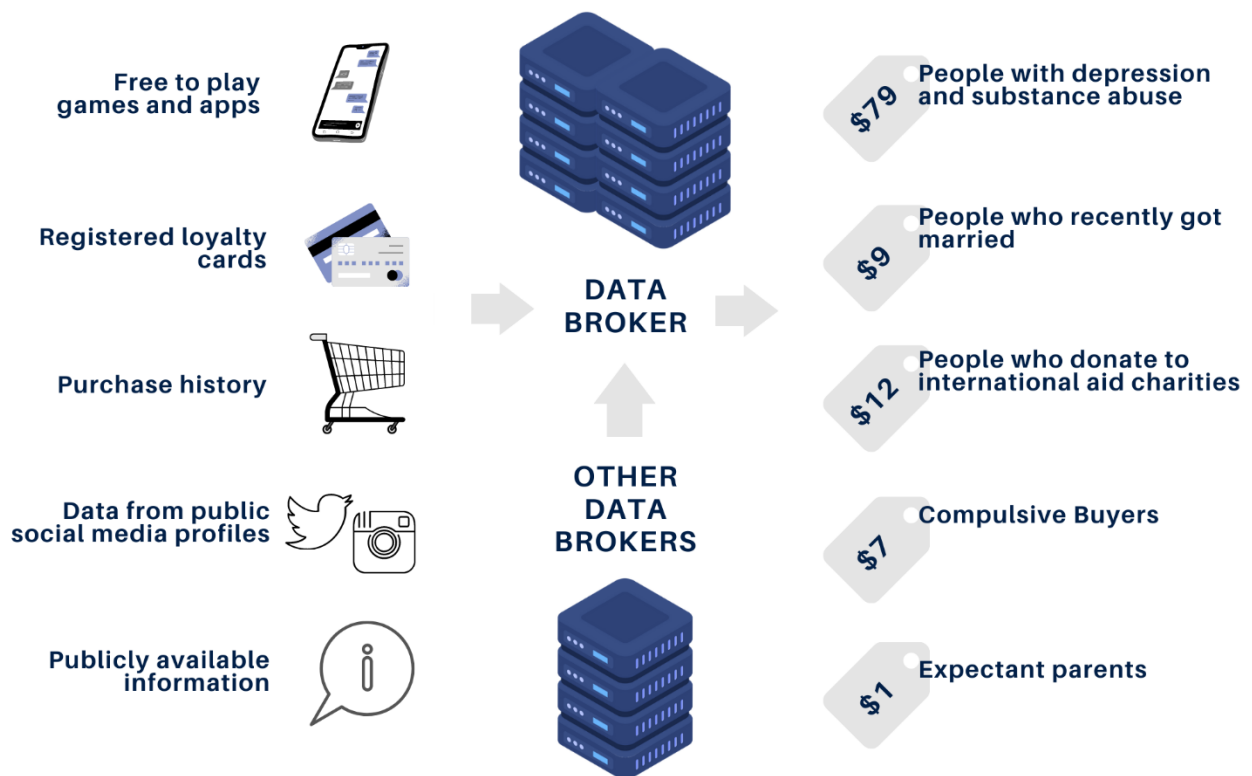
- Virtual storefronts make use of digital technologies to display products being offered on an electronic screen.
- Tesco is a famous company for opening virtual storefronts in places like airports and subway stations (a customer adding items on display to a shopping cart using a mobile app by scanning the QR code associated with each item)
- Through the app, the customer can confirm her order and Tesco delivers the goods to the intended destination. On the other hand, all online shops available in online market places are examples of virtual storefronts.



## Information brokers:

- Information brokers are the sites that help consumers to filter the required information from a many of publicly available information sources.
- For example, an information broker site will help you to find the site that sells the book you look for to purchase at the lowest price.
- This helps consumers to save their valuable time searching for information and doing comparisons based on multiple criteria manually.
- Information brokering sites utilizes agent technology for the brokering process.





**For more information about information broker**

<https://www.securitymadesimple.org/cybersecurity-blog/what-does-a-data-broker-do>

### **Content providers:**

- Content providers are the sites that offer digital content such as news, music, photos, videos and games online.
- One of the best examples for a content provider is Apple Inc.'s iTunes Store which revolutionized the music industry of the world.
- Content providers make money by charging for downloads, providing display space for advertisements or subscription fees.

Amazon, Inc.- Distribution & Delivery, Mobile Content

**Portals:**

- Portals provide the entry point to e-commerce by aggregating data from a large number of providers and letting customers search for goods and services.
- Most modern portals not only provide the searching facility but also provide the facilities for personalizing the content based on user profile make recommendations on products and services and deliver personalized advertisements.
- The search engine [www.yahoo.com](http://www.yahoo.com) is a very good example of an online portal through which the users can reach numerous categories of products and services.

**Online service providers:**

- Online service providers provide various services online such as news, search engine, banking, health care, entertainment, social networking, etc.
- Facebook, for example, provides social networking services to worldwide users online.
- Google, on the other hand, provides various online services including search engine, email, file storage, and social networking.

**Virtual communities:**

- Virtual communities are formed by individuals connected through online social networks sharing similar interests, opinions or feelings.
- For example, the fan pages and groups on Facebook are virtual communities which comprise of individuals who have similar interests.
- Virtual communities play an important role in e-commerce as potential pools of customers as well as an effective means of marketing.
- Virtual communities can also provide resources to firms online in the form of opinions, insights, expertise as well as creative skills.

**Types of e-business transactions (Models)**

- B2B (Business to Business)
- B2C (Business to Consumer)
- C2C (Consumer to Consumer)
- C2B (Consumer to Business)
- B2E (Business to Employee)
- G2C (Government to Citizen)

**B2B (Business to Business)**

Purchase and Sales between two companies is called B2B. Business to Business (B2B) e-commerce happens between two business organizations when they exchange goods or services online.

For example, a large supermarket chain company may place supply orders to its suppliers online.

**B2C (Business to Consumer)**

Business to Consumer (B2C) is the most common form of e-commerce, in which businesses offer various products and services to consumers worldwide through the Internet.

Examples:

- Portal, e-tailer, Content provider, Transaction Broker, Market Creator, Service Provider, Community Provider
- Individuals purchasing electronic items online or customers using e-banking services are examples of B2C e-commerce.

**C2C (Consumer to Consumer)**

Consumer to Consumer (C2C) e-commerce offers a platform for two consumers to meet and engage in business transactions online.

Examples are: [www.eBay.com](http://www.eBay.com) and Blogs (Allows interchanges of information for special interest groups)

## **C2B (Consumer to Business)**

Here consumer acts as the seller and business as the buyer, the consumer is paid for the service provided

Allow consumers to search out sellers, learn about offers, initiate purchase, or dictate purchase terms,

eg. priceline.com

Some sites facilitate the feedback process between customers and companies, eg. planetfeed.com

## **B2E (Business to Employee)**

Business to Employee (B2E) e-commerce happens when business firms offer online services to their employees. The objective of B2E is to attract and retain high-quality employees to the organization by offering them various incentives such as flexible working hours, training opportunities and other benefits. Businesses typically use online portals to enable B2E e-commerce. Employees can log into the portal using their usernames and passwords and consume the services offered to them through the portal.

- ✓ B2E portal is customized home page or desktop for everyone within an organization
  - One URL for everyone within the organization.
  - A mixture of organization specific and employee-defined components
  - The potential to be customized and altered to suit the needs of a particular employee
  - Other examples are: Online insurance policy management, cooperate announcements, online supply requests, etc.



## **G2C (Government to Citizen)**

Government to Citizen (G2C) is a form of e-commerce that happens when governments practice e-government. In G2C e-commerce, governments offer various services to their citizens through the Internet.

For example,

- The Office of the Provincial Commissioner of Motor Traffic (Western Province) in Sri Lanka offers the online facility of obtaining revenue licenses for motor vehicles to the citizens.
- Sri Lankan Government official e-Services portal  
<http://www.srilanka.lk/index.php>

As mobile devices get proliferated, more and more people browse the Internet using mobile and other handheld devices. As such, firms have now gone beyond traditional e-commerce and have focused on **mobile-based e-commerce transactions which are commonly known as m-commerce**.

Mobile-friendly web sites, as well as mobile based information services such as geo-advertising and geo-information services, are getting widespread making **m-commerce the next generation electronic commerce**.

ICT has also contributed largely to creating more secure and alternative payment mechanisms for business transactions. Especially in electronic commerce, several alternative payment mechanisms are preferred over traditional cash-based payment methods such as cash on delivery (COD). One of the key **ICT-based developments in payment mechanisms is the payment gateways which enable payments using credit/debit cards**. A payment gateway is a software service that securely handles the credit card information exchange and verification in order to complete an electronic commerce transaction.

Once the customer authenticated a credit card payment for an online purchase he/she wishes to proceed, the merchant's webserver securely collects the credit card details (in encrypted format) from the customer's browser and sends the details of the payment to its payment gateway. The payment gateway directs the details to the payment processor of the merchant's bank through which the details will be sent to the relevant card association (Visa, MasterCard, etc.) The card association directs the details to the card issuing bank which responds with an accept/reject message after a verification process. The processor forwards the response to the payment gateway to be interpreted at the merchant's website. If accepted, the transaction gets completed and the customer gets a confirmation message, whereas if rejected, the transaction gets aborted delivering a failure message to the customer. The merchant submits all approved payments to the processor of his/her bank to process as a batch to get money transferred to the designated account.

One **issue with online payments with payment gateways is the customer has to submit credit card details to every merchant (or rather at every merchant's web site) that they shop with.** This increases the number of chances of getting your sensitive data being recorded by one of those merchants.

There are **third party systems such as PayPal that reduces this risk by mediating the payment process and allow sending and receiving money more securely.** In the case of PayPal, both buyers and sellers can register with PayPal using a valid email address and link any number of bank accounts and credit cards to that. Buyers can then shop securely with sellers who allow payment with PayPal (usually those who have the 'Checkout with PayPal' option). A buyer who makes a payment through PayPal can choose the bank account or the credit card he/she wishes to use to make the payment. PayPal does not disclose any sensitive information of the buyer to the seller but mediates the payment authentication process and ensures that the seller receives money to the designated bank account in his/her PayPal account.

**Virtual currencies, in particular, the cryptocurrencies are also getting popular as alternative payment mechanisms in online payments.** A cryptocurrency is a digital equivalent to cash which could be used to exchange for goods and services. Cryptocurrencies use cryptography to control the generation of additional units as well as to secure transactions. **Among the popular cryptocurrencies, there are Bitcoin, Litecoin, Ethereum, and Zcash.** The cryptocurrencies work based on the technology called "blockchain" and individuals can buy/sell cryptocurrencies through third-

party websites (and their mobile apps) using credit or debit cards. However, some countries have fully banned or restricted the usage of cryptocurrencies. The central bank of Sri Lanka is also closely paying attention to the cryptocurrency-related activities happening in the country.

**Apart from security, privacy is another challenging issue in e-commerce.** E-commerce sites keep track of personal information of their visitors. Moreover, they monitor what customers are doing online by tracking what sites they visit, what products and services they search as well as what products and services do they buy. Using this information, they make profiles of customers and accordingly conduct targeted promotions. However, customers may not always be aware to what extent have they been monitored and there is a growing concern among customers about their privacy getting violated. Hence, Government agencies work on insisting e-commerce sites to have privacy policies to ensure that the customers' privacy is protected at their sites.

## **Advantages and disadvantages of e-business**

### **Advantages of e-Business**

**Worldwide presence:** A firm engaging in e-business can have a nationwide or a worldwide presence

**Cost-effective Marketing and Promotions:** Using the web to market products guarantees worldwide reach at a nominal price. Advertising techniques, like pay per click advertising, ensure that the advertiser only pays for the advertisements that are actually viewed.

**Curtailling of Transaction Cost:** The nature of online business is such that, the costs incurred for every transaction to go through smooth and sound, there is no acting middleman.

## **Disadvantages of e-Business**

**Sectoral Limitations:** The main disadvantage of e-business is the lack of growth in some sectors on account of product or sector limitations. The food sector has not benefited in terms of growth of sales and consequent revenue generation because of a number of practical reasons, like food products being perishable items. Consumers do not look for food products on the Internet, since they prefer going to the supermarket to buy the necessary items as and when the need arises.

**Costly E-business Solutions for Optimization:** Substantial resources are required for redefining product lines in order to sell online. Upgrading computer systems, training personnel, and updating websites requires substantial resources.

## **Question of Safety**

**Data Security:** To carry out online transactions, the websites ask for your email address and other contact details. Customers brake at the mention of providing personal details, lest defiling of some nature occurs

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