SUBJECT: DIGITAL BUSINESS (106)

Course: MBA - Prime

Year: I (Semester)

Batch: 2023-2025

Unit -1

Electronic Commerce

The Digital Revolution and Society

The digital revolution has transformed how people interact, work, communicate, access information, and conduct business, reshaping many aspects of society and the global economy.

Impact of digital revolution on society

1. Increased access to information, communication, and connectivity
2. Technological Innovation and Sustainability
3. Improved education
4. Economic empowerment and digital inclusion
5. Enhanced healthcare

DIGITAL ECONOMY

The **digital economy**, also known as the Internet economy, is an economy based on online transactions, mostly e-commerce. It includes digital wireline or wireless communication networks (e.g., the Internet, intranets, extranets, and VANs), computers, software, and other related information technologies.

The Digital enterprise

- It usually refers to an enterprise, such as Amazon.com, Google, Facebook, or Ticketmaster, which uses computers and information systems to automate most of its business processes.
- The difference between traditional and digital enterprise are given in the following Table 1.

Brick-and-mortar organizations	**Digital organizations**
Selling in physical stores	Selling online
Selling tangible goods	Selling digital goods online as well
Internal inventory/production planning	Online collaborative inventory and production planning
Physical marketplace	Electronic marketplace
Paper-based billing and payments	Electronic billing and payments
Mass production (standard products)	Mass customization, build to order
Word-of-mouth, slow, and limited advertisement	Explosive viral marketing, in particular in social networks

Table 1: Difference between Traditional and digital organisation

Virtual Communities

- **Virtual community** is one where the interaction takes place over a computer network, mainly the Internet. Virtual communities offer several ways for members to

interact, collaborate, and trade. Most virtual communities are Internet-based, known also as Internet communities/ online communities.

Electronic Commerce

- **Electronic commerce (EC)** refers to using the Internet and other networks (e.g. Intranets) to purchase, sell, transport, or trade data, goods, or services.EC can be either pure or partial depending on the nature of its three major activities: ordering and payments, order fulfillment, and delivery to customers.
- If all activities are digital, we have pure EC; if none are digital, we have no EC; otherwise, we have partial EC. If there is at least one digital dimension, we consider the situation EC, but only partial EC. For **example**, purchasing a computer from Dell's website or a book from Amazon.com is partial EC, because the merchandise is physically delivered. However, buying an e-book from Amazon.com or a software product from Buy.com is pure EC, because ordering, processing, and delivery to the buyer are all digital.

E-Business

It refers to a broader definition of EC, not just the buying and selling of goods and services but conducting all kinds of business online such as servicing customers, collaborating with business partners, delivering e-learning, and conducting electronic transactions within organizations.

Electronic Markets and Networks

- EC can be conducted in an **electronic market (e-marketplace)**, an online location where buyers and sellers conduct commercial transactions such as selling goods,

services, or information. Any individual can also open a private market selling products or services online. Electronic markets are connected to sellers and buyers via the **Internet**.

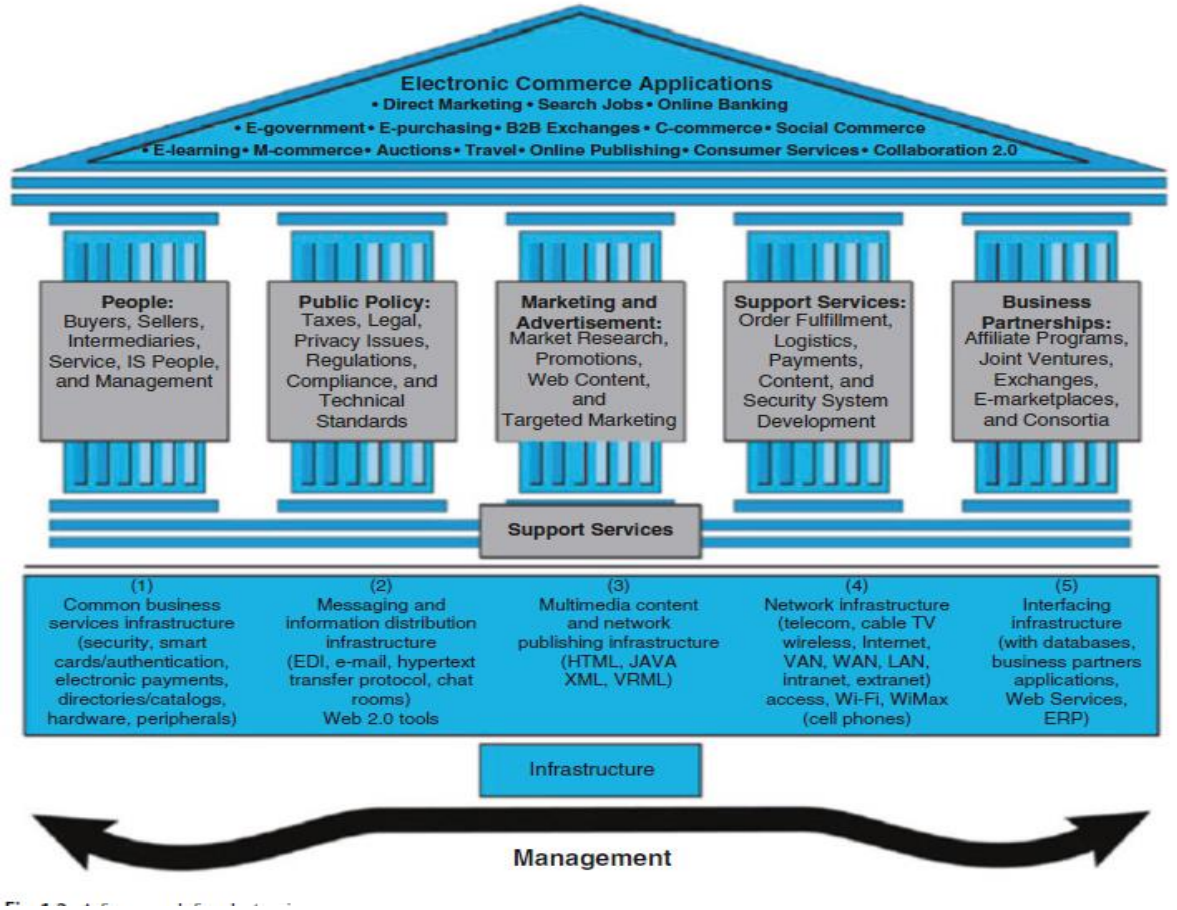
Integrating the Marketplace with the Market space:

From the point of view of the consumer, as well as of most of the merchants and suppliers, these two entities exist, and will continue to exist, together. Probably the most noticeable integration of the two concepts is in the click-and-mortar organization. In the near future, the click-and-mortar organization will be the most prevalent model (e.g., see Sears.com, Target.com, Costco. com, and Walmart.com), although the model may take different forms. Some organizations will use EC as just another sales channel, as most large retailers, airlines, and banks are doing today. Others will use EC only for some products and services, and sell other products and services the conventional way (e.g., LEGO Group). The consumers prefer to have the choice of where to shop. Consumers love the combination of ordering online and picking up the merchandise in the physical store

Web 2.0:

The term Web 2.0 was coined by O'Reilly Media in 2004.Web 2.0 is the second generation of Internet-based tools and services that enables users to easily generate content, share media, and communicate and collaborate, in innovative ways. Karakas views Web 2.0 as a new digital ecosystem, which can be described through five C's: creativity, connectivity, collaboration, convergence, and community.

An EC Framework



A framework for electronic commerce

Classification of EC by the Nature of the Transactions and the Relationships among Participants

- **Business-to-Business (B2B)** EC refers to transactions between and among Organizations. Today, about 85% of EC volume is B2B. For Dell, the entire wholesale Transaction is B2B. Dell buys most of its parts through e-commerce and sells its products to businesses (B2B) and individuals (B2C) using e-commerce.

- **Business-to-consumer (B2C)** EC includes retail transactions of products or services from businesses to individual shoppers. The typical shopper at Amazon.com is of this type. Since the sellers are usually retailers, we also call this type **e-tailing**.

- In **consumer-to-business (C2B),** people use the Internet to sell products or services to individuals and organizations. Alternatively, individuals use C2B to bid on products or services. Priceline.com is a well-known organizer of C2B travel service transactions.

- The **business-to-employees (B2E)** category refers to the delivery of services, information, or products from organizations to their employees. A major category of employees is *mobile employees*, such as field representatives or repair employees that go on to customers. EC support to such employees is also called *business-to-mobile employees (B2ME).*

- In the **consumer-to-consumer (C2C)** EC category individual consumers sell to or buy from other consumers. Examples of C2C include individuals selling computers, musical instruments, or personal services online. EBay sales and auctions are mostly C2C as are the ads in Craigslist.

- **Collaborative commerce (c-commerce)** refers to online activities and communications done by parties working to attain the same goal. For example, business partners may design a new product together.

- In **e-government** EC, a government agency buys or provides goods, services, or information from or to businesses (G2B) or from or to individual citizens (G2C). Governments can deal also with other governments (G2G).

1.11 E commerce Business Models

A **business model** describes the manner in which business is done to generate revenue and create value.

Classification of Business Models in e-Commerce

1. Brokerage: Market makers that charge fee for their services.
2. Advertising: Websites that provide content and charge advertisers for related ads.
3. Infomediary: Provides information and/or infrastructure that help buyers and/or sellers and charge for their services.
4. Merchant—retailers (such as Walmart or Amazon): These buy the products and sell them at profit.
5. Direct model: Sells without intermediaries.
6. Affiliate: Paying website owners to place banners. Share fees received from advertisers.
7. Community: A social media-based model that utilizes Web 2.0 tools, social networks.

1.14 Benefits of E-Commerce

1. Benefits to organizations

- Global reach
- Cost reduction
- Facilitate problem-solving
- Supply chain improvements

2. Benefits to consumers

- Can shop any time from any place
- Can self-customize products

3. Benefits to society

- Enable telecommuting Facilitate work at home; less traffic, pollution
- Home shipping Less travel, air pollution

1.15 Limitations of E-Commerce

- Lack of trust in sellers, in computers, and paperless faceless transactions hinders buying
- Internet accessibility is still expensive and/or inconvenient for many
- Security and privacy concerns deter customers from buying
- Resistance to change

UNIT -2

Mobile Commerce, Social Commerce and IoT

Mobile Commerce:

Mobile commerce (m-commerce), also known as m-business, refers to conducting e-commerce by using mobile devices and wireless networks. Activities include B2C, B2B, m-government, and m-learning transactions, as well as the transfer of information and money. It involves electronic transaction conducted by using mobile devices via the Internet, corporate intranets, private communication lines, or over other wireless networks. For example, paying for an item in a vending machine or paying taxes with an iPhone is considered m-commerce.

Mobile Marketing: Shopping and Advertising

Mobile marketing is frequently defined as the use of mobile devices and wireless infrastructure as a means of marketing and advertising. The marketer intends to access potential customers through wireless information channels. The Mobile Marketing Association (mmaglobal.com) provides definitions of advertising, apps, messaging, m-commerce, and CRM on all mobile devices, including smartphones and tablets. Mobile marketing includes sales, market research, customer service, and advertising, all supported by mobile computing. Companies can devise contests where customers describe the quality of a new product, and the sellers can post coupons and promotions. You can make ads interactive since mobile computing.

Mobile Shopping:

Online shopping can be easier when done from your smartphone or tablet. For shopping, one needs a mobile shopping platform such as the one provided by or by adMobile Corp. (admobile.com). Many apps for iPhones facilitate advertising and shopping

Mobile Advertising

Mobile advertising (m-advertising) is defined by the IAB as "Advertising tailored to and delivered through wireless mobile devices such as smartphones (e.g. Blackberry, iPhone, Android, etc.), feature phones (e.g. lower-end mobile phones capable of accessing mobile content), and media tablets (e.g. iPad, Samsung Galaxy Tablet, etc.)." Mobile advertising ranges from simple text messaging to intelligent interactive messaging on mobile devices. It involves several key players, such as the advertisers, mobile ad networks,
mobile apps, and mobile devices.

Interactive Mobile Advertising

Interactive mobile advertising refers to the delivery of interactive marketing contents via mobile devices, mostly tablets and smartphones. The inclusion of the word "interactive" points to the fact that this is a two-way communication that may include a customer response.

Types of Mobile Ads

Mobile ads may appear in different forms. The most popular one is short text messages. Other forms include rich media Advertising, averaging, and ads appearing during TV shows and movies on mobile devices.

Short Message Ads

SMS ads are commercial messages sent in the form of short text messages. They are quite popular and SMS mobile banner ads are growing rapidly due to the increased popularity of smartphones and 4G networks. Several major advertising portals have been launched by both private mobile advertisers and portals One advantage of SMS is that users can send them quickly and privately from any place and almost any time. A major drawback, however, is that short messages may interrupt and annoy the recipients.

Location-Based Ads

Location-sensitive businesses can take advantage of this feature to deliver location-based ads. A good example is a Google Map that can show nearby convenience stores, gas stations, hotels, and restaurants when a location is searched. Some of these are paid ads.
Social Commerce:

Social Commerce:
Social commerce (SC), also known as social business, refers to e- commerce transactions delivered via social media. Social commerce is considered a subset of e-commerce by some. More specifically, it is a combination of e-commerce, e- marketing, the supporting technologies, and social media content.

Social business

Social business is defined as "an organization that has put in place the strategies, technologies and processes to systematically engage all the individuals of its ecosystem (employees, customers, partners, suppliers) to maximize the co-created value.

The Social Enterprise (Enterprise 2.0)

Social enterprise refers to the use of social media tools and platforms and conducting social networking activities in organizations, while its major objectives are either commercial or nonprofit activities (socialenterprise.us/about/social-enterprise.) Social enterprise applications are growing rapidly. They appear under different names, mostly as social

enterprises and Enterprise 2.0. Enterprise applications are conducted inside enterprises, on companies' private social networks or portals. They also are conducted on public social networks, both pure business-oriented (e.g., LinkedIn), and other networks, mostly Facebook and Twitter. Major applications are recruitment, collaboration, and problem-solving. Enterprise social capabilities facilitate a new type of collaboration, encourage business upgrades, and enable more vendor applications. Most workers used social media for business purposes at least once a week.

Business Networks

Business networks are a core component in the social enterprise. A business network refers to a group of people with a professional business relationship; for example, the relationships between sellers and buyers, buyers and suppliers, and professionals and their colleagues, such as the twenty-first Century Community at CEMEX. Buyers to refer to agents buying something for a business (e.g., a purchasing agent). Such a network of people can form business social networks, which are business-oriented networks that are built on social relationships and can exist off-line or online.

For example, public places, such as airports or golf courses, provide opportunities to make new face-to face business contacts if an individual has good social skills. Similarly, the Internet is proving to be a good place to network and connect. The most well known network is LinkedIn (linkedin.com).

Types of Business Social Networks

There are three major types of business social networks: (a) public networks, such as LinkedIn, which are owned and operated by independent companies, and are open to anyone for business networking. The networks connect, for example, sellers and buyers or employers and potential employees; (b) enterprise private networks, which operate inside companies, like in CEMEX in the opening case. These usually restrict membership to employees and sometimes to business partners. An example is USAA that has an internal

social network for employees who can ask for help from their peers; and (c) company-owned and hosted networks that are controlled by a company but open to the public, usually for brand-related networking (e.g., Starbucks, Dell Computer).

Social Media

Social media involves user-generated online text, image, audio, and video content that are delivered via Web 2.0 platforms and tools. This media is used primarily for social interactions and conversations such as sharing opinions, experiences, insights, and perceptions, and for online collaboration. Therefore, it is a powerful force for socialization. A key element is that users produce, control, and manage content.

Entrepreneur Networks

Some business-oriented public networks concentrate on entrepreneurial activities. Few examples are :
Start-up Nation (startupnation.com). Participants in this community of startup owners and experts are helping people start and operate new businesses. Sharing knowledge and ideas is the main objective.
Inspiration Station (inspiration.entrepreneur.com). Inspiration Station is one of the best portals for small businesses and start-ups. It not only has a lot of useful information for business owners, it has a great community for you to take advantage of, and to connect with fellow business owners from around the globe.

Enterprise Social Networks:

An increasing number of companies have created their own in-house, enterprise social networks. Some of these networks can be private, developed for use only by their employees, former employees, and business partners. Others are open to the public, although these are mostly used by their customers. Private networks are considered to be secured ("behind the firewall"), and are often referred to as corporate social networks. Such

networks come in several formats, depending on their purpose, the industry, the country, and so forth.

Characteristics of Enterprise Social Networks

Enterprise social networks, like any social network, enable employees to create profiles and interact with one another. By encouraging interactions among members, a company can foster collaboration and teamwork, and increase employee satisfaction.

Social Collaboration (Collaboration 2.0)

Social collaboration refers to people's collaboration within and between communities enabled by social media tools and platforms. The processes help people interact and share information to achieve a common goal. It is also known as Collaboration 2.0. Collaboration drives business value up by enabling people to work together more efficiently. Wikis and other social software tools can be used effectively by all types and sizes of enterprises for a wide range of tasks and activities. Collaboration helps with solving business problems and uncovering new opportunities, especially with the help of social media tools. Collaboration in social networking is done both internally, among employees from different units working in virtual teams, and externally, when working with suppliers, customers, and other business partners.

Social collaboration is supported mainly by:

- Wikis, blogs, and microblogging (e.g., Twitter)
- Collaborative communities (forums and discussion groups)
- Early vintage Web 2.0 technologies
- Crowdsourcing
- Other tools (e.g. Yammer)

Example 1: IBM Connections

IBM Connections provides tools such as forums, wikis, and blogs, and new capabilities like advanced social analytics, which enable users to expand their network of connections and engagement.

Example 2: Cisco WebEx Meeting Centre

Cisco WebEx, according to Cisco's website, is an enterprise collaboration platform, which is designed for today's workforce. It is characterized by social, mobile, visual, and virtual features. WebEx connects people to the information and expertise they need when they need it. Knowledge and ideas are easily shared across the enterprise, and teams collaborate across geographical and organizational boundaries. WebEx Meetings is a universal app available for all major smartphones and tablets.

CONSUMER-TO-CONSUMER ELECTRONIC COMMERCE (C2C)

Consumer-to-consumer (C2C) EC, which is sometimes called person-to-person (P2P) e-commerce, refers to electronic transactions conducted between and among Individuals. These transactions can also include intermediaries, such as eBay (ebay.com) or social network sites that organize, manage, and facilitate the C2C transactions.

E-Commerce: C2C Applications

C2C Auctions

In dozens of countries, selling and buying on auction sites is growing rapidly. Consumers can visit auctions at general sites such as ebay.com or auctionanything.com. Large numbers of bloggers provide their opinions on legal, medical, political, financial, and other related topics.

Person-to-Person models:

People use the Internet for direct person-to-person money lending. A prime example is the Lending Club Corp.

Internet of Things: Concept of IoT:

The Internet of Things (IoT) is the network of physical objects-devices, vehicles, buildings and other items embedded with electronics, software, sensors, and network connectivity that enables these objects to collect and exchange data. The Internet of Things allows objects to be sensed and controlled remotely across existing network infrastructure, creating opportunities for more direct integration of the physical world into computer-based systems, and resulting in improved efficiency, accuracy, and economic benefit.
Characteristics of the Internet: IoT is a connected ecosystem in which:

- Large numbers of objects (things) can be connected
- Each thing has a unique definition (IP address)
- Ability to receive, send and store data, automatically
- Delivered over the wireless Internet
- Built upon machine-to-machine (M2M) communication

The Major Benefits of IoT

- Create new revenue stream
- Optimize asset utilization
- Improve sustainability
- Improve workers' productivity
- The Internet of Things is changing and improving everything
- Systems will anticipate our needs
- People will make smarter decisions/purchases
- Greater accuracy
- Identify problems quickly

Smart Homes and Appliances:

In a smart home, the home appliances such as computers, refrigerators, washers, dryers, televisions, and security systems are interconnected and can be controlled remotely by smartphone or via the Internet. In the United States, thousands of homes are connected already to such systems and other countries are warming to the idea. Currently, smart home systems support a number of different tasks:
Lighting. Users can manage their home lighting from wherever they are.

Energy management. A remote home heating and cooling system can be controlled via remote to adjust the thermostat in the house (e.g., Nest-a)

Water control. WaterCop is a system that reduces water damage by monitoring leaking water via a sensor, which sends a signal to the valve, causing the valve to close.
Home and senior communities security and safety.

Home security and safety systems can be programmed to alert you to a security-related event on your property. Home security can also be supported by cameras, so you can remotely view your property in real time. Sensors can be used at home to detect intruders, keep an eye on working appliances, and much more.
Home entertainment. Audio and video equipment can be programmed to respond to a remote-control device. For instance, the remote control for a stereo system located in the family room can command the system to play on speakers installed anywhere else in the house. Home automation performs for the user all from one remote and all from one button.
Smart appliances. "An appliance that includes the intelligence and communications to be automatic or remote-controlled based on user preferences or external signals from a utility or third-party energy service provider. A smart appliance may utilize a Home Area Network to communicate with other devices in the customer's premise, or other channels to communicate with utility systems."

Smart Cities:

The idea of smart cities took off around 2007 when IBM launched their Smart Planet project and Cisco began its Smart Cities and Communities program. The idea is that in smart cities, digital technologies (mostly mobile-based) facilitate better public services for citizens, better utilization of resources, and less negative environmental impact.
Examples: "In Zaragosa, Spain, a 'citizen card' can get you on the free city-wide Wi-Fi network, unlock a bike share, check a book out of the library, and pay for your bus ride home. In New York, a guerrilla group of citizen-scientists installed sensors in local sewers to alert you when storm water runoff overwhelms the system, dumping waste into local waterways." In many countries, governments, and others (e.g., Google) are developing smart city applications. For example, India is planning to develop 100 smart cities.

Smart Cars:

Smart cars, also known as driverless cars, robot-driven cars, and autonomous cars are already on the roads in several places. The concept was initiated by Google (named Google Chauffeur), and it is becoming a reality, with several states in the USA getting ready to allow it on the road. These cars are electric, and they can create a revolution by their ability to reduce emissions, accidents, and traffic jams. Thus far these cars are being tested in several cities worldwide. The cars possess sensor systems that may prevent collision and they can be completely autonomous. Ready to sell such cars soon (e.g., BMW, Mercedes, GM, Tesla, and of course—Google).

Wearable Computing and Smart Gadgets:

A wearable computing device is any small technological device capable of storing and processing data that can be worn on the body. These are designed for accessibility and convenience, as well as improvements to workplaces by making information quickly and readily available to the wearer.
Few examples are smart watches, fitness trackers and digital glasses.

Smartwatches

A smartwatch is a computerized wristwatch with functionality that is enhanced beyond timekeeping. Today, smartwatches are wearable computers. Many run mobile apps, using a mobile operating system. They can function as portable media players; others also feature full smartphone capabilities. a smartwatch may collect information from internal or external sensors. It may control or retrieve data from other instrument or computers. It may support wireless technologies like Bluetooth, Wi-Fi, GPS, and communication technologies.

Fitness (Activity) Trackers

An activity tracker is a device or application for monitoring and tracking health and fitness-related metrics such as distance walked or run, calorie consumption, heartbeats, and even the quality of sleep. Today, many of these devices are wearable, which may be connected to a computer. Note that some trackers and regular smartwatches look very fashionable (e.g., Fibit Blaze). These are becoming more stylish with time.

Digital (Smart) Glasses

A digital glasses is an optical, head-mounted device that looks like regular eyeglasses. The device displays Internet information, and it responds to voice commands. Smart glasses are closely related to virtual reality and augmented reality. The most well-known glasses are Google glass.

Unit 3
Digital Business Ecosystem

Electronic Commerce (e-commerce) mechanisms refer to the various methods and technologies used to facilitate online transactions, buying and selling of goods and services over the internet.

Online Purchasing Process:

The process starts with a buyer logging on to a seller's website, registering (if needed), and entering an online catalog or the buyer's "My Account." E-catalogs can be very large, so using a search engine may be useful. Buyers usually like to compare prices; therefore, an online price comparison service can be useful (now available on smartphones). Some sellers (e.g., American Airlines, Amazon.com) provide price comparisons showing competitors. If not satisfied, the buyer may abandon the seller's site. If satisfied, the buyer will place the chosen item in a virtual shopping cart (or bag). The buyer may return to the seller's catalog to choose more items. Each selected item is placed in the shopping cart. When the item selection is completed, the buyer goes to a checkout page, where a shipment option is selected from a menu (e.g., standard, next day). Finally, a payment option is selected. For example, newegg.com allows you to pay by credit card, PayPal, check after billing, in instalments, and so on. After checking all the details for accuracy, the buyer submits the order.

E-Marketplaces:

E-marketplace (also called e-market, virtual market, or marketspace) is an electronic space where sellers and buyers meet and conduct different types of transactions. Customers receive goods and services for money. The functions of an e-market are the same as those of a physical marketplace; however, computerized systems tend to make electronic markets much more efficient by providing more updated information and various support services, such as rapid and smooth executions of transactions. The emergence of electronic

marketplaces, especially Web-based ones, has changed several of the processes used in trading and supply chains. In many cases, these changes, driven by technology, have frequently resulted in:

- Lowering the search time for information and cost to buyers
- Reduced information misunderstanding between sellers and buyers
- Possible reduction in the time gap between purchase and possession of physical products purchased online
- The ability of market participants to be in different locations while trading online
- The ability to conduct transactions at any time (24/7) from any place.

The Components and Participants in E-Marketplaces:

Customers. Several billions of Internet users worldwide are potential buyers of goods and services offered on the Internet. These consumers are looking for bargains, customized items, collectors' items, entertainment, socialization, and more. The social customers have more power than regular customers. They can search for detailed information, compare prices, bid, and sometimes negotiate. Buying organizations are also customers, accounting for more than 85% of EC volume and value activities.

Sellers. Millions of web stores are advertising and offering a huge variety of items. These stores are owned by companies, government agencies, or individuals. Every day it is possible to find new offerings of products and services. Sellers can sell directly from their websites or from public e-marketplaces.

Products and services. One of the major differences between the marketplace and the marketspace is the possible digitization of products and services in a marketspace. Although both types of markets can sell physical products, they can also sell digital products, which are goods that can be transformed into a digital format. However, in marketspaces, buyers can buy digitized products online, anytime and from any place in seconds, and receive the purchased goods instantly. In addition to the digitization of software, music, and airline tickets, it is possible to digitize dozens of other products and services

Infrastructure. The marketspace infrastructure includes electronic networks, databases, hardware, software, and more.

Front end. Customers interact with a marketspace via a front end. The major components of the front end can include the seller's portal, electronic catalogs, a shopping cart, a search engine, an auction engine, a payment gateway, and all other activities related to placing orders.

Back end. All the activities that are related to order aggregation and fulfilment, inventory management, purchasing from suppliers, accounting and finance, insurance, payment processing, packaging, and delivery are done in what is termed the back end of the business.

Intermediaries. In marketing, an intermediary is typically a third party that operates between sellers and buyers. The role of electronic intermediaries is frequently different from that of regular intermediaries (such as wholesalers or retailers), as will be seen throughout the text. For example, online intermediaries create and manage the online markets. They help match buyers and sellers, provide escrow services, and help customers and/or sellers complete transactions. Physical intermediaries may be eliminated and their jobs be computerized (fully or partially).

Disintermediation and Reinter mediation:

Intermediaries usually provide three types of services: (1) they provide relevant information about demand: supply, prices, and trading requirements, (2) they help match sellers and buyers, and/or (3) they offer value-added services such as transfer of products, escrow, payment arrangements, consulting, or assistance in finding a business partner. In general, the first and second types of service s can be fully automated, and thus it is likely to be assumed by e-marketplaces, infomediaries, and portals that provide free or low fee services. The third type requires expertise, such as knowledge of the industry, the market, the products, and the technological trends, and therefore can only be partially automated.

Intermediaries that provide only (or mainly) the first two types of services may be eliminated; this phenomenon is called disintermediation. An Intermediaries usually provide three types of services: (1) they provide relevant information about demand: supply, prices, and trading requirements, (2) they help match sellers and buyers, and/or (3) they offer

value-added services such as transfer of products, escrow, payment arrangements, consulting, or assistance in finding a business partner. In general, the first and second types of services can be fully automated, and thus it is likely to be assumed by e- marketplaces, infomediaries, and portals that provide free or low fee services. The third type requires expertise, such as Knowledge of the industry, the market, the products, and the technological trends, and therefore can only be partially automated. Intermediaries that provide only (or mainly) the first two types of services may be eliminated; this phenomenon is called disintermediation. An example is the airline industry and its push for selling electronic tickets directly by the airlines. Most airlines require customers to pay $25 or more per ticket processed by an employee via telephone. This results in the disintermediation of many travel agents from the purchasing process. In another example, discount stockbrokers that only execute trades manually are disappearing. However, brokers who manage electronic intermediation are not only surviving but may also be prospering (e.g., priceline.com and expedia.com in the travel industry .This phenomenon, in which disintermediated entities or newcomers take on new intermediary roles, is called reintermediation.

Customer Shopping Mechanisms: Web stores, Malls and Portals:

Web stores:

A webstore (or storefront) refers to a single company's (or individual seller's) website where products and services are sold. Webstores may target an industry, a location, or a niche market. The webstore may belong to a manufacturer (e.g dell.com), to a retailer (e.g.,amazon.com), to individuals selling from home, or to other types of business. Note that some companies refer to their webstores as portals.

A webstore includes tools known as merchant software that are necessary for conducting online sales. The most common tools are an electronic catalog; a search engine that helps the consumer find products in the catalog; an electronic shopping cart for holding items until checkout; e-auction facilities where auctions take place; a payment gateway where payment arrangements can be made; a shipment center where shipping arrangements are made; and customer services, which include product and warranty information and CRM.

Electronic Malls

An e-mall (online mall) is an online shopping location where many stores present their catalogs. For example, the E-mall of Maine (emallsofamerica.com/emallofmaine.htm) is an e-mall that aggregates products, services, and providers in the state of Maine. It contains a directory of vacation services and product categories and the vendors in each category. When a consumer indicates the category he or she is interested in, the consumer is transferred to the appropriate independent webstore. This kind of mall does not provide any shared services; it is merely a directory. Other malls, such as choicemall.com or etsy.com (see Chapter 4), do provide some shared services.

Web (information) Portals

A portal is an information gateway that is used in e-marketplaces, webstores, and other types of EC (e.g., in e-collaboration, intrabusiness, and e-learning). A Web portal is a single point of access, through a Web browser, to critical business information located inside and outside of organizations. This information is aggregated and is accessed and presented in a consistent way. Many Web portals personalize for users. Note that wireless devices are becoming portals for both enterprise and Internet access. Web portals offer some useful services such as e-mail, news, stock prices, entertainment, shopping capabilities, and so forth.

Intermediaries: Roles of Intermediaries in E-Marketplaces

Brokers

A broker in EC is a person or a company that facilitates transactions between buyers and sellers. The following are different types of brokers:

Trading. A company that aids online trading (e.g., E*TRADE or eBay).

Organization of online malls. A company that organizes many online stores in one place (e.g., Yahoo! Shopping and Alibaba.com).

Comparison agent. A company that helps consumers compare prices, encourages user comments, and provides customer service at different stores (e.g., Bizrate for a great diversity of products and Hotwire, Inc. for travel-related products and services).

Shopping aids provider. A company that helps online shopping by providing escrow, payments, shipping, and security (e.g., PuntoMio, Inc.) for global shoppers.

Matching services. These services match entities such as jobs to applicants, and buyers to sellers.

Distributors in B2B

A special type of intermediary in e-commerce is the B2B e-distributor. These intermediaries connect manufacturers with business buyers (customers), such as retailers (or resellers in the computer industry). E-distributors aggregate product information from many manufacturers, sometimes thousands of them, in the e-distributor's catalog. An example is W.W. Grainger (grainger.com). The distributor buys the products and then sells them, as supermarkets do.

Merchant Solutions: Electronic Catalogs, Search Engines and Shopping Carts

Electronic Catalogs:

Electronic catalogs (e- catalogs) consist of a product database, directory, and a presentation function. They are the backbone of most e-commerce sales sites. For merchants, the objective of e-catalogs is to advertise and promote products and services. For the customer, the purpose of such catalogs is to locate information on products and services. E-catalogs can be searched quickly with the help of search engines. Some offer tools for interactions. Most early online catalogs were static presentations of text and messages from paper catalogs. However, online catalogs have evolved to become more dynamic, customizable,

Search Engines

Customers look for information (e.g., requests for product information or pricing) in similar ways. This type of request is repetitive, and answering such requests manually

is costly. Search engines deliver answers economically and efficiently by matching questions with frequently asked question (FAQ) templates, which respond with "canned" answers. In general, a search engine is a computer program that can access databases of Internet or intranet resources, search for specific information or keywords, and report the results. Google's Internet Explorer and Chrome, and Bing are the most popular search engines in the USA. Baidu is the primary search engine in China. Portals such as Yahoo! and MSN have their own search engines. Special search engines organized to answer certain questions or search in specified areas include ask.com, mamma.com, and looksmart.com. In addition, many companies have their own enterprise search engines.

Voice-Powered Search

To ease searching, especially when using a smartphone, Google introduced a voice-powered tool (Google Voice Search) ; allows you to skip the keyboard altogether. The first product was included as part of iPhone's mobile search application. It allows you to talk into your phone, ask any question, and the results of your query re provided on your iPhone. In addition to asking questions by talking into your iPhone, you can also listen to search engine results.

Video and Mobile Search

There are dozens of dedicated search tools and sites that will search for videos and other images. Some of them, such as bing.com/videos, will search across multiple sites; others, such as YouTube, will search only for their own content.

Shopping Carts

An electronic shopping cart (also known as shopping bag or shopping basket) is software that allows customers to accumulate items they wish to buy before they arrange payment and check out, much like a shopping cart in a supermarket. The electronic shopping cart software program automatically calculates the total cost and adds tax and shipping charges when applicable. Customers can review and revise their shopping list before finalizing their purchase by clicking on the "submit" button. Shopping carts for B2C are simple (visit amazon.com to see an example), but for B2B,

a shopping cart may be more complex. Shopping cart software is sold or provided free to store builders as an independent component outside a merchant suite.

Auctions:

An online auction is an electronic space where sellers and buyers meet and conduct different types of transactions. This market mechanism uses a competitive process where a seller solicits consecutive bids from buyers (forward e-auctions) or a buyer solicits bids from sellers (reverse e-auctions).

Traditional Auctions Versus E-Auctions

Traditional auctions refer to a method of buying and selling goods or services through a competitive bidding process. Traditional auctions can take place in physical locations, such as auction houses or event venues.

Electronic auctions (e-auctions) are similar to off-line auctions except that they are conducted online.The Internet provides an infrastructure for executing auctions electronically at lower cost, with a wide array of support services, and with many more participating sellers and buyers than physical auctions.

Dynamic Pricing:

One major characteristic of auctions is that they are based on dynamic pricing. Dynamic pricing refers to prices that are not fixed, but are allowed to fluctuate, and are determined by supply and demand. In contrast, catalog prices are fixed, as are prices in department stores, supermarkets, and most webstores. Dynamic pricing appears in several forms. Perhaps the oldest forms are negotiation and bargaining, which have been practiced for many generations in open-air markets. The most popular today are the online auctions.

EC Order Fulfillment Process:

The process starts, when an order is received, and after verification that it is a real order, several activities take place, some of which can be done simultaneously; others must be done in sequence. These activities include the following steps.

1. Order and pay
2. Payment authorization
3. Check for in-stock availability. Notify if and when available
4. Determine whether inventory should be replenished (and whether additional production is required)
5. Locate warehouse where order can be handled. Transmit order to warehouse
6. Pick and pack order for shipment
7. Dispatch order
8. Receipt of goods
9. Manage returns

Partnering Efforts and Outsourcing Logistics:

An effective way to solve order fulfillment problems is for an organization to partner with other companies. For example, several EC companies have partnered with UPS or FedEx; others with Fulfillment by Amazon and Alibaba's Tmall Logistics-related partnerships can take many forms. For example, marketplaces may be managed by one of many freight forwarders such as A & A Contract Customs Brokers, a company that helps other companies find "forwarders." Forwarders help prepare goods for shipping and work with carriers to determine the optimal way to ship. Forwarders can also find the least expensive prices on air carriers, and the carriers bid to fill the space with forwarders' goods that need to be shipped.

Order Fulfillment in Make-to- Order (MTO) and Mass Customization:

Dell was a pioneer in providing customized products to end consumers in a timely and cost-effective fashion. They were able to do this using mass produced components that were assembled to meet the customized orders of their customers. This approach has been adopted by many other manufacturers. Most customized cars, shoes, toys, textbooks, and wedding rings are made this way. Of course, when

you talk about millions of computers at Dell, the supply chain, the logistics, and the delivery of components were critical to its success and survival. You need to have flexible production lines where changes are made quickly and inexpensively (e.g., painting cars at Toyota), and you need tools that enable quick and not-so-expensive changes (usually driven by computerized systems). This is usually a part of an intelligent factory or production line like those at Siemans AG, IBM, and General Electric. It's also like the distributed mass customization approach used at Etsy (etsy.com).

Digital Payments:

Smart Cards:

A smart card is a plastic payment card that contains data in an embedded microchip. The embedded chip can be a microprocessor combined with a memory chip or just a memory chip with nonprogrammable logic. Information on a microprocessor card can be added, deleted, or otherwise manipulated; a memory-chip card is usually a "read-only" card, similar to a magnetic stripe card. The card's programs and data must be downloaded from, and activated by, some other device (such as an ATM). Smart cards are used for a wide variety of purposes including:

- Telecom—SIM cards
- Financial—cards issued by banks, retailers, and service providers for payment services (debit, credit, prepaid), loyalty, and social cards with payment apps
- Government and healthcare—cards issued by governments for citizen identification and online services and cards issued by private health insurance companies
- Device manufactures—mobile phones, tablets, navigation devices, and other connected devices including secure element without SIM application
- Other—cards issued by operators of transport, toll, car park, pay TV, and other services, as well as cards providing physical and logical access.

There are two distinct types of smart cards. The first type is a contact card, which is activated when it is inserted into a smart card reader. The second type of card is a contactless (proximity) card, meaning that the card only has to be within a certain proximity of a smart card reader to process a transaction. On the front or back of the contact smart cards there is a small gold (or silver) plate about one-half inch in diameter that contains a chip. When the card is inserted into the card reader, the plate makes electronic contact and data are transferred to and from the chip. A contactless card has an embedded antenna that facilitates data transfer to another antenna (e.g., attached to another device). Contactless cards are especially useful where data must be processed (e.g., paying toll road fees, bus or train fares) or when contact may be difficult. Most proximity cards work at short range (just a few inches). For some applications, such as payments at highway tollbooths, longer range proximity cards are available. With both types of cards, smart card readers are crucial to the operation of the system.

Technically speaking, a smart card reader is actually a read/write device. The primary purpose of the smart card reader is to act as a mediator between the card and the host system that stores application data and processes transactions. Just as there are two basic types of cards, there are two types of smart card readers—contact and proximity—that match the particular type of card. Smart card readers can be transparent, requiring a host device to operate, or stand alone, functioning independently. Smart card readers are a key element in determining the overall cost of a smart card application.

EC Micropayments:

Micropayments or e-micropayments are small payments made online, usually under $10. From the viewpoint of many vendors, credit cards are too expensive for processing small payments. The same is true for debit cards, where the fixed transaction fees are greater, even though there are no percentage charges. These fees are relatively small (in percentage) only for card purchases over $10. Regardless of the vendor's point of view, there is substantial evidence, at least in the offline world, that consumers are willing to use their credit or debit cards for small-value purchases. In the online world, the evidence suggests

that consumers are interested in making small-value purchases, but not with credit or debit card payments. A good example is Apple's iTunes music store and their App Store. There have been more than 35 billion songs downloaded from iTunes and over 100 billion apps downloaded from their App store. A substantial percentage of the songs that were downloaded cost $1.29 a piece, while many of the apps cost somewhere between $.99 and $5. Although most of Apple's customers paid for these downloads with a credit or debit card, the payments were not on a per-transaction basis. Instead, their customers created accounts with Apple, and Apple then aggregated multiple purchases before charging a user's credit or debit card.

Digital and Virtual Currencies:

Types of Digital Currencies

Fiat currency (aka real currency, real money, or national currency) is the "coin and paper money of a country that is designated as legal tender; circulates; and is customarily used and accepted as the medium of exchange in the issuing country."

Electronic money (e-money) is a digital representation of fiat currency used for purposes of electronic transfer (e.g., the digital representation funds used to settle a merchant account after an EC purchase is made).
virtual currency is the "digital representation of value that can be digitally traded and functions as (1) a medium of exchange; and/or (2) a unit of account; and/or (3) a store of value, but does not have legal status in any jurisdiction."

Basically, it only functions as a currency because there is a community of users willing to treat it as such. Finally, digital currency is a generic term that refers to the digital representation (0 s and 1 s) of either e-money (fiat) or virtual currency (non-fiat). So, e-money and virtual currency are types of digital currency but not vice versa. Virtual currency covers two sub-types: non-convertible (closed) and convertible (open). According to the U.S. convertible virtual currency is a virtual currency that has "an equivalent value in real currency, or acts as a substitute for real currency." Some examples include the

cryptocurrencies like Bitcoin and most retail e-coupons. In contrast, a nonconvertible virtual currency is a virtual currency used in a specific virtual world or domain that cannot (theoretically) be exchanged for fiat currency. Many of the better known examples come from online games. Some examples of this would include: World of Warcraft Gold, Farm(ville) Cash, and Q Coin from TenCent QQ. In these games success is based on obtaining virtual money, which is earned by completing various tasks or purchased using real money (which is often the primary source of income for the game company). Technically, these currencies cannot be used or exchanged in the outside world.

Unit 4

Digital Business Applications – I

Electronic Retailing:

B2C Electronic Retailing:

A retailer is a sales intermediary between manufacturers and customers. Even though many manufacturers sell directly to consumers, they usually do so to supplement their major sales through wholesalers and retailers. In the physical world, retailing is done in stores (or factory outlets) that customers must visit physically in order to make a purchase, although sometimes customers may order by phone. Companies that produce a large number of products for millions of customers, such as Procter and Gamble, must use retailers for efficient product distribution. However, even if a company sells relatively few different types of products (e.g., Apple Computers), it still might need retailers to reach a large number of customers who are scattered in many locations.

Catalog (mail-order) sales offer companies the opportunity to reach more customers and give customers a chance to buy from home. Catalog retailers do not need a physical store with staff; online shopping has created the need for electronic catalogs. Retailing conducted over the Internet is called electronic retailing (e-tailing), and sellers who conduct retail business online are called e-tailers, as illustrated in the opening case. E-tailing can be conducted through catalogs that have fixed prices as well as online via auctions. E-tailing helps manufacturers (e.g., Dell) sell directly to customers.

Developments in B2C E-Commerce

The first generation of B2C e-commerce sold books, software, and music—simple to understand small items (known as commodity items) that were easily shipped to consumers. The second wave of online growth started in 2000, as consumers started researching and buying complex products such as furniture, large appliances, and expensive clothing. Today

consumers research product information and purchase online from categories such as bedding, spas, expensive jewellery, designer clothes, appliances, cars, flooring, big- screen TVs, and building supplies. Consumers are also buying many services such as college educations and insurance policies.

Characteristics E-Tailing

1. Brand name recognition (e.g., Apple, Dell, Sony). A service guarantee provided by well-known vendors (e.g., Amazon.com, BlueNile.com). For example, return policies and expedited delivery; free shipping.
2. Digitized format (e.g., software, music, e-books, or videos).
3. Relatively inexpensive items (e.g., office supplies, vitamins).
4. Frequently purchased items (e.g., books, cosmetics, office supplies, prescription drugs).

Advantages of Successful E-Tailing

- Lower product cost, thus increasing competitive advantage.
- Reach more customers, many outside the vendor's region, including going global.

- For example, some Chinese and Taiwanese e-tailers operate sites that sell electronic products all over the world
- Change prices and catalogs quickly, including the visual presentation. Such flexibility increases competitive advantage.
- Lower supply chain costs.

- React quickly to customer needs, complaints, tastes, and so forth.

- Provide customization of products and services, self-configuration, and personalization of customer care.
- Enable small companies to compete with larger companies.

- Better understand customers and interact with them.

- Sell specialized items countrywide, or even worldwide (e.g., surfing-related merchandise by the Australian company surfstitch.com).
- Engage customers in interesting search, comparison, and discussion activities.

Limitations E-Tailing:

- Lack of Physical Experience
- Difficulty Building Customer Relationships Development and Maintenance Costs
- Website and app maintenance is an ongoing process and expense Shipping and Delivery Costs
- More Difficult for Customers to Make Returns eTailers are hurt by the difficulty of returning items Consumer Trust and Security.

Classification of Models by Distribution Channel:

1. Traditional mail-order retailers that also sell online. For example, QVC and Lands' End also sell on the Internet.

2. Direct marketing by manufacturers. Manufacturers such as Dell, LEGO, and Godiva market directly online from their webstore to customers, in addition to selling via retailers.
3. Pure-play e-tailers. These e-tailers sell only online. Amazon.com is an example of a pure-play e-tailer
4. Click-and-mortar ("brick-and-click") retailers. These are retailers that open webstores to supplement their regular business activities (e.g., walmart.com). Some pure-play e-tailers are creating physical storefronts. For example, Apple opened physical stores and Dell sells its products at partner store locations, such as Best Buy and Staples. The idea of selling both online and off-line is part of a model or strategy known as a multichannel business model.

5. Internet (online) malls. These malls include many stores on one website.

Note that, in direct marketing of any type, sellers and buyers have a chance to interact directly and better understand each other.

6. Flash sales. Sellers can offer steep discounts via an intermediary or directly to the consumers.

SOCIAL SHOPPING: CONCEPTS, BENEFITS, AND MODELS:

Social shopping (also known as sales 2.0) is online shopping with social media tools and platforms including five social networks. It is about sharing shopping experiences with friends. Social shopping blends e-commerce and social media. (e.g., discussion groups, blogs, recommendations, reviews) and uses them before, during, and after shopping.

Drivers of Social Shopping:

- The increasing number of recommendations/suggestions made by friends and the ease and speed of accessing them
- The need to compete (e.g., by differentiation) and to satisfy the social customer
- The emergence of social customers with knowledge and competence in using the Internet (e.g., in finding reviews and comparing prices)
- The need to collaborate with business partners
- The huge discounts provided by some of the new business models (e.g., flash sales)
- The socially oriented shopping models (e.g., group buying)
- The ease of shopping while you are inside some social networks (e.g., from Facebook's "Buy" button)
- The ease of communicating with friends in real time using Twitter and smartphones.

Concepts and Content of Social Shopping

Social shopping is done in social networks (e.g., Polyvore, Wanelo), in vendors' socially oriented stores, in stores of special intermediaries (such as Groupon.com), and on social networks. The buyers are social customers that trust and/or enjoy social shopping. For example, popular brands are sold by e-tailers such as Gap (gap.com), Shopbop (shopbop.

com), and InStyle (instyle.com). In addition, fashion communities such as Stylehive (stylehive.com) and Polyvore (polyvore.com) help promote the season's latest fashion collections. Social shoppers are logging on to sites like Net-A-Porter (net-a- porter.com) to buy designer clothes online.They can also log on to sites such as ThisNext (thisnext.com), create profiles, and blog about their favorite brands.
There are two basic practices for deployment of social shopping:

1. Add social software, apps, and features (e.g., polling) to existing e-commerce sites.

2. Add e-commerce functionalities (e.g., e-catalogs, payment gateways, shopping carts) to social media and network sites, where many vendors offer their stores.

The Roles in Social Commerce

- Connector: These are the people with contacts that introduce people to each other. Connectors try to influence people to buy. Consultants and connected people play this role.
- Salespeople: Like their off-line counterparts, salespeople's major effort is to influence shoppers to buy. They are well connected, so they can impress buyers.
- Seekers: These consumers seek advice and information about shopping and services from experts, friends, and mavens.
- Mavens: Mavens are recognized, but are unofficial experts in certain domains that can provide positive or negative recommendations to advice seekers.
- Self-sufficient: These people work on their own and do not like to be influenced.

- Unclassifieds: Most people do not belong to any one of the above categories.

The Major Types and Models of Social Shopping:

- Group buying
- Deal purchases (flash sales), such as daily special offers
- Shopping together in real time
- Communities and clubs
- Marketplaces
- Innovative models
- Shopping for virtual products and services
- Location-based shopping
- Shopping presentation sites (e.g., on YouTube) and gaming sites
- Peer-to-peer models (e.g., money lending)
- Private online clubs
- B2B shopping

Social Shopping Aids – Recommendations, Reviews, Ratings, and Marketplaces

Recommendations in Social Commerce:

Online customers use shopping aids (e.g., price comparison sites like nextag.com), looking at product review sites such as epinions.com, and researching other sources. Examining and participating in social networking forums is another way to compare prices and read product and service reviews.

Ratings and Reviews

Ratings and reviews by friends, even by people that you do not know (e.g., experts or independent third-party evaluators), are usually available for social shoppers. In addition, any user has the opportunity to contribute reviews and participate in relevant discussions.

Examples:

Customer ratings and reviews. Customer ratings are popular. They can be found on vendors' product (or service) sites such as Buzzillions, or on independent reviews sites (e.g., TripAdvisor), and/or in customer news feeds (e.g., Amazon.com, Epinions).
Customer ratings can be summarized by votes or polls.

- Customer testimonials. Customer experiences are typically published on vendors' sites, and third-party sites such as tripadvisor.com.
- Expert ratings and reviews. Ratings or reviews can also be generated by domain experts and appear in different online publications.
- Sponsored reviews. These are written by paid bloggers or domain experts. Advertisers and bloggers find each other by searching through websites sponsoredreviews.com, which connects bloggers with marketers and advertisers.
- Conversational marketing. People communicate via e-mail, blog, live chat, discussion groups, and tweets. Monitoring conversations may yield rich data for market research and customer service (e.g., as practiced by Dell; see their social media command center).
- Video product review. Reviews can be generated by using videos. YouTube offers reviews that are uploaded, viewed, commented on, and shared.
- Bloggers reviews. This is a questionable method since some bloggers are paid and may use a biased approach. However, many bloggers have the reputation to be unbiased.

Social Marketplaces refers to a marketplace that uses social media tools and platforms and acts as an online intermediary between buyers and sellers. Ideally, a social marketplace should enable the marketing of members' own creations as Polyvore does. Some examples of social marketplaces include:

- craigslist.org : provides online classified ads in addition to supporting social activities (meetings, dating, events)
- fotolia.com: is a social marketplace for royalty free photos, images, and video clips.
- storenvy.com marketplace for unique businesses and photos. At no cost to sellers, a simple way is made available to create personalized webstores.

- shopsocially.com is a consumer-to-consumer marketing communication and experience-sharing platform for shopping.

Real-Time Online Shopping:

In real-time online shopping, shoppers can log onto a site and then either connect with Facebook or with another social network instantly from a smartphone or computer, or invite their friends and family via Twitter or e-mail. Friends shop online together at the same time, exchanging ideas and comparing experiences. Some real-time shopping platforms are Facebook's social graph-based shopping platforms. Another player in this area is BevyUP.

E-Banking:

E-banking saves users time and money. For banks, it offers a rapid and inexpensive strategy to acquire out-of-the-area customers. In addition, the banks may need fewer branches or employees. Many physical banks now offer online banking services, and some use EC as a major competitive strategy.
Online banking in general has been embraced worldwide, including developing countries. For example, online banking in China is increasing rapidly in popularity, especially among China's new educated middle class who live in the more developed cities. It is facilitated by the use of smartphones and other mobile devices.

Mobile Banking:

Mobile banking (m-banking) describes the conducting of banking activities via a mobile device (mostly via smartphones, tablets, texting, or mobile website). The influx of smartphones and tablets, especially iPhones and iPads, has led to an increased utilization of mobile banking. A popular service is a mobile deposit of checks. You sign the front and back of the check, snap pictures of both sides,

including the endorsement on the back, and submit it. Throughout the world, more and more banks are offering mobile-based financial and accounting information and transaction capabilities.

Insurance Online:

An increasing number of companies use the Internet to offer standard insurance policies, such as auto, home, life, or health, at a substantial discount, mostly to individuals. Furthermore, third-party aggregators offer free comparisons of available policies. Several large insurance and risk-management companies offer comprehensive insurance contracts online. Although many people do not trust the faceless insurance agent, others are eager to take advantage of the reduced premiums. Many insurance companies use a dual strategy, using sales agents in the field but also selling online (e.g., advertising on e-mails and Google searches). Like real estate brokers, insurance brokers send unsolicited e-mails to millions of people. The stiff competition will probably reduce the commission for the surviving agents.
Example
The insurance industry has seen that over 86% of potential insurance customers are researching and gathering information on the Internet. Thus, insurance companies are trying to capitalize on this trend.

Other Mobile Finance Applications:

Mobile Stock Trading
Several brokerage companies offer extensive mobile services and stock trading mobile tools.
Examples: Real Estate Mobile Transactions
The real estate market can be an ideal place for mobile commerce since real estate brokers and buyers and sellers are constantly on the move. Most realtors offer a photo gallery for each property on your desktop or mobile device; but m-commerce can do more than that.

Example: Using Augmented Realty

Using augmented reality some companies in Europe and the USA allow you to point your smartphone at certain buildings in a city (e.g., Paris) and then see the property value superimposed on the image of the building. This technology is combined with a GPS to let the system know your location. California-based ZipRealty.com that allows prospective real estate customers to find, see, and download properties in a mobile environment.

Digital Government:

Government-to-Citizens: The government-to-citizens (G2C) category includes all the interactions between a government and its citizens that take place electronically. G2C can involve dozens of different initiatives. The basic idea is to enable citizens to interact electronically with the government from anywhere and at any time. G2C applications enable citizens to ask questions of government agencies and receive answers, pay taxes, receive payments and documents, and schedule services, such as employment interviews and medical appointments. For example, in many U.S. states, residents can renew driver's licenses, pay traffic tickets, and make appointments for vehicle emission inspections and driving tests all online.

The major features of government websites are information on how to contact the government, public notices to citizens, links to other sites, educational material, publications, statistics, legal notes, and databases. The major areas of such G2C activities are social services, tourism and recreation, public safety, research and education, downloadable forms, discovery of government services, tax filing, information about public policy, and advice about health and safety issues. G2C is now available on mobile/wireless devices in many countries and local governments. Another area of G2C activity takes place by solving citizens' problems. The government (or a politician) can use CRM-type software to assign inquiries and problem cases to appropriate staff members.

Two popular examples of G2C are Electronic Voting, Electronic Benefits Transfer Government-to-Business:

Governments seek to automate their interactions with businesses. The relationship works two ways: government to business and business-to-government. Thus, G2B refers to activities where the government sells products to businesses or provides businesses with services and vice versa. Two key G2B activities are e-procurement and the auctioning of government surpluses.

Government-to-Government:

Governments buy large amounts of MROs (maintenance, repair, and operations, and other materials directly from suppliers. In many cases, RFQ (or tendering) systems are mandated by law. For years, these RFQs were done manually; the systems are now moving online. These systems utilize reverse (buy-side) auction systems. Governments provide all the support for such tendering systems. For additional information about such reverse auctions, see GSA Auctions (gsaauctions.gov). In the United States, for example, the local housing agencies of HUD (Housing and Urban Development), which provides housing to low- income residents, are moving to e-procurement.

Government-to-Employees Models & Internal Efficiency and Effectiveness:

Government-to-Employees (G2E)
Governments are just as interested, as private sector organizations are, in providing services and information electronically to their employees. Government-to-employees (G2E) applications refer to e-commerce activities between the government and its employees. Such activities may be especially useful in enabling efficient e-training of new employees, e-learning for upgrading skills and communication and collaboration activities. Other typical services are: e-payroll, e-human resources management, and e-recruiting.
Examples

Internal Efficiency and Effectiveness (IEE)
Governments have to improve the efficiency and effectiveness of their operations in order to stay within their budgets and avoid criticism. Unfortunately, not all governments (or units

within governments) are efficient or effective. Automation, including e-commerce, provides an opportunity to significantly improve operations.

E-Government 2.0 and Social Networking:

By employing social media tools, new business models, and embracing social networks and user participation, government agencies can raise the effectiveness of their online activities to meet users' needs at a reasonable cost. Government agencies around the world are now experimenting with social media tools as well as with their own pages and presence on public social network sites. Governments are using Web 2.0 tools mainly for collaboration, dissemination of information, e-learning, and citizen engagement.

M-Government

Mobile government (m-government) is the implementation of e-government applications using wireless platforms and mobile devices, especially smartphones. It is done mostly in G2C (e.g., see Government of Canada Wireless Portal; mgovworld.org). M-government uses wireless Internet infrastructure and devices. It is a value-added service, because it enables governments to reach a larger number of citizens (e.g., via smartphone or Twitter)
and it can be more cost-effective than wireline-based EC platforms. It is very useful in disasters (e.g., emergency notifications), is fast (e.g., in conducting surveys and polls), and it is convenient for citizens as well. In addition, governments employ large numbers of mobile workers who are supported by wireless devices.

E-Learning, E-Training and E-Books:

Basics of E-Learning:

There are several definitions of e-learning. A working definition of e-learning is the use of online delivery of educational materials and methods, using information technologies, for

the purposes of learning, teaching, training, or gaining knowledge at any time, and at many different locations.

E-learning is broader than the term online learning, which generally refers exclusively to Web-based learning. E-learning includes m-learning (or mobile learning) that is used when the material is delivered wirelessly to smartphones, tablets, or other mobile devices. E-learning is synonymous with computer-based instruction, computer-based training, online education, and other terms.

It appears in a variety of electronically supported learning and teaching activities, ranging from virtual classrooms to mobile conferences. E-learning includes a variety of methods of computer-facilitated learning ranging from self-study with DVDs to online degrees offered by universities. E-learning may also include the use of Web-based teaching materials and hypermedia, multimedia CD-ROMs, learning and teaching portals, discussion boards, collaborative software, e-mail, blogs, wikis, chat rooms, computer-aided assessments, educational animation, simulations, games, learning management software, and more.

Advantages:

- Education. Students can learn at home and keep their regular jobs while in school. Busy homemakers can earn degrees.
- Learning and training time reduction. E-learning can expedite training time by up to 50%.
- Cost reduction. The cost of providing a learning experience can be reduced by 50–70% when classroom lectures are replaced by e-learning sessions. This includes reduced faculty cost, no classrooms, and less or no travel time.

Large number and diversity of learners. E-learning can provide training to a large number of people from diverse cultural backgrounds and educational levels, even though they are at different locations in different time zones. Large companies such as Cisco Systems, Inc. (cisco.com) provide online training courses to many employees, customers, and business partners.

- Innovative teaching. Ability to provide innovative teaching methods such as special engagements, interaction with experts, interaction with learners in other countries, and so forth.

- Measurement and assessment of progress. Ability to assess progress in real time, find areas of difficulties, and design remedial work.
- Self-paced and motivation learning. E-learning students usually are self-paced and self-motivated. These characteristics may result in higher content retention (25–60% higher than with traditional lecture-based training).
- Richness and quality. E-learning enables the use of top instructors as well as employing rich multimedia support. This may make learning more enjoyable. Difficult content can be made interesting and easy to understand. Overall, the quality of learning may increase.
- Flexibility. E-learners are able to adjust the time, location, content, and speed of learning according to their own personal schedules.
- Updated and consistent teaching material. It is almost impossible to economically update the information in textbooks more frequently than every 2 or 3 years; e-learning can offer real-time access to the most updated knowledge. Delivery of e-learning may be more consistent than that of material presented in traditional classroom learning because variations among teachers and teaching materials are minimized.
- Ability to learn from mobile devices. This helps learning in any place and at anytime as well as providing support to learners by teachers and peers.
- Expert knowledge. In contrast with the knowledge of a single instructor in the classroom, e-learning may include the knowledge of several experts, each of whom prepares a teaching module in his or her area of expertise.
- Fear-free environment. E-learning can facilitate learning for students who may not wish to join a face-to-face group discussion to interact with peers or teachers.

Limitations:

- Need for instructor retraining. Some instructors do not have the knowledge to teach by electronic means and may require training, which costs money.
- Equipment needs and support services. Additional funds are needed (by the teaching institute) to purchase e-learning systems that supplement traditional ones. These are needed for e-learning creation, use, and maintenance.

- Lack of face-to-face interaction and campus lifestyle.

- Many feel that the intellectual stimulation that takes place through interaction in a classroom with "live" instructors and peers cannot fully be replicated with e-learning.

- Assessments and examinations. In the higher education environment, one criticism is that professors may not be able to adequately assess student work completed through e-learning. There is no way of knowing, for example, who actually completed the assignments or exams. (Nevertheless, the same is true for any homework done outside the classroom).
- Maintenance and updating. Although e-learning materials are easier to update than traditionally published materials, there are practical difficulties (e.g., cost, instructors' time) in keeping e-learning materials current. The content of e-learning material can be difficult to maintain due to the lack of ownership of, and accountability for, website material. The developers of online content might not be those who update it.
- Need for reliable wireline and wireless communication networks and devices. Privacy needs to be protected as well as systems need to be secured.

- Protection of intellectual property. It is difficult and expensive to control the transmission of copyrighted works downloaded from the e-learning platform.
- Student retention. Without some human feedback and intervention, it may be difficult to keep certain students engaged and energetic.

Unit 5

Digital Business Applications – II

Online Travel and Tourism Services:

Online services are provided by many travel vendors. All major airlines sell their tickets online. Other services are vacation packages, train schedules and reservations, car rental agencies, hotels, commercial portals, and tour companies. Publishers of travel guides such as tripadvisor.com provide considerable amounts of travel-related information on their websites, as well as selling travel services. TripAdvisor helped New Orleans hotels to attract more guests.

Example: TripAdvisor

TripAdvisor (tripadvisor.com) is the world's largest travel site. The company provides trip advice generated from actual travellers. This is a global site with more than 350 million visitors a month.

Characteristics of Online Travel:
Online travel services generate income from commissions, advertising fees, lead-generation payments, subscription fees, site membership fees, etc. With rapid growth and increasing success, the online travel industry is very popular, although online travel companies cite revenue loss due to fraud as their biggest concern. Consumers themselves can fall prey to online travel fraud. However, competition among online travel e-tailers is intense and has low margins. In addition, customer loyalty and difference in prices make it more difficult to survive. Thus, guaranteed best rates and the provision of loyalty programs are becoming a necessity. Three important trends will drive further changes in the online travel industry. First, online travel agents may try to differentiate themselves by providing superior

customer service. Second, they provide easy search capabilities (e.g., for best prices). Third, online travel companies are likely to use social media tools to provide content to travellers and would-be travellers.

Benefits:

The benefits of online travel services to travellers and travel providers are extensive. The amount of free information is voluminous and is accessible at any time from any place. Shoppers can find the lowest prices. Travel providers also benefit by eliminating commissions and selling otherwise-empty spaces. Finally, processing fees are reduced.

Limitations: First, complex trips are difficult to arrange and may not be available on some sites because they require complicated arrangements. Therefore, the need for travel agents as intermediaries remains, at least for the time being.

Corporate Travel:

The corporate travel market is huge, and its online portion has been growing rapidly in recent years. Corporations can use all the online travel services mentioned earlier where they may receive special services. Companies can enable employees to plan and book their own trips to save time and money. Using online optimization tools provided by travel companies, such as those offered by American Express (amexglobalbusinesstravel.com), companies can try to reduce travel costs even further. Expedia via Egencia Trip Navigator (egencia.com), Travelocity (travelocity.com), and Orbitz (orbitzforbusiness.com) also offer software tools for corporate planning and booking. TripAdvisor for Business (tripadvisor.com/Owners) provides information to the tourism and hospitality industries. TripAdvisor Trip Connect offers a way for businesses to compete for bookings and generate new business by bringing visitors directly to their online booking pages.

E-Employment:

The online job market connects job seekers with potential employers. An online job market is now very popular with both job seekers and employers. In addition to job ads posted online and placement services available through specialized websites (such as careerbuilder.com), larger companies are building career portals on their corporate websites as a way of reducing recruitment costs and expediting the time to fill vacancies.

Online Job Market:

The Internet offers a comprehensive and large environment for job seekers and for recruiters. Nearly all Fortune 500 companies now use the Internet for some of their recruitment activities. Online resources are the most popular recruitment option for many companies. Since 2000, online job recruitment revenues and volume significantly overtook print ad classifieds. Tens of thousands of job-related sites are active in the United States alone. Note that many sites provide free lists of available positions. The U.S. market is dominated by several major players, especially as Monster acquired Yahoo! HotJobs and CareerBuilder. However, socially oriented sites such as Craigslist, LinkedIn, Twitter, and Facebook are becoming very important online recruitment sites.

Social Networks Based Job Markets:

58% of recruiters agree that social networking is the “next big thing” in recruiting. Specifically, 86% already use LinkedIn, 51% use Facebook, and 27% use Google+. over 31% of job seekers had found jobs using social media. Facebook has many features that help people find jobs and help employers find candidates. One such feature is Jobcast (jobcast.net), which is an app for companies to place on their Facebook page to recruit candidates. The app, which has different types of plans (free and paid), offers social sharing to LinkedIn and Twitter, as well as to Facebook. Their app on Facebook is for job seekers and employers to connect, and they also have interesting articles regarding the job market. Another way for employers and job seeke rs to

connect via Facebook is through a company called Find Employment which also offers tips and suggestions for job seekers. A similar service is provided by linkedin.com/jobs. Craigslist, for example, claims more than one million new job listings every month. The LinkedIn search engine can help employers find appropriate candidates quickly. Job referral social networking sites solve the need for finding the right people for the job (e.g., jobster.com). These sites provide job seekers opportunities to promote themselves and their areas of expertise, as well as help them be discovered by employers. The site's algorithms enable head-hunters to analyse qualified applicants by different criteria. When a job offer is made, the job referral site receives referral fees. Lately, the use of Twitter as an aid for job searches has increased. A strategy for job seekers and for how to use Twitter to access recruiters and increase job seekers' visibility.

Social Recruiting

Finding qualified employees in certain fields may be a difficult task. To accomplish this task, companies pay considerable fees to executive recruiters or third-party online companies. If job seekers are online and active in their search and in posting their résumés, there is a good chance that they will be discovered by recruiters. In addition, many so-called passive job seekers are employed and are not actively looking for a new job. Therefore, it is important that both active and passive job seekers maintain a profile online that present them in a positive light, especially on LinkedIn and Facebook. Both recruiters and job seekers are moving to a new recruiting platform—the online social networks—mostly LinkedIn, Facebook, and Twitter (twitjobsearch.com), a job search engine that allows employers to post job ads on Twitter. Enterprise recruiters are scanning online social networks, blogs, and other sources to identify and find information about potential employees.

Virtual Job Fairs and Recruiting Events

Virtual job fairs are other new strategies for quickly finding qualified candidates at a reduced cost. These are done using special vendor sites (e.g., on24.com, expos2.com, and azencareerist.com), or employers' websites. IBM needed qualified employees for leadership positions in Africa. To quickly attract qualified employees, it used ON24 to conduct a job fair.

E-Health: The World Health Organization (WHO) defines e-health as follows:

E-health is the transfer of health resources and health care by electronic means. It encompasses three main areas:

- The delivery of health information, for health professionals and health consumers, through the Internet and telecommunications.
- Using the power of IT and e-commerce to improve public health services, (e.g., through the education and training of health workers).
- The use of e-commerce and e-business practices in health systems management.

Electronic Medical Record Systems (EMR)

One of the earliest applications of e-health was the electronic medical record system. The objective was to enable accessibility to patient medical records from any location, even from other cities and countries. With the spread of the Web, this application is growing rapidly. For example, one of the authors can see the results of all his blood tests and certain medical records from any place at any time, on the Web. In some progressive hospitals, a doctor can pull the medical records whenever he or she needs to see them. One problem is the protection of privacy and assuring the appropriate use of data. In addition, there is an issue of accessibility to the medical records of patients by researchers.

Digital Products:

Certain goods, such as software, music, or news stories, can be distributed in physical format (such as hard copy, CD-ROM, DVD, and newsprint), or they can be digitized and delivered over the Internet. Online delivery is much cheaper and saves sellers storage room, handling, and distribution costs.

Internet TV and Internet Radio:

Internet TV

Internet TV is the delivery of TV content via the Internet by video streaming technologies. The content includes TV shows, sporting events, movies, and other videos. Several video- on-demand and subscription services, such as netflix.com, hulu.com as well as Amazon Prime Video offer this service. Apple TV (apple.com/appletv), Roku (roku.com), Google Chromecast (google.com/intl/en/chrome/devices/chromecast), and so forth. In order to compete with other channels, traditional channels have developed an online presence, such as HBO (hbo.com).

Internet Radio:

Internet radio refers to audio content transmitted live via the Internet. It is a broadcasting service that enables users to listen online to thousands of radio stations (e.g., over 4000 in Europe, see listenlive.eu). The service can broadcast anything that is on the radio stations plus broadcasts from organizations, governments, and even individuals Internet radio has the same copyright issues as those of Internet TV. Note that, in many cases, there is an agreement between the content creators and the distributors (e.g., Warner Music and Apple reached an iTunes Radio deal in 2013.

Social Television (TV)

Social TV is an emerging social media technology that enables several TV viewers who are in different locations to interactively share experiences such as discussions, reviews, and recommendations while watching the same show simultaneously. The communication can be done via texting in social networks, smartphones, tablets, etc. Social TV combines broadcast television programs and user-generated content with rich social media.

Characteristics of Social TV

Social TV has several unique characteristics:

- The possibility of discovering new video content and sharing this discovery with friends.
- Most social TV activities are done in real time by watching content and commenting on it to others, even if the viewers are in different locations.
- Social TV allows people to connect in a unique way, with other people who share the same interests. Social TV is attracting an ample number of viewers.

Entertainment in Cars:

Entertainment is coming to cars directly from the Internet. Apple announced that it is teaming up with a major car maker for its CarPlay system. The system enables iPhones to plug into cars so drivers can request music with voice commands or with a touch on a vehicle dashboard screen.Future opportunities include car diagnosis, driver health monitoring, usage-based insurance, and even parental alerts. Some car brands already provide communication, telematics, social networking, and mobile commerce.

Gaming - Mobile Games:

A wide range of mobile games have been developed for different types of players. The vast majority of players use smartphones. Many computer games can be played on mobile devices.

- Technology. Embedded, SMS/MMS, Web browsing, J2ME, BREW, native OS
- Number of players. Solo play or multiplay
- Social network-based. Using smartphones, people can play games available in social networks, such as FarmVille on Facebook.Example: pocketgamer.biz.

Social Games and Gamification

A social game is a video multiplayer game played on the Internet, mostly in social networks or in virtual worlds. Gamers can play against computers or against each other. Many social games are "massively" multiplayer online games (known as MMOG or MMO), which are capable of supporting hundreds to many thousands of players simultaneously. MMOG players can compete, collaborate, or just interact with other players around the globe. Many game consoles, including the PSP, PlayStation 8, Xbox 860, Nintendo DSi, and Wii can be played on the Internet. Additionally, mobile devices and smartphones based on such operating systems as Android, iOS, webOS, and Windows Mobile are seeing an increase in the number of MMO available games. Social games are very popular.

Mobile Gambling:

Mobile gambling requires two-way financial transactions. Online gambling sites face major trust issues. Gamblers and bettors have to believe that the site is trustworthy and fair. Finally, while the legislative and regulatory picture is very restrictive, it is also unclear and keeps changing. Online gambling is booming despite the fact that it is illegal in almost all U.S. states.

Social Entertainment:

A large number of social networks are fully or partially dedicated to entertainment. Well- known examples in 2016 are Vimeo, Netflix, and MySpace. MySpace has a licensing agreement with Sony BMG and other large media companies that gives its members free access to streaming videos, music, and other entertainment.

Example:

In Japan, Mixi, Inc. (https://mixi.co.jp/en/) is a highly visited social networking service even though users must be invited to join. Mixi's goal is to allow users to build friendships with other users who share common interests. The site has about 27 million members and over 1 million small communities of friends and interests. Mixi is going global, while Facebook is overtaking it in Japan.

THE END

HAPPY LEARNING