

The role of ICT in the world of business

Economy

- An economy of a country is production, distribution, exchange, and consumption of goods and services. An **economy** consists of the labor, capital and land resources.

Digital Economy

- A **digital economy** is an economy that is based on electronic.
- The Goods and services produced by an electronic business and traded through electronic commerce.
- With growing population and resource mobilization, digital economy is not limited to business trading and services; it includes every aspect of life, from health to education and from business to banking.
- E-Government is already playing its part in this digital economy by providing e-services through various ministry/department to its e-Citizen.



New business methods in Digital Economy

Reverse Auction

- An **auction** is a process of buying and selling goods or services by offering them up for bid, taking bids, and then selling the item to the highest bidder.
- **Reverse Auction** is a type of auction in which the roles of buyers and sellers are reversed.
- In an ordinary auction (also known as a forward auction), buyers compete to obtain a good or service, and the price typically increases over time.

- In a reverse auction, sellers compete to obtain business, and prices typically decrease over time.



Group Purchasing

- Group purchasing is a process that allows several individuals or businesses to come together for the purpose of purchasing various types of goods and services at discounted rates.
- The idea behind this type of purchasing consortium is to combine the buying power of all the members and use that volume purchasing to convince service providers to extend the same low rates to every member of the group regardless of that member's actual usage.



E-Marketplace

- Commonly known as electronic marketplace, an e-marketplace is a virtual market where Buyers and sellers meet just like in a traditional market just that in this case, all interactions are done virtually.
- E-marketplace includes B2B, B2C, and C2C kind of transactions.



Business Model

- The business model is simply a working description that includes the general details about the operations of a business. The components that are contained within a business model will address all functions of a business.
- A business model describes the rationale of how an organization creates, delivers, and captures value - economic, social, or other forms of value. The process of business model design is part of business strategy.
- There are three type of business models.
 - ❖ Pure Brick
 - ❖ Brick and Click
 - ❖ Pure Click

Pure Brick

- In the pure brick organization used only offline method for buying and selling process.

Bricks and Click

- This is a business strategy or business model in e-commerce by which a company attempts to integrate both online and physical presences. It is also known as Click-and-mortar or clicks-and-brick
- For example, an electronics store may allow the user to order online, but pick up their order immediately at a local store.



Pure Click

- In the pure Click organization used internet for buying and selling process. In this method, customers used to credit card to buy goods and service.
 - Example 1: To buy an Anti-Virus software using internet.
 - Example 2: www.ebay.com

Business functions and the role of the IT

The role of IT in business organizations is becoming more and more important. There are 6 type of function, we can identify in a business firm.

- Accounting and IT
- Human Resource and IT
- Production and IT
- Marketing and Sales and IT
- Supply chain management and IT
- Business Communication and IT

Accounting and IT – (AIT)

- The accounting is a systematic process of identifying, recording, measuring, classifying, verifying, summarizing, interpreting and communicating financial information.
- The accounting and IT mean using IT in these functions.
- To perform these function, we must use accounting software.

- Accounting software (system) manages procedures for accurately entering, tracking, and maintaining information related to an organization's financial operations.
- These accounting applications typically support general ledger (GL), accounts payable (A/P) and accounts receivable (A/R), payroll, job and project costing, and multinational accounting.
- Many small to medium businesses require that other functions, such as inventory control, manufacturing management, and financial reporting also integrate with their accounting system.



- Benefits:
 - Automate accounting processes
 - Allow multiple users to work with financial data
 - Implement well-defined procedures to decrease accounting errors
 - Refine forecasting methodologies for improved production efficiency
 - Determine costs based on output levels to improve pricing
 - Improve order, inventory, and asset management
- Examples for accounting system:
 - MYOB
 - QuickBooks
 - Cigas

Human Resource and IT

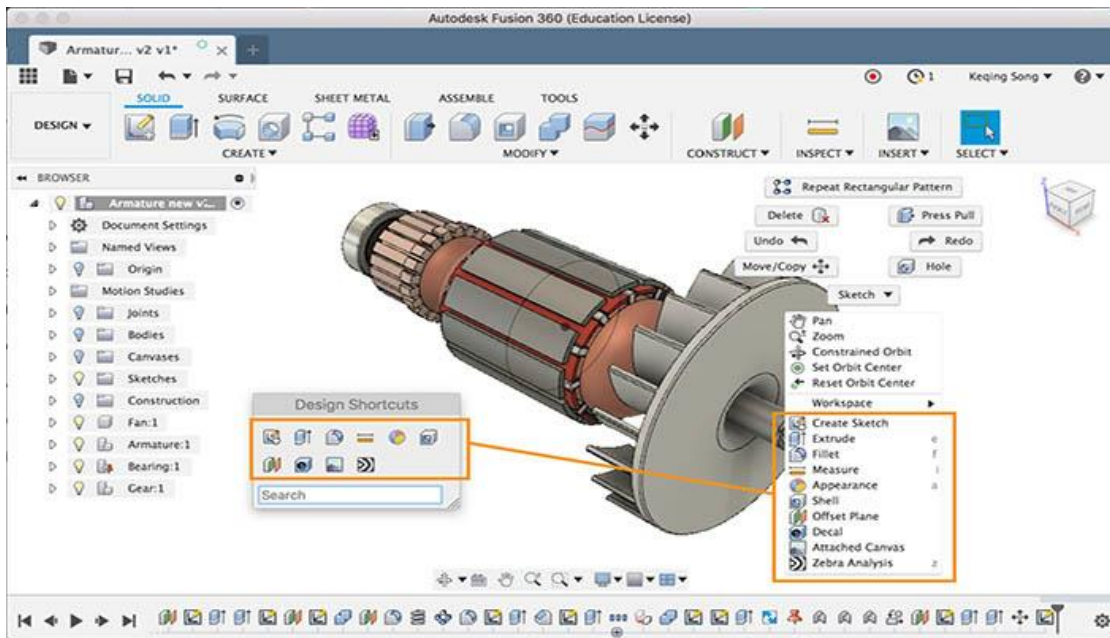
- A system which seeks to merge the activities associated with human resource management (HRM) and information technology (IT) into one common database through the use of enterprise resource planning (ERP) software.



- The goal of HRIS (Human Resource Information System) is to merge the different parts of human resources, such as payroll, labor productivity, and benefit management.
- Also Human Resource Management software allows you to organize contact details, department, attendance, salary, training, benefits and more.
- **Examples for software:** Talent Platform, Halogen Employee Performance & Talent Management Software

Production and IT

- Processes and methods employed in transformation of tangible inputs (raw materials, semi-finished goods, or subassemblies) and intangible inputs (ideas, information, know how) into goods or services.



- IT used to designing the Product, manufacturing the product and simulating the product In the process of production.
- Computer-aided design (CAD), is the use of computer technology for the process of design.
- Computer-aided manufacturing (CAM) is the use of computer software to control machine tools and related machinery in the manufacturing of workplaces
- Simulation software is used widely to design equipment so that the final product will be as close to design specs as possible without expensive in process modification.



Marketing and Sales and IT

- Marketing is the process by which companies create customer interest in goods or services.



- It generates the strategy that underlies sales techniques, business communication, and business development.
- It is an integrated process through which companies build strong customer relationships and create value for their customers and for themselves.
- Marketing is used to identify the customer, to satisfy the customer, and to keep the customer.
- Sales is Contract involving transfer of the possession and ownership of a good or property, or a service, in exchange for money or value.
- Essential elements that must be present in a valid sale are;
 - Competence of both the buyer and seller to enter into a contract,
 - mutual agreement on the terms of exchange,
 - A thing capable of being transferred, and
 - A consideration in money (or its equivalent) paid or promised.
- In the process of marketing and sales, advertisements are very important.
- There are software in the IT for creating attractive advertisements and in addition to that today business organizations are used internet and Email to advertise the product worldwide.
- Example: Graphic software, Animation software, Data base software, Web site design/ development software, online advertisement services, Email Advertisement services
- In the buying and selling process business firms are used IT to manipulate buying and selling data.
- Internet and Email are used to selling goods and services.
- There are special websites for online shopping.
- Example: www.ebay.com, www.amazon.com



- Also special hardware are used for buying and selling process.
- Example: Bar Code Reader, Credit Card, Ink Character Reader, Magnetic Ink Character Reader

Supply chain management (SCM) and IT

- The Management of material and information flow in a supply chain to provide the highest degree of customer satisfaction at the lowest possible cost.
- SCM requires commitment of supply chain partners to work closely to coordinate order generation, order taking, and order fulfillment thus, creating an 'extended enterprise' spreading far beyond the producer's location.
- Influenced by the integration of information and communications technology (ICT), the supply chain management (SCM) may help improve the logistics control, the handling of information related to purchases, the flow of material resources and the maximum reduction of the costs that are generated in each movement of materials.



- Thus improving the constant decision-making process that an entrepreneur has to go through in order to improve the development of an organization

Business Communication and IT

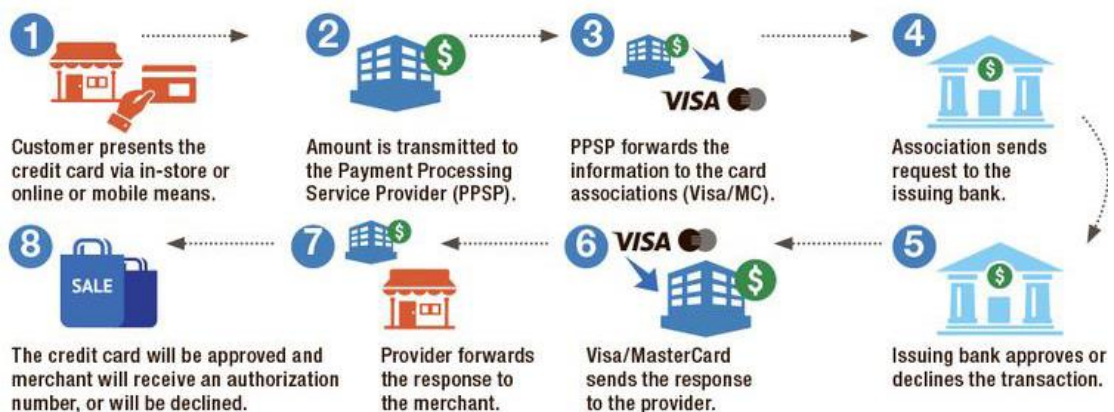
- Business Communication used to promote a product, service, or organization; relay information within the business; or deal with legal and similar issues.
- It is also a means of relaying between a supply chain, for example the consumer and manufacturer.
- For perform these function well used IT.
- Example: Web based communication, Email, E-presentations, Video/audio conference



Secure payment mechanisms

Payment gateways

- A payment gateway is a merchant service provided by an e-commerce application service provider that authorizes credit card or direct payments processing for e-businesses, online retailers, bricks and clicks, or traditional brick and mortar.
- The payment gateway may be provided by a bank to its customers, but can be provided by a specialized financial service provider as a separate service, such as a payment service provider.
- A payment gateway facilitates a payment transaction by the transfer of information between a payment portal (such as a website, mobile phone or interactive voice response service) and the front end processor or acquiring bank.



Secure credit card payments

- A secured credit card is a type of credit card that is backed by a cash deposit, which serves as collateral should you default on payments.
- The deposit aside, secured credit cards function like any credit card.

- Consumers typically obtain secured credit cards to improve their credit scores or establish a credit history.

Unsecured credit cards are the most common type of credit card and what most people are referring to when they use the term “credit card.”¹

Unsecured credit cards provide an instant loan—up to an established credit limit—which the card holder is responsible for paying back.²

Secured credit cards are less common than unsecured cards and are typically for those with no, little, or questionable credit who may not qualify for an unsecured card.⁷

A secured credit card also provides an instant loan but is backed by a cash deposit from the card holder.⁸

Third party systems

- Online payment services provide a compelling alternative to traditional payment methods.
- Unlike credit cards companies, services such as **PayPal** and **CheckFree** don't require businesses to have merchant accounts.
- These services make paying online quicker and more secure than sending paper checks or cash, since they use electronic fund transfers to settle transactions.
- Online payment services have become especially popular, among users of online auctions such as eBay, and many other online businesses now use these services as well.
- Before signing up with a payment service, however, it's important to know how it works and how to avoid potential problems.
- Payment services use a relatively simple process to transfer money.
- Buyers and sellers set up their accounts by providing enough information like their real name, e-mail address, and credit card or checking account information - to verify their identities.
- To pay another member, a buyer enters the recipient's e-mail address and the amount of the transaction and that amount is then debited to the recipient's account.

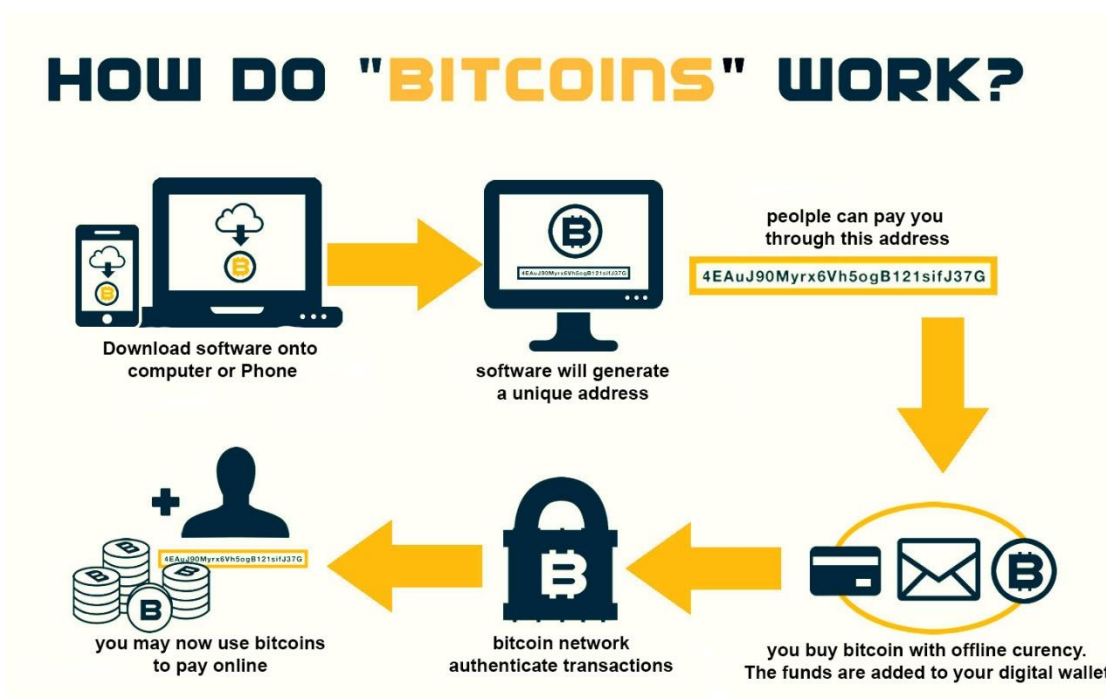


- If the recipient isn't a member of the payment service, they'll get an e-mail directing them to the service, where they must complete a registration form to claim their funds.
- Members can access money in their accounts by transferring it into their bank accounts or by requesting a check from the payment service.

Payment Mechanisms

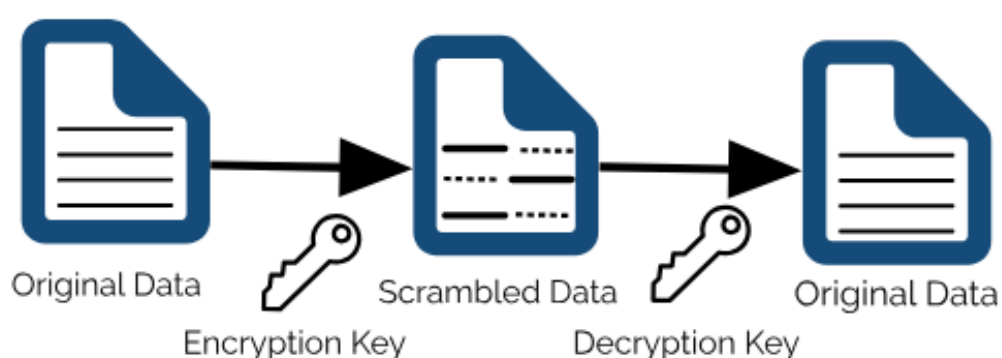
Micro credit payments ("bit coin" kind)

- These kinds uses peer-to-peer technology to operate with no central authority or banks.
- Managing transactions and the issuing of payment media (eg:- bitcoins) is carried out collectively by the network.
- This service is open-source, its design is public, nobody owns or controls them and everyone can take part.



Data encryption

- Data encryption is a security method where information is encoded and can only be accessed or decrypted by a user with the correct encryption key.
- Encrypted data, also known as ciphertext, appears scrambled or unreadable to a person or entity accessing without permission.



- Data Encryption is used to prevent malicious or negligent parties from accessing sensitive data.
- An important line of defense in a cyber-security architecture, encryption makes using intercepted data as difficult as possible.
- It can be applied to all kinds of data protection needs ranging from classified government intel to personal credit card transactions.
- Data encryption software, also known as an encryption algorithm or cipher, is used to develop an encryption scheme which theoretically can only be broken with large amounts of computing power.

Threats and opportunities in e-commerce

Privacy

- Privacy has become a major concern for consumers with the rise of identity theft and impersonation, and any concern for consumers must be treated as a major concern for e-Commerce providers.



- Both EU and US legislation at both the federal and state levels mandates certain organizations to inform customers about information uses and disclosures.
- Such disclosures are typically accomplished through privacy policies, both online and offline.
- Trust in turn is linked to increased customer loyalty that can be manifested through increased purchases, openness to trying new products, and willingness to participate in programs that use additional personal information.
- Privacy now forms an integral part of any e-commerce strategy and investment in privacy protection has been shown to increase consumer's spend, trustworthiness and loyalty.



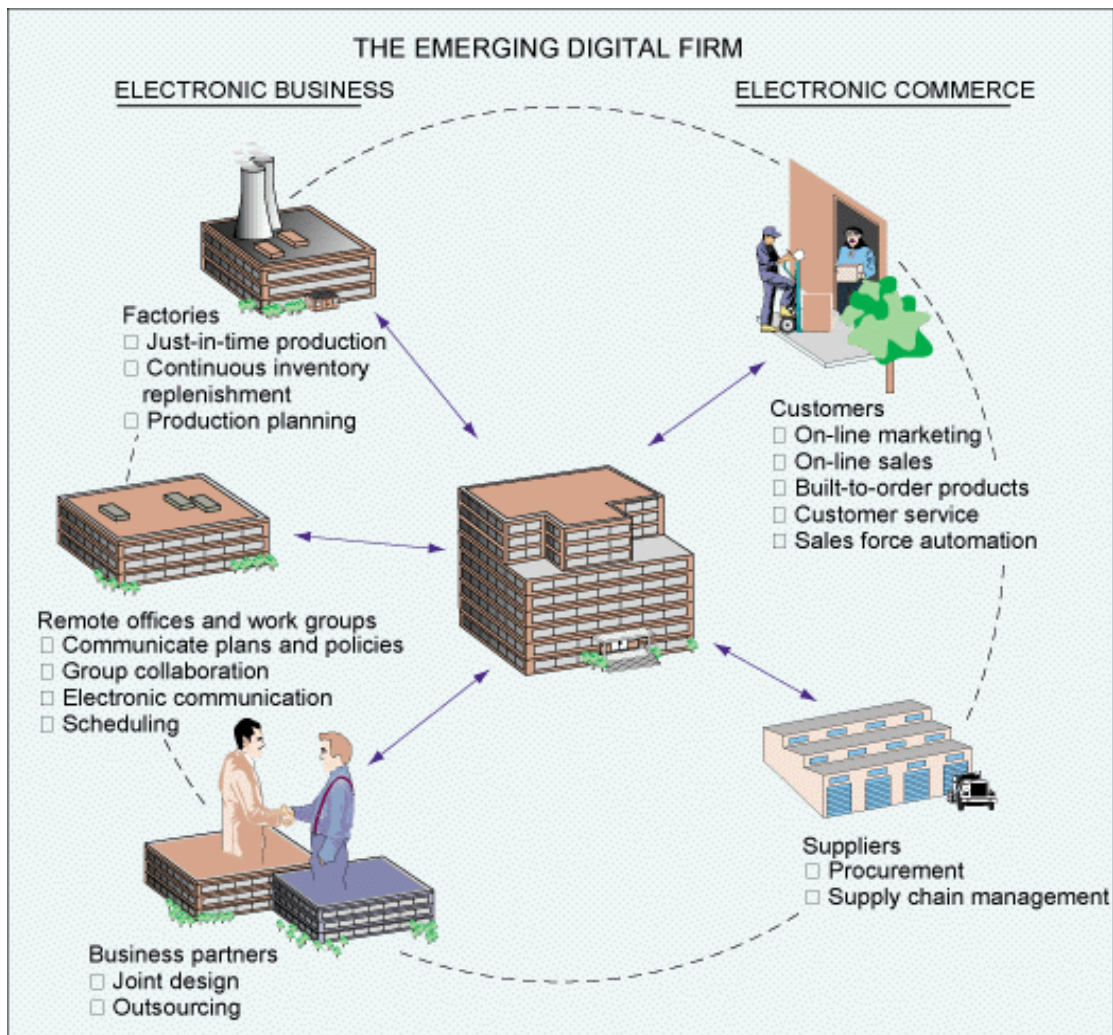
Product commercialization

- Commercialization is the process of bringing new products or services to market.
- The broader act of commercialization entails production, distribution, marketing, sales, customer support, and other key functions critical to achieving the commercial success of the new product or service.
- E commerce opening many ways of commercializing a product with the help of ICT and its tools.

ICT and Business Operations

Electronic business Vs. Electronic Commerce

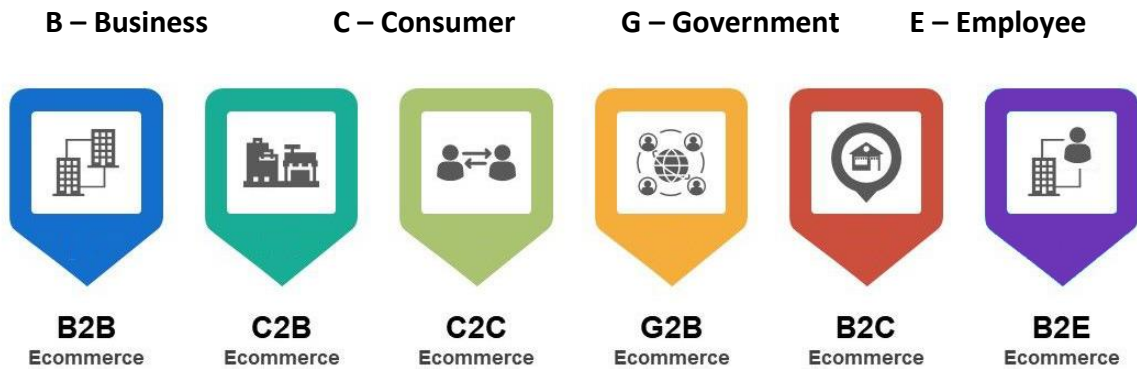
- **Electronic commerce**, commonly known as e-commerce consists of the buying and selling of products or services over electronic systems such as the Internet and other computer networks.
- **Electronic business**, commonly referred to as "eBusiness" or "e-business", may be defined as the application of information and communication technologies (ICT) in support of **all the activities of business**.
- Commerce constitutes the exchange of products and services between businesses, groups and individuals and can be seen as one of the essential activities of any business.
- Electronic commerce focuses on the use of ICT to enable the external activities and relationships of the business with individuals, groups and other businesses.
- Electronic business methods enable companies to link their internal and external data processing systems more efficiently and flexibly, to work more closely with suppliers and partners, and to better satisfy the needs and expectations of their customers.
- In practice, e-business is more than just e-commerce.
- While e-business refers to more strategic focus with an emphasis on the functions that occur using electronic capabilities, **e-commerce is a subset of an overall e-business strategy**.



- E-commerce seeks to add revenue streams using the World Wide Web or the Internet to build and enhance relationships with clients and partners and to improve efficiency using the Empty Vessel strategy.
- Often, e-commerce involves the application of knowledge management systems.

Types of e-Business transactions

Abbreviations:



Business to Business (B2B)

- Business transaction on the internet for trade and information exchange such as buying and selling of goods or services for business.
- Ex – website for steel trade by steel manufacturing companies.
- **Business-to-business (B2B)** describes commerce transactions between businesses, such as between a manufacturer and a wholesaler, or between a wholesaler and a retailer.
- The volume of B2B transactions is much higher than the volume of B2C transactions.
- The primary reason for this is that in a typical supply chain there will be many B2B transactions involving subcomponent or raw materials, and only one B2C transaction, specifically sale of the finished product to the end customer.
- For example, an automobile manufacturer makes several B2B transactions such as buying tires, glass for windcreens, and rubber hoses for its vehicles.
- The final transaction, a finished vehicle sold to the consumer, is a single (B2C) transaction.
- B2B is also used in the context of communication and collaboration.



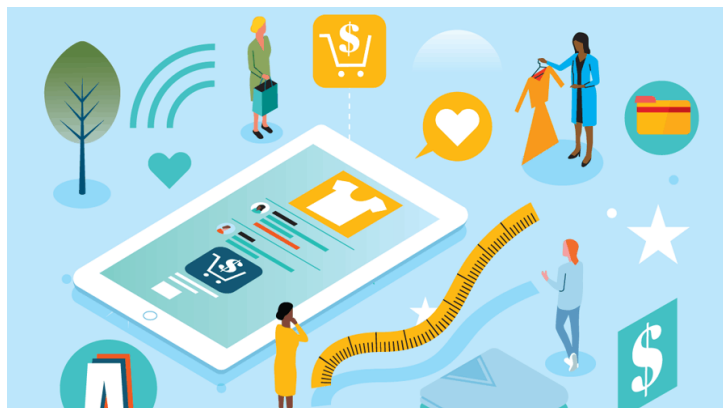
Business to Customer (B2C)

- Retail selling websites such as Amazon.com or any such website which offers products and services for retail consumers.
- Recently, “e-Tailing”, which is retailing on the web, is gaining more popularity across the world.
- Business-to-consumer (B2C, sometimes also called Business-to-Customer) describes activities of businesses serving end consumers with products and/or services.
- An example of a B2C transaction would be a person buying a pair of shoes from a retailer.
- The transactions that led to the shoes being available for purchase that is the purchase of the leather, laces, rubber, etc.
- As well as the sale of the shoe from the shoemaker to the retailer would be considered (B2B) transactions.
- While the term e-commerce refers to all online transactions, B2C stands for "business-to-consumer" and applies to any business or organization that sells its products or services to consumers over the Internet for its own use.
- When most people think of B2C e-commerce, they think of Amazon, the online bookseller that launched its site in 1995 and quickly took on the nation's major retailers.
- In addition to online retailers, B2C has grown to include services such as online banking, travel services, online auctions, health information and real estate sites. Peer-to-peer sites such as Craigslist also fall under the B2C category



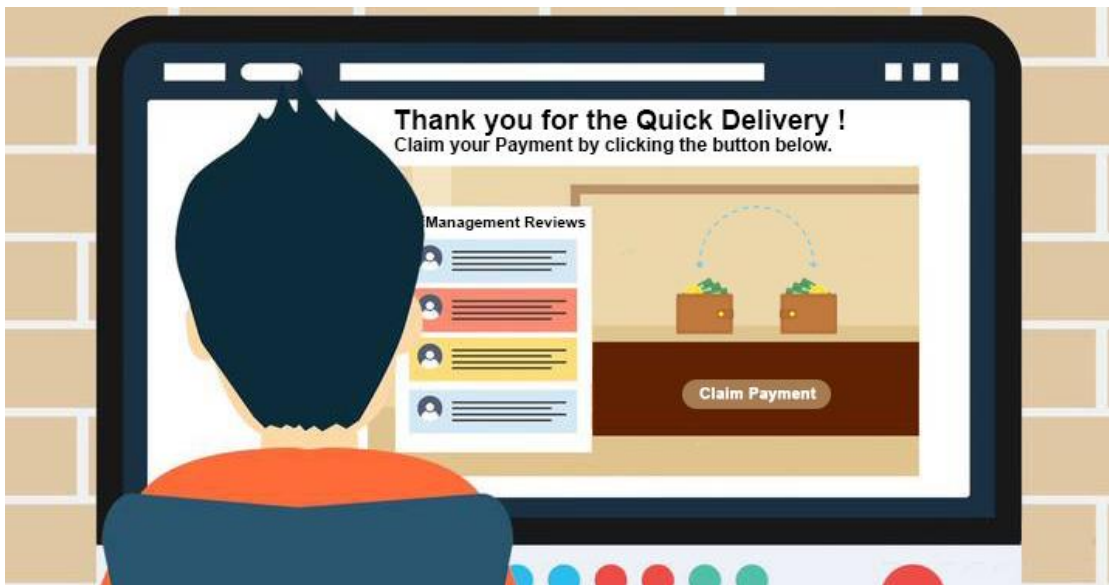
Customer to Customer (C2C)

- This includes websites allowing interaction, trade and information exchange between different individuals such as eBay.
- Of late, social and business networking websites are gaining tremendous popularity.
- A consumer who used a cell phone for a year will be selling via e-bay website and when another consumer buys it will perform C2C transaction.



Consumer to Business (C2B)

- Consumer-to-business (C2B) is an electronic commerce business model in which consumers (individuals) offer products and services to companies and the companies pay them.
- This business model is a complete reversal of traditional business model where companies offer goods and services to consumers (business-to-consumer = B2C).
- This kind of economic relationship is qualified as an inverted business type.
- Connecting a large group of people to a bidirectional network has made this sort of commercial relationship possible.
- The large traditional media outlets are one direction relationship whereas the internet is bidirectional one.
- Decreased cost of technology happens when Individuals have access to technologies that were once only available to large companies (digital printing and acquisition technology, high performance computer, powerful software)
- When an individual is designing a logo up on the request of a company and get paid by the company as an online transaction (e.g.: freelancer.com) can be category under C2B transaction.



Business to Employee (B2E)

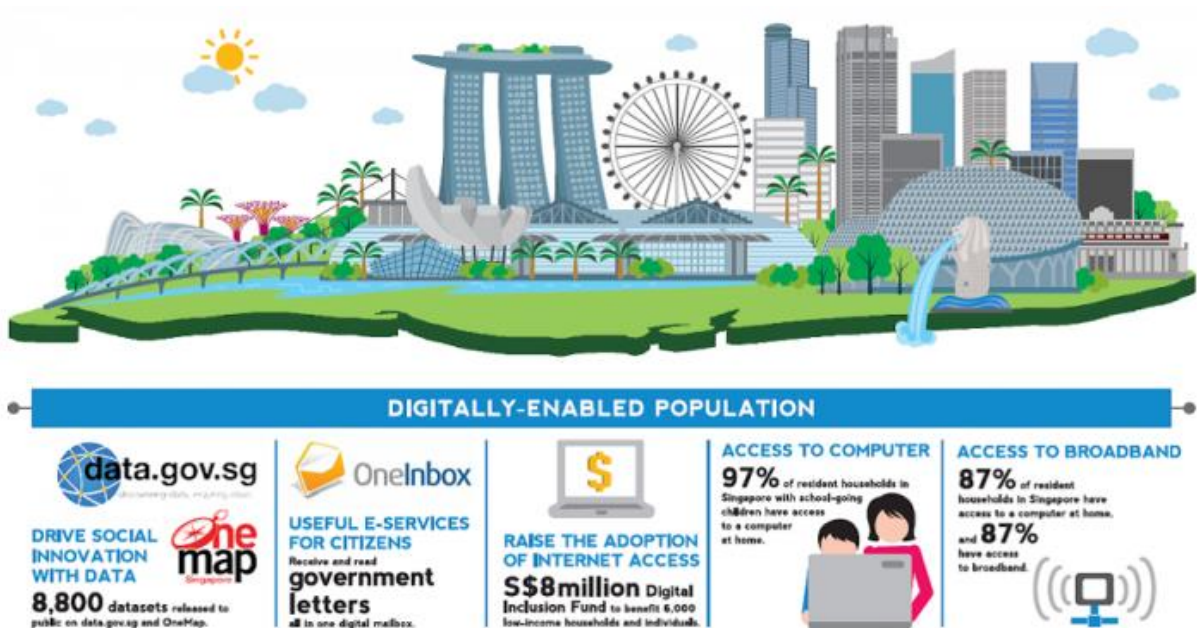
- Business-to-employee (B2E) electronic commerce uses an intra-business network which allows companies to provide products and/or services to their employees.
- Typically, companies use B2E networks to automate employee-related corporate processes.
- Examples of B2E applications include:
 - Online insurance policy management
 - Corporate announcement dissemination
 - Online supply requests



- Special employee offers
- Employee benefits reporting

Government to Consumer (G2C)

- Transactions where common public would be transacting with Government related organizations such as websites for Income Tax where people can file their annual income tax returns.
- Government-to-Citizen (abbreviated G2C) is the communication link between a government and private individuals or residents.
- Such G2C communication most often refers to that which takes place through Information Communication Technologies (or ICTs), but can also include direct mail and media campaigns.
- G2C can take place at the federal, state, and local levels.
- G2C stands in contrast to G2B, or Government-to-Business networks.



Electronic Business

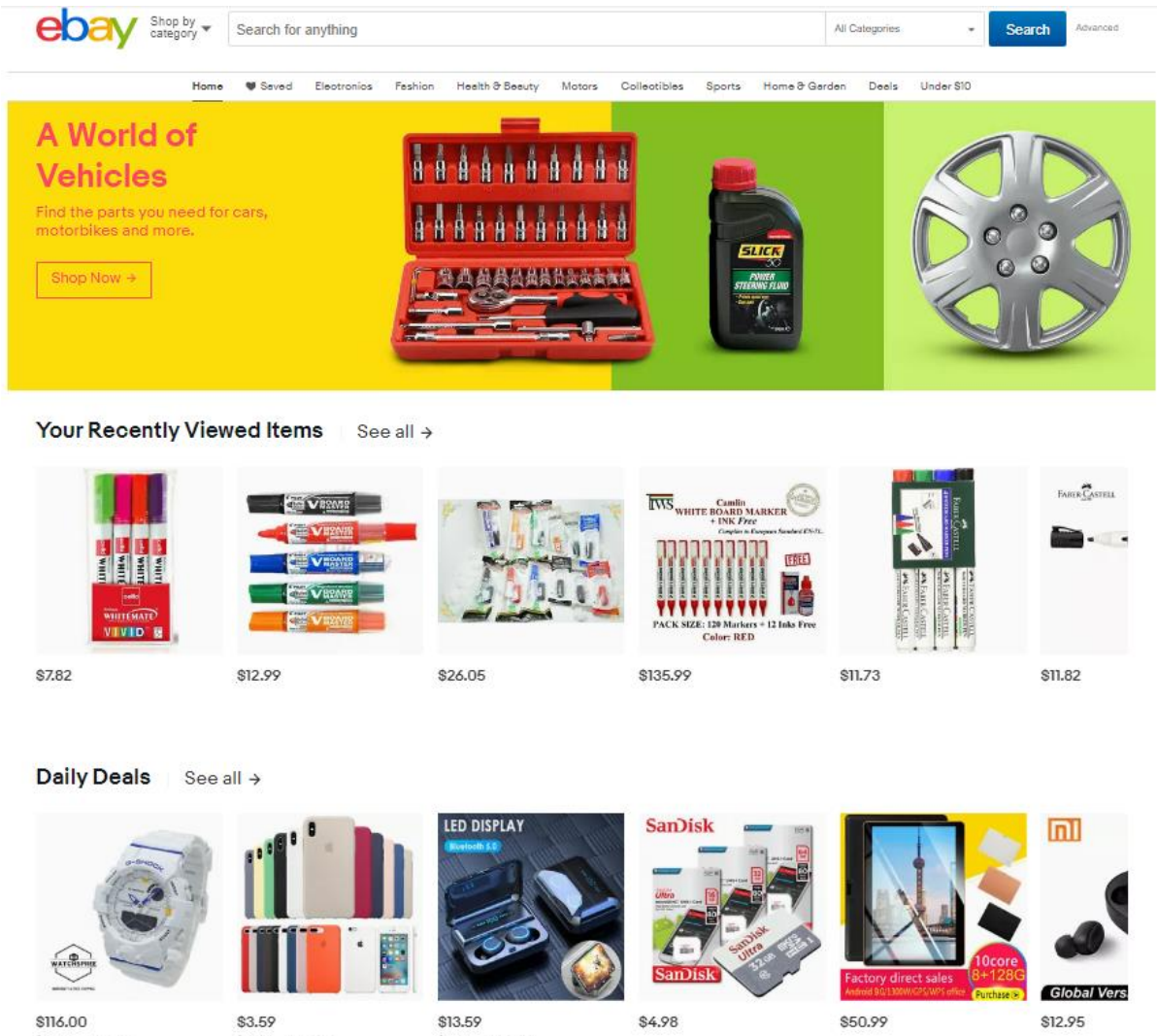
Information broker

- An **information broker** is a person or business that researches information for clients.
- Common uses for information brokers include market research and patent searches, but can include practically any type of information research.
- Examples: market research, patent research, online market



Virtual Storefront

- Form of interactive media/electronic marketing that allows customers to view and order merchandise on their computer screens.
- In a virtual storefront, customers can read about the history of the product, browse through product offerings, and place orders, all through the touch of the keyboard and mouse on their computers.
- Eg :- www.amazon.com , www.compudata.com , www.cdnw.com , www.ebay.com



Content provider

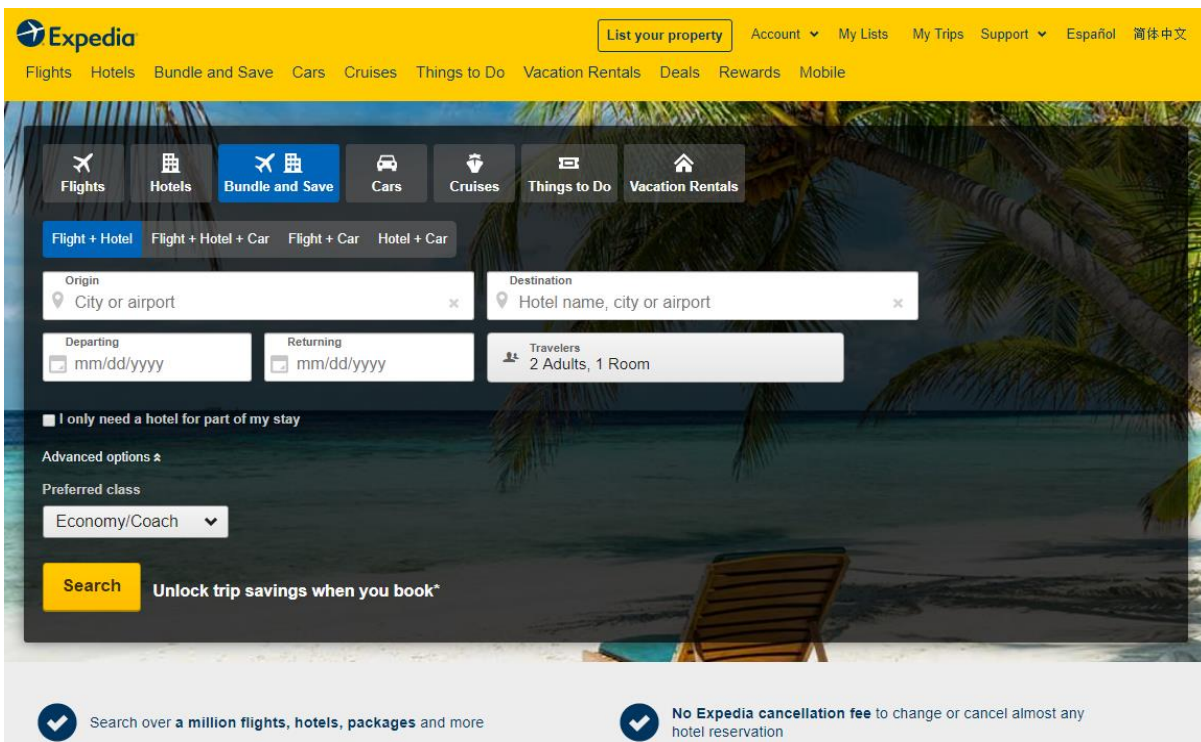
- Content providers are generally perceived to be Web sites that supply different types of online information—including news, entertainment, traffic reports, and job listings—that is regularly updated.
- The first content providers were entities such as America Online (AOL), which provided content to users for a subscription fee.
- More recently, however, many providers offer some or all of their information services free of charge.
- Unlike e-commerce sites, whose user traffic ideally generates sales, content providers tend to derive revenue from sources such as banner ads and other forms of advertising and syndication.

- Some content providers purchase and aggregate industry-specific information from sources such as Lexis-Nexis.
- Many news content providers, such as Dow Jones, Hoover's, and Lexis-Nexis, also furnish archival content for users.



Online service provider

- Companies identified as OSPs generally support an extensive of "online" services of their own besides the rest of the internet.
- Services coming from OSPs are based on ISPs.
- We have to make our PCs online through ISPs first, then we can enjoy the online services supported by OSPs.



- There are thousands of OSPs in the world to provide all kinds of online services to the customers.
 - GOOGLE and Yahoo providing the online searching services

- E-bay and Amazon providing online shopping, auction and E-business
- Expedia and Travel supporting online air ticket and hotel booking
- Craglist providing apartment renting and car transaction
- The OSPs already make the online service an important part of the Information technology industry.

Online marketplace

- An online marketplace (or online e-commerce marketplace) is a type of e-commerce site where product or service information is provided by multiple third parties, whereas transactions are processed by the marketplace operator.
- Online marketplaces are the primary type of multichannel ecommerce and can be a way to streamline the production process.
- In an online marketplace, consumer transactions are processed by the marketplace operator and then delivered and fulfilled by the participating retailers or wholesalers (often called drop shipping).

Portal

- A web portal, also known as a links page, presents information from diverse sources in a unified way.
- Apart from the standard search engine feature, web portals offer other services such as e-mail, news, stock prices, information, databases and entertainment.
- Portals provide a way for enterprises to provide a consistent look and feel with access control and procedures for multiple applications and databases, which otherwise would have been different entities altogether.



Virtual community

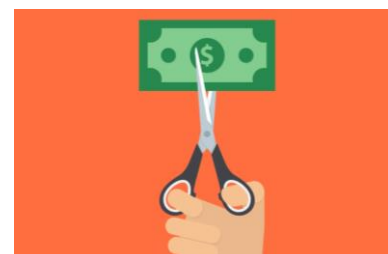
- A virtual community is a social network of individuals who interact through specific media, potentially crossing geographical and political boundaries in order to pursue mutual interests or goals.
- One of the most pervasive types of virtual community include social networking services, which consist of various online communities.



Advantages and Disadvantages of Electronic Business

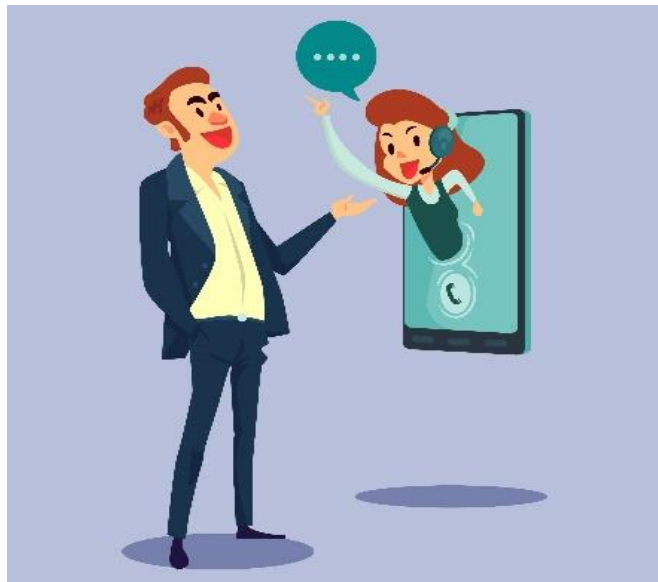
Advantages of E-Business

- Enables a business concern or individual to reach the global market. It caters to the demands of both the national and the international market, as your business activities are no longer restricted by geographical boundaries.
- With the help of electronic commerce, even small enterprises can access the global market for selling and purchasing products and services.
- Even time restrictions are nonexistent while conducting businesses, as e-commerce empowers one to execute business transactions 24 hours a day and even on holidays and weekends. This in turn significantly increases sales and profit.
- Gives the customers the opportunity to look for cheaper and quality products. With the help of e-commerce, consumers can easily research on a specific product and sometimes even find out the original manufacturer to purchase a product at a much cheaper price than that charged by the wholesaler.
- Shopping online is usually more convenient and time saving than conventional shopping. Besides these, people also come across reviews posted by other customers, about the products purchased from a particular e-commerce site, which can help make purchasing decisions.
- Significantly cuts down the cost associated with marketing, customer care, processing, and information storage and inventory management. It reduces the time period involved with business process re-engineering, customization of products



to meet the demand of particular customers, increasing productivity and customer care services.

- Reduces the burden of infrastructure to conduct businesses and thereby raises the amount of funds available for profitable investment.
- It also enables efficient customer care services. On the other hand, it collects and manages information related to customer behavior, which in turn helps develop and adopt an efficient marketing and promotional strategy.



Disadvantages of E-Business

- Internet has still not touched the lives of a great number of people, either due to the lack of knowledge or trust. A large number of people do not use the Internet for any kind of financial transaction. Some people simply refuse to trust the authenticity of completely impersonal business transactions, as in the case of e-commerce. Many people have reservations regarding the requirement to disclose personal and private information for security concerns. Many times, the legitimacy and authenticity of different e-commerce sites have also been questioned.



- It is not suitable for perishable commodities like food items.



People prefer to shop in the conventional way than to use e-commerce for purchasing food products. So e-commerce is not suitable for such business sectors. The time period required for delivering physical products can also be quite significant in case of e-commerce. A lot of phone calls and e-mails may be required till you get your desired products. However, returning the product and getting a refund can be even more troublesome and time consuming than purchasing, in case if you are not satisfied with a particular product.

- Substantial recourses are required to setup online business which requires computer upgrade, personnel trainings and website upgrade. This can be a disadvantage for some organization.

Concept of marketing

- In marketing, its very core are the customer and his or her satisfaction.
- The marketing concept and philosophy states that the organization should strive to satisfy its customers' wants and needs while meeting the organization's goals.
- In simple terms, "the customer is king".
- The implication of the marketing concept is very important for management.
- It is not something that the marketing department administers, nor is it the sole domain of the marketing department.
- Rather, it is adopted by the entire organization. Philosophy or way of doing business.
- The customers' needs, wants, and satisfaction should always be foremost in every manager and employees' mind. Wal-Mart's motto of "satisfaction guaranteed" is an example of the marketing concept. Whether the Wal-Mart employee is an accountant or a cashier, the customer is always first.



E-Marketing

- **Internet marketing**, also referred to as **i-marketing**, **web-marketing**, **online-marketing** or **e-Marketing**, is the marketing of products or services over the Internet.
- The Internet has brought media to a global audience.
- The interactive nature of Internet marketing in terms of providing instant responses and eliciting responses are the unique qualities of the medium.
- Internet marketing is sometimes considered to be broad in scope because it not only refers to marketing on the Internet, but also includes marketing done via e-mail and wireless media.
- Management of digital customer data and electronic customer relationship management (ECRM) systems are also often grouped together under internet marketing.
- Internet marketing ties together creative and technical aspects of the Internet, including: design, development, advertising, and sales.



Use of ICT in marketing

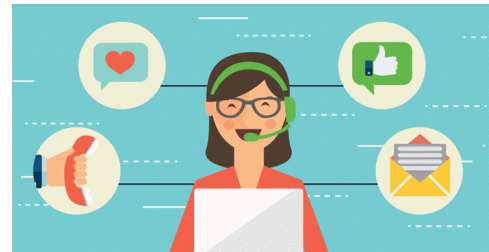
Online Advertising

- Online advertising is a form of promotion that uses the Internet and World Wide Web for the expressed purpose of delivering marketing messages to attract customers.
- Examples of online advertising include
 - contextual ads on search engine results pages
 - banner ads
 - Rich Media Ads
 - Social network advertising
 - online classified advertising
 - advertising networks
 - E-mail marketing including e-mail spam.
- One major benefit of online advertising is the immediate publishing of information and content that is not limited by geography or time.
- Another benefit is the efficiency of advertiser's investment.
- Online advertising allows for the customization of advertisements, including content and posted websites.
- For example, AdWords, Yahoo! Search Marketing and AdSense enable ads to be shown on relevant web pages or alongside search results of related keywords.



Tele-marketing

- Tele-marketing is often used by media companies, especially 'sales departments' to generate appointments with potential customers.
- Company Directory Software is used to identify decision makers within companies, capturing their details.
- Often electronic versions of customer database lists are purchased, allowing sales to contact potential customers directly.
- The objective being, to secure appointments that lead to orders.



Use of Own Website

- A noteworthy DVD production company has its own website.
- For example, Sonymusic.co.uk promotes new releases.
- Often a media company will produce a website, for a specific artist or their most recent album.
- Free downloads of tracks encourage the purchase of further tracks and promote live events.
- Video trailers are produced to encourage attendance at cinemas or the purchase of films / music.



Promotional Presentations

- Promotional Presentations such as; PowerPoint presentations, video presentations and animation software are used to promote DVD and CD products, usually new releases.
- Sony promote new music releases through YouTube, sonymusicSME's Channel.
- Videos promote singles and music from a range for bands and artists.
- Sony also promotes its music CDs through the Twitter website (twitter.com/SONYMUSICGLOBAL).



Reporting and Analysis

- Reporting and Analysis include the production of glossy brochures and catalogues.
- This is driven by Desk Top Publishing and Graphics software.
- All companies report annually to investors, often in the form of pamphlets and booklets, often available in electronic form.
- Accounting and spreadsheet software is used to keep accurate records of sales, manufacturing, advertising and distribution costs.



Database in Marketing

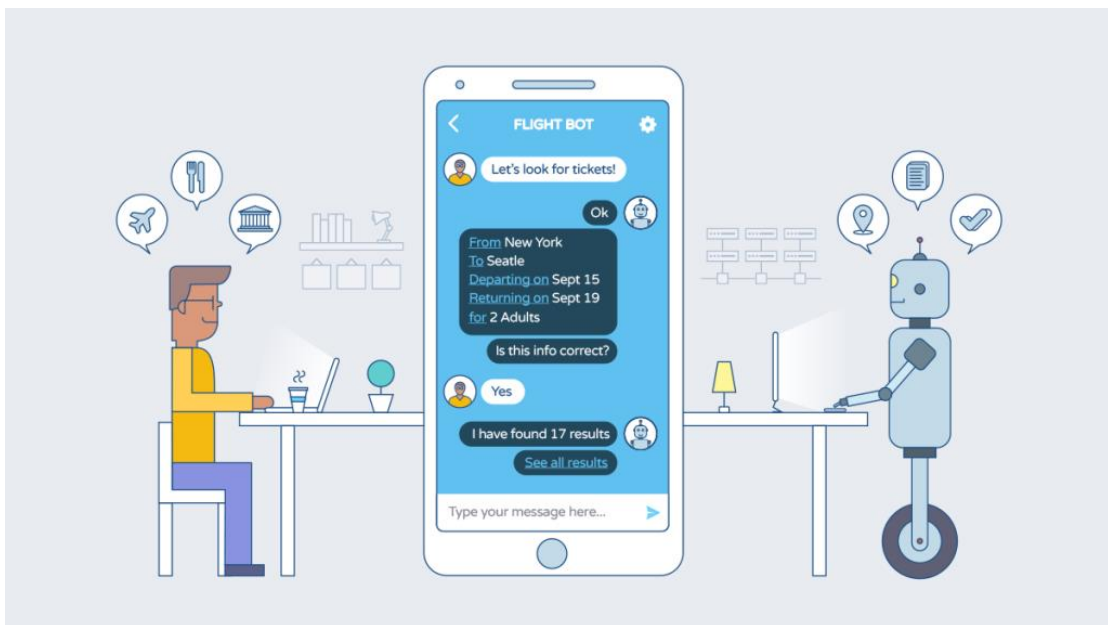
- Database marketing is a form of direct marketing using databases of customers or potential customers to generate personalized communications in order to promote a product or service for marketing purposes.
- The method of communication can be any addressable medium, as in direct marketing.
- The distinction between direct and database marketing stems primarily from the attention paid to the analysis of data.
- Database marketing emphasizes the use of statistical techniques to develop models of customer behavior, which are then used to select customers for communications.
- As a consequence, database marketers also tend to be heavy users of data warehouses, because having a greater amount of data about customers increases the likelihood that a more accurate model can be built.
- There are two main types of marketing databases,
 - Consumer databases
 - Business databases.



- Consumer databases are primarily geared towards companies that sell to consumers, often abbreviated as B2C.
- Business marketing databases are often much more advanced in the information that they can provide.

Predicting customer behavior with AI tools and techniques

- More than ever, companies are realizing the value of deploying AI-enabled systems for customer engagement.
- Coupled with predictive analytics and utilized effectively, AI tools like chatbots are proving to be instrumental in creating need-based contact with the customers.
- A chatbot is a software program which simulates a conversation between itself and human users.
- With chatbots a company's dependency on a human-to-human interaction reduces.



- **Ebay's chatbot** acts as a shopping assistant enquiring customers about what they want to buy and helping them with options. Bots are relieving customer care executives from the task of handling calls so that they can be smart problem solvers instead. No more would an executive have to greet a customer every time they call and ask their name and problem.
- A **chatbot will sit right on a messenger** in a customer's phone and intuitively know most things about them. For example, it will know that the customer just landed in a new country and may suggest places of interest or how to get a cab. The charm of chatbots for companies also lies in their all-pervasive nature.
- As chatbots live on messaging apps like Skype, Facebook messenger or WhatsApp, they are ever accessible to the customer. They constantly learn about customer preferences and their purchase patterns. Pretty much like a personal assistant, they know the customer's lifestyle and are able to advise them when asked.
- Customers are delighted to have a chatbot book hotels and flights for them, give them fashion tips, restaurants suggestions and order food online.
- AI makes it possible to anticipate customer needs. It helps sales teams to identify customer purchasing patterns pre-emptively.
- It assists customer care executives to provide relevant solutions.

- It also allows marketers to analyze data to identify high potential future customers basis past behavior.
- There are two main capabilities of AI which are the cause of all these breakthroughs – machine learning and natural language processing (NLP).
- Machine learning is the processing of large amounts of customer-related data allowing companies to learn about the customers in a pre-emptive manner and create solutions for them.
- Natural Language Processing is a system that allows human users to interact with the AI software like chatbots with their ability to process and interpret voice or text messages.
- Amazon’s personal assistant Alexa or Apple’s Siri are perfect examples of Natural Language Processing.
- This cognitive ability of artificial intelligence gives companies an edge when it comes to understanding customer needs.
- A Gartner report recently concluded that 55% of reputed companies were already investing in AI capabilities or planning to do so by the year 2020.
- AI helps companies across a plethora of domains like new product development, outbound marketing, customer support and etc.
- The above-mentioned trends are just a beginning of a revolution that is about to alter the customer marketer dynamics.



Gaining competitive advantages through IT

- A competitive advantage is an advantage over competitors gained by offering consumers greater value, either by means of lower prices or by providing greater benefits and service that justifies higher prices.
- Marketing professionals use computer technology to plan, manage and monitor campaigns.
- By analyzing and manipulating data on computers, they can increase the precision of marketing campaigns, personalize customer and prospect communications, and improve customer relationship management.
- Computer technology also makes it easier for marketing professionals to collaborate with colleagues, agencies and suppliers.



Mobile marketing

- Mobile marketing is a multi-channel, digital marketing strategy aimed at reaching a target audience on their smartphones, tablets, and/or other mobile devices, via websites, email, SMS and MMS, social media, and apps.
- Mobile is disrupting the way people engage with brands.
- Everything that can be done on a desktop computer is now available on a mobile device.
- From opening an email to visiting your website to reading your content, it's all accessible through a small mobile screen.
- Following are some interesting facts that encourage to have mobile marketing:
 - 80% of internet users own a smartphone.
 - Mobile platforms, such as smartphones and tablets, host up to 60% of digital media time for users in the U.S.
 - Google anticipated search queries on mobile devices to surpass desktop searches by the end of 2015.
- Effective mobile advertising means understanding your mobile audience, designing content with mobile platforms in mind, and making strategic use of SMS/MMS marketing and mobile apps.

