

Information Systems

Prepared by Dr. Amjad Qtaish

IT372
Information Systems

Lecture 05



Module 3: Business Information Systems



Dr. Amjad Qtaish

*Faculty of Informatics
Midocean University*

Chapter 8: Electronic and Mobile Commerce
Chapter 9: Enterprise Systems

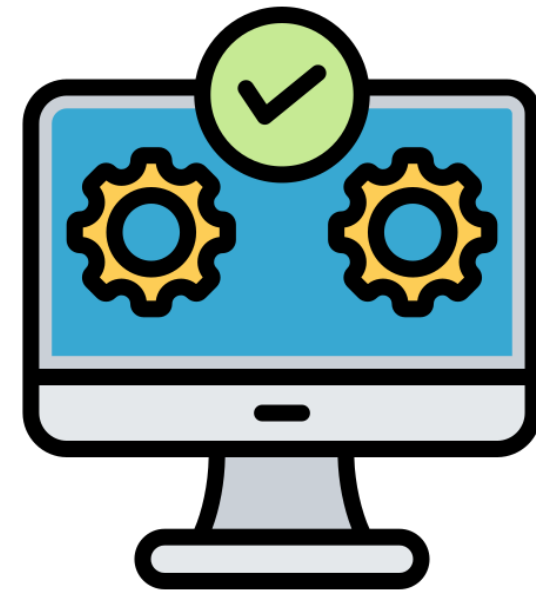


Information Systems (IT372)



Business Information Systems:

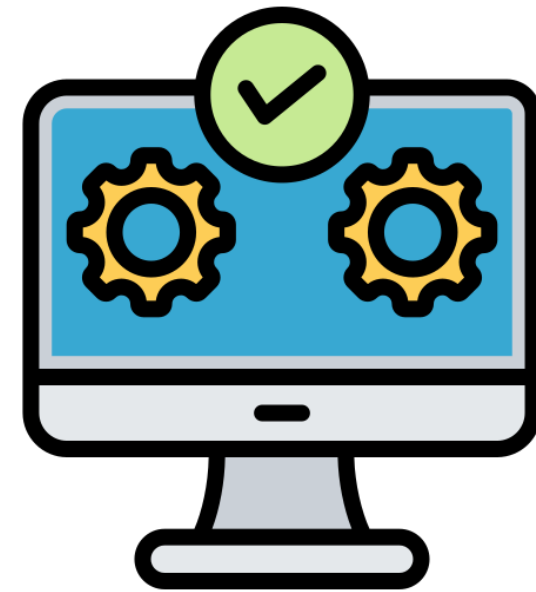
- E-commerce and its Features
- Types of e-commerce
- E-commerce Business Models
- M-commerce
- Enterprise Systems
- Advantages of ERP Systems
- Disadvantages of ERP Systems
- Customer Relationship Management Systems
- Business Value of CRM Systems
- Supply Chain Management Systems
- Case Study
- Summary





Business Information Systems:

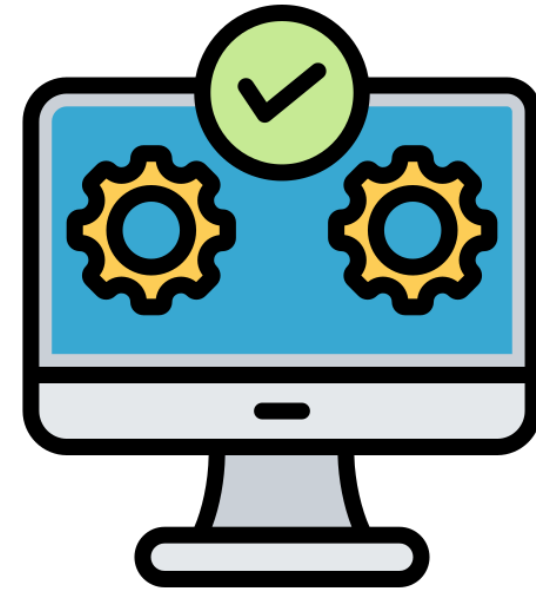
- Discuss what makes e-commerce popular and unique
- Discuss the types of e-commerce
- Identify the different e-commerce business models
- Identify the e-commerce revenue models
- Discuss m-commerce and its use
- Discuss web site creation as the tool for effective e-commerce





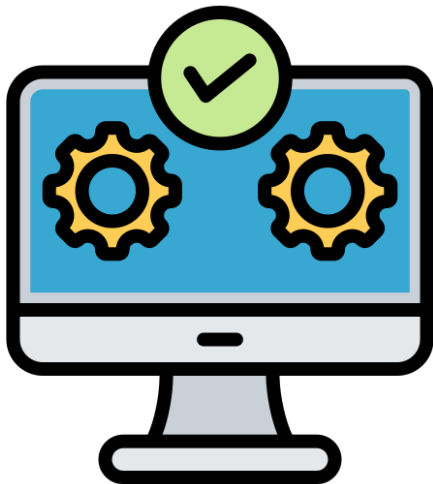
Business Information Systems:

- Discuss the advantages and disadvantages of enterprise systems
- Discuss Customer relationship management and its benefits
- Identify the different functionalities of CRM software
- Discuss the Supply Chain and its importance
- Identify the different functionalities of SCM software

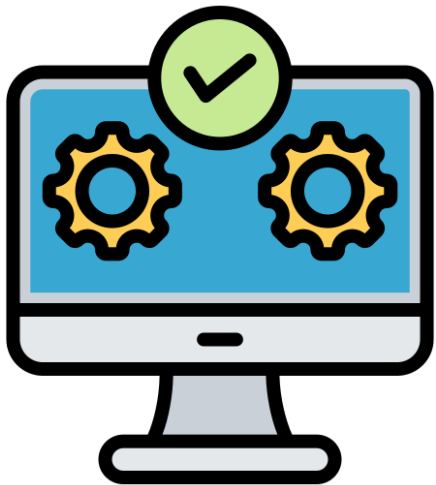




- **Use of the Internet and the Web to transact business**
 - Distribution, buying, selling, marketing, services



E-commerce Technology	Business Significance
Ubiquity: Internet/Web technology is available everywhere at work, at home, and elsewhere via mobile devices	'marketspace' anytime is created, shopping can take place anywhere. Customer convenience is enhanced and shopping costs are reduced
Global reach: the technology reaches across national boundaries, around the earth	Commerce is enabled across cultural and national boundaries seamlessly and without modifications
Universal standards: There is one set of technology standards, namely Internet standards	With one set of technical standards across the globe, disparate computer systems can easily communicate with one another



E-commerce Technology

Business Significance

Richness : Video, audio and text messages

Text , video, audio marketing messages are integrated into a single marketing message and consumer experience

Interactivity: the technology works through interaction with the user

Consumers are engaged in a dialog that dynamically adjusts the experience to the individual

Information Density: the technology reduces information costs and raises quality

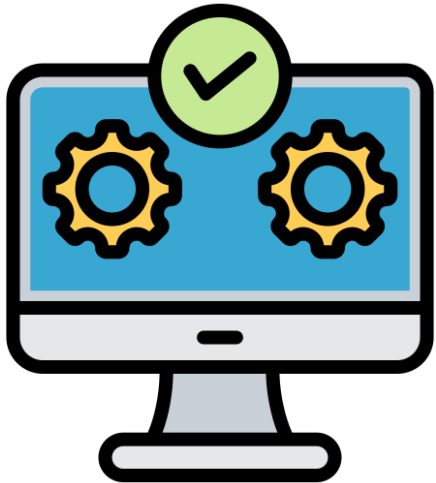
Information processing, storage and communication costs drop dramatically, whereas currency, accuracy and timeliness improves

Customization: this technology allows personalized messages to be delivered to individuals as well as groups

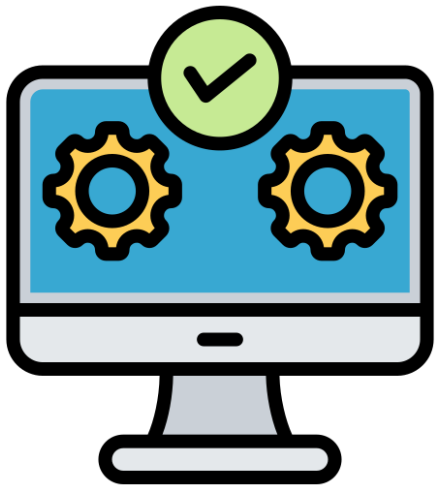
Personalization of marketing messages and customization of products and services are based on individual characteristics

Social technology: user content generation and social networking

New internet social and business models enable user content creation and distribution, and support social networks



- **Business to Consumer(B2C)**
 - Directly selling to consumers, producers or providers of consumer products
 - Good and services cheaper when purchased from the Web
 - Amazon, Dell
- **Business to Business(B2B)**
 - Useful tool for connecting business partners in a virtual supply chain
 - Many companies adopt online procurement
 - Automate exchange of info between two companies
- **Consumer to Consumer**
 - Consumers directly selling to consumers by auctioning
 - Most popular web site, eBay

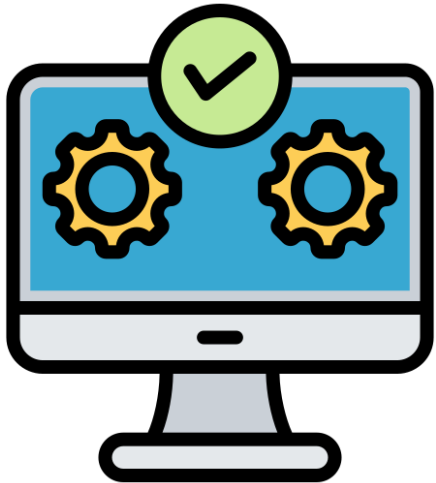


- **Portal**

- Google, Bing, Yahoo, MSN
- Provide integrated package of content and service
- Web searching, news reading, entertainment and advertising
- Generate revenues by charging advertisers, website referrals

- **E-tailer**

- Online retail stores (Amazon)
- Value proposition: convenient and cost effective shopping
- Some represent a physical retailer and some are completely virtual

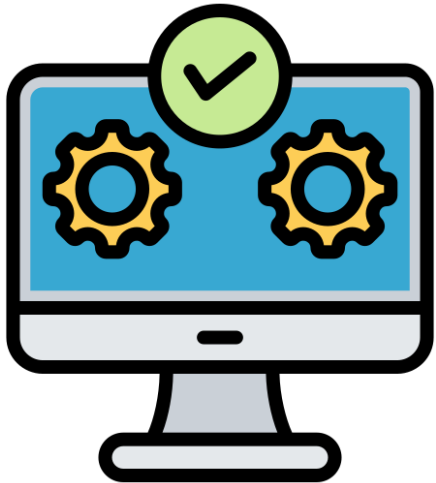


- **Content Provider**

- Includes Intellectual property, that is all forms of human expression that can be put into any tangible medium
 - Text, CD, DVD, Web
- Revenue generated by selling the content inexpensively to be played or viewed on computers/mobile devices

- **Service Provider**

- Offering services online
- Photo sharing, online sites for backup and data storage
- Software as a Service



- **Advertising Revenue Model**

- Revenue generated from the advertisers who pay to expose to customers to ads on major websites and portals

- **Sales Revenue Model**

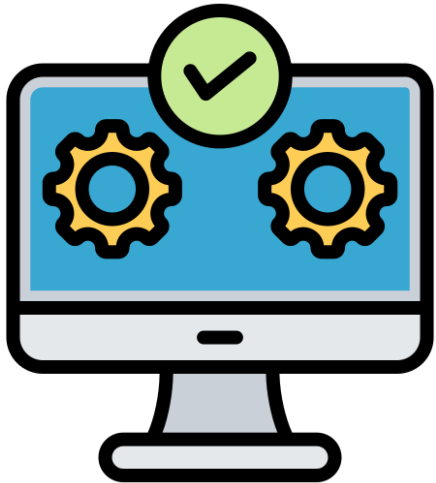
- Revenue generated by selling goods, information or services to customers, e.g. Amazon, iTunes

- **Subscription Revenue Model**

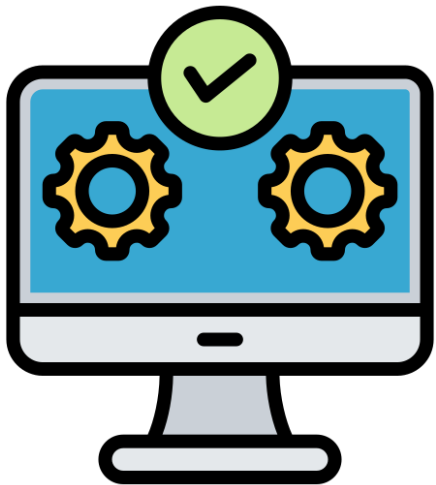
- Offering content or services while charging subscription on an ongoing basis, e.g. music magazines sites

- **Free Revenue Model**

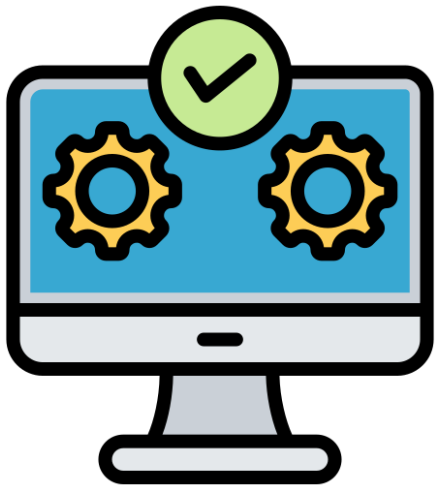
- Offer services or content for free, but charge a premium for advanced or special features, e.g. photo sharing, radio, games etc.



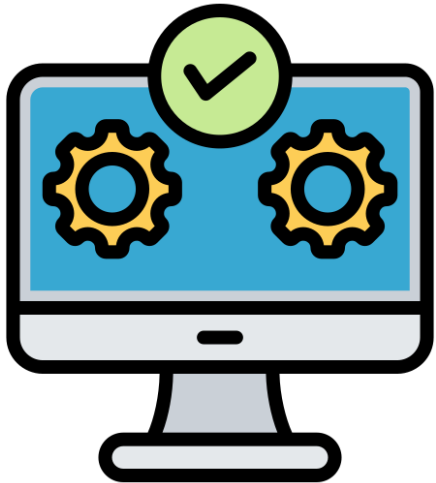
- **Business transactions with the help of mobile devices**
- **M-commerce fastest growing form of e-commerce**
 - In 2010, represented less than 10% of all e-commerce
- **M-commerce applications are time-critical, for people on move, and accomplish a certain task more efficiently**
 - Banking and financial services
 - Wireless advertising and retailing
 - Games and entertainment



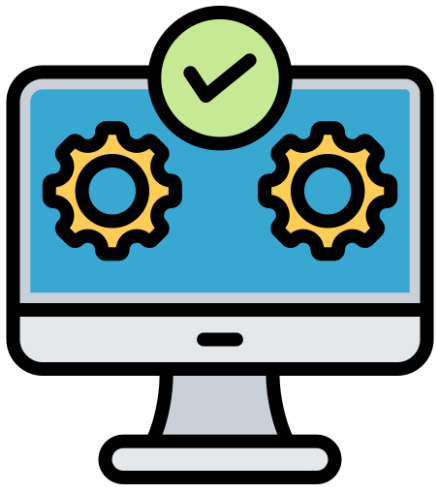
- **Building an effective Web site**
- **Define a team to build and maintain the site**
 - Site design, technologies used, hardware and software, what customers need
- **Business Objectives and Web site Functionality**
 - What tasks should the web site accomplish?
 - Develop technology and information requirements based on business objectives
 - Digital catalog, product database, customer tracking, shopping cart etc.
- **Establishing the Web site**
 - Building in house or outsourcing
 - Hosting on company servers or web host provider



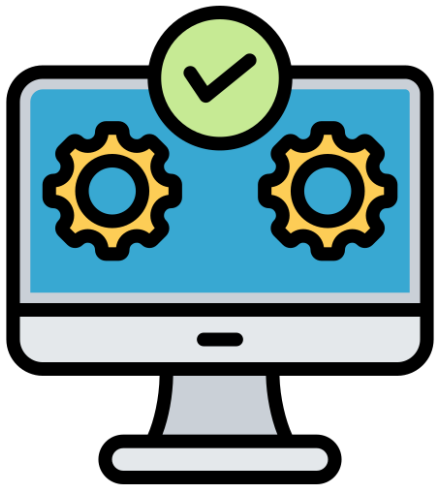
- **Building Traffic to the Web site**
 - Register a domain name that defines your business
 - Make the site search engine friendly by adhering to SEO techniques
 - Also deploy Web site traffic data analysis tools to monitor the traffic
- **Maintaining and Improving**
 - Updating software and hardware with time to keep pace with technology and increasing traffic
 - Be aware of new trends and developments in areas of e-commerce
 - Personalization is effective in keeping customers



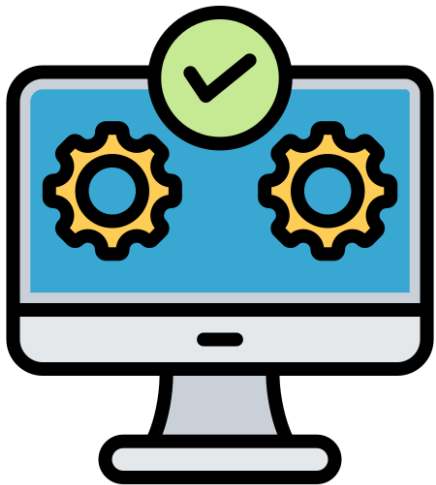
- **Central to an organization**
- **Ensures info can be shared across all business functions at all levels of management**
- **Enterprise resource planning (ERP) Systems**
 - Suit of integrated software modules and a common central database
 - Collect data from different depts. and large number of key business processes
 - Manufacturing & production, finance & accounting, sales & marketing, HR
 - Make data available for all organization
- **ERPs are based on thousands of predefined business processes**
- **SAP, Oracle, Microsoft**



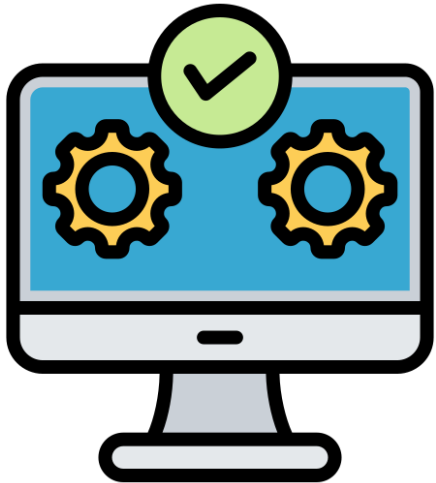
- **Improved access to data for operational decision making**
 - Use one set of data to support all business functions
 - Also facilitate operational decision making
- **Elimination of costly, inflexible legacy systems**
 - Eliminate hundreds of separate systems that are difficult to fix when broken and adapting them takes very long
- **Improvement of work processes**
 - Designed to support best practices
- **Upgrade of technology Infrastructure**
 - Company decides on one technology platform from one vendor
 - Reduces on-going and maintenance and support/training costs



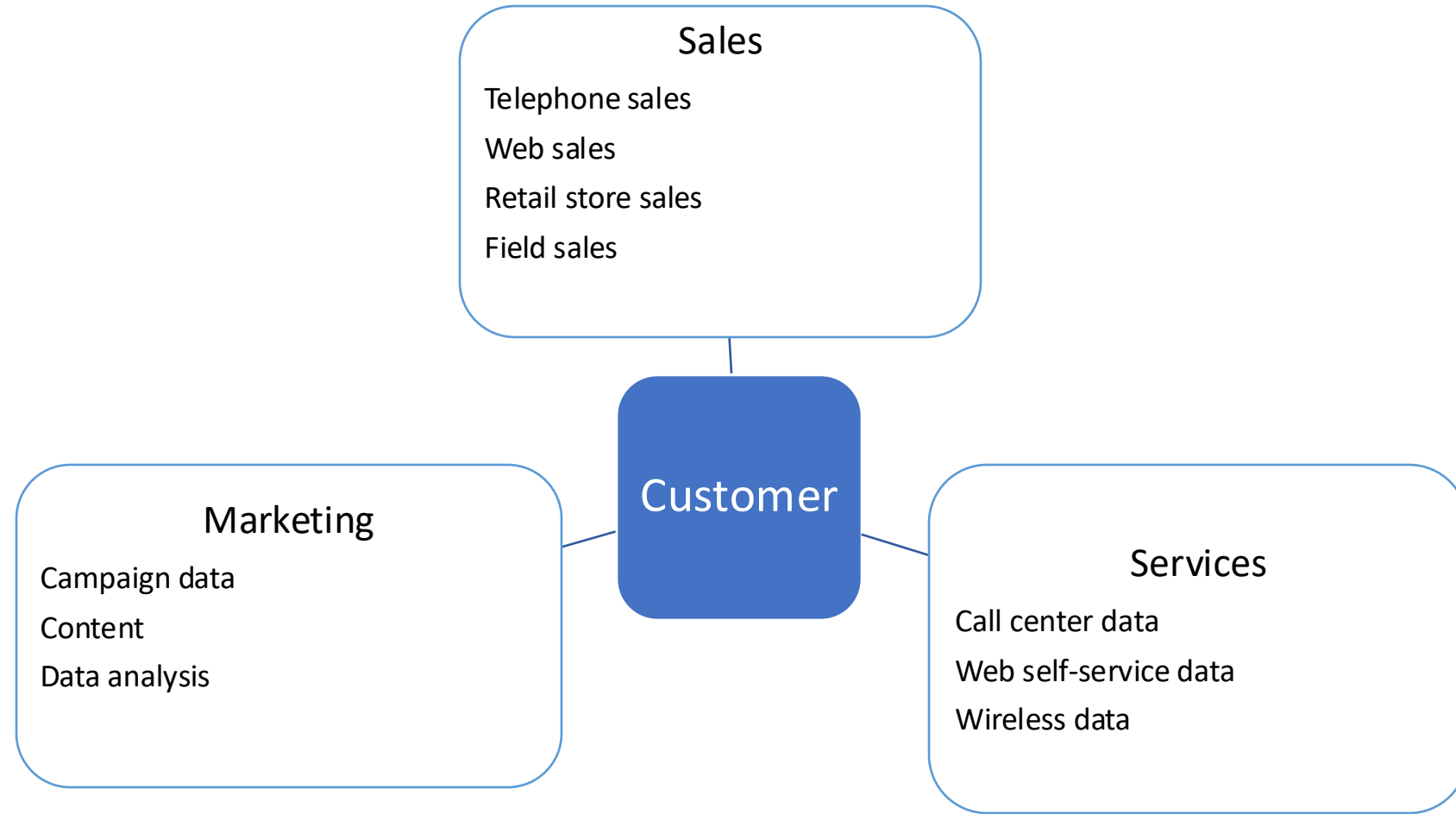
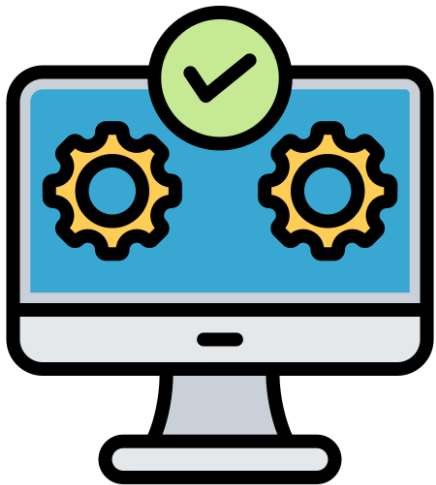
- **Expense and time in implementation**
 - 3-5 years and millions of dollars to implement ERP
- **Difficulty implementing change**
 - Companies have to radically change their business process to comply with the systems
 - Also employees need to adjust to their new roles
- **Difficulty integrating with other systems**
 - Companies have other systems that need to be integrated with the ERP systems
- **Risks in using one vendor**
 - Costly to switch vendors
 - Depend on vendor updating or going out of business

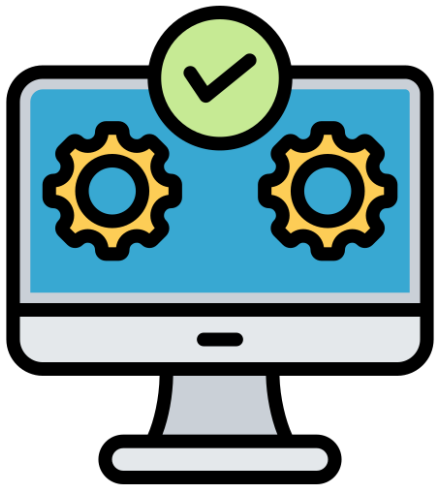


- **Risk of implementation failure**
 - Requires resources and lots of management support
 - Many companies implemented systems without proper preparation or failed to synchronize properly
- **Organization-wide definitions of data**
 - Understand how business use data and how will it be organized
 - Requires data cleansing



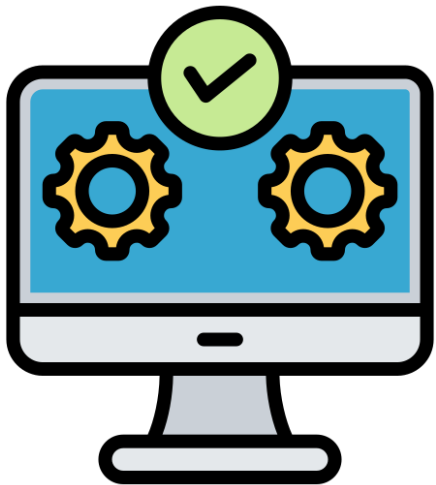
- **Customer Relationship Management**
 - manage all aspects of customer encounters, including marketing advertising, sales and customer service
- **CRM Systems**
 - Capture and integrate customer data from all over org
 - Consolidate the data
 - Analyse the data
 - Distribute results to various systems and customer 'touch points'
- **Benefits**
 - Improved customer satisfaction
 - Increased customer retention
 - Reduced operating costs
 - Ability to meet customer demands





- **CRM software Functionality**

- Automates and integrates the functions of sales, marketing, and service
- Information can be accessed to
 - Match customer needs to product plans and offerings
 - Remind them of service requirements
 - Know what other products they have purchased
- Consists of tools that perform functions such as
 - Personalizing websites for specific customers
 - Capture interactions with customers
 - Analysing with sophisticated reporting tools
 - Link to other enterprise systems
- Business-process driven, conform to best practices



- **Sales Force Automation**

- Help sales staff increase productivity
- Provide contact info, product info, product configuration capabilities, sales quote generation capabilities
- Reduces cost of acquiring new customers and retaining old
- Sales forecasting, territory management

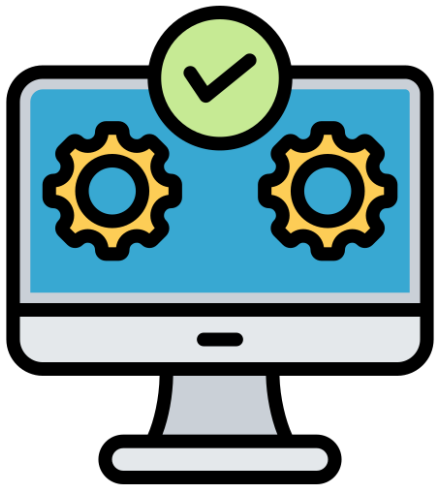
- **Customer Services**

- Info and tools to increase efficiency of call centers, help desk
- Assigning and managing customer service requests
- Higher quality of service in lower cost
- Web-based self service capabilities



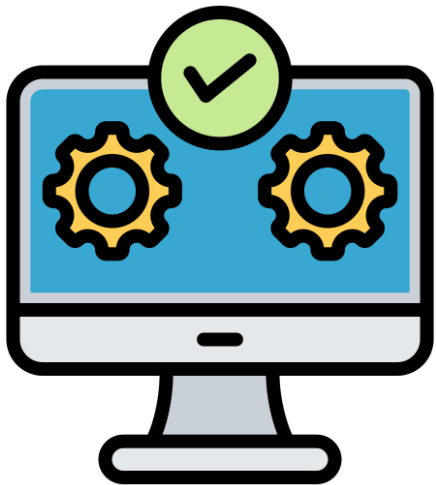
- **Marketing**

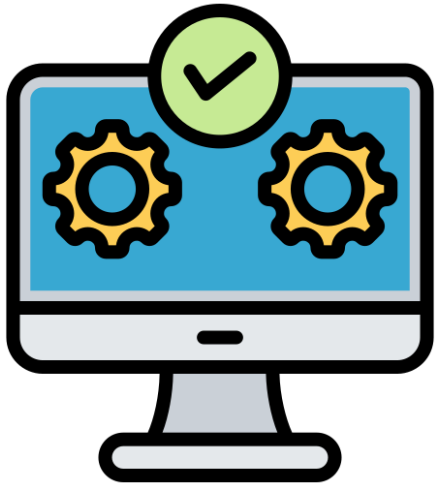
- Direct-marketing campaign
- Product and service info for targeted marketing
- Scheduling and tracking direct-marketing mailing & email
- Identifies opportunities of cross-selling - marketing of complementary products to customers



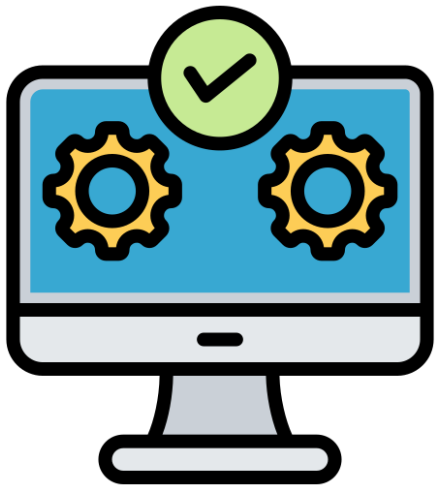


- Operational CRM
- Analytical CRM





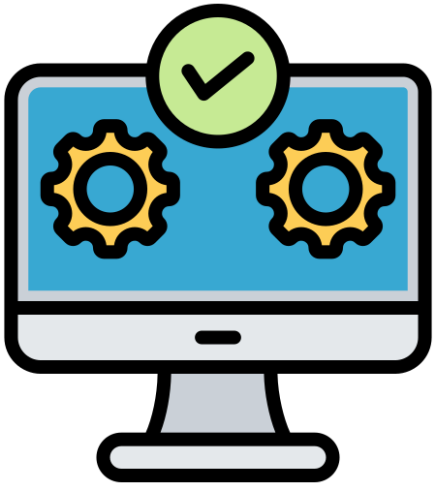
- More effective marketing
- Lower cost customer acquisition and retention
- Info from CRM increases sales revenue
 - Profitable customers
 - Segments for focused marketing and cross selling
- Reduces churn

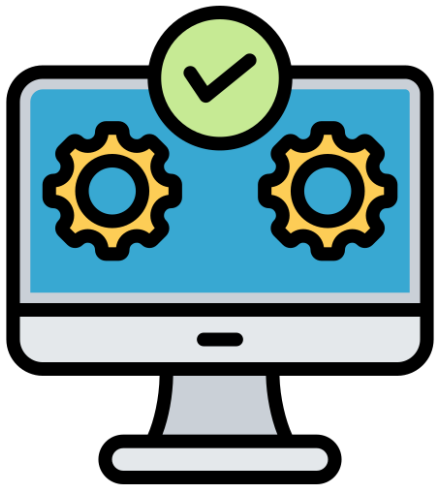


- To manage supply chain complexity and scale
- Supply Chain
 - Network of organizations and business processes for procuring raw materials into intermediate and finished products
 - And distributing them to customers
 - Suppliers <-> manufacturing plants <-> distribution centers <-> retail outlets <-> customers
 - E.g. Nike
 - Designs, markets and sells sneakers , socks , sports wear
 - Contract manufacturers have their own suppliers
 - **Upstream**: companies suppliers and their suppliers
 - **Down stream**: organization and processes for distributing and delivering products



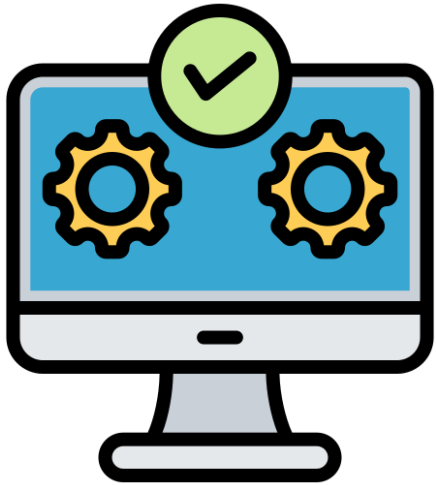
- **Nike's Supply Chain**



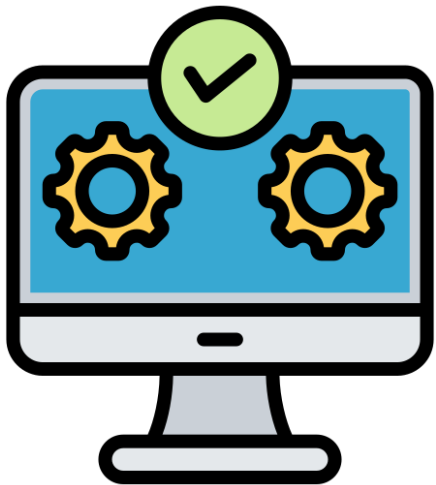


- **Problems in supply chain management**

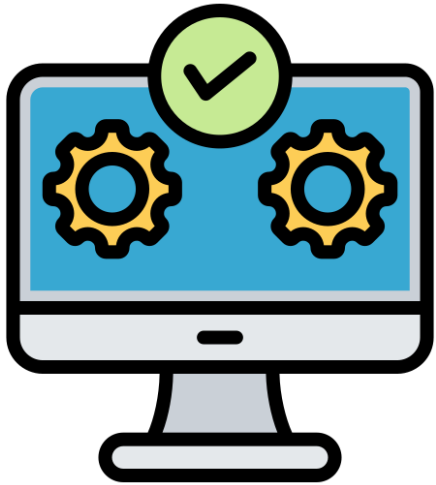
- In accurate or untimely information causes various problems
- Parts shortage, underutilized plants, high transportation costs
- Cannot at times apply 'just-in-time strategy' that is components arriving when needed
- Uncertainties also arise, such as uncertain product demand
- Bullwhip effect: information about the demand gets distorted as it passes from one entity to another across the supply chain



- **Information Systems help supply chain management by:**
 - Deciding when and what to produce, store and move
 - Rapidly communicate orders
 - Track the status of orders
 - Check inventory availability and monitor inventory levels
 - Reduce inventory, transportation and warehousing costs
 - Track shipments
 - Plan production based on customer demand
 - Rapidly communicate changes in product design

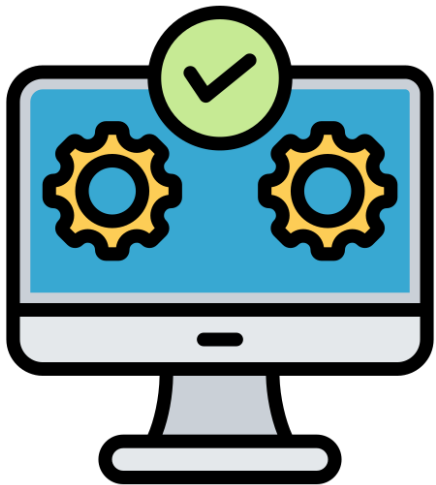


- **Supply Chain Planning Systems**
 - Help companies make better decisions about:
 - How much of a specific product to develop
 - Establishing inventory levels of raw materials, parts and finished goods
 - Determining where to store finished goods
 - Identifying the transportation for product delivery
- **Demand planning:** important and complex supply chain planning function
 - Determines how much product a business needs for satisfy all customers
- Vendors include: i2 technologies
- Also enterprise software vendors have the supply chain module

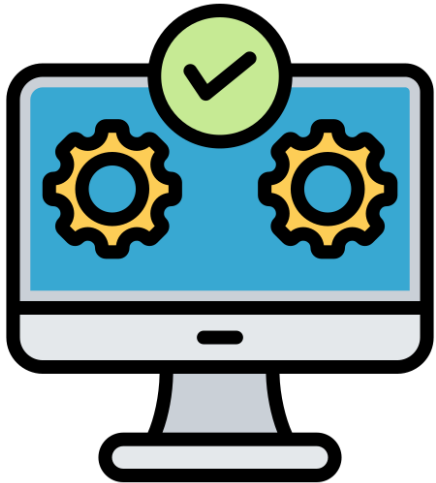


- **Supply Chain Execution Systems**

- Manage flow of products from distribution centers to retailers in efficient manner
- Track the physical status of goods
- Management of materials, warehouses, and transportation operations
- Also managing financial info regarding all parties
- E.g. Haworth's Warehouse Management System (WMS)
 - Tracks flow of goods
 - Acts on shipping plans
 - Directs movements of goods



- **Southwest Airlines takes off with better Supply Chain Management**
- **Company: Southwest Airlines**
 - Low fare, high frequency, point-to point airline
 - Founded in 1971, now 500 aircrafts
 - Plus point: best customer service, with low cost fares
- **Problem:**
 - Company expanded, and thus legacy IS outdated
 - Lack of information visibility
 - Response time for mechanical problems and parts fulfilment was slow
 - However, repairing aircraft was crucial for getting passengers from one location to another
 - Grounding airplanes is costly

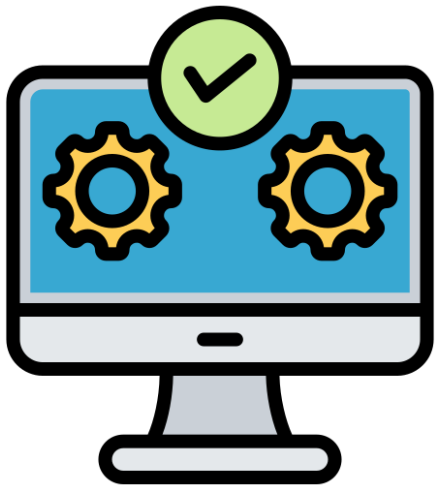


- **Inventory management solution**

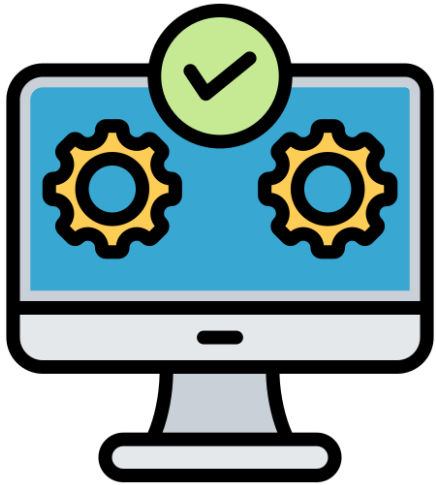
- I2 demand planner
- Forecasts and better visibility
- I2 service parts planner
- Right parts in the right location at the right time
- I2 service budget optimizer
- Analyses historical data of parts usage to forecast future usage

- **Benefits**

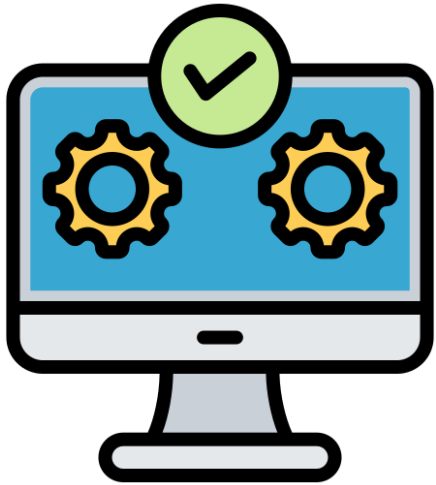
- Clear and unobstructed view of all data up and down the supply chain
- Ensure maintenance teams can quickly repair the aircrafts
- Increased speed and intelligence of decision making
- Increased service levels



- **Why parts inventory important**
 - Goal: providing best customer service and transporting passengers from one place to another with minimal delay
 - Grounded aircrafts and repairing delays because of parts problems would effect that goal
- **Technology factor**
 - Legacy systems lacked information visibility
 - Information about parts was difficult to acquire
- **I2software**
 - With its 3 modules: demand planner, service parts planner and service budget optimizer



- E-commerce is unique and popular because of its distinguishing features, because of the Internet
- There are different business models and revenue models concerning e-commerce
- M-commerce is effective with time-critical and 'on the move' applications
- Building an effective web site is the key to doing effective e-commerce



- Enterprise systems help organizations achieve operational Excellency by centralization, enforcing uniform standards, and unified technology platforms.
- However, implementation requires time and planning
- CRM systems help firms achieve customer intimacy because they integrate and automate customer facing processes in sales, marketing and customer services providing enterprise wide view of customers.
- SCM systems coordinate planning, manufacturing and distribution with suppliers by automating information floe through all members of the supply chain.



Thank You