## E- Commerce

**Topic covered**: E -Commerce, Types of E commerce, Inter organizational E-commerce, Intra organizational E- commerce , Forces affecting E-commerce

## UNIT -1

## Q1.  Define  E - Commerce with its aim and frame work and basic concept of E- Commerce.

**E-commerce (electronic commerce)** is the activity of electronically selling or buying of products and services on online over the Internet. Electronic commerce draws on technologies such as mobile commerce, electronic funds transfer, supply chain management ,online transaction processing, Electronic Data Interchange (EDI),  automated data collection systems and inventory management .

Modern electronic commerce typically uses the World Wide Web for at least one part of the transaction's life cycle besides it also uses other technologies such as e-mail. Typical e-commerce transactions include the purchase of online products(such as Amazon) and music purchases (music download in the form of digital distribution such as( iTunes Store), and to a less extent, customized or personalized online liquor store inventory services and many more

There are three areas of e-commerce: online retailing, electronic markets, and online auctions. E-commerce is supported by electronic business.

**E-commerce businesses may also employ some or all of the followings:**

- Online shopping for retail sales directly  to consumers using  Web sites and mobile apps, and conversational commerce through live chat, chat bots, and voice assistants

- Providing or participating in online marketplaces, which process business-to-consumer (B2C) or consumer-to-consumer (C2C) sales

- Collecting and using Accurate  data through web contacts and social media

- Marketing to prospective and established customers by e-mail or fax (for example, with newsletters)

- Online financial exchanges for currency exchanges or trading purposes

- Business-to-business (B2B) buying and selling;

- Business-to-business (B2B)  electronically data interchange

## Types of E-Commerce Models

Electronic commerce can be divided  into four main types. The basis for this simple classification is the parties that are involved in the transactions. So the four basic electronic commerce models are as follows,

### 1. Business to Business

This is Business to Business transactions. Here the companies are doing business with each other. The final costumer is not involved. So the online transactions only involve the retailers , manufactures  and wholesalers etc.

### 2. Business to Consumer

Business  to Consumer. Here the company will sell their goods and/or services directly to the consumer. The consumer can browse their websites and look at products, pictures, read reviews. Then they place their order and the company ships the goods directly to them. Popular examples are

Amazon, jabong and flipkart etc.

## 3. Consumer to Consumer

Consumer  to consumer, where the consumers are in direct contact with each other. No company is involved. It helps people sell their personal goods and assets directly to an interested party. Usually, goods traded are cars, bikes, electronics etc. OLX, Quikr etc follow this model.

## 4. Consumer to Business

This is the reverse of B2C, it is a consumer to business. So the consumer provides a good or some service to the <u>company</u>. Say for example an IT freelancer who demos and sells his software to a company. This would be a C2B transaction

## Examples of E-Commerce

- Amazon

- eBay

- Jabong

- Olx

- Quikr

- Flipkart

## Advantages of E-Commerce.

- Electronic commerce  reduces the transaction cost. It eliminates many fixed costs of maintaining brick and mortar shops. This allows the companies to enjoy a much maximum margin of profit.

- It provides quick delivery of goods with very little effort on part of the customer .Consumer complaints are also addressed quickly. It also saves time, energy and effort for both the consumers and the company.

- One other great advantage is the convenience it offers. A customer can shop 24×7. The website is functional at all times, it does not have working hours like a shop.

- Electronic commerce also allows the customer and the business to be in contact directly, without any other distribution channels. This allows for fast interactions

- E-commerce provides the sellers with a global reach. They remove the barrier of place. And then sellers and buyers can meet in the diverse world, without the hindrance of location transactions. It also gives a valuable personal touch.

## Disadvantages of E-Commerce

- The start-up costs of the e-commerce portal are very high. The setup of the hardware and the software, the training cost of employees, the constant maintenance and upkeep are all quite expensive.

- Although it may seem like a sure thing, the e-commerce  companies  has a high risk of failure. Many companies riding the dot-com wave of the 2000s have failed miserably. The high risk of failure remains even today.

- At times, e-commerce can feel impersonal. So it lacks the warmth of an interpersonal relationship which is important for many brands and products. This lack of a personal touch can be a disadvantage for many types of services and products like interior designing or the jewelry business.

- Security is another area of concern. Only recently, we have witnessed many security breaches where the information of the customers was stolen. Credit card theft, identity theft etc. remain big concerns with the customers.

- Then there are also fulfillment problems. Even after the order is placed there can be problems with shipping, delivery, mix-ups etc. This leaves the customers unhappy and dissatisfied.

## Inter Organizational  E- Commerce

Inter-organizational Transaction e-commerce refers to the range  of e-commerce that can occur between two organizations. It is the e-commerce between businesses i.e. the businesses focus on selling to other businesses in the B2B e-commerce.

It includes companies doing business with one-another with a goal to save money on purchases that can be negotiated easily. Companies are now mutually buying and selling products and services on the internet.

Inter-organizational e-commerce many reduce the transaction costs, increase the availability of products and suppliers and reduce dependencies on a few trading partners and products.

Moreover, they offer many secondary services towards integrating purchasing, distribution, and inventory processes, streamlining the entire transaction process. Thus, it allows for better inventory

management, quality control, and supply chain processes.

Business organizations are constantly buying and selling goods and services. Shops buy products in bulk from their suppliers and sell those goods in small quantities to their customers.

Manufactures buy raw material or components from their suppliers, assemble them into new products and sell them to their customers.

Retailers make a great number of transactions and the whole operation of their business is dependent on their effective execution.

Other business service sector organizations such as accountants may be less dependent on a constant flow of goods but they still need supplies and they are careful to account for the transactions with their transactions.

## Intra Organizational E- Commerce

When e-commerce transaction does not involve multiple organization, then, it is termed as **Intra-organizational e-commerce.**

Or

It  is emerging field which facilitates information collection and transfer within organization for a speed redress of grievances of common man.

**Advantages**:

1. Enhancing communication ability among employees of department ensuring easy  decision making.

2. Tends to reduce record maintenance by eliminating the traditional  way

of record keeping.

3. In government departments collection of information is a prime concern by storing information in digital formats it provides efficient way of sharing information and expertise idea.

4 Increases customer satisfaction as whole information is available at a click of a mouse without visiting office premises.

Intra-Organizational in commerce: is visualized under such sites as Online Shopping for Electronics, Apparel, Computers, Books, DVDs & more and E-bay. A simple site from the buyers prospective is a store front to purchase products and services.

From a business stand point you looking at various industry and business applications forces to collaborate in synchronization.

1) Management Function

2) Mobile Functions

3) IT functions

4) Business Function

5) Outsource Vendors functions.

## Forces Affecting E – Commerce

When running an ecommerce store you have to worry about the user experience above all else. What effects user experience can range from your return policy to your level of customer service – even your social media reputation can affect your sales, repeat purchases and more!

Given the analytics component of our platform, we have access to a large library of data from ecommerce sites of various types around the world. Therefore we decided to dig into our database to see what really makes customers tick. By that, we mean what can turn them away from making a purchase and what factors affect the final purchase decision.

**Let's take a look at 9 factors that can impact your ecommerce store sales**

From these points we come to know about various points which shows us about the weak point of company that why they are not growing so rapidly in this dynamic world and hence to cover them and to improve the techniques

## 1.Competitive Pricing

It means when doing electronic commerce a company must keep in mind about their competitive price so as to make it convinent for the customers to buy their product .  China's influence of cheap products has made consumers attractive on searching for the lowest cost with the best product quality. This extends into specific product pricing as well, a 65" Sharp AQUOS Smart TV may be $1,200 at one store, but that same TV could be $200 cheaper at another. Consumers will dedicate *hours upon hours* to grab  up the best deal. While 10% markup on a product sounds good in theory, it is important for ecommerce store owners to benchmark their pricing across several competitors to make sure they are competitive on pricing and not falling behind.

## 2. Product Quality

Just as important as price is product quality. In some cases, this may be out of your control, but if you make or manufacture your own products, this is an important factor to take into account. If you're wondering how much of a role perceived product quality means to consumers, take this into consideration. Up to 57% of people are less likely to purchase products that carry the Made in China stamp. This is because consumers perceive that

the manufacturer chose a quick and inexpensive route when creating their product and feel that it's likely of a lower quality than other similar products may be.

The manufacturing stamp is only a part of what makes up product quality (or perceived quality.) Off-site or on-site reviews around product's use or functionality also have a factor. If a product has unexpected quirks that cause it to be a hassle to use or inefficient, you can expect customers won't buy it. Be conscious of what consumers are writing about your product.

## 3. Shipping Time & Cost

When you think of 'fast shipping' what's the first ecommerce retailer you think of?? Amazon has become the retailer of choice for many shoppers because of their fast shipping and extensive product offerings. The company has revolutionized the world of e-commerce by being able to offer same day shipping in many major cities and 2 day or same week shipping on *most* products.

There are many stores that keep it simple with a single shipping option to allow for flat rate pricing or so that they can offer free shipping. The incessant need for things to be done yesterday has been ingrained into the modern lifestyle and it shows when you look at the volume stores do when they offer fast delivery. To sweeten the deal, add well-priced shipping options *on top* of fast delivery.

While it would be hard to offer Amazon shipping speed and pricing, it's encouraged to offer faster shipping options for those willing to pay for the convenience. Even better, offer a lower-price or free shipping when a customer spends more than a certain amount.

## 4. Online Reviews

Product ratings are an integral factor in the decision to purchase. A whopping 40% of customers say they wouldn't purchase technology products without first reading online reviews. That being said, the amount of research a customer puts in varies based on the price, location and many other factors. This means that having a wealth of reviews to read is important. Even if a product has negative reviews, it can increase sales in comparison to a product with no reviews..

## 5. Easy Return Policy

Even with ecommerce becoming more and more popular, there are still very few sites with a well laid out refund policy. Many bury their refund policy or make it confusing to understand which can mean many lost sales and many unhappy customers.

The more transparent you are about refunds, the easier it will be to deal with customers when they want a refund. If you don't accept refunds be upfront and clear.  However, even a very time limited refund policy is better than nothing. If you truly back the quality and satisfaction of your product, people will be more likely to purchase from you, especially given a simple and well-crafted refund policy (like the above).

## 6. Loyalty Rewards

Many customers focus their sights on the lowest price, which makes generating sales more and more challenging. Building loyalty is the best option for generating sales as it can take up to 7 new customers to generate the same amount of revenue as a single repeat customer. Rewarding your customer for making a purchase is what can set you apart from all of the other retailers. Much like many opt to fly with certain airlines because they want to accumulate points, the goal is to have customers purchasing from you so that they can redeem their rewards down the road.

## 7. Easy Navigation

An easy to navigate ecommerce store sounds like a simple feat until you learn companies spend millions of dollars per year to hire data scientists to optimize their navigation and even the best placement for a learn more button! This of course doesn't mean that easy navigation is unattainable. I like to use Best Buy as an example of just how simple you can make a large store. Their navigation may seem cluttered but a lot went into the logic behind each department. Considering that their online store holds thousands of different product ( the navigation is easy to use and logical to a majority of their target market. Their main navigation is also broken up to highlight deals, brand based browsing and their vast knowledge base of guides and FAQs. This may require some additional help from a designer or developer to achieve but most ecommerce platforms also offer themes that have been modified and improved over time to help store owners.

## 8. Word of Mouth Recommendations

Social media and review sites are great way to build credibility if you're selling a $15 shirt or something else low cost. For the larger purchases ($200+) you need social proof. On web apps this usually comes as a testimonial tied to a picture and a name, but for ecommerce nothing works better than a direct, word of mouth referral.

## 9. Ease of Checkout

Checkout complexity is a big factor in a store's sales numbers. It if the final step that determines if a visitors turns into a customer. A single page checkout can improve your conversion rate by *over 20%* on average, as determined through A/B testing. Even with a single page checkout like you see on Old Navy there are still factors within the checkout that can make a visitor abandon their cart

Through testing and tearing down ecommerce stores we've discovered one of the biggest factors within the checkout process is the shipping cost

calculation. By putting the shipping cost further to the end of the checkout process, you create a secondary prompt where the visitor will re-evaluate the total cost that is about to be incurred. By pushing the shipping cost calculation to the beginning of the checkout process, you increase the conversion rate of those who dive into your checkout funnel because you are showing the full cost up front.

## Unit -2

**Topic covered** :  E- commerce infrastructure , Hardware and software requirements of e commerce , website and its methods of preparation and Tools to analyze the work performance of website

## E- Commerce infrastructure

## E-Commerce Infrastructure Planning and Management

E-Commerce is the magic word in the era of web . In this era of internet driven innovations, a rising number of professionals are involved  in creative  business models and services within their own. There are further numerous professionals employed within the domain as experts.  This article provides an overview of E-Commerce Infrastructure Planning and Management.

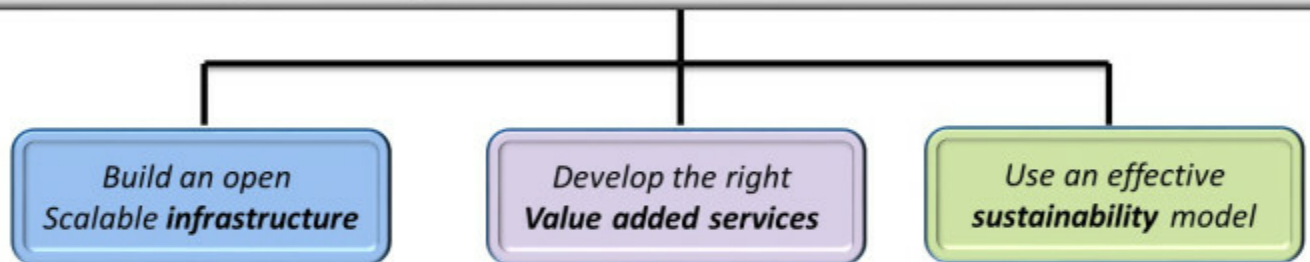So why do we need to focus on e-commerce infrastructure and how should

we plan it?

To define its **Mission:**  It would be to design, develop and maintenance of e
-commerce business venture and enable three critical objectives:

1. **First objective (what we are building**): An open, distributed and safe
   infrastructure which is measurable and thus has provisions for future
   needs so as to do better techniques.
2. **Second objective (how we can use**): Using internet based technologies to
   analyze  the value creation for the users, and facilitate the delivery. There
   must be proper training of the employees to use it.
3. **Third objective (who will pay repeatedly**): Define the **right business** model
   to develop  in the future, in this growing fast era with the IT infrastructure it
   is mandatory to inform and get knowledge about the customers and their
   expectations.

## Objectives for E-Commerce Infrastructure

**Mission:** Design, develop and maintenance of e-commerce business venture

**Build an open Scalable infrastructure**

**Develop the right Value added services**

**Use an effective sustainability model**

**First objective** (what we are building): An open, distributed and safe infrastructure which is scalable and thus has provisions for future needs

**Second objective** (how we can use): Using internet based technologies to demonstrate the value creation for the users, and facilitate the delivery

**Third objective** (who will pay repeatedly): Define the **right business** model to sustain in the future, in tandem with the IT infrastructure

**E-Commerce Infrastructure** identifies the functionalities of the Hardware and Software components, specifies the corresponding service level requirements, and describes the management and operations of the whole system. It may comprise briefly of the following components at a very abstract level.

- **Software components used:** Content management systems, Web analytics, Text analytics, Application Programming Interface (API), Database server, middlewares etc. Object oriented (e.g. CORBA), Transaction processing, communication (https, messaging), data base (e.g. ODBC), application middleware (CGI)
- **Hardware components used:** Servers, proxy servers, load balancing systems. Firewalls, encryption devices and interactive voice response units etc.
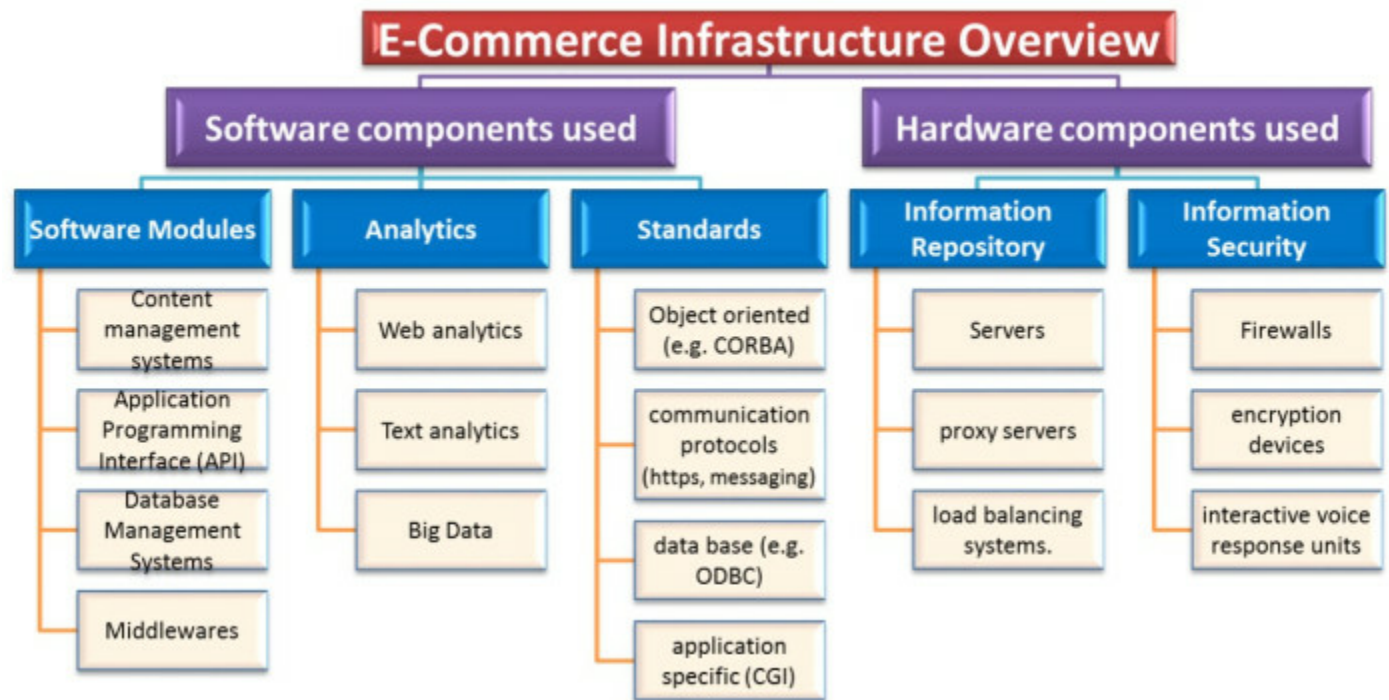
Some of the major components, which a techno-functional professional in the domain is expected to know are as follows:

- **Middleware**: Systems that resides between the client (user) and the server (database and application resources). These could be data access components, communication protocols, specialized servers, or a mix of all.
- **Directory services**: Email Directory Services enables users to locate other users for sending emails. LAN Directory Services facilitates functions like connecting to the web, sharing printers, LAN chats, LAN based KMS
- **Lookup Database:** This is the database that stores information about network resources and user profiles. Enables usage of network resources based on entitlements.
- **Meta-Directories**: Facilitates the flow of data between one or more directory services and databases. Enables synchronization of data across databases or data warehouses
- **Groupware**: Facilitate the automation and streamlining of business processes not implemented in legacy/ERP systems. Group communications and information sharing enabling collaboration between teams and individuals

- **Internet Domain Name Service (DNS)**: DNS facilitates the unique identification of an organization or entity on the Internet. DNS maps the domain name of an organization to its IP address
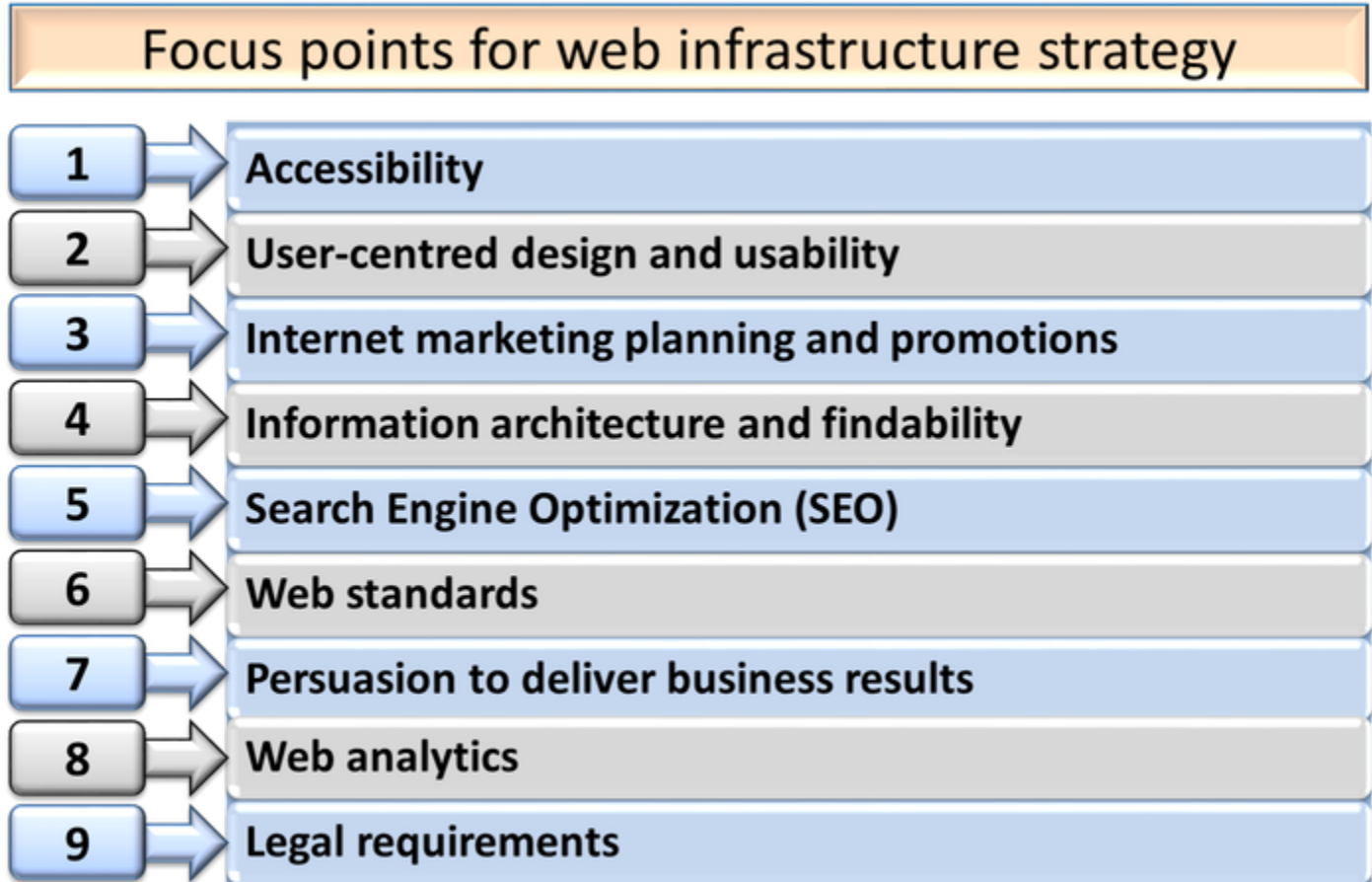
Further, as a systems or a business analyst, typical criteria for **evaluating infrastructure for e-commerce setup** could comprise of the following:

- **Flexibility:** The ability to respond quickly to changing requirements, and scale up based on the need of the customer. Resource virtualization can be an important factor in such a scenario.
- **Costs:** The Cap Ex & Work Ex, like acquisition and maintenance costs for servers, licenses and other hardware and software. License cost and its renewal policy would also play a significant part of the evaluation.
- **Scope & performance:** Factors include degree of fulfillment of specific requirement, knowledge about service and performance quality. Service uptime could be another sub-criteria.
- **IT security & compliance:**  Factors like government, industry and firm specific needs in the areas of security, compliance and privacy are covered. How the information assets are protected could be a regulatory issue.
- **Reliability & trustworthiness:** Factors like service availability, consistency of delivery and fulfillment of the Service Level Agreements. Whether the consumer can get the same uniformity of service every time, is the evaluation parameter.
- **Service & cloud management:**  Factors like offered support and functions for controlling, monitoring and individualization of the web interface.

## Criteria for Evaluating E-Commerce Infrastructure

| | |
|---|---|
| **Flexibility** | • The ability to respond quickly to changing requirements |
| **Costs** | • The CapEx & WorkEx, like acquisition and maintenance costs for servers, licenses and other hardware and software. |
| **Scope & performance** | • Factors include degree of fulfillment of specific requirement, knowledge about service and performance quality. |
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| **Service & cloud management** | • Factors like offered support and functions for controlling, monitoring and individualization of the web interface. |

Beyond this, another important dimension to deliberate upon, is to focus on the key metrics of an **e-commerce infrastructure policy**. These could be noted and elaborated as follows:

## Focus points for web infrastructure strategy

| | |
|---|---|
| 1 | Accessibility |
| 2 | User-centred design and usability |
| 3 | Internet marketing planning and promotions |
| 4 | Information architecture and findability |
| 5 | Search Engine Optimization (SEO) |
| 6 | Web standards |
| 7 | Persuasion to deliver business results |
| 8 | Web analytics |
| 9 | Legal requirements |

Further, professionals need to understand the **Performance Models** associated with E-Commerce Infrastructure, which may be useful during audits. A model is a representation of an information system. It could be **physical, logical or functional.** The model should be as simple as possible. It should be capable of capturing the most relevant characteristics of the system under evaluation or audit.

The performance of e-Commerce site depends on the pattern of services requested by customers, as described by customer model. It also depends on the demands that each service places on the site's resources and the intensity at which customers arrive at the site.

In view of this, it would be pertinent to focus on the following aspects of **E-Commerce Infrastructure**:

- Network Routes and Equipment focusing on the End-to-End route response times, Identify route patterns and defects and Identify and minimize loss of data in the network
- TCP/IP Performance focusing on End-to-End network response times and the Effects of operational performance control
- Monitoring and Reporting on Web and other e-Business Applications, and the Response Times for Web transactions

- **Other important dimensions include adequate site capacity, Scalability and Fault-tolerance.**

   Basic Question for the evaluation would attempt to address the key question: What portions of my "service-product" are popular? This would need renewed focus on the Capacity Issue and the Method of Analysis

   **Capacity Issue**:

- Which files are being requested frequently?
- Which content configurations are requested frequently?
- Which processes deliver that content?
- Am I paying too much for my ISP service contract?
- Can I get by on a lower-bandwidth contract?

   **Method of Analysis**:

- Site log file analysis
- Add up all http: transactions made to your web site during some time period
- Visitor on site trend analysis
- Purchase trend analysis

   Capacity planning would address these requirements through a cycle of workflows of analysis in a multi-stage approach.
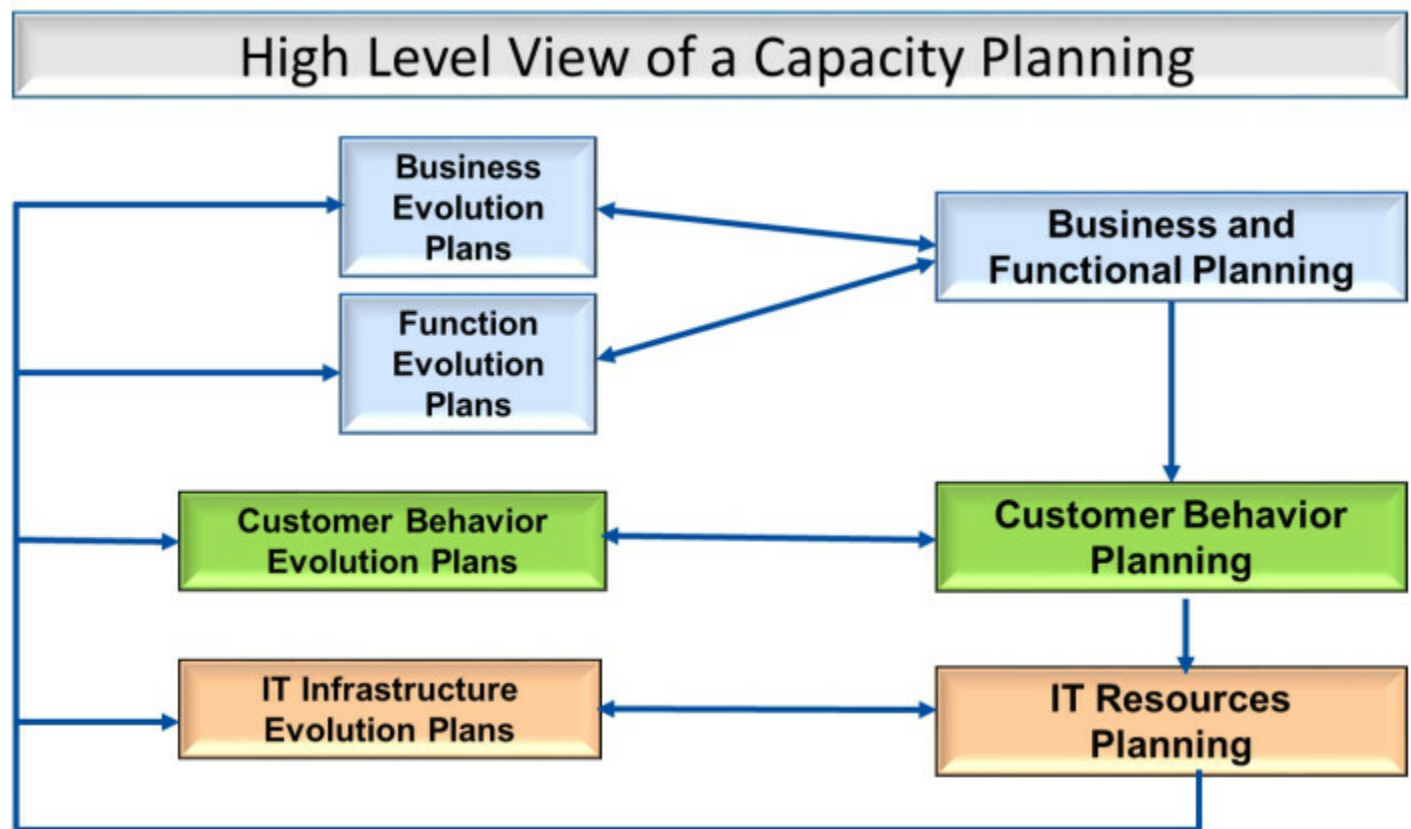
During the Business & Functional Planning, focus would be on the following components:

- **Interaction Model**: It focuses on how a user interacts with the e-Business site to execute the function. Example: two consecutive HTML forms may be needed to implement the function of online application to a course.
- **Web Technology Used**: Different technologies may be used to implement an e-Commerce function. E.g. HTML forms, Java Applets, Active X controls. Suitability of technology chosen to fulfil functional needs would have paramount importance.
- **Use of User Credentials for Authentication**: This information specifies if an authentication protocol such as SSL is used to implement the e-Commerce function. This would have significant importance in terms of security and information assurance.

The Customer Behaviour Planning would comprise predominantly on the Business Intelligence aspect to mine the customer's preferences and

purchase behavior and make suitable recommendations. Techniques like classification, pattern association and sequential rule mining may be used to meet the requirements of this stage.

The IT Resource & Infrastructure Planning would focus predominantly on the specification of the workload model. This would entail a series of activities focusing on **workload estimation, workload specification, performance modeling** and **calibration for validation**. Further, based on the performance modeling output, cost-benefit analysis of the system needs to be completed. Subsequently the IT Infrastructure Evolution Plans can be drawn based on the completion of this analysis.

## Hardware & Software requirements of E- Commerce

### Web servers

It refers to either the hardware ( The computer, laptops and mobile)which helps to provide content that can be accessed by the use of Internet

The most common use of web servers is to host   web sites but there are other issues such as data storage or running enterprise application

### Web authoring tools
These are software tools or cloud servers  that allow you to create and put upto the website . for example dream weaver and Microsoft publisher

Server software
Software is required in order for the server to run , the software manages the connections and the servers . for example a web servers software which are used is
FreeNas
Apache
Debian

## Ports and protocols

The protocol is the type of connections you are running through the examples of HTTP, SSH ,DNS and FTP

The port name is the connection which we are going through , the port number is usually the last 3 numbers of gateway

## TCP/IP Address

Each  computers must have a unique IP address

TCP/IP Address uses four numbers to address a computer . The numbers are always between 0 and 255

## Data Base System

It is the system used by the companies to link to the data through websites. Data base system stores  name, passwords and address. It also stores various business details.

## Programming required

Web pages are generally written in html and they can be used in  these languages and provides codes to provide other languages like java script and
 PHP and   ASP.

## Download speed

Internet speed is measured in kilobytes and megabytes so as to run m ore speed in this there must be requirements of higher speed to run data and to do e commerce more rapidly and fast

## Browsers and platform capabilities

There are many browsers page like google chrome Mozilla- firefox and yahoo
So as to run them properly and to do them effectively

## Browsers

These are web applications used to connect them easily and get faster and easier results

## Computer system

It is the first and basic component of the hardware required to run the e commerce because they connect and display the products and services which are shown
They contain input and output devices which are beneficial and are must be required to run the computers and their  various network topologies so as to connect many computers easily and to do work

## Cables and wires

Various cables and optic fibers are required to run the computers and to do better and effective management they are used to connect computer systems and are used to connect them with the network provided to them i.e internet

## Routers , modem and printers

These are the tools used for the providing internet facilities to the computer systems and are used for the providing print out of the work done

## Website and its process

### Step 1: Choose a Domain Name

In order to build a website, the very first thing you'll need is a domain name.

The domain name is your website name and address. That address is used by visitors when they try to find your site through their web browsers.

This website's domain name is websitesetup.org. Yours can be anything.

Domain names can cost anywhere from $10 to $50 a year. The usual price tag is around $15.

If you haven't registered or chosen a domain name for your website, here are some tips to help you out:

- If you're making a **website for a business**, your domain name should match your company name. For example: YourCompanyName.com

- If you're planning to set up a **personal website** for yourself then YourName.com can be a great option.

- Use a "generic" domain name extension such as .com, .net or .org if your goal is international visitors. Use a "local" domain name extension such as .de, .fr, or .ru if your goal is country-targeted visitors.

- .com is used for commercial work and .edu for educational pupose, .org for non government organizations and .in for India

## Step 2: Get Web Hosting and Register Domain

In addition to having a domain name, you'll also need website hosting (web hosting).

Web hosting is a service that hosts and stores your website files (content) on a secure server that is always up and running. Without a web host, your site will not be accessible for others to read and browse.

Affordable and reliable web hosting for new websites costs usually between $3 to $10 a month. Less than a cup of coffee, but an important investment for your website success.

**Whichever web hosting company you sign up with, make sure it has the following features:**

- FREE domain name with SSL (for security)

- One-click-install for WordPress (free)

- Custom email accounts

- Unlimited or unmetered bandwidth (no traffic limitations)

- Customer support, preferably 24/7 live chat

## Step 3: Set Up WordPress Website (Through Web Host)

Once you have your domain name and web hosting ready to go, you'll need to choose and install a website building platform (also known as <u>CMS</u>).

We recommend choosing WordPress since it's easy to use and comes with thousands of free designs and add-ons that make your website look professional and unique.

Setting up your WordPress website is easy, and your web host mostly does it for you, so you don't really have to get your hands too dirty.

If you don't use Bluehost as a web hosting, don't worry. Many web hosting providers have "WordPress install" located somewhere in the hosting cPanel. If you are dealing with a web host that doesn't provide "*one click installs*", try setting up WordPress <u>manually</u>.

## Step 4: Customize Your Website Design and Structure

With your bare website alive and kicking, it's now time to make it feel more like your own by picking a nice design, customizing it, and adding branding elements.

Starting with:

## 1) Choose a theme for your website

WordPress themes are out-the-box design packages that change the way your entire website looks like. WordPress themes are interchangeable – you can switch from theme to theme easily.

Most importantly, there are thousands of free and paid WordPress themes available on the web.

If you want to get a free theme – which is where most people like to start – the best place to go is the official theme directory at WordPress.org. Particularly, the section for the most <u>popular themes</u>.

## 2) Install the theme you like

Go to your WordPress admin interface. You can find it at YOURSITE.com/wp-admin. Use the username and password you got during WordPress installation.

1. From the sidebar, go to "Themes → Add New."

2. In the search box, type in "Neve" and click on the "Install" button next to the theme's name:

3. After the installation is done, click on the "Activate" button that will appear in place of the "Install" button.

4. You'll see a success message, which lets you know that the installation went as expect

## 3) Add a logo

The first thing that most users want to do is upload their logo and have it displayed in the top left corner of the site. Let's do that now.

*You can DIY a logo. Here are <u>some of the tools</u> you can use to create a logo yourself.*

Once you have a logo ready, you can add it to your site. Go to "Appearance

→ Neve Options" and click on the link labeled "Upload Logo."

Additionally, you can choose if you want to display the site name and tagline alongside the logo, and set the max-width of the logo. Experiment with these settings and pick what works best for you..

## Step 5: Add Content/Pages to Your Website

Pages are the essence of your website. It's hard to imagine a website without any pages on it, right?

From a technical point of view, a web page is just a document on the web. It's not very different from your traditional Word document apart from it having your website's branding elements such as the header and footer.

Web pages are easy to create in WordPress. But before we get into the how -to, let's discuss what pages you should create in the first place.

Most websites will find the following pages essential:

- **Homepage** – it's the first page that your visitors see when they go to your website

- **About page** – a page explaining what your website is about

- **Contact page** – a page letting visitors contact you

- **Blog page** – a listing of your most recent blog posts; if you're not planning on blogging, you can use the blog page as a place for your company news and announcements

- **Services page** – if the website you're building is for a business, use

this page to showcase your services

- **Shop page** – for companies that want to launch an eCommerce store

Many of the pages above will be very similar in structure – the only difference being the content on the actual page. Basically, once you learn how to create one page, you'll know how to create them all. With that, there is some nuance here, so let's now cover how to create a couple of basic types of pages:

## Step 6: Set Up a Navigation Menu

With a range of good-looking pages created, the next step in our quest to how to create a website is to set up your navigation (a website menu). The menu is what your visitors will use to go from page to page on your site.

Go to "Appearance → Menus," and from there, click on "create a new menu."

## Factors optimizing for website performance

Once you have tested the speed of your website, you can start optimizing it. There are a lot of different ways to make your website work faster and we created the list of the most effective ones.

## 1. Use a Content Delivery Network (CDN)

A content delivery network is a set of web servers distributed across various geographical locations that provide web content to end users with regard to their location. When you host the website on a single server, all users requests are sent to the same hardware. For this reason, the time

needed to process each request increases. On top of that, the load time increases when users are physically far from the server. With CDN, user requests are redirected to the nearest server. As a result, the content is delivered to a user quicker and a website works faster. This is a rather expensive, but quite effective way to optimize the load time.

## 2. Move your website to a better host

There are three possible types of hosting:

- Shared hosting

- Virtual Private Servers (VPS) hosting

- Dedicated server

The most popular type of hosting that is used all over the world is **sharing hosting**. That's the cheapest way to get your site online in a short time and for a low fee. It's essential to choose the <u>fast web host</u> to ensure better optimization. With shared hosting, you share CPU, disk space, and RAM with other sites that also use this server. This is the main reason why shared hosting isn't as fast as VPS or a dedicated server.

**Virtual Private Servers** and dedicated servers are much faster. VPS uses multiple servers for content distribution. Having VPS you share the server with its other users and have your own part of the virtual server where your configurations don't influence other clients. If your website has the average traffic or you have the e Commerce site with traffic spikes in some periods, VPS will be the optimal solution for you.

## 3. Optimize the size of images on your website

Everyone loves eye-catching images. In the case of successful e Commerce sites, images are the vital part. A lot of photos, images, graphics on your product pages improve engagement. The negative side of the image use is that they are usually large files that slow down a website.

The best way to reduce the image size without compromising its quality is to compress images using such tools as <u>Image Optim</u>, <u>JPEGmini</u>, or <u>Kraken</u>. The procedure may take a bit of time but it's worth it. Another way to reduce the image size is to use the HTML <u>responsive images</u> <secret> and <size> attributes that adjust image size based on user display properties.

### 4. Reduce the number of plugins

Plugins are common components of each website. They add specific features suggested by third parties. Unfortunately, the more plugins are installed, the more resources are needed to run them. As a result, the website works slower and also security issues can appear. As time passes, the number of plugins grows, while some of them may not be used anymore. We recommend checking out all the plugins you have installed and deleting unnecessary ones. First, run the performance tests on your page to find out which plugins are slowing down your website. Not only does the website speed depend on the number of installed plugins but also on their quality. Try to avoid plugins that load a lot of scripts and styles or generate a lot of database queries. The best solution is to keep only the necessary ones and ensure that they are kept up to date.

### 5. Minimize the number of JavaScript and CSS files

If your website contains a lot of JavaScript and CSS files, it leads to a large number of HTTP requests when your website visitors want to access particular files. These requests are treated individually by visitor's browser and slow down the website work. If  you  reduce the number of JavaScript and CSS files this will undoubtedly speed up your website. Try to group all JavaScript into one and also do so with all CSS files. This will reduce the overall number of HTTP requests. There are a lot of tools to minify HTML, CSS, and JavaScript files quickly.

### 6. Use website caching

In case there are a lot of users accessing the page at one time servers work slowly and need more time to deliver the web page to each user.

Caching is the process of storing the current version of your website on the hosting and presenting this version until your website is updated. This means that the web page doesn't render over and over again for each user. Cached web page doesn't need to send database requests each time.

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## 7. Implement Gzip Compression

Gzip Compression is an effective way to reduce the size of files. It minimizes the HTTP requests and reduces the server response time. Gzip compresses the files before sending them to the browser. On the user side, a browser unzips the files and presents the contents. This method can work with all files on your website. You can enable Gzip on your website by adding some lines of the code or via a utility called gzip.

## Unit- 3

**Topic Covered :** Electronic payment system , Digital signature working of digital signature public key, private key  encryption and decryption

## Electronic Payment System

When you purchase goods and services online, you pay for them using an electronic medium. This mode of payment, without using cash or cheque, is called an e-commerce payment system and is also known as online or electronic payment systems.

The growing  and more use of internet-based banking and shopping has seen the growth of various e-commerce payment systems and technology has been developed to increase, improve and provide secure e-payment transactions.

Paperless e-commerce payments have changed  the payment processing by reducing paper work, transaction costs, and personnel cost. The systems are user-friendly and consume less time than manual processing and help businesses extend their market reach.

**The different types of e-commerce payments in use today are:**

## Credit Card

The most popular form of payment for e-commerce transactions is through credit cards. It is simple to use; the customer has to just enter their credit card number and date of expiry in the appropriate area on the seller's web page. To improve the security system, increased security measures, such as the use of a card verification number (CVN), have been introduced to on-line credit card payments. The CVN system helps detect fraud by comparing the CVN number with the cardholder's information.

## Debit Card

Debit cards are the second largest e-commerce payment medium in India. Customers who want to spend online within their financial limits prefer to pay with their Debit cards. With the debit card, the customer can only pay for purchased goods with the money that is already there in his/her bank account as opposed to the credit card where the amounts that the buyer spends are billed to him/her and payments are made at the end of the billing period.

## Smart Card

It is a plastic card embedded with a microprocessor that has the customer's personal information stored in it and can be loaded with funds to make online transactions and instant payment of bills. The money that is loaded in the smart card reduces as per the usage by the customer and has to be reloaded from his/her bank account.

## E-Wallet

E-Wallet is a prepaid account that allows the customer to store multiple credit cards, debit card and bank account numbers in a secure environment. This eliminates the need to key in account information every time while making payments. Once the customer has registered and created E-Wallet profile, he/she can make payments faster.

## Net banking

This is another popular way of making e-commerce payments. It is a simple way of paying for online purchases directly from the customer's bank. It uses a similar method to the debit card of paying money that is already there in the customer's bank. Net banking does not require the user to have a card for payment purposes but the user needs to register with his/her bank for the net banking facility.

## DIGITAL  SIGNATURE

A digital signature is a mathematical technique used to validate the authenticity and integrity of a message, software or digital document. As the digital equivalent of a handwritten signature or stamped seal, a digital signature offers far more inherent security, and it is intended to solve the problem of tampering and impersonation in digital communications.

Digital signatures can provide the added assurances of evidence of origin, identity and status of an electronic document, transaction or message and can acknowledge informed consent by the signer.

In many countries, including the United States, digital signatures are considered legally binding in the same way as traditional document signatures.

### How digital signatures work

Digital signatures are based on public key cryptography, also known as asymmetric cryptography. Using a public key algorithm, such as RSA, one can generate two keys that are mathematically linked: one private and one public. (for more on

Digital signatures work because public key cryptography depends on two mutually authenticating cryptographic keys. The individual who is creating the digital signature uses their own private key to encrypt signature-related data; the only way to decrypt that data is with the signer's public key. This is how digital signatures are authenticated.

Digital signature technology requires all the parties to trust that the individual creating the signature has been able to keep their own private key secret. If someone else has access to the signer's private key, that

party could create fraudulent digital signatures in the name of the private key holder.

## UNIT  4

**Topic covered**:  Electronic data interchange (EDI) , its types and working styles , online auctions, online retailing, e commerce portals and social media networks

## What is EDI?

 Electronic Data Interchange (EDI) is the computer-to-computer exchange of business documents in a standard electronic format between business partners.

By moving from a paper-based exchange of business document to one that is electronic, businesses enjoy major benefits such as reduced cost, increased processing speed, reduced errors and improved relationships with business partners.
Each term in the definition is significant:

- **Computer-to-computer**– EDI replaces postal mail, fax and email. While email is also an electronic approach, the documents exchanged via email must still be handled by people rather than computers. Having people involved slows down the processing of the documents and also introduces errors. Instead, EDI documents can flow straight through to the appropriate application on the receiver's computer (e.g., the Order Management System) and processing can begin immediately. A typical manual process looks like this, with lots of paper and people involvement:

- It does not involve man interference
- It is much faster and easier to use
- It is done in standard format
- It has its various components like VPN
- It contains its maintenance fees and
- For this use both of the companies must aware about the product used in EDI and their standards and format
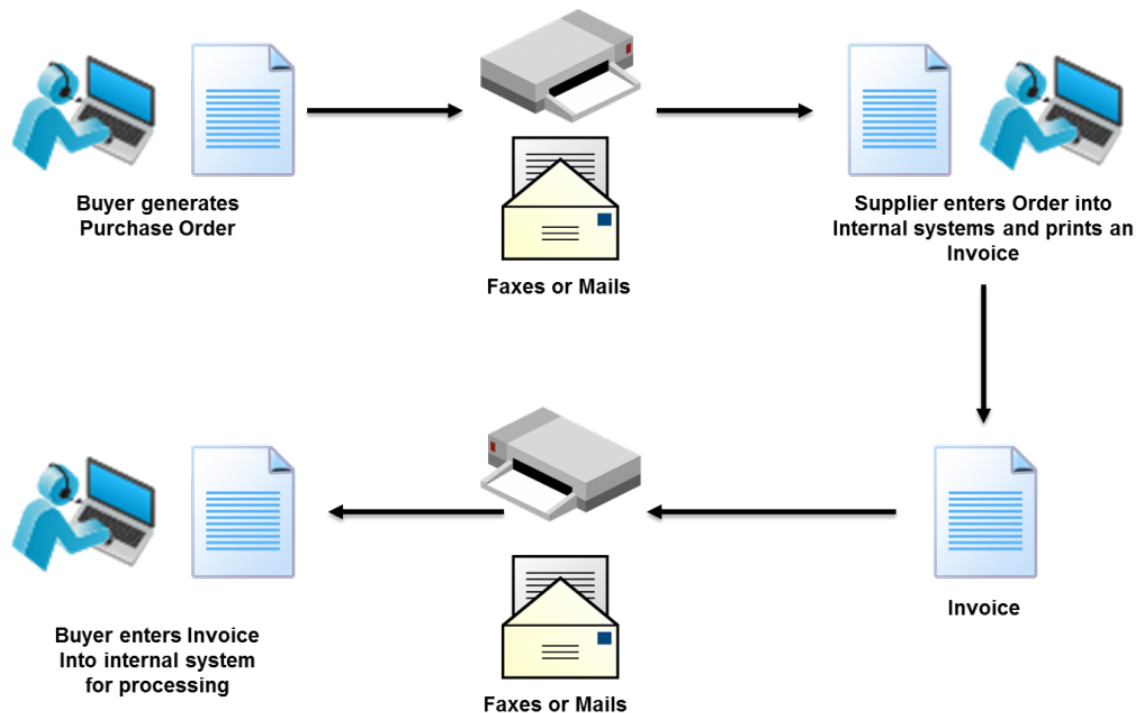
The EDI process looks like this — no paper, no people involved:
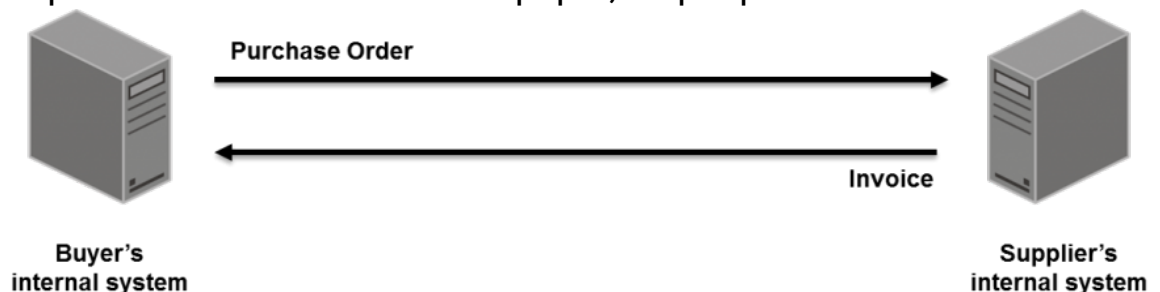


- **Business documents** – These are any of the documents that are typically exchanged between businesses. The most common documents exchanged via EDI are purchase orders, invoices and advance ship notices. But there are many, many others such as bill of lading, customs documents, inventory documents, shipping status documents and payment documents.
- **Standard format**– Because EDI documents must be processed by computers rather than humans, a standard format must be used so that the computer will be able to read and understand the documents. A standard format describes what each piece of information is and in what format (e.g., integer, decimal). Without a standard format, each

company would send documents using its company-specific format and, much as an English-speaking person probably doesn't understand Japanese, the receiver's computer system doesn't understand the company-specific format of the sender's format.

- o There are several EDI standards in use today, including ANSI, EDIFACT, TRADACOMS and eb XML. And, for each standard there are many different versions, e.g., ANSI 5010 or EDIFACT version D12, Release A. When two businesses decide to exchange EDI documents, they must agree on the specific EDI standard and version.
- o Businesses typically use an EDI translator – either as in-house software or via an EDI service provider – to translate the EDI format so the data can be used by their internal applications and thus enable straight through processing of documents.
- **Business partners** – The exchange of EDI documents is typically between two different companies, referred to as business partners or trading partners. For example, Company A may buy goods from Company B. Company A sends orders to Company B. Company A and Company B are business partners.


EDI continues to prove its major business value by lowering costs, improving speed, accuracy and business efficiency. The greatest EDI benefits often come at the *strategic* business level.
But let's start with *cost savings* anyway:

- A major electronics manufacturer calculates the cost of processing an order manually at $38 compared to just $1.35 for an order processed using EDI
- Errors due to illegible faxes, lost orders or incorrectly taken phone orders are eliminated, saving your staff valuable time from handling data disputes
- Expenses associated with paper, printing, reproduction, storage, filing, postage and document retrieval are all reduced or eliminated when you switch to EDI transactions, lowering your transaction costs by at least 35%

The major benefits of EDI are often stated as *speed and accuracy*:

- EDI can speed up your business cycles by 61%. Exchange transactions in minutes instead of the days or weeks of wait time from the postal service
- Improves data quality, delivering at least a 30—40% reduction in transactions with errors—eliminating errors from illegible handwriting, lost faxes/mail and keying and re-keying errors
- Using EDI can reduce the order-to-cash cycle time by more than 20%, improving business partner transactions and relationships

**However, the increase in business *efficiency* is also a major factor:**

- Shortening the order processing and delivery times means that organizations can reduce their inventory levels
- Quick processing of accurate business documents leads to less re-working of orders, fewer stock outs and fewer cancelled orders
- Automating the exchange of data between applications across a supply chain can ensure that business-critical data is sent on time and can be tracked in real time. Sellers benefit from improved cash flow and reduced order-to-cash cycles
- Automating paper-based tasks allows your staff to concentrate on higher-value tasks and provides them with the tools to be more productive

**In many cases, the greatest EDI benefits come at the *strategic* business level:**

- Promotes corporate social responsibility and sustainability by replacing paper-based processes with electronic alternatives. This will both save you money and reduce your $CO_2$ emissions
- Shortens the lead times for product enhancements and new product delivery
- Streamlines your ability to enter new territories and markets. EDI provides a common business language that facilitates business partner onboarding anywhere in the world
- Enables real-time visibility into transaction status. This in turn enables

faster decision-making and improved responsiveness to changing customer and market demands, and allows businesses to adopt a demand-driven business model rather than a supply-driven one

## ONLINE RETALING

Electronic  retailing  is the sales of goods and services through the Internet. E-retailing can include from one business to another business (B2B) and business-to-consumer (B2C) sales of products and services. E-retailing requires companies to demonstrate  their business models to capture Internet sales, which can include building out distribution channels such as warehouses, Internet web pages, and product shipping centers.

## ONLINE AUCTIONS

Online auctions are auctions conducted on a website that provides  users to sell and buy  goods with other users. Auctions have become one of the most visited web pages on the Internet and often contain and sell anything you can imagine.

## E- COMMERCE PORTALS AND SOCIAL NETWORKS

An ecommerce portal is an online portal which you can use to avail information, shop from, or connect with people. E is used for online, commerce implies business. So basically e-commerce portal is an online business portal. These days, you can go online to buy everything from property to cars to dresses to lingerie. You can also order salon services or

medicines. You can also find you life partner online.

Check out "**Jabong**" to get a better understanding of e-commerce. It is one of the most popular online shopping portals in India.

## Social commerce

It  is shopping-oriented social media marketing that touches buyers before, during and after their purchase. It encompasses a broad array of options including group buying, social shopping, mobile apps, retailers adding social features, and shopping integrated into social media.

A. Demonstrates  how products are brought to market.
B. Creates  brand awareness cost effectively
C.  Links bricks and mortar stores and social connections through use of mobile.
D. Enhances product discovery/awareness.
E. Creates social media content.
F. Enables peers  recommendations.
G. Expands relationships with others who share your tastes.
H. Provides group buying opportunities.
I. Develops social shopping opportunities on social media platforms.
J. Expands target audience