BA4030 E – BUSINESS MANAGEMENT L T P C
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COURSE OBJECTIVE:

- To understand the practices and technology to start an online business.

UNIT I INTRODUCTION TO e-BUSINESS 8

e-business, e-business vs e-commerce, Economic forces – advantages – myths – e-business models, design, develop and manage e-business, Web 2.0 and Social Networking, Mobile Commerce, S-commerce

UNIT II TECHNOLOGY INFRASTRUCTURE 10

Internet and World Wide Web, internet protocols - FTP, intranet and extranet, information publishing technology- basics of web server hardware and software.

UNIT III BUSINESS APPLICATIONS 10

Consumer oriented e-business – e-tailing and models - Marketing on web – advertising, e-mail marketing, affiliated programs - e-CRM; online services, Business oriented e-business, e-governance, EDI on the internet, Delivery management system, Web Auctions, Virtual communities and Web portals – social media marketing

UNIT IV e-BUSINESS PAYMENTS AND SECURITY 9

E-payments - Characteristics of payment of systems, protocols, e-cash, e-cheque and Micro payment systems- internet security – cryptography – security protocols – network security.

UNIT V LEGAL AND PRIVACY ISSUES 8

Legal, Ethics and privacy issues – Protection needs and methodology – consumer protection, cyber laws, contracts and warranties, Taxation and encryption policies.

TOTAL: 45 PERIODS

COURSE OUTCOMES:

1. Ability to build and manage an e-business.
2. Knowledge about Technology Infrastructure
3. Understanding of customer oriented business applications
4. Knowledge of e business payment protocols and security
5. Understanding of ethical, legal , privacy issues and encryption policies

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BA4030 E-BUSINESS MANAGEMENT

UNIT 1: INTRODUCTION TO E-BUSINESS

E-BUSINESS

Electronic Business (E-Business) is the administration of conducting any business using the internet, extranet, web, and intranet.

This would include buying and selling of goods or services using commercial transactions conducted electronically along with providing customer or technical support with the help of the internet.

E-business is similar to E-commerce but it is more than just a simple act of buying and selling services or goods online.

In fact, it is the method of utilizing digital information and advanced communication technologies to streamline different business processes – from the initial to the implementation phase.

E-business includes a lot of business processes including online order processing, CRM (Customer Relationship Management), supply chain management, and many more. E-commerce is a part of e-business, so let me give you a comprehensive detail about what is e-business.

COMPONENTS OF E-BUSINESS:

E-business has several components including BI (Business Intelligence), CRM (Customer Relationship Management), ERP (Enterprise Resource Planning), SCM (Supply Chain Management), Collaboration, online activities, and electronic transactions within the firm.

But following areas have great importance for e-business:

- E-Procurement
- Online Stores
- Online marketplace
- Online communities
- Online companies.

1. E-Procurement

It is also known as supplier exchange in which business to business, business to government, business to consumer, and sales of services are made with the help of the internet.

Basically, e-procurement is a way adopted by companies to reduce costs and efforts by sourcing products or services electronically.

2. Online Stores

It is electronic sourcing (website or application) for products or services, such as online shopping stores.

Online stores are also known as e-shops, internet shops, web-store, virtual stores, web-shop, m-commerce, and online storefront.

The main purpose of these online stores is to save precious time and money.

Anyone can buy products or services by making online payments using credit cards, cash on delivery, and other payment methods.

The owners of online stores should host their eCommerce website on the PCI compliant hosting because Payment Card Industry Security Standards Council (PCI SSC) makes it compulsory for those who are accepting the online payments.

3. Online Marketplace

It is electronic commerce that connects the buyers and suppliers to the services or products over the internet.

Keep in mind, that the operator of an online marketplace only presents the inventory of other people and provides the transaction facility.

4. Online Communities

Online communities (also known as web communities or internet communities) are groups of people having the same interests or purposes who use the internet to communicate with each other.

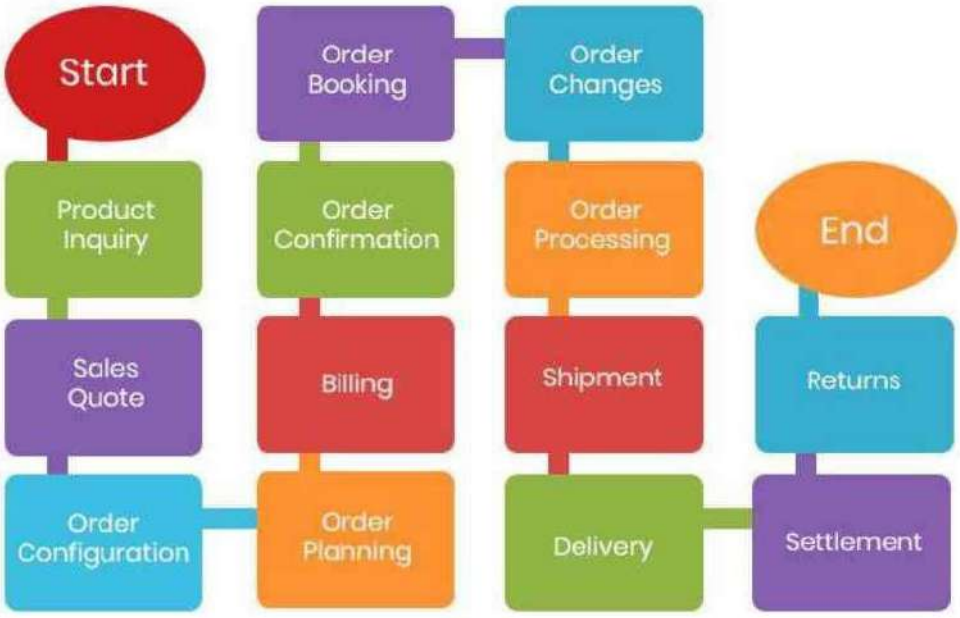
It is used between individuals and organizations to prepare transaction decisions.

5. Online Companies

It is electronic business cooperation that connects the individual companies and forms a virtual business with a common transaction offer.

ORDER FULFILLMENT PROCESS:

The order fulfillment process is based on all the activities needed for a customer to get his ordered product or service including the related customer services.



1. Product inquiry

You are surfing the website of any well-reputed business brand manufacturing laptops, desktops, or monitors, and able to view their all products.

2. Sales Quote

Laptop prices, screen size, or usage are clearly mentioned on the website for the sales quotation for customers.

3. Order Configuration

Once the customers select what they proposed to purchase, the number of products is easily adjusted or canceled during this phase.

4. Order Booking

This phase includes the booking of products available on the website, such as desktops, laptops, or necessary accessories.

5. Order Confirmation

This process ensures the details of the order such as prices and quantities are accurate.

6. Billing

Billing is the process that enables customers to pay for the products by Visa, cheque, ATM, or other available payment methods.

7. Order Planning

Every customer has different options for delivery, so the order will be delivered accordingly.

8. Order Processing

Once the order is confirmed, the company ensures the right item in the right quantity, time, place, price, and condition to the right customer.

9. Shipment

According to the customers' requirements, the products will be delivered by means of an express, Air-to-Sea initiative, and so on.

10. Delivery

The products will be delivered within a given time slot at the right address.

11. Settlement

It is the method to settle all the remaining charges, like delivery costs or extra products care expenditure.

12. Returns

Most of the companies offer the returns option with their particular terms and conditions. So, any customer who has received the products with any technical or physical problems of products, can easily return their products within a specified period.

E-COMMERCE

E-commerce is the activity of electronically buying or selling of products on online services or over the Internet.

E-commerce draws on technologies such as mobile commerce, electronic funds transfer, supply chain management, Internet marketing, online transaction processing, electronic data interchange, inventory management systems, and automated data collection systems.

E-commerce is in turn driven by the technological advances of the semiconductor industry, and is the largest sector of the electronics industry.

E-COMMERCE VS E-BUSINESS:

E-COMMERCE	E-BUSINESS
Carrying out commercial transactions online	Conducts all kinds of business activities and services over the internet
Buying/ selling, monetary transactions online	Online presence of the business
A sub-set of E-Business, it is also a narrow concept	A super-set of E-Commerce. Business transactions are supported in E-Business
Limited transactions	Transactions are not limited
Involves use of only one website	Multiple websites and CRMs, ERPs that connect different business processes are used
Mandatory use of internet	Internet, Intranet or Extranet are used
It is more relevant in B2C, Business to customer context	This is more appropriate to B2B or Business to Business context
Also cover external or outward business processes	Covers internal as well as external business activities or processes

ECONOMIC FORCES

Economic forces are factors such as monetary and fiscal policies, interest rate, employment, inflation rate, demographic changes, political changes, energy, security, and natural disasters.

All of these have a direct effect on how businesses produce and distribute their products or services.

Some of the economic forces are,

- ✓ Availability of Credit
- ✓ Level of Disposable income
- ✓ Interest Rates
- ✓ Inflation Rates
- ✓ Money market rates
- ✓ Government budget deficits
- ✓ Gross domestic product trend

- ✓ Consumption patterns.

Availability of Credit:

Credit availability is the credit amount to which a borrower can access at a specific time.

Lines of credit and credit card accounts have a maximum money amount that one can borrow; credit availability indicates the amount that remains after subtracting balance, outstanding.

Category: Banking & Finance.

Level of Disposable income:

Disposable income is the amount of money you have left over from your total annual income after paying all direct federal, state, and local taxes.

Interest Rates:

Interest rates are a measure of the cost of a loan to a borrower.

An interest rate is the amount of interest due per period, as a proportion of the amount lent, deposited, or borrowed.

Inflation Rates:

The inflation rate is the rate at which the general rise in the level of prices, goods and services in an economy occurs and how it affects the cost of living of those living in a particular country.

Money market rates:

A money market account or money market deposit account is a deposit account that pays interest based on current interest rates in the money markets.

The average interest rate on a money market account is 0.13 percent.

Government budget deficits:

A government budget deficit is the amount of money in the budget by which the spending done by the government surpasses the revenue earned by it.

Gross domestic product trend:

Gross domestic product is a monetary measure of the market value of all the final goods and services produced and sold in a specific time period by countries.

The gross domestic product trend is a 10.06% increase from 2020.

Consumption patterns:

The process by which individuals identify, purchase and consume products and services to fit all their needs.

ADVANTAGES OF E-BUSINESS

The general advantages/benefits of E-business are,

1.It Provides Flexibility:

E-business interact with more customers, can email more, and can offer an innovative experience through website.

It offers a platform for organization to interact with customers in a creative way and provides flexibility to realize creativity along with infrastructure that decides the scope.

The restricting of organizational processes and function are much easier and they contribute to better utilization of resource and assets.

2.No need for physical presence:

Businesses are no longer dependent on physical reach because most of them have expanded through the internet.

This has increased the visibility of companies. Increased connectivity has enhanced responsiveness manifold.

Introduction of new service have changed their management and treatment in the marketplace.

3.Cost reduction:

E-business reduce the cost information collection, information storage and information analysis.

Most importantly, it reduces the communication cost.

4.Transparency:

In e-business, prices, transaction, and cost become more and more transparent. This transparency leads to more efficient markets.

Cost transparency refers to the ability of the customer to determine that actual cost.

From the manufacture to the distributor to the retailer to the consumer, the connection between each party is increasingly distant.

The need to maintain control and visibility across the whole supply chain -also known as e-commerce transparency is more of a priority now the ever before, especially in a world where ingredients, manufactures, and consumers live on different continents.

Integrity, loyalty, and sustainability are the key factors in building corporate integrity, loyalty, and sustainability throughout the entire e-commerce distributing chain. Transparency in the product lifecycle allows companies to evaluate market forces and adapt their strategies accordingly, optimize pricing and fulfillment in real-time, and inspire consumer confidence.

5. Personalization:

The Internet has revolutionized the way businesses operate.

One of the biggest advantages of e-business is the ability to personalize the user experience.

Personalization allows businesses to tailor their products and services to each customer's specific needs.

As a result, customers are more likely to find what they're looking for. Also, customers are more likely to be satisfied with their purchases.

In addition, personalization can lead to increased customer loyalty and repeat business. Businesses can create a competitive advantage that will help them thrive in the digital age, by providing a personalized experience.

6. End-To-End Information Flow:

E-business provides many benefits over traditional business models, but one of the most significant is the end-to-end flow of information.

In a traditional business, information typically flows from the customer to the front-line employees, who then relay it to managers and other decision-makers.

It can lead to several problems, including lost or miscommunicated information, delays in decision-making, and frustration from customers and employees.

By contrast, e-business allows for a much more streamlined flow of information.

7. Has Integrated Solution:

As businesses increasingly turn to the Internet to conduct their operations, the need for integrated solutions has never been greater.

An integrated solution is a software application that combines all of a business's different components, including accounting, customer relationship management (CRM), and inventory management.

Businesses can streamline their operations and improve efficiency by consolidating these disparate systems into one cohesive platform.

8. It Saves Time:

One of the most significant benefits of e-business is that it can save companies a considerable amount of time.

Traditionally, businesses have had to rely on paper communications, which can be quite time-consuming.

They can also set up automated systems so that customers can receive updates on new products and services without the company having to take action.

As a result, e-business can save businesses a great deal of time, which can be used to focus on more critical tasks.

9. Improves Communication with Customers and Suppliers:

E-business can be defined as using electronic means to carry out business transactions. It includes the exchange of information between businesses, as well as between businesses and consumers.

One of the key benefits of e-business is improved communication. In the past, businesses often found it challenging to communicate effectively with their customers and suppliers. It was often because they were located in different parts of the world and used other communication channels.

However, with e-business, businesses can communicate more quickly and effectively with their customers and suppliers. It is because they can use a variety of electronic channels, such as email, instant messaging, and video conferencing.

As a result, businesses can improve efficiency and relationships with customers and suppliers.

10. It Offers Benefits for The Retailer:

E-business has revolutionized the retail industry. By allowing businesses to sell their products and services online, e-business has made it easier for retailers to reach a global market.

11. No Geographical Boundaries:

There are no geographical boundaries for e-business. Anyone can order anything from anywhere at any time. This is one of the benefits of e-business.

12. Government Subsidies:

Online businesses get benefits from the government as the government is trying to promote digitalization.

13. Easy to Set Up:

It is easy to set up an electronic business. You can set up an online business even by sitting at home if you have the required software, a device, and the internet.

As a result, retailers who embrace e-business can improve their customer service, increase sales, and boost profits.

E-BUSINESS MODEL

It is the approach a company takes to become a profitable business on the Internet.

A business model describes how an organization creates, delivers, and captures value, in economic, social, cultural or other contexts.

The process of business model construction and modification is also called business model innovation and forms a part of business strategy.

ELEMENTS OF E-BUSINESS MODELS:

1.Products / Services:

The products / services company offer is nothing but a value proposition for which a customer is ready to pay.

Due to information technology as well as communication technology, various ways are evolved to create and deliver value to the customers.

One way to achieve it is by removing mediators between suppliers and customers.

2. Customer Relationship:

Customer satisfaction is the base of any business – traditional or e-business.

In traditional businesses, there's still a limit on satisfying the customer, whereas in e-businesses using IT and World Wide Web, it can offer a whole big range of opportunities to make customer feel satisfied, feel special.

Customer relationship asset mainly emphasizes on the communication between the organization and the customers.

3. Structural Resources:

The structural resources element of the e-business model is essential element to improve on value proposition.

An organization has to first invest in resources needed for an e-business establishment, which further generate value for the customers.

The resources can be machinery, equipment's or even human resources.

4. Virtual Network:

An e-business form a virtual network of business partners to create value chain.

This part of e-business model describes how value creation process is distributed among the partners of the virtual network.

It helps in maintaining long term inter-organizational relationships as well as to reduce the transactional cost by improving more on virtual network relationships.

5. Financial Aspects:

This part of e-business model helps to understand the costs to be invested in information technology infrastructure to create value out of e-business.

Costs can also be needed to create the value, market it and finally deliver it to the end customer.

Types of E-Business Models

E-BUSINESS MODELS BASED ON FUNCTIONALITY:

1. Merchant Model is a most common e-business model in which businesses sell their goods as well as services using information technology to the customers on internet. The example websites are of Amazon.com, etc.,

2.Community model is another type of e-business model in which there are different user communities who share their data, opinions and photos etc. using these websites. The examples are Wikipedia.com, Facebook.com etc. Such business models earn money through the advertising or voluntary donations. A Subscription model can be viewed as an e-business in which the e-business organization charges users for using their services. Example can be AOL etc.,

3. The e-business organizations which follows the **advertising model**, provides some contents for the readers which generates good web traffic, along with ads which generates revenue. Example businesses in this model type are newspaper websites which provides news as well as ads for the readers.

4. Another model of e-business can be called as **brokerage model** which brings buyer organization and seller organization together on the web. Example can be eBay, etc.,

E-BUSINESS MODELS BASED ON TRANSACTION:

With the rise in popularity of e-commerce, people are increasingly finding themselves thinking about opening an online business.

Six different e-business models to consider are

- ✓ business to consumer (B2C)
- ✓ business to business (B2B)
- ✓ consumer to consumer (C2C)
- ✓ consumer to business (C2C)
- ✓ Business to Government (B2G)
- ✓ Government to business (G2B)

BUSINESS TO BUSINESS:

The largest e-business model based on generated revenue is business to business, or B2B. With the B2B model, both the seller and buyer are business entities.

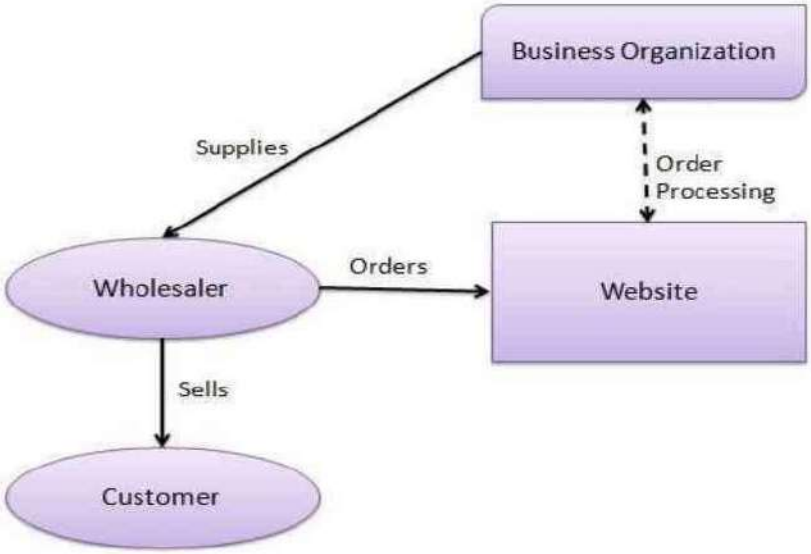
B2B transactions may be from manufacturer to wholesaler, wholesaler to retailer, or retailer to retailer.

The number of B2B transactions that take place is far greater in number than the other transaction types because many B2B transactions happen along the supply chain.

In comparison to other e-business models, the B2B model has more market stability because of the static nature of most companies' business models.

Consumer preferences and shopping habits may be fluid, but businesses rarely change their core business models.

This allows for a stable relationship to form between two companies doing business with each other.



BUSINESS-TO-CONSUMER:

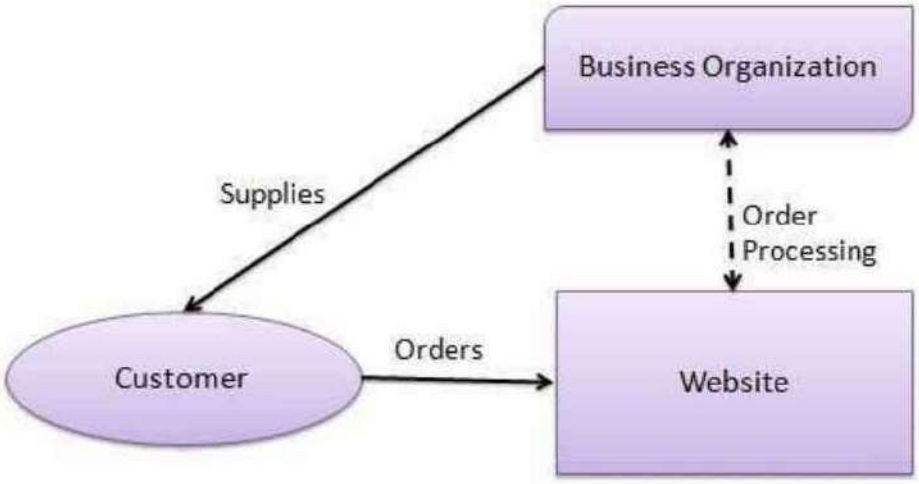
Another common e-commerce business model is business to consumer, or B2C.

This business model involves a business that sells products directly to consumers online.

The B2C e-business model is more in line with traditional retail businesses, except there is no brick-and-mortar store.

One of the main advantages of the B2C model is that retailers can focus on a niche group of consumers and a specific market and cater to them exclusively.

Examples of companies who use the B2C e-commerce model include Amazon, Walmart and Target.



CONSUMER-TO-CONSUMER:

While B2B and B2C business models are conventional and straightforward, the consumer to consumer, or C2C, model is less prevalent.

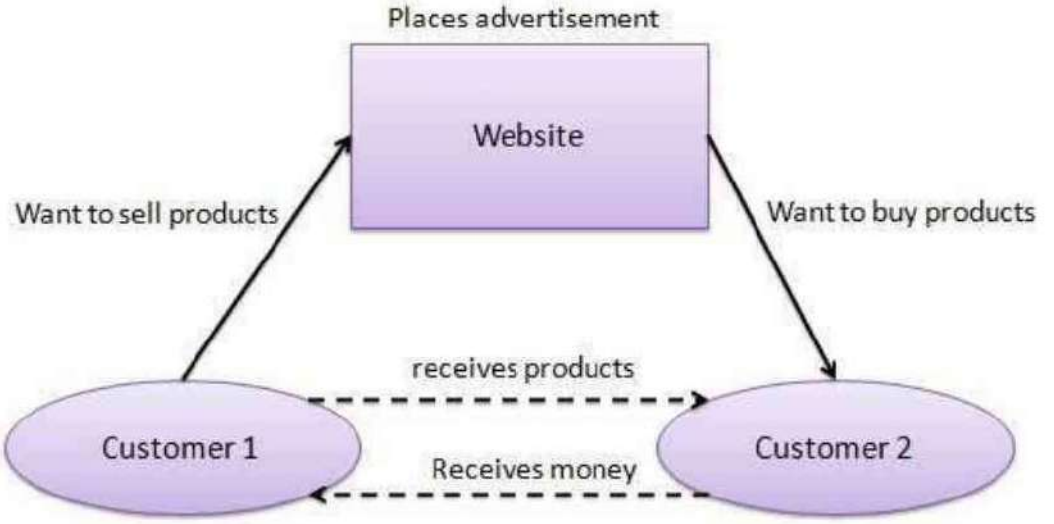
Also referred to as citizen to citizen, the C2C business model involves transactions between two consumers. The consumers are the buyers and sellers.

They use a third-party online marketplace that facilitates the trade.

One of the main advantages of the C2C model is that it does not require any intermediaries such as wholesalers, distributors or retailers.

It only needs a platform, which allows for low transaction costs between the consumers.

A couple of popular examples are websites such as eBay and Craigslist.



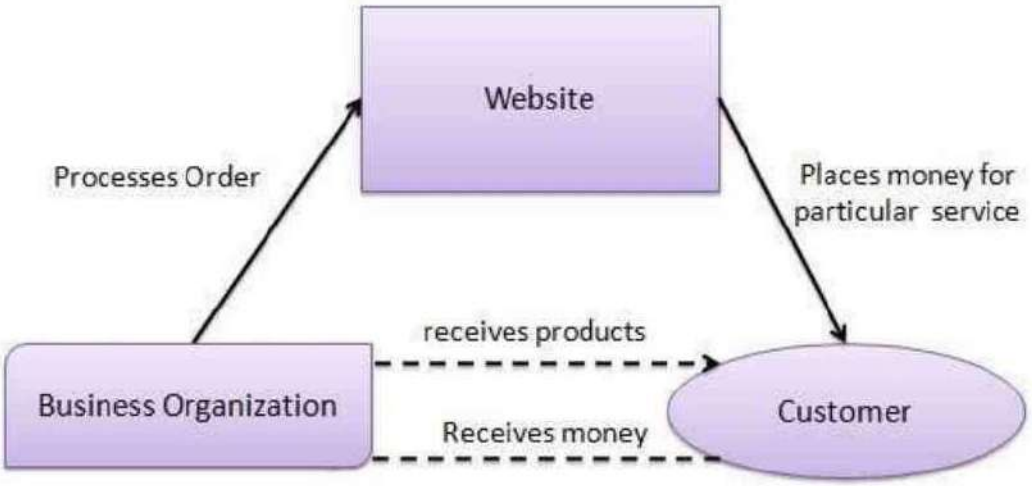
CONSUMER-TO-BUSINESS:

The consumer to business, or C2B, e-commerce model is not as common as the other types, but it is becoming more prevalent.

With the C2B model, consumers create all the demand and bring value to products that businesses sell.

For example, a blogger may choose to sell advertisement space on a website to a retail company.

This C2B e-business model is common among freelancers – whether writers, designers, marketers or any other such position. They offer their services to companies who essentially purchase them when they agree to the freelancer's terms.

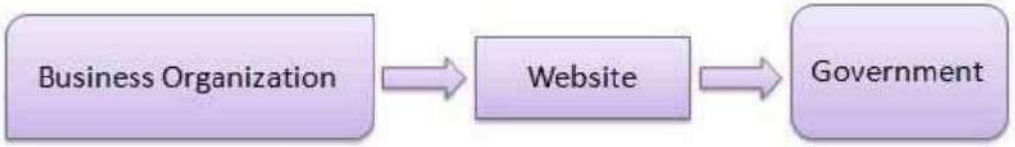


BUSINESS - TO – GOVERNMENT:

B2G model is a variant of B2B model.

Such websites are used by governments to trade and exchange information with various business organizations.

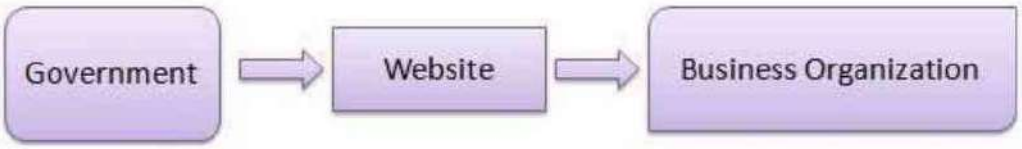
Such websites are accredited by the government and provide a medium to businesses to submit application forms to the government.



GOVERNMENT - TO – BUSINESS:

Governments use B2G model websites to approach business organizations.

Such websites support auctions, tenders, and application submission functionalities.



E-BUSINESS DESIGN:

EBusiness design offers technology strategy, business analysis, software development, cloud migration, and DevOps management services.

WEB 2.0

It refers to websites that emphasize user generates content, ease of use, participatory culture and interoperability for end users.

It is the second stage of development of internet, characterized especially by the change from static web pages to dynamic or user-generated content and the growth of social media.

(Basically web 1.0 is when u went to google types web 2.0 and read whatever information the links offered. The information can't be edited.)

Typically web 2.0 is when we,

- ✓ Post or comment on Facebook
- ✓ Read and write on Wikipedia
- ✓ Upload or download on 4shared
- ✓ Watch & upload videos on YouTube
- ✓ Sell or buy on eBay
- ✓ Be an employer or an employee through the net.

The social web is a term that can be used to describe a subset of web 2.0 technologies that are highly interactive, conversational and participatory.

CHARACTERISTICS OF WEB 2.0:

- ✓ Ability to tap into user intelligence.
- ✓ Data available in new or never-intended ways.
- ✓ Rich interactive, user-friendly interface.
- ✓ Minimal programming knowledge required.
- ✓ Perpetual beta or work-in-progress state making prototype opportunities rapid.
- ✓ Major emphasis on social networks.
- ✓ Global spreading of innovative web sites.

WEB 2.0 APPLICATIONS:

The applications of web 2.0 are,

- ✓ Social network

- ✓ Blog
- ✓ RRS
- ✓ Wiki
- ✓ Tag
- ✓ Videocast
- ✓ Podcast
- ✓ WWW
- ✓ Links
- ✓ Browsers
- ✓ Software

Search:

Finding information through keyword search.

Links to other websites:

Connects information sources together using the model of the Web.

Authoring:

The ability to create and update content leads to the collaborative work of many authors. Wiki users may extend, undo, redo and edit each other's work. Comment systems allow readers to contribute their viewpoints.

Tags:

Categorization of content by users adding "tags" — short, usually one-word or two-word descriptions — to facilitate searching. For example, a user can tag a metal song as "death metal". Collections of tags created by many users within a single system may be referred to as "folksonomies" (i.e., folk taxonomies).

Extensions:

Software that makes the Web an application platform as well as a document server. Examples include Adobe Reader, Adobe Flash, Microsoft Silverlight, ActiveX, Oracle Java, QuickTime, WPS Office and Windows Media.

RRS:

RSS (abbreviation for Really Simple Syndication) is a family of Web feed formats used to publish frequently updated works—such as blog entries, news headlines, audio, and video—in a standardized format.

SOCIAL NETWORKING

The term social networking refers to the use of internet-based social media sites to stay connected with friends, family, colleagues, or customers.

Social networking can have a social purpose, a business purpose, or both, through sites like Facebook, Twitter, Instagram, and Pinterest.

Types of social media networking,

1.TRADITIONAL SOCIAL NETWORKING SITES:

Most of us are familiar with social networking sites like Facebook, Twitter, LinkedIn, and TikTok. These platforms help us connect with friends, family, and brands. They encourage knowledge-sharing and are all about personal, human-to-human interaction.

A social networking site is a Jill of all trades. Users can share thoughts, curate content, upload photos and videos, form groups based on interests, and participate in lively discussions. They're built around the user and everything that's important to them and their social circles.

Also, they help us to measure the social media ROI which helps us in planning an effective marketing strategy.

So how can this type of traditional social networking site help your business?

Reach a target audience through ads:

These platforms cultivate large, diverse communities. Advertisers can rent permission to interact with people based on specific targeting metrics. For instance, an advertiser who wants to reach a predominantly young crowd could advertise on an app like Snapchat while those who want to reach a professional user may find LinkedIn more appropriate.

Because these platforms are incredibly data-rich, you can reach a lot of the right people without blowing your entire ad budget.

Network

Engage with followers, find like-minded customers or potential business partners through hashtags and groups, and build connections.

Research

Social networking platforms are a great place for digging up customer research and using social listening tools to track conversations around specific terms. This can help you understand (and serve) your audience better.

2. SOCIAL REVIEW SITES:

What's one of the first things you do when planning a trip or buying a new product? If you're anything like us, you'll head straight to the reviews.

Review sites like Yelp and TripAdvisor display reviews from community members for all sorts of locations and experiences. This eliminates a lot of the guesswork that goes into booking a restaurant or hotel. Not sure it's the right thing for you? Check out the reviews and you'll know.

Businesses can really benefit from studying their reviews, the good and the bad. It helps them:

Understand the customer's perspective:

Reviews tell you about the customer experience from their own point of view. Use this to identify what's working and discover areas with room for improvement.

Solve problems:

Reviews are an opportunity to engage with reviewers and solve any potential challenges before they become a huge deal.

3. IMAGE AND VIDEO SHARING SITES:

Visual content like images, infographics, and illustrations capture our hearts, eyes and imaginations. Social media platforms like Instagram, Imgur, and Snapchat are designed to amplify the power of image sharing. (Or these days, video sharing.)

Users create, curate, and share unique content that sparks conversation and speaks for itself. A picture or video can be worth a thousand words to your business. Use these sites to:

Encourage user-generated content:

Content sharing sites are a gift for photogenic businesses. You can run campaigns encouraging users to snap and share a pic or video with your product and a unique hashtag.

Create inspiration:

By creating, curating, and sharing your own content, you can inspire and engage users, bonding over a shared interest.

4. VIDEO HOSTING SITES:

YouTube revolutionized the way we watch, create, and think about video. It transformed the medium into something accessible. Recent improvements in tech and connectivity helped video go the rest of the way.

Video hosting platforms like YouTube and Vimeo help creators put together content and share it to a platform optimized for streaming. This accessibility makes video a super important medium. Use video hosting sites to:

Share phenomenal content:

Yes. This point is a bit obvious, but creators can use YouTube to build communities and get their content out there.

Engage:

YouTube's comment section offers plenty of opportunities to get to know the people watching your content.

5. COMMUNITY BLOGS:

Sometimes an image or post isn't complex enough for the message you've got to share, but not everyone on the internet wants to run a blog from a self-hosted website. That's a lot of work.

Shared blogging platforms like Medium and Tumblr give people a space to express their thoughts and help connect them with readers.

These community blog sites provide an audience while allowing plenty of room for customization and self-expression. Use them to:

Develop your voice:

Starting a blog can be daunting. Use platforms like Medium and Tumblr to find your voice, get some readers, and get clear about your vision.

Syndicate content:

If you do have a blog, you can use community blogging platforms to share, re-purpose, and re-post older content and expose it to a new audience.

6. DISCUSSION SITES:

While most of us have seen many a heated discussion happens on Facebook, discussion sites like Reddit and Quora are specifically designed to spark a conversation.

Anyone is free to ask a question or make a statement, and this attracts people with shared interests and curiosities. However, unlike Facebook and Instagram, users tend to give out less identifiable information. Anonymity is powerful when it comes to people opening up and getting real.

So how can these platforms help your business?

Research

Reddit is made up of different sub-communities. With a bit of research, you can find and engage people in your field, discover what they're asking, and use this as a starting point for your content marketing strategy.

Answer questions

Quora users ask all sorts of questions. Answering them can help establish you as a thought leader and drive more traffic to your site.

7. SHARING ECONOMY NETWORKS:

Sites like Airbnb and Rover aren't just a cool place to find cheap holiday rentals or a pet sitter. Sharing economy networks bring people who've got something they want to share together with the people who need it.

These communities provide opportunities that won't exist otherwise by pooling resources on a large scale that wouldn't be possible without tech.

Finding the type of social media network that's right for you Social media comes in many different flavours. You can use most of these types of social networking sites to help your business, one way or another.

MOBILE COMMERCE

Mobile commerce is the use of handheld devices to deliver electronic commerce capabilities using wireless technologies.

The rapid growth of mobile commerce is attributed to the growth of wireless communication networks, mobile commerce apps, and improved device infrastructure.

Products And Service Of Mobile Commerce:

- ✓ Mobile money transfer
- ✓ Mobile ticketing
- ✓ Mobile vouchers, coupons and loyalty card
- ✓ Content purchase & delivery
- ✓ Location-based services
- ✓ Information services
- ✓ Mobile banking
- ✓ Mobile brokerage
- ✓ Auction
- ✓ Mobile browsing
- ✓ Mobile purchase
- ✓ In-application mobile phone payment
- ✓ Mobile marketing and advertising

SOCIAL COMMERCE

Social commerce, abbreviated as s-commerce, is the process of buying and selling products and services directly through social media platforms such as Facebook, WhatsApp, Instagram, Pinterest or Twitter.

Social commerce is a subset of e-commerce that involves the selling and buying of products or services. Also, it is through social media channels.

Social commerce is a marketing strategy that uses the active nature of social networking platforms. So, it can generate traffic and sales.

Social commerce has become a popular way to sell online.

Today, many platforms and applications can be used to sell products on social media channels.

Some of the most popular social commerce platforms include Facebook, Twitter, Pinterest, Instagram, and Snapchat. These platforms all allow users to create a shop and sell products directly from their accounts.

Social commerce helps businesses to engage with customers on a deeper level. It provides a platform for businesses to interact with customers and makes it easy to build brand and consumer relationships.

People can easily share products they like as well as follow brands that interest them.

UNIT 2: TECHNOLOGY INFRASTRUCTURE

INTERNET

A global system of interconnected computers, using a standardized Internet Protocol suite for communication and sharing information is called the Internet.

The Internet is the global system of interconnected computer networks that uses the Internet protocol site to communicate between networks and devices.

It is a network of networks that consists of private, public, academic, business, and government networks of local to global scope, linked by a broad array of electronic, wireless, and optical networking technologies.

The Internet carries a vast range of information resources and services, such as the inter-linked hypertext documents and applications of the World Wide Web (WWW), electronic mail, telephony, and file sharing.

THE ROLE OF INTERNET IN BUSINESS:

The internet plays a major role in every aspect of our modern life. Internet technologies play a major role in business.

As a business owner, knowing the role of internet in business will help you take advantage of the powerful opportunities it offers to grow business and make operations more effective.

Here are different ways in which the internet has contributed to the success and growth of businesses.

- ✓ Communication
- ✓ Growth
- ✓ Marketing
- ✓ Networking and recruiting
- ✓ Outsourcing services
- ✓ Online Shopping Role
- ✓ New Opportunities

Communication:

The internet makes communication fast and cost efficient.

Businesses use internet technologies such as Skype internet and video calls, email and video conferencing to make communication virtually instant.

Growth:

The internet plays a big role in the growth of businesses.

It gives businesses an opportunity to reach a wider global audience.

Promoting through the internet is also a way to increase sales and reach the desired growth level.

Marketing:

One of the roles of internet in business involves marketing and advertising.

Most businesses are taking advantage of the internet to market their products and services to a global audience.

The most notable internet technologies here include search engines such as Google.

Networking and Recruiting:

Social networking websites play a role in business networking by connecting like-minded professionals.

Through the internet, people have found business partners and great employees.

Outsourcing services:

The internet has helped cut costs by outsourcing services to countries where it is cheaper to provide these services.

Apart from the cost reduction through the outsourcing role of internet in business, outsourcing enables businesses to concentrate on their core services and become more efficient.

Online Shopping Role:

One role of internet in business is the birth of ecommerce websites and online payment solutions that allow people to shop online from the comfort of their own homes.

New Opportunities:

The internet has opened up new business opportunities and giving rise to a group of successful online business owners.

This is a powerful role as anyone can now start an online business.

APPLICATION OF INTERNET IN BUSINESS:

The Internet is a rapidly growing network of millions of business education and research and network connecting hundreds of millions of computers and they are users in over two hundred countries.

It is a network of global exchanges – including private, public, business, academic and government networks – connected by guided, wireless and fiber-optic technologies.

The applications of the internet in business areas follow,

- ✓ Sales and market reach
- ✓ Financial and legal enterprises
- ✓ Advertising
- ✓ Internet electronic mail
- ✓ Collaboration
- ✓ Electronic Data Interchange
- ✓ Worldwide communication
- ✓ Keeping Employees Productive and Informed
- ✓ Publishing
- ✓ Public service
- ✓ Research
- ✓ Direct Marketing on the Internet

Sales and Market Reach:

Via internet the sales and market reach can be attained easily.

Consumers can purchase the products they preview on the Internet.

Financial and Legal Enterprises:

Financial and legal firms save time, printing and distribution costs by posting legal notices and filings on the Internet.

Electronic publication of white papers and useful information for clients increases public awareness of the firms.

Advertising:

Advertising agencies and publishers increase income from existing clients by utilizing the Internet as part of their marketing mix.

Internet Electronic Mail:

Companies with nation-wide or world-wide 'communications needs have saved many thousands of dollars in telephone expenses through the use of electronic, mail on the Internet.

Audio and video conferences are also available.

One of the great advantages of Internet e-mail is that your message gets through without constant phone tag delays.

Collaboration:

An engineering firm based in California is able to use the best worldwide engineering talent for its projects by exchanging design drawings over the Internet.

They are able to complete projects in half the time of their competitors who must travel across town to design review meetings.

Electronic Data Interchange:

A firm marketing to the government utilizes Electronic Data Interchange (EDI) over the Internet to process purchase orders and automatically tile reports to government agencies, saving personnel costs and time involved to receive payments.

A major manufacturer uses EDI to connect all of its suppliers to its purchasing and stockroom computers to provide automated inventory replenishment, saving a quarter million dollars in inventory expense per year.

Worldwide communication:

An art broker specializing in major artworks conducts her worldwide business entirely on the Internet.

Keeping Employees Productive and Informed:

Thousands of small and large companies use the Internet to communicate with their field sales forces, including automatic updates of lead tracking databases, order entry, and electronic mail.

The Internet allows 'companies to reduce overhead and increase productivity by facilitating telecommuting of personnel.

The Internet can also reduce overhead by providing centralized, paperless internal access to databases of personal information, company policy, broadcast notices, technical and sales information.

Publishing:

Publishers put their products on the Internet, increasing circulation, advertising income and reducing the ever-escalating costs of printing, paper, and distribution.

Publishers use the Internet to transmit photographs, advertisements, and editorial copy to reduce the time and expense required to get the publication to press.

Public Service:

A non-profit organization uses the Internet to match donors to individual needs during a disaster. The Internet remained available while other means of communication were cut off.

A county sheriff posts "most wanted" information, crime statistics and receives tips from citizens on the World Wide Web.

Chambers of Commerce, city and county governments use the Internet to inform citizens and promote commerce to a worldwide community.

Research:

Researchers have vast data warehouses available everywhere on the globe.

Marketing and competitive analyses, government documents and requests for bid, international trade information, financial data, patent and trademark research, demographic and census data, SEC filings and the entire catalog of the Library of Congress are a few among the thousands of research tools available on the Internet.

Direct Marketing on the Internet:

Direct marketers, catalog retailers and people operating home-based businesses use the Internet to sell products. Entire shopping malls exist in cyberspace, selling everything from flowers to automobiles.

WORLD WIDE WEB(WWW)

The World Wide Web (WWW) commonly known as the Web, is an information system enabling documents and other web resources to be accessed over the Internet.

Documents and downloadable media are made available to the network through web servers and can be accessed by programs such as web browsers.

Servers and resources on the World Wide Web are identified and located through character strings called uniform resource locators (URLs).

The original and still very common document type is a web page formatted in Hypertext Markup Language (HTML).

This markup language supports plain text, images, embedded video and audio contents, and scripts (short programs) that implement complex user interaction.

The HTML language also supports hyperlinks (embedded URLs) which provide immediate access to other web resources.

Web navigation, or web surfing, is the common practice of following such hyperlinks across multiple websites.

Web applications are web pages that function as application software. The information in the Web is transferred across the Internet using the Hypertext Transfer Protocol (HTTP).

Multiple web resources with a common theme and usually a common domain name make up a website.

A single web server may provide multiple websites, while some websites, especially the most popular ones, may be provided by multiple servers.

Website content is provided by a myriad of companies, organizations, government agencies, and individual users; and comprises an enormous amount of educational, entertainment, commercial, and government information.

HYPERLINK: A hyperlink is a word, phrase or image that you can click on to jump to a new document or a new section within the current document. Hyperlinks are found in nearly all web pages, allowing users to click their way from page to page. Text hyperlinks are often blue and underlined.

HYPERTEXT: It is text that links to other information. By clicking on a link in a hypertext document, a user can quickly jump to different content. It is usually associated with web pages.

WEBPAGE: A web page or webpage is a resource of information that is suitable for the world wide web and can be accessed through a web browser. This information is usually in HTML or XHTML format and may provide navigation to other web pages via hypertext links.

COMPONENTS OF WWW:

Structural Components:

- ✓ Clients/ browsers – to dominant implementations
- ✓ Servers – run on sophisticated hardware
- ✓ Caches – many interesting implementations
- ✓ Internet – the global infrastructure which facilitates data transfer.

Semantic Components:

- ✓ Hyper Text Transfer Protocol (HTTP)
- ✓ Hyper Text Markup Language (HTML)
- ✓ Extensible Markup Language (XML)
- ✓ Uniform Resource Identifiers (URIs)

TYPES OF WEBSITES:

A) Classification according to Page

- ✓ Static website
- ✓ Dynamic website

STATIC WEBSITE: A static website is one that has web pages on the server in the same form as the user will view them. It is primarily coded in HTML and it simply presents pre-defines information to the user.

DYNAMIC WEBSITE: A dynamic website is one that does not have web pages stored on the server in the same form as the user will view them. Instead, the web page content changes automatically.

B) Classification according to function

- ✓ Personal website
- ✓ Commercial website
- ✓ Government website
- ✓ Non-profit organization website

PERSONAL WEBSITE: These are world wide web pages created by an individual to contain content of a personal nature rather than on behalf of a company, organization or institution.

COMMERCIAL WEBSITE: A website that generates revenue or cash flow of any type that isn't under a non-profit organization filed with that state.

GOVERNMENT WEBSITE: These are websites created by government to cope up with the need of new generation and make things easily available and convenient for them as well as the users.

NON-PROFITABLE ORGANIZATION WEBSITES: These are the websites which are used by not-for-profit organization to promote their cause of work and spread their work of kindness all over the world to help more people and also get more investments.

C) Classification according to Content

- ✓ Corporate Websites
- ✓ Flash Website
- ✓ E-commerce Websites
- ✓ Web apps & Intranets
- ✓ Game Websites
- ✓ Blog Websites
- ✓ Affiliate Websites

ADVANTAGES OF WWW:

- ✓ Mainly free information
- ✓ Low cost of initial connection
- ✓ Rapid interactive communication
- ✓ Facilitates the exchange of huge volumes of data
- ✓ Has become the global media.

DISADVANTAGES OF WWW:

- ✓ Danger of overload and excess information.
- ✓ Difficult to filter and prioritize information.
- ✓ No guarantee of finding what one is looking for
- ✓ No regulation

- ✓ No quality control over available data.

DIFFERENCE BETWEEN INTERNET AND WWW:

SI.No	INTERNET	WWW
1	Internet is a global network of networks.	WWW stands for World wide Web.
2	Internet is a means of connecting a computer to any other computer anywhere in the world.	World Wide Web which is a collection of information which is accessed via the Internet.
3	Internet is infrastructure.	WWW is service on top of that infrastructure.
4	Internet can be viewed as a big book-store.	Web can be viewed as collection of books on that store.
5	At some advanced level, to understand we can think of the Internet as hardware.	At some advanced level, to understand we can think of the WWW as software.
6	Internet is primarily hardware-based.	WWW is more software-oriented as compared to the Internet.
7	It is originated sometimes in late 1960s.	English scientist Tim Berners-Lee invented the World Wide Web in 1989.
8	Internet is superset of WWW.	WWW is a subset of the Internet.
9	The first version of the Internet was known as ARPANET.	In the beginning WWW was known as NSFNET.
10	Internet uses IP address.	WWW uses HTTP.

INTERNET PROTOCOL (IP)

The Internet Protocol (IP) is a protocol, or set of rules, for routing and addressing packets of data so that they can travel across networks and arrive at the correct destination.

Data traversing the Internet is divided into smaller pieces, called packets.

IP information is attached to each packet, and this information helps routers to send packets to the right place.

Every device or domain that connects to the Internet is assigned an IP address, and as packets are directed to the IP address attached to them, data arrives where it is needed.

Once the packets arrive at their destination, they are handled differently depending on which transport protocol is used in combination with IP.

The most common transport protocols are TCP and UDP.

IPv4 and IPv6:

The fourth version of IP (IPv4 for short) was introduced in 1983.

However, just as there are only so many possible permutations for automobile license plate numbers and they have to be reformatted periodically, the supply of available IPv4 addresses has become depleted.

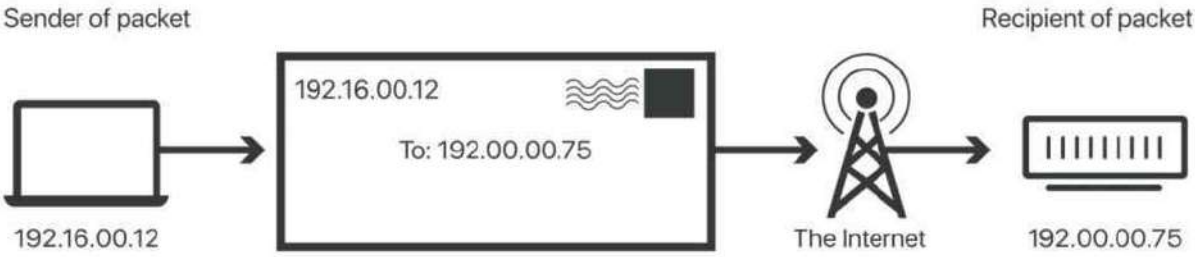
IPv6 addresses have many more characters and thus more permutations; however, IPv6 is not yet completely adopted, and most domains and devices still have IPv4 addresses.

HOW IP ADDRESSING WORK:

An IP address is a unique identifier assigned to a device or domain that connects to the Internet. Each IP address is a series of characters, such as '192.168.1.1'.

Via DNS resolvers, which translate human-readable domain names into IP addresses, users are able to access websites without memorizing this complex series of characters.

Each IP packet will contain both the IP address of the device or domain sending the packet and the IP address of the intended recipient, much like how both the destination address and the return address are included on a piece of mail.



IP PACKET:

IP packets are created by adding an IP header to each packet of data before it is sent on its way. An IP header is just a series of bits (ones and zeros), and it records several pieces of information about the packet, including the sending and receiving IP address.

IP headers also report:

- ✓ Header length
- ✓ Packet length
- ✓ Time To Live (TTL), or the number of networks hops a packet can make before it is discarded
- ✓ Which transport protocol is being used (TCP, UDP, etc.)

TCP/IP:

The Transmission Control Protocol (TCP) is a transport protocol, meaning it dictates the way data is sent and received.

A TCP header is included in the data portion of each packet that uses TCP/IP.

Before transmitting data, TCP opens a connection with the recipient.

TCP ensures that all packets arrive in order once transmission begins.

Via TCP, the recipient will acknowledge receiving each packet that arrives.

Missing packets will be sent again if receipt is not acknowledged.

TCP is designed for reliability, not speed.

Because TCP has to make sure all packets arrive in order, loading data via TCP/IP can take longer if some packets are missing.

TCP and IP were originally designed to be used together, and these are often referred to as the TCP/IP suite.

However, other transport protocols can be used with IP.

UDP/IP:

The User Datagram Protocol, or UDP, is another widely used transport protocol.

It's faster than TCP, but it is also less reliable. UDP does not make sure all packets are delivered and in order, and it doesn't establish a connection before beginning or receiving transmissions.

FTP

The File Transfer Protocol (FTP) is a standard communication protocol used for the transfer of computer files from a server to a client on a computer network.

FTP is built on a client–server model architecture using separate control and data connections between the client and the server.

FTP users may authenticate themselves with a clear-text sign-in protocol, normally in the form of a username and password, but can connect anonymously if the server is configured to allow it.

For secure transmission that protects the username and password, and encrypts the content, FTP is often secured with SSL/TLS (FTPS) or replaced with SSH File Transfer Protocol (SFTP).

THE ROLE OF FTP PROTOCOL:

FTP protocol defines the way in which data must be transferred over a TCP/IP network. The aim of FTP protocol is to,

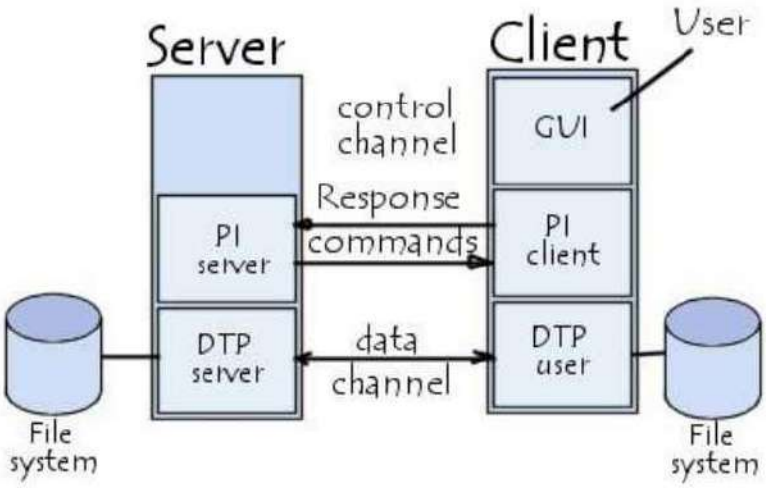
- ✓ allow file sharing between remote machines
- ✓ allow independence between client and server machine system files
- ✓ enable efficient data transfer

THE FTP MODEL:

FTP protocol falls within a client-server model, i.e., one machine sends orders (the client) and the other awaits requests to carry out actions (the server).

During an FTP connection, two transmission channels are open. They are,

- ✓ A channel for commands (control channel)
- ✓ A channel for data.



So, both the client and server have two processes allowing these two types of information to be managed:

1. DTP (Data Transfer Process) is the process in charge of establishing the connection and managing the data channel. The server-side DTP is called SERVER-DTP, the client-side DTP is called USER-DTP.

2. PI (Protocol Interpreter) interprets the protocol allowing the DTP to be controlled using commands received over the control channel. It is different on the client and the server:

3. The SERVER-PI is responsible for listening to the commands coming from a USER-PI over the control channel on a data port, establishing the connection for the control channel, receiving FTP commands from the USER-PI over this, responding to them and running the SERVER-DTP.

4. The USER-PI is responsible for establishing the connection with the FTP server, sending FTP commands, receiving responses from the SERVER-PI and controlling the USER-DTP if needed.

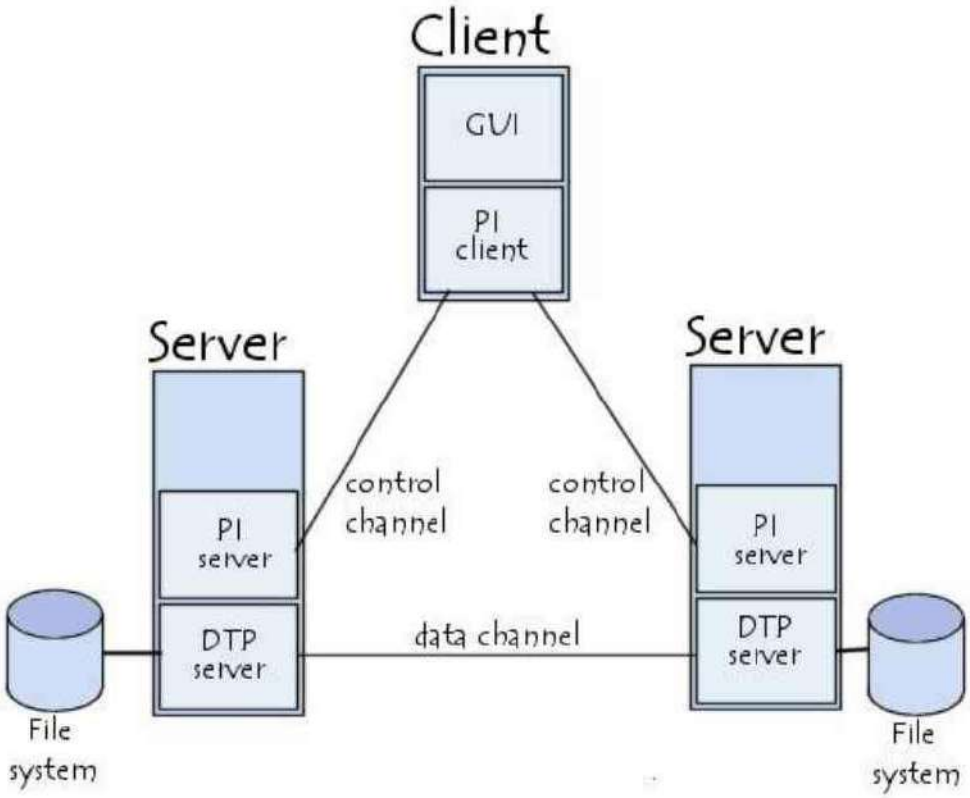
When an FTP client is connected to an FTP server, the USER-PI initiates the connection to the server according to the Telnet protocol.

The client sends FTP commands to the server, the server interprets them, runs its DTP, then sends a standard response.

Once the connection is established, the server-PI gives the port on which data will be sent to the Client DTP.

The client DTP then listens on the specified port for data coming from the server. It is important to note that since the control and data ports are separate channels, it is possible to send commands from one machine and receive data on another.

So, for example it is possible to transfer data between FTP servers by passing through a client to send control instructions and by transferring information between two server processes connected on the right port.



In this configuration, the protocol imposes that the control channels remain open throughout the data transfer. So, a server can stop a transmission if the control channel is broken during transmission.

ACTIVE AND PASSIVE MODE:

During the address/port negotiation phase, the client will issue either the PORT command (when in Active Mode) or the PASV command (when in Passive Mode).

• Active Mode—The client issues a PORT command to the server signaling that the client will "actively" provide an IP and port number to open the Data Connection back to the client.

• Passive Mode—The client issues a PASV command to indicate that the client will wait "passively" for the server to supply an IP and port number, after which the client will create a Data Connection to the server.

Once the IP address and port number have been selected, the party that chose the IP address and port will begin to listen on the address/port specified and wait for the other party to connect.

When the other party connects to the listening party, the data transfer begins. After the data has been transferred, the party that has sent the data will close the Data Connection, signaling end-of-file (EOF).

INTRANET AND EXTRANET

INTRANET :

Intranet is owned by a single organization and is a tool for sharing information throughout the organization.

It is the type of Internet that is used privately.

Since, intranet is a private network so no one can use the intranet whose have not valid username and password.

In intranet, there are a limited number of connected devices as compared to internet. Intranet is highly secure and has a small number of visitors.

It is used in order to get employee information, telephone directory etc.

EXTRANET :

Extranet is owned by either a single or a many organization.

It is managed on a contractual basis between organizations and is a tool for sharing information between the internal members and external members.

Like intranet, it is also a private network so only those who have a valid username and password can use the extranet.

Extranet is used to check status, access data, send mail, place order etc.

DIFFERENCE BETWEEN INTRANET AND EXTRANET:

S.NO	Intranet	Extranet
1.	Intranet is a tool for sharing information throughout the organization.	Whereas Extranet is a tool for sharing information between the internal members and external members.
2.	Intranet is owned by a single organization.	While Extranet is owned by either a single or a many organization.
3.	In intranet, security is implemented through a firewall.	Whereas in this, security is implemented through a firewall in order to separate the extranet and the internet.
4.	Intranet is managed by an organization.	Whereas Extranet is managed by many organizations.
5.	Intranet has a limited number of connected devices.	Whereas in the extranet, connected devices are comparable with the intranet.
6.	Intranet is a private network type for an organization.	While it is also a private network in which public network is used in order to share the information to the suppliers and customers.
7.	Intranet is used in order to get employee information, telephone directory etc.	While It is used to check status, access data, send mail, place order etc.
8.	Intranet is the limited and compromised version of Extranet.	While Extranet is the limited and compromised version of Internet.
9.	A particular organization is the regulating authority for intranet.	While it is regulated by multiple organizations.
10.	It is accessible to only the members of organization.	It is accessible to members of organization as well as external members with logins.
11.	It's restricted area is upto an organization.	It's restricted area is upto an organization and some of its stakeholders.

12.	It is derived from Internet.	It is derived from Intranet.
13.	Example: WIPRO using internal network for its business operations.	Example: DELL and Intel using network for business related operations.

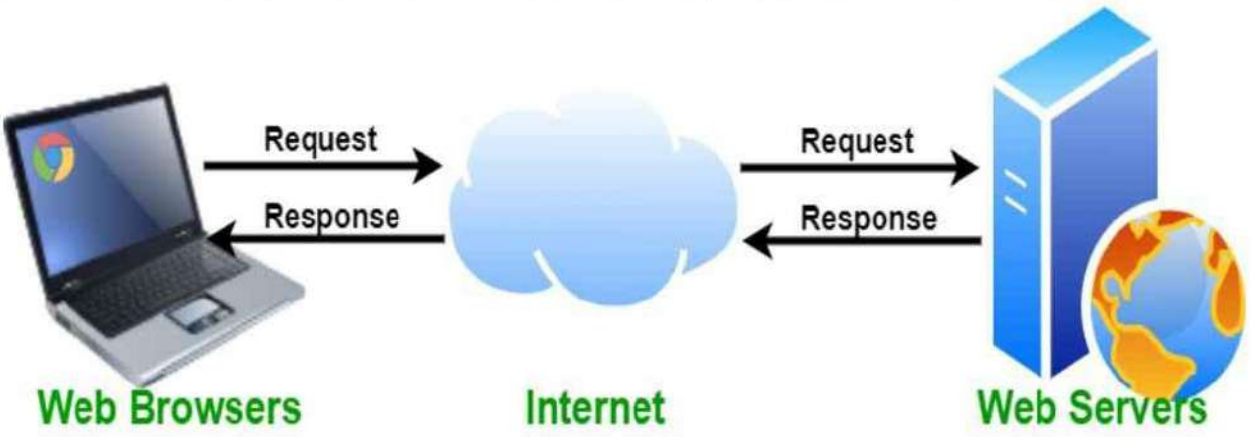
WEB SERVER

Web server meaning is that it can combination of software and hardware that uses HTTP (Hypertext Transfer Protocol) as well as other protocols for getting responds to each client requests made over the WWW (World Wide Web).

Web server is a program which processes the network requests of the users and serves them with files that create web pages.

This exchange takes place using Hypertext Transfer Protocol (HTTP).

Basically, web servers are computers used to store HTTP files which makes a website and when a client requests a certain website, it delivers the requested website to the client.



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Different websites can be stored on the same or different web servers but that doesn't affect the actual website that you are seeing in your computer.

The web server can be any software or hardware but is usually a software running on a computer.

One web server can handle multiple users at any given time which is a necessity otherwise there had to be a web server for each user and considering the current world population, is nearly close to impossible.

A web server is never disconnected from the internet because if it was, then it won't be able to receive any requests, and therefore cannot process them.

HARDWARE SERVER

On the hardware edge, web server is a super performing computer which helps to hold their software as well as website's data files like as text, images, video, and application data.

Web server make to connection with internet and to interchange all data along with other devices which are linked to web.

A hardware server is the actual computer that stores the website data and delivers it to site visitors when they demand it by click on the website.

There is a big role of web server hardware as it facilitates in connecting to the internet and allows data to be exchanged with other connected devices, while web server software controls how a user accesses hosted file.

(Thus, for a very small company either it could be MSME, SME, a single computer can control the HTTP server along with an FTP server for file downloads, an SMTP server for email and other Internet-related functions. In a large company which has a multiple location and has cross border business, every service would run in one or more dedicated servers, and a gigantic website may require hundreds of servers to switch through Web hosting and cloud computing.)

The three main hardware components to consider when choosing a web server are,

- ✓ The CPU or processor,
- ✓ Memory (RAM) and
- ✓ Hard drive (storage).

However, it is also important to consider other factors such as bandwidth, reliability, security, support, backups and other issues that help your server to run efficiently.

HARDWARE SPECIFICATIONS FOR WEB SERVER:

LARGE	MEDIUM	SMALL
Supports up to 7500 concurrent users.	Supports up to 1000 concurrent users.	Supports up to 400 concurrent users.
1 TB of disk space for cache	500 GB of disk space for cache	200 GB of disk space for cache
16 CPU cores	12 CPU cores	8 CPU cores
64 GB RAM	32 GB RAM	16 GB RAM

SOFTWARE SERVER

A web server software that uses HTTP (Hypertext Transfer Protocol) and other protocols to respond to client requests made over the World Wide Web.

A web server software, dedicated to running this software, which can gratify client requests on the World Wide Web.

Web servers can repeatedly be found embedded in devices such as printers, routers, webcams and serving only a local network.

On the software side, a web server includes several parts that control how web user's access hosted files. At a minimum, this is an HTTP server.

An HTTP server is software that understands URLs (web addresses) and HTTP (the protocol your browser uses to view web pages).

An HTTP server can be accessed through the domain names of the websites it stores, and it delivers the content of these hosted websites to the end user's device.

The web server may then be used as a part of a system for monitoring or administering the device in question.

This typically means that no other software has to be installed on the client computer since only a web browser is obligatory (which now is incorporated with most operating systems).

These web pages are more often than not static content that includes HTML documents, images, style sheets, tests etc. Apart from HTTP, a web server also supports SMTP (Simple Mail transfer Protocol) and FTP (File Transfer Protocol) protocol for emailing and for file transfer and storage.

Example for web server software are Apache HTTP, Apache Tomcat, Boa, Caddy, HFS, Jetty, Zeus web server, Zope, etc.,

FEATURES OF WEB SERVER SOFTWARE

Various features of web server software are,

- ✓ Client Request Processing
- ✓ IP-Sharing or Virtual Server
- ✓ Logical file
- ✓ Security
- ✓ Site management
- ✓ Application Development

UNIT - III

BUSINESS APPLICATIONS

Consumer oriented e-business – e-tailing and models - Marketing on web – advertising, e-mail marketing, affiliated programs - e-CRM; online services, Business oriented e-business,e-governance,EDI on the internet, Delivery management system, Web Auctions, Virtual communities and Web portals– social media marketing

Consumer oriented e-business

Customer-centric e-commerce, as the name suggests, is a strategy that starts and finishes with one goal in mind: excellent customer experiences. The shift from concentrating solely on profit and skewing more towards customer centricity has helped numerous businesses in becoming better overall.

A customer-centric e-commerce business would need features like:

- A strong relationship with the customer, built through educational content, virtual events, and personalized offers;
- All the product information needed by the customer and an easy-to-use checkout process;
- Alerts reminding the clients about abandoned carts and related product suggestions;
- Easy payment options, full delivery
- A simple returns policy, and of course, excellent customer support.

How to Build a Customer-Centric eCommerce Store

Analyse customers database

Capable to detect who are most valuable customers:

- Better and cheaper advertising campaigns based on lookalike audiences
- An improved website based on Ideal Customer Profile
- Meaningful messages
- Highly performant retention and loyalty programs

Never assume – always be on the lookout for feedback

It is said that all truths are easy to understand once they are discovered; the point is to discover them. Therefore, it's important to make it a regular task to send existing customer base feedback forms, ask them to write reviews on social media or Google, and to keep in touch with them in regards to their experience. This is all part of customer relationship management and is an integral part of customer-centricity.

This will offer an objective overview of how business is doing, as well as create a closer bond with clients – making them feel like they matter.

Mobile browsing should be top priority

One priority should be – regardless of business – to make sure everything is working smoothly from every possible device. An easy way to integrate this into online experience is to start mobile – choose a mobile layout, make it perfect, then adapt it for desktop.

Other factors might consider to make the experience run as best as possible on all devices would be to:

- Let customers log in using their social media accounts. Less hassle trying to remember passwords, less time wasted to entering individual information, a greater chance that the customer will end up purchasing something quick and easy;
- Make payment as easy as possible. Most clients nowadays already have a payment method set on their phones, and already an approximate third of smartphone users have ditched their cards for mobile payments. Therefore, making it convenient for them is a must in order to create satisfying customer experiences. Convenient payment can increase customer lifetime value when it encourages them to buy more;
- Keep in mind the limitations of mobile use and prevent them. Conduct research to better understand where customer frustrations lay, where churn rate occurs, and make sure that your mobile experience does not go through the same obstacles.

Offer support, always

Having a 24/7 customer support number they can reach would be ideal, but in order to cut costs and optimize the experience, introduce a live chat support system. It's great for clarifying misunderstandings, answering FAQs, and resolving issues.

FAQ pages, customer forums, and Facebook pages are also great to minimize costs, whilst making sure every and all questions are answered in a timely manner, encouraging a more wholesome shopping experience.

Return policy – make it simple & easy to understand

A complicated return policy might deter customers from buying. That's especially true if they've heard bad experiences from their peers in regards to return process.

Make sure the policy is written in simple terms and is easy to understand from all perspectives. Try to use bullet points and straightforward actions. Especially nowadays, make as much as the process as possible online, including forms, sending receipts, and photos.

Warranties – a place worth investing in

Solve the problem more effectively but also almost guarantee keep those customer relationships in the long run. Plus, additional recommendations after the fact are just the cherry on top.

Product videos are lifesavers

Product videos are one of the most useful features on website.These are of great use before and after the sale, they are sharable (especially if the technology is unique) and can be used as a great motive to keep in contact with clients after the sale has already been made.

Stay in touch with new technologies

It's nothing new – technology is ever-changing, sometimes at such alarming rates that it's rather difficult to keep up with it.New technologies can help to improve customer satisfaction, gather insightful data more efficiently, and improve overall strategy in the long run.

e-tailing and models

E-shopping or Online Shopping is the process of buying goods and services from merchants who sell their products on the Internet. Finding a product online is much easier than looking for it in the local store. Electronic retailing (E-tailing) is the sale of goods and services through the Internet. It can include business-to-business (B2B) and business-to-consumer (B2C) sales of products and services. It requires companies to tailor their business models to capture Internet sales, which can include building out distribution channels such as warehouses, internet webpage, and product shipping centres. Notably, strong distribution channels are critical to electronic retailing as these are the avenues that move the product to the customer. It

includes a broad range of companies and industries. However, there are similarities between most E-tailing companies that include an engaging website, online marketing strategy, efficient distribution of products or services, and customer data analytics.

Successful e-tailing requires strong branding. Websites must be engaging, easily navigable, and regularly updated to meet consumers' changing demands. Products and services need to stand out from competitors' offerings and add value to consumers' lives. Also, a company's offerings must be competitively priced so that consumers do not favour one business over another on a cost basis only. E-tailers need strong distribution networks that are prompt and efficient. Consumers cannot wait for long periods for the delivery of products or services. Transparency in business practices is also important, so consumers trust and stay loyal to a company.

Retail is the process of selling consumer goods or services to customers through multiple channels of distribution to earn a profit. Retailers satisfy demand identified through a supply chain. The term "retailer" is typically applied where a service provider fills the small orders of many individuals, who are end-users, rather than large orders of a small number of wholesales, corporate or government clientele. Thus, Retail is the sale of goods on a physical location where the seller and the buyer meet in person. Whereas e- tail is the sale of goods on the internet where the transaction happens in a digital environment. Various popular players of E-tailing are Amazon, Flipkart, Zomato, Swiggy, MakemyTrip etc, and for retailers are Walmart, Mcdonalds, Big Bazaar etc.

E-tailing stands for E-retailing also known as e-retail as *"sales of goods and services via the internet or other electronic sources, for personal and household use by consumers".*

The term E-Retailing was first developed in the European countries. It has both passive and interactive retail system while all e-tailing is generally limited to passive, air ticketing and other entertainment booking is designed in interactive system mostly. E-tailing has various features as stated below:

- Saves time and efforts.
- Convenience of shopping at home.
- Wide variety/range of products.
- Good discounts / lower prices.
- Get detailed information about the product.
- Easy comparison of various models/brands.

There are many types of E-tailers most popular of these two are:

1. **Pure Play (Virtual) e-retailers**- Retailers that only do the electronic transactions and do not have any physical outlet for the customers. For example- Amazon & Flipkart

2. **Brick and click (Click-and-mortar) e-retailers-** Retailers who do the both online and offline transactions i.e. through internet and physical outlets. For example, Dell.

E-tailing has various advantages as well as disadvantages both for there tailers as well as buyers as explained below:

Advantages of E-tailing for retailers:

1. **Location utility:** Location is utmost important for the conventional retailing process to provide convenience utility to its consumers. However, in e-tailing location is not important. Retailers and customers need internet for e-tailing and transaction can happen from anywhere from within the country or overseas.

2. **Less expensive:** As compare to organised retailing, e-tailing is less expensive as it saves wages of salesmen and premises cost and maintenance. These expenditures are low as compare to internet cost.

3. **High Reach:** Integration with customers is high in e-tailing as customers can be local, national and international. Through internet, e-tailers can reach to large audience.

4. **24*7 businesses:** The time utility for customers is high in e-tailing as customers can buy the products and services from anywhere and anytime.

5. **Feedback:** It's easy to manage customer relationship management in e- tailing on the basis of feedback of consumers.

Disadvantages of E-tailing for retailers

1. **Lack to infrastructure:** The issues of accessibility and connectivity of internet causes problems in functioning of e-tailing activities. Also, the initial investment cost is very high in e-tailing.

2. **Lack of technological expertise:** To start an online retailing project it is important to have technological expertise and not all retailers have it.

3. **Complex logistic management:** Intrinsic and extrinsic challenges increase the complexities in e-tailing logistics. Like cash on delivery increases the operational cycle, managing high rates of returns, poor logistic management in rural areas and problems in cross-nation shipments.

4. **Customers' expectations:** In terms of flexibility in delivery, detailed product descriptions, cost and security of delivery, flexible payment options sets high expectations of customers.

5. **Lack of personal touch:** The lack of face-to-face interaction, persuasion and handling the customers' query is a major disadvantage in e-tailing.

6. **High competition:** E-tailers have to compete with other e-tailers as well as the organised and unorganised retailers in the market that increase the competitions for them.

Advantages of E-tailing for buyers

1. Time utility as consumers can shop 24*7

2. Place utility as consumers can shop from anywhere

3. Convenience utility as consumers can shop from any mode via computer, laptops or mobile

4. Option utility as consumers can get wide range of option via e-tailing

Disadvantages of E-tailing for buyers

1. Customers may be uncertain regarding the quality of the products and services offered online

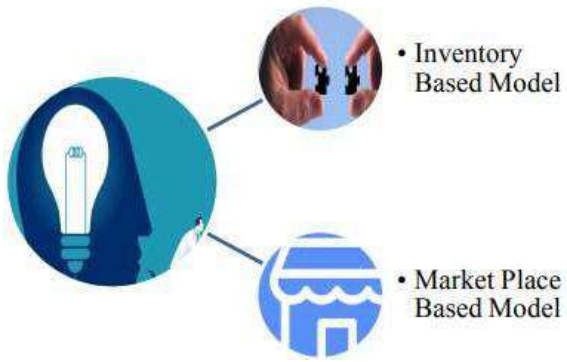
2. Fear regarding online fraud and loss of money

3. Every time not every product is available.

4. Lack of technological know-how.

E-tailing Models

Two models of E-tailing are explained below:



1. **Inventory based model:** According to the FDI policy in India, "Inventory model of e-commerce means an e-commerce activity where inventory of goods and services is owned by e-commerce entity and is sold to the consumers directly." It includes the e-tailing activities where inventory of products and services is owned by e-tailers and it is directly sold to customers. The main feature of this model is end to end process i.e., from initiating from product purchase to managing logistics and finally dispatching the products. Example- Alibaba, Jabong.

2. **Marketplace based model:** According to the FDI policy guideline, "Marketplace model of e-commerce means providing of an information technology platform by an e-commerce entity on a digital and electronic network to act as a facilitator between buyer and seller." This model provides a platform where buyers and sellers do the transactions in efficient, transparent and trusted environment. Here, buyers can compare the prices and accordingly place the orders to the authorized sellers on the website. Majorly, e-tailers like Amazon, Patym mall and Flipkart practice the marketplace-based model. For example, when buyer login to Amazon India and place an order to a registered seller, Amazon India act as a mediator here. Subsequently, the registered seller takes care of logistics and dispatching of the products to the customers.

Marketing on web

Web marketing is now used to refer to any advertising activity that is conducted online. Most marketing activities are now done through the Internet because of the lower cost. Web marketing is the process of using the Internet to market your business. It includes the use of social media, search engines, blogging, videos, and email. Promoting a business takes effort. There are a variety of ways to do it. Traditional advertising in newspapers, on the radio and television, direct mail, and billboards has been around for decades.It takes your message to the big wide web.

What Are The Different Examples Of Web Marketing?

The most common examples of web marketing are SEO, social media, email, PPC, and content but those are not the only ones. Using the internet to connect with and engage buyers is a smart move. But where do you begin?

The options are overwhelming, and few companies jump into all of them at once. Here's a brief overview of possibilities.

1. Email Marketing

Creating emails about a product or service and then sending them to a base of prospects is one of the most widely used forms of web marketing.Email marketing is inexpensive and can be highly targeted. For every $1 spent, email marketing generates $38 in ROI.

The downside is that consumers get tons of emails in their inboxes every day, so, unless they need to nail the message, it may end up in the trash folder, unread and neglected.

2. Social Media Marketing

Creating a company profile and engaging on social media has developed many small companies into thriving powerhouses.

As with email marketing, this form of web marketing is inexpensive, and getting into it is simple.

However, throwing up posts every now and then without a set calendar won't set up for a rousing success.

3. Content Marketing

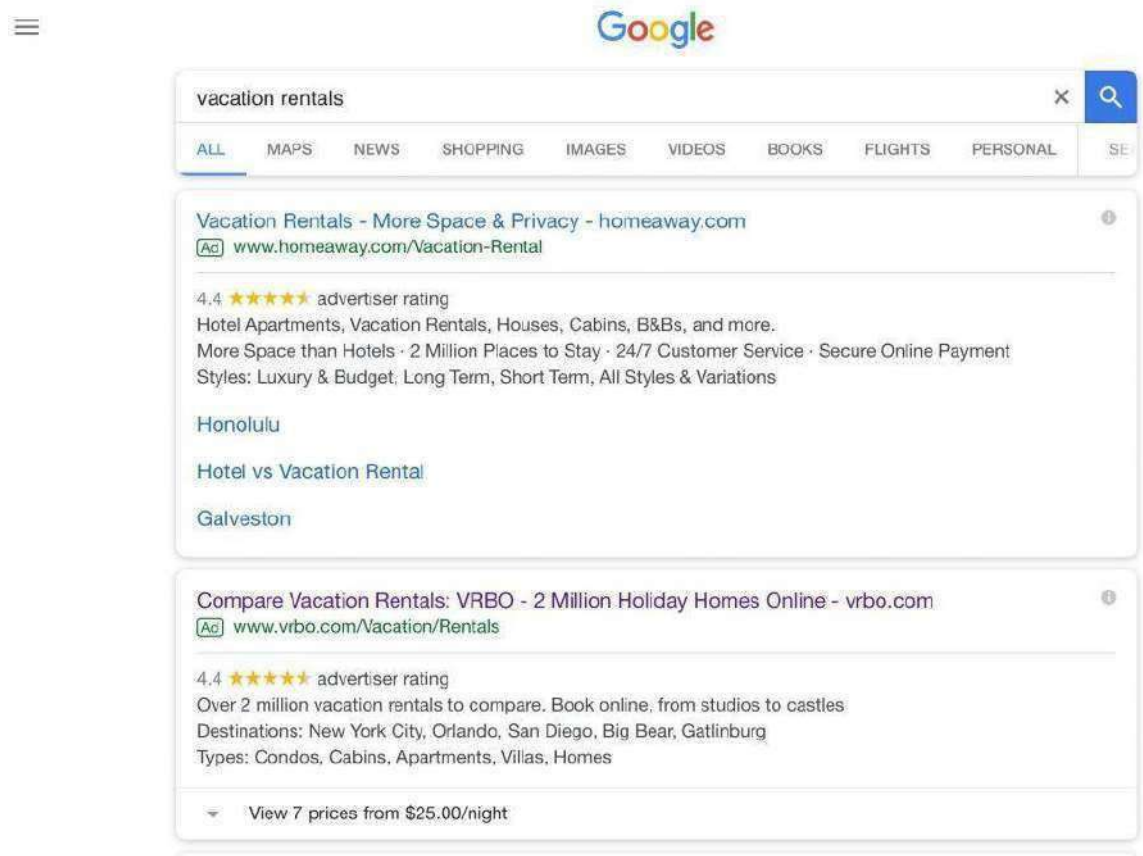
"content is king". Content marketing is exploding as an effective web marketing tool.Companies that post blogs on a regular basis see four times the website traffic as the companies that don't.The reason is simple.People search for answers on the internet.The company that doles out helpful, easy-to-understand answers that are relevant to their questions win the grand prize of loyalty and trust.In fact, based on a recent survey, 96% of online advertisers state that content marketing is indeed effective for their businesses. A steady stream of high-quality content strategically distributed can double, triple, and quadruple a company's sales!

4. Search Engine Optimization

Companies aiming to get more business from their online efforts will need to sink their teeth into search engine optimization services.

Mastering this technique helps content get ranked higher in those all-important search engine searches, drives more traffic to your website, and increases the chances of capturing more sales dollars.If you are operating in an industry that is already competitive online, it might be tough to get to the top of the search rankings.

5. Google Ads (or PPC Advertising)



An astonishing 63,000 searches are performed on Google every second.Companies can pay to be at the top of the search, ahead of the organic returned results.Google ads are a valuable part of

web marketing because they put business in front of an audience that is already searching for information about product or service.They are also cost-effective because to set a budget in advance and only pay for click-throughs.

6. Display Ads

Companies can choose to advertise on certain websites where their buyers are likely to visit. Good choices of these are industry publications and associations. The website typically charges a fee to each company that wants to advertise. Prices vary depending on the size and placement of the ad. The key to making display ads successful is to know what attracts your prospects, and then being able to capture their information once they click through your landing page.

7. Retargeting

Has a lead visited your website and then clicked away? 49% of buyers visit a website between 2-4 times before making a purchase.And mostly for these websites, only 2% of their web traffic are actually converting on the first visit.

Retargeting is a form of web marketing that can bring them back into the sales funnel.For example, a person looks at your website.Your site drops a cookie that is a trail leading you back to them.When they visit other sites, your retargeting ad shows up as a banner, reminding them of your company.If they click on it, they will be routed back to one of your awesomely designed landing pages.

Retargeting is essential in re-engaging potential customers who, for one reason or another, didn't complete their transaction with you.It is a technique that helps brands engage that 98% of users who didn't convert on their first visit.This also includes users who abandoned their carts before settling the payment. Now you see how in-depth and multi-faceted the term web marketing

actually is.Savvy business leaders know to put time into their decisions of which options to use,

so they get the most return on their investment of time and cash.

8. Affiliated programs

An affiliate program is an automated electronic program that involves a Web advertiser and recruited webmasters. The webmasters, as affiliates, place the company's advertisements on their individually owned websites.

The ads in affiliate programs are linked to company websites and are referred to as affiliate links. Affiliates generally have to apply for the affiliate programs, though the majority of the affiliate programs cost nothing to join. When an online visitor click the affiliate link, the visitor is redirected to the advertiser's website and if the customer/visitor makes a purchase, the affiliate is then paid a commission.

e-CRM

.Electronic customer relationship management (E-CRM) is the application of Internet-based technologies such as emails, websites, chat rooms, forums and other channels to achieve CRM objectives. It is a well-structured and coordinated process of CRM that automates the processes in marketing, sales and customer service.

An effective E-CRM increases the efficiency of the processes as well as improves the interactions with customers and enables businesses to customize products and services that meet the customers' individual needs.

The development of the Internet and e-commerce has changed CRM to a new, more "trendy" term, ECRM or Electronic Customer Relationship Management. Basically, this tool is the 4.0 technology adaptation of CRM to help companies approach and build customer relationships through online channels such as websites, email, etc…

Accordingly, ECRM provides all records and histories of interactions the organization has with its customers, payments, and information about products/services that interest customers: it's an effective way to increase customer loyalty!

E-CRM application is becoming important for all companies in all fields. An effective ECRM will help improve interaction with customers. At the same time, it allows businesses to choose products and services that satisfy customers' requirements.

The difference between CRM and ECRM

ECRM is defined as a "subcategory" of customer relationship management: CRM relies on multi-channel marketing while ECRM focuses on all web channels.

The difference between CRM and ECRM lies in the communication channels. CRM interacts with customers via phone, distribution channels, or fax. On the other hand, E-CRM contacts customers through the Internet, e-mail, and the latest technologies.

The benefits of ECRM

RM system allows both to:

- develop and maintain new digital channels,
- attract new prospects, namely visitors to your site,
- convert these prospects into customers and maximize revenue,
- retain customers and establish a long-term relationship of trust.

RM includes all the same benefits as CRM such as CRM advertising or CRM digitalmarketing

The features of the ECRM systems

ECRM has the following features:

- Customer management: Grant access to all customer information, containing the request status and other similar information
- Account management: Provide access to customer data and history, supporting the sales team to function in an effective way
- Administrative management: A centralized database that manages and shares customer information
- Case management: Notify inquiries, priority cases, and unresolved issues to the management department
- Back-end integration: Integrate with other systems such as billing, inventory, and logistics through websites and call centers
- Reporting and analysis: Create reports on customer behavior and business criteria

Evolutions of ECRM:

Consumer society and the birth of modern Customer Relations

ECRM has evolved over time. The first computer systems storing customer information date from the mid-1980s, but only in the late 90s, the CRM software market started to develop. Therefore, CRM existence is only 20 years old. On the contrary, the history of CRM stretches back thousands of years. CRM was born with commerce. Traders and businesses have always cared about Customer Relations because the human factor is always crucial in trading.

The 1980s - Customer Relations in the Computer Age

It was in the 1980s that computing took off. Microcomputers (or PCs, personal computers) are beginning to appear in organisations. Client-server architectures, which made it possible to create networked computer systems, emerged around the middle of the decade. This technological revolution gave birth to the first computerized databases.

The first Contact Management system, the ancestors of modern CRM, was developed at this time. This technology was then used, for the most part, by businesses or salespeople in their door-to-door sales and marketing activities. They simplify access to customer information.

The 1990s - The Birth of Modern CRM Software

The term Customer Relationship Management originated in the mid-1990s. There is a fight over its fatherhood. Some attribute it to Gartner, others to Thomas Siebel, founder of Siebel Systems, who created the flagship CRM solution of the 1990s.

The mid-1990s marked the appearance of Sales Force Automation (SFA). Their functionalities helped to rationalize and simplify certain tasks of the sales forces at the prospecting stage in B2B. Besides, we can also notice the first Contact Center management system that manages the after-sales process.

The 2000s - CRM in the age of the Internet

At the same time, more and more organizations are realizing that CRM not only serves to reduce costs but can help increase business revenue by making possible a richer Customer Relationship and better understanding customer needs.

1999 marks an important year of CRM evolutions: it is the beginning of Salesforce, a 100% online CRM platform. The move from CRM to the Cloud is a major development that will permanently mark the success of CRM. In the early 2000s, we began to talk about eCRM to qualify CRM system integrating the management of web contact points.

It was in the mid-2000s that a new category of tools blew up: Marketing Automation, intended to automate a part of the marketing task. In 2005, the HubSpot platform was launched, which creates automated relationship scenarios and sets up inbound marketing strategies. Another major development: the end of the 2000s saw the emergence of social media and the rise of Social CRM. From 2008-2009, major media groups used Twitter to interact directly with their customers.

The 2010s - an acceleration of CRM transformations

The beginning of the 2010s was first marked by the development of the SaaS model, which was accompanied by a new economic model, based on subscription. At the same time, CRM becomes accessible to small and medium-sized businesses and CRM approaches integrate a new dimension in B2C. The CRM system has accelerated in recent years and has continued to grow steadily. The impact of COVID-19 has switched all ECRM into virtual sessions by using the latest communications technologies to facilitate the meetings between collaborators like buyers and suppliers.

Types of CRM

While all those benefits apply on some level to just about any CRM, customer relationship management includes a large category of CS, marketing, and sales tools. Different CRM

products and methodologies vary in terms of features and focus, and they can be divided into three main categories.

1. Collaborative CRM systems
2. Operational CRM systems
3. Analytical CRM systems

1. Collaborative CRM systems

A top focus of collaborative CRM systems is breaking down silos. Often the marketing team, sales reps, and customer support agents are all in different departments that feel disconnected. And for bigger organizations, each of those departments is further separated based on factors like geographic locations, channels they serve, products they focus on, or skill specialties. But in order to provide a seamless customer experience throughout the customer's journey, you need a way to share information across the full organization in real-time.

Collaborative CRMs ensure all teams have access to the same up-to-date customer data, no matter which department or channel they work in. Not only does customer support have all the information marketing and sales teams collected when working with a prospective customer, but agents in a call center have updated data on customer interactions that happened over email or messaging channels.

Collaborative CRM treats each interaction as part of a larger, integrated conversation between the brand and the customer. That integration between departments and channels saves customers from the dreaded experience of repeating themselves each time they talk to a new contact. Each employee they interact with can quickly and easily pull up a record of all past interactions with the consumer to consult and learn all relevant details.

2. Operational CRM systems

Operational CRMs help streamline a company's processes for customer relationships. They provide tools to better visualize and more efficiently handle the full customer journey—even when it includes a high number of touchpoints. That starts from their first interactions with your

company's website, through the whole lead management process as they move through the sales pipeline, and continues with their behaviors once they've become a customer.

Operational CRM systems typically provide automation features. Marketing automation, sales automation, and service automation offload some of the work that your employees would otherwise have to handle. That opens up their schedule for the more creative and personal aspects of their jobs—the stuff that needs a human touch. And it makes it much easier for growing companies to continue to provide top-notch service to scale.

3. Analytical CRM systems

Analytical CRMs have the primary focus of helping you analyze the customer data you have to gain important insights. Digital tools and platforms now make it easy to collect large quantities of data. But data analysis—the step required to turn that data into something useful for your company—is a difficult feat. In fact, estimates suggest that over half of the data collected by companies never gets used.

Your customer data is too valuable for that. An analytical CRM provides features that help you use the data you have to see trends in how your customers behave. With that information, you can better understand what steps lead most successfully to sales, which increase customer retention, and what the most common customer problems are.

Business oriented e-business

Digital commerce is quickly developing across a wide range of channels, devices, sectors, and markets. When we think about eCommerce, though, we frequently think of B2C transactions. This refers to companies that sell to the general public or customers. B2B eCommerce, on the other hand, is concerned with business-to-business transactions and must consider the needs and desires of business consumers.

Business-to-business (B2B) eCommerce describes online business-to-business transactions in which a supplier or manufacturer sells goods to another company, typically a retailer. B2B enterprises, like any other type of business, come in a variety of forms, sizes, and levels of sophistication. They can cover a wide range of company types and industries, from accountancy, legal, and digital services to physical commodities including machinery, equipment, and consumer goods.

B2B eCommerce benefits

B2B eCommerce offers more than just allowing businesses to get online and sell their goods to a wider audience. It helps open doors to new markets, boost employee productivity, and encourage existing consumers to buy more. B2B companies who have eCommerce skills beat their competitors in terms of efficiency, demand more from their suppliers, and use actual data to make business choices that keep them competitive.

B2B eCommerce helps businesses boost sales

According to Zendesk, 67% of shoppers prefer using self-service tools rather than talking to a sales representative. Because your B2B eCommerce website can provide clients with the correct information and make it simple for them to fulfill their orders, it will rapidly become your greatest salesperson. You can allow consumers to self-serve, order, and reorder based on their negotiated terms, past quotations, or tailored rates. In that way, your revenue and average order values will significantly rise.

Moreover, B2B eCommerce will also enable you to quickly implement an automated up-selling and cross-selling recommendation program. This can encourage customers to buy related products or similar items with more features and benefits. As a result, you will not only acquire new customers but also increase your customer retention rate.

Reduce costs with B2B eCommerce

It may seem difficult to increase income while lowering costs, but B2B eCommerce may help you with that. Most elements of your business, including order input and customer support, can now be done online thanks to state-of-the-art technology. By automating and simplifying these numerous procedures, your firm may save money while improving the efficiency of its operations.

Reach more customers

Customers are already looking for the greatest deals online, comparing goods, and spending money with companies that fulfill their needs. Utilize the power of search engines to go where your consumers are investigating products. A responsive, SEO-friendly site that can be accessed from any device will rank higher on Google and raise company recognition.

By putting your web catalogs online, you may reach out to additional clients while also centralizing data. Even your physical teams, for example, will value a well-organized website. They'll have a single source of truth since catalog data, orders, pricing, and history will be conveniently available – whether they're in the office or working from home.

Increase productivity

Productivity is one of the possible benefits of B2B eCommerce. It enables firms to concentrate on developing connections with consumers rather than simply receiving orders. A self-service portal may accept orders 24/7, and provide consumers with tailored pricing, order progress, and other information. The potential for mistakes and misunderstandings is reduced with automated order procedures. This frees up your team to focus on tasks that a computer can't: advising, consulting, and assisting leads and clients.

Develop digital agility

B2B companies must be able to rapidly expand into new markets and scale their eCommerce operations to meet rising demand. Brands can easily form long-term connections or develop their own following thanks to many cutting-edge technologies.

Another advantage of B2B eCommerce is that it helps B2B retailers to expand their client base outside their immediate location. eCommerce businesses, unlike their brick-and-mortar counterparts, may create and operate online stores in local languages and accept local currencies and payment methods, even if this means operating under separate tax laws and regulatory regulations.

Deliver omnichannel customer experience

A B2B eCommerce experience overcomes the limitations of physical stores in terms of selling. Customers don't have to go to a showroom just to leave empty-handed because they can't locate what they're looking for. Customer journeys are rarely linear these days since they cross devices and platforms. Customers can, for example, start on your Facebook page from their mobile devices and then go to your desktop site. So with an eCommerce website, brands are able to deliver platform-specific messaging and conversion-driving experiences.

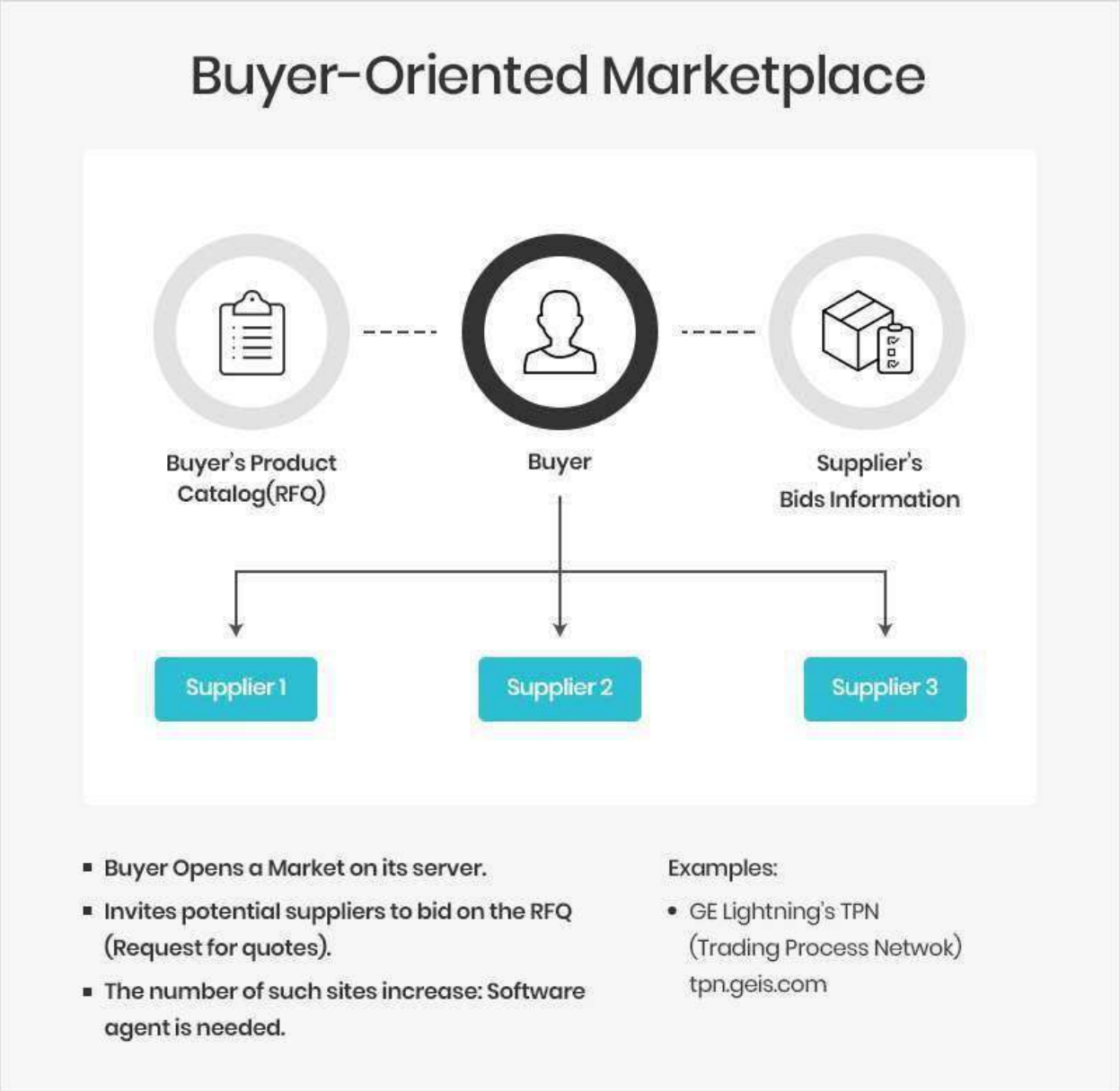
Get access to accurate analytics

With rising customer demands, fast thinking is critical, and companies cannot afford to make mistakes. Customers will turn elsewhere if you make poor judgments regarding orders, fulfillment, or even stock counts. Back-office employees can receive accurate stock counts and utilize that information to provide better customer services with the appropriate data at their fingertips.

Data connection with other business tools (ERP, PIM, Procurement, CRM, and so on) gives you a complete picture of your whole company process. This gives you a better understanding of business processes like inventory bottlenecks and helps you to make key business choices fast to improve your operations.

3 common types of B2B eCommerce

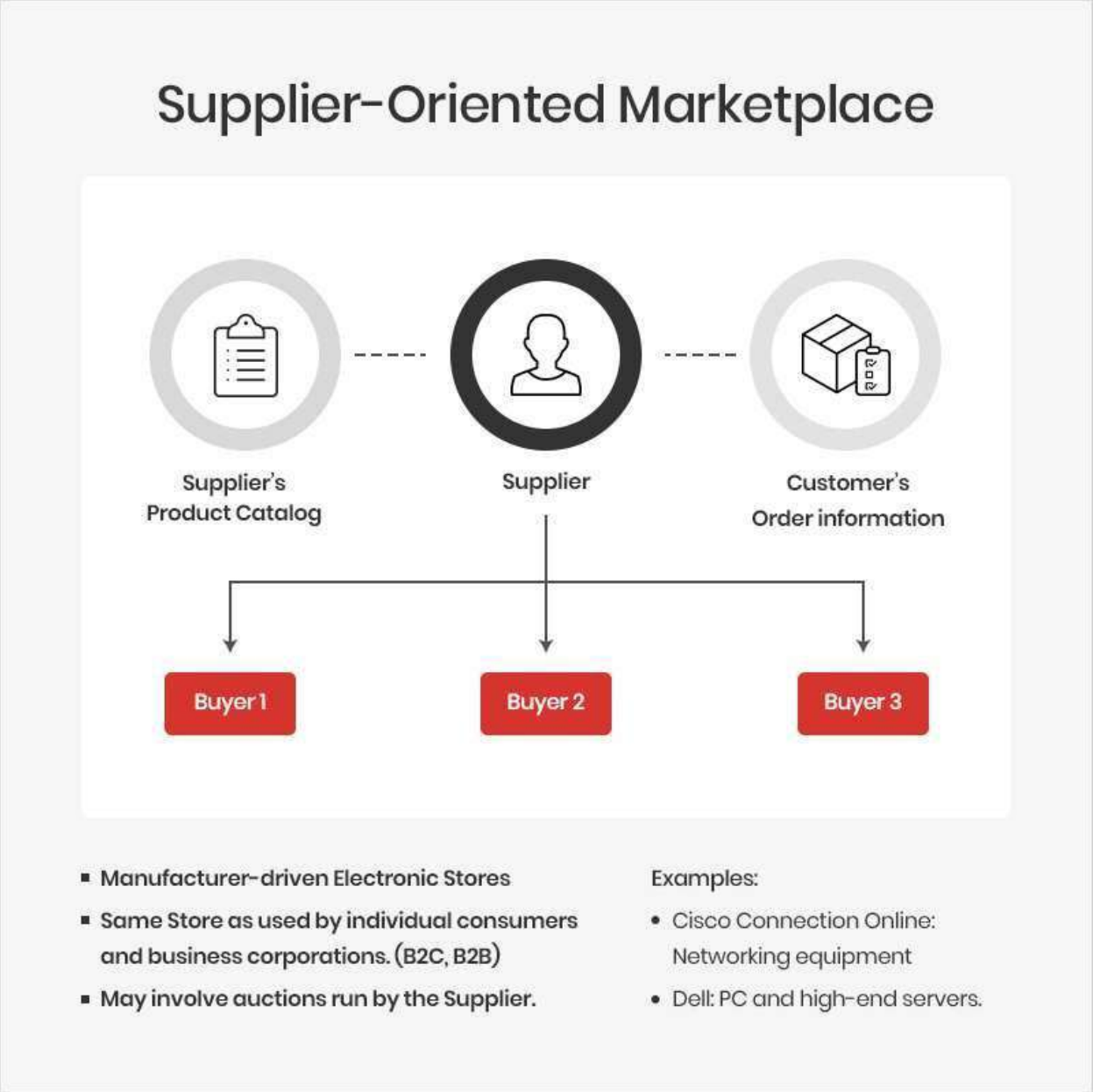
Buyer-oriented



Buyer-oriented marketplaces are where there are more buyers than sellers. Buyers have their own internet markets in this situation. They allow suppliers and manufacturers to display their wares and take bids from various vendors.

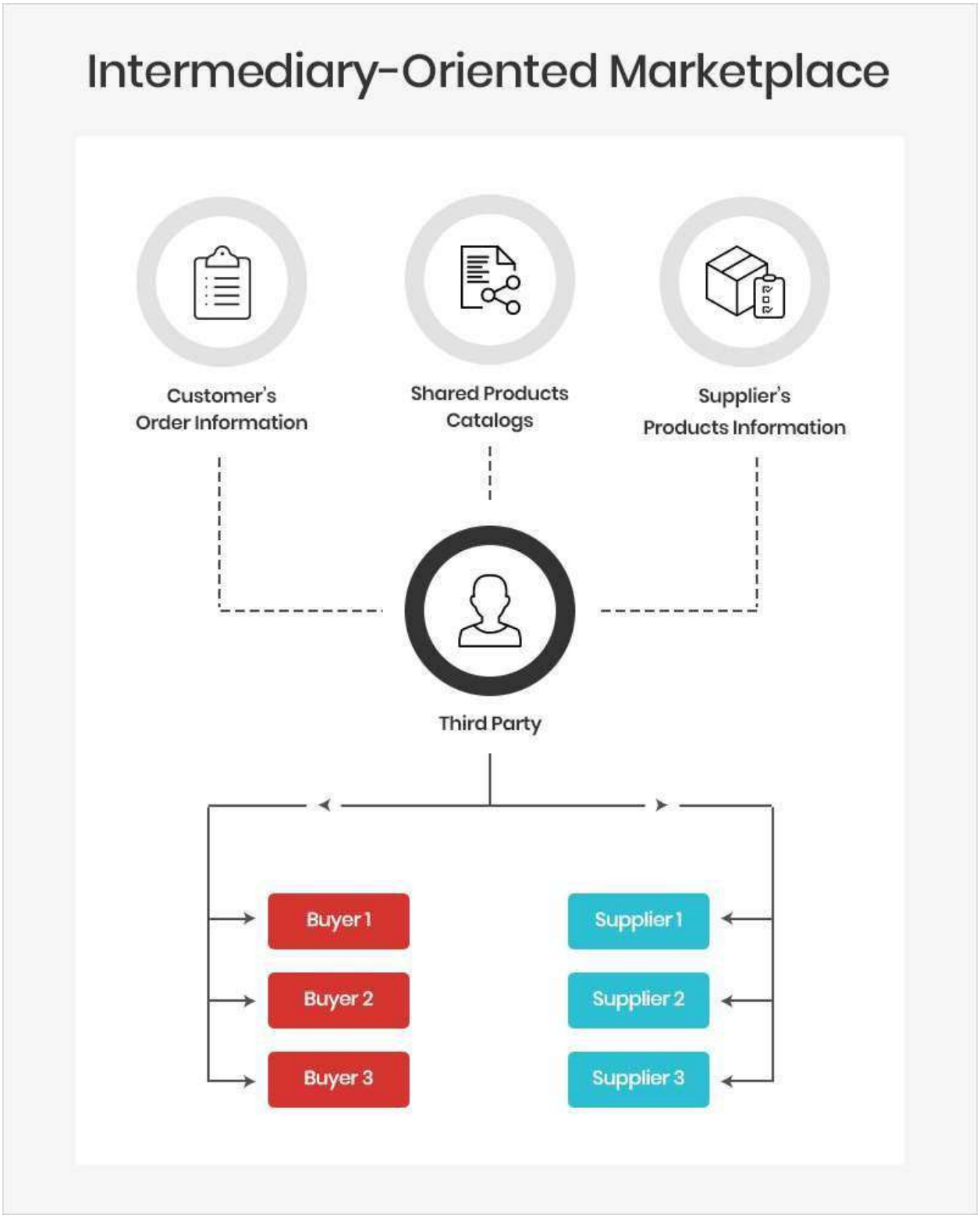
If you're a wholesale supplier, these B2B marketplaces are a cost-effective approach to market your items to buyers and merchants.

Supplier-oriented



This is a frequent approach for B2B sellers with a large number of buyers and few suppliers. To meet demand and sell at scale, businesses frequently join supplier directories or create an online sales portal. This strategy allows suppliers to manage price and the customer experience, which aids in the development of long-term partnerships with B2B buyers.

Intermediary-oriented



A third-party middleman connects buyers and sellers in the intermediary-oriented economy. The product catalogs and information are controlled by the middleman, which means you must

adhere to strict restrictions. It also has control over the buyer's orders, contact details, and relationships.

B2B eCommerce sites like Amazon Business, Alibaba, AliExpress, Rakuten, or TradeKey are examples of intermediary-oriented markets, often known as "horizontal marketplaces."

E-Governance

Electronic Governance or E-Governance is the application of Information and Communication Technology (ICT) for providing government services, interchange of statics, communication proceedings, and integration of various independent systems and services. Through the means of e-governance, government services are made available to citizens in a suitable, systematic, and transparent mode. The three main selected groups that can be discriminated against in governance concepts are government, common people, and business groups.

E-governance is the best utilization of information and communication technologies to mutate and upgrade the coherence, productivity, efficacy, transparency, and liability of informational and transnational interchanges within government, between government agencies at different levels, citizens & businesses. It also gives authorization to citizens through access and use of information. Generally, E-governance uses information and communication technologies at various levels of the government and the public sector to enhance governance.

Theoretical studies state that E-Governance is the procedure of change of the correlation of government with its ingredients, the citizens, the businesses, and its own organs, through the use of tools of information and communication technology.

The UNESCO states that E-governance is the public sector's use of information and communication automation in order to upgrade information and service delivery, stimulating

resident involvement in the decision-making process and making government more liable, unambiguous and productive.

Elements of E-Governance:

Basic elements of e-governance are:

1. Government
2. Citizens
3. Investors/Businesses

Types of E-Governance:

E-governance is of 4 types:

1. Government-to-Citizen (G2C): The Government-to-citizen mentions the government services that are acquired by the familiar people. Most of the government services come under G2C. Similarly, the primary aim of Government-to-citizen is to supply facilities to the citizens. It also helps ordinary people to minimize the time and cost to carry out a transaction. A citizen can retrieve the facilities anytime from anywhere. Similarly, spending the administrative fee online is also possible due to G2C. The facility of Government-to-Citizen allows the ordinary citizen to outclass time limitations. It also focuses on geographic land barriers.
2. Government-to-business (G2B): Government-to-business is the interchange of services between Government and Business firms. It is productive for both government and business firms. G2B provides access to pertinent forms needed to observe. It also contains many services interchanged between business sectors and

government. Similarly, Government-to-business provides timely business information. A business organization can have easy and easy online access to government agencies. G2B plays an important role in business development. It upgrades the efficiency and quality of communication and transparency of government projects.

3. Government-to-Government (G2G): The Government-to-Government mentions the interaction between different government departments, firms, and agencies. This increases the efficiency of government processes. In G2G, government agencies can share the same database using online communication. The government departments can work together. This service can increase international discretion and relations. G2G services can be at the local level or at the international level. It can convey to both global government and local government. It also provides a safe and secure inter-relationship between domestic and foreign governments. G2G builds a universal database for all members to upgrade service.
4. Government-to-Employee (G2E): The Government-to-Employee is the internal part of G2G section. It aims to bring employees together and improvise knowledge sharing. It provides online facilities to the employees. Similarly, applying for leave, reviewing salary payment record and checking the balance of holiday. The G2E sector yields human resource training and development. So, G2E is also the correlation between employees and government institutions.

Advantages of E-Governance:

The supreme goal of e-governance is to be able to provide an increased portfolio of public services to citizens in a systematic and cost effective way. It allows for government transparency because it allows the public to be informed about what the government is working on as well as the policies they are trying to implement.

The main advantage while executing electronic government will be to enhance the efficiency of the current system.

Another advantage is that it increases transparency in the administration, reduces costs, increases revenue growth, and also improves relationships between the public and the civic authorities.

Disadvantages of E-Governance:

The main disadvantage regarding e-governance is the absence of fairness in public access to the internet, of trustworthy information on the web, and disguised agendas of government groups that could have an impact and could bias public opinions.

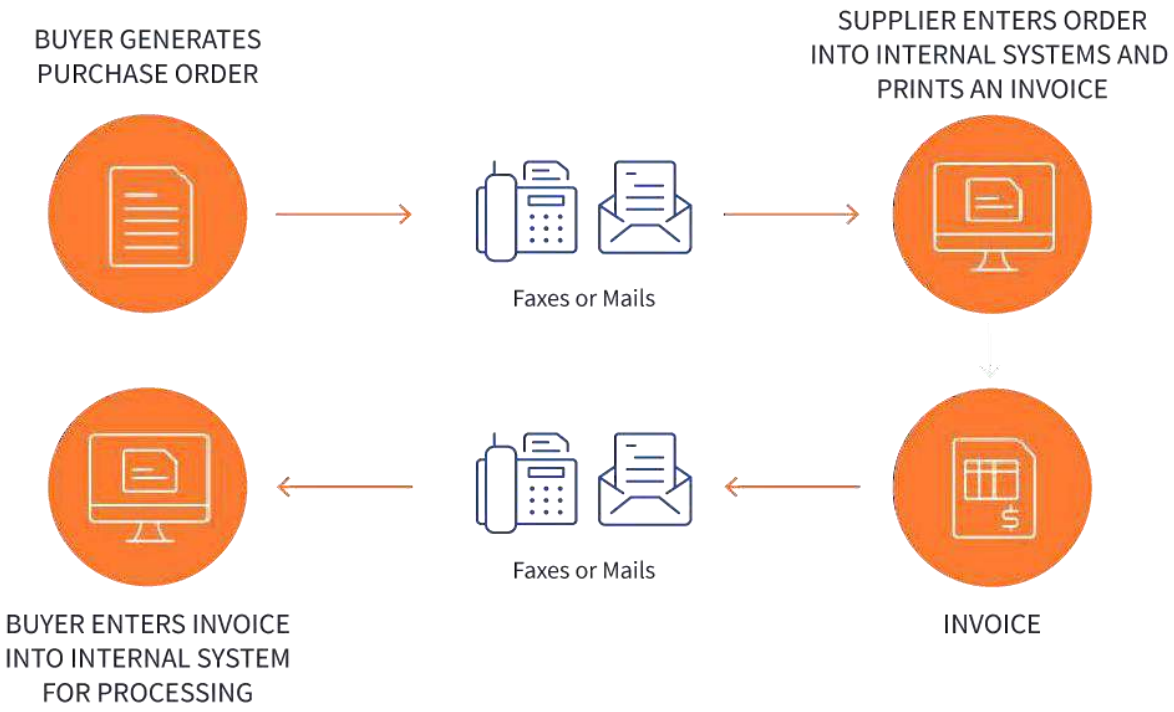
EDI (Electronic Data Interchange)

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

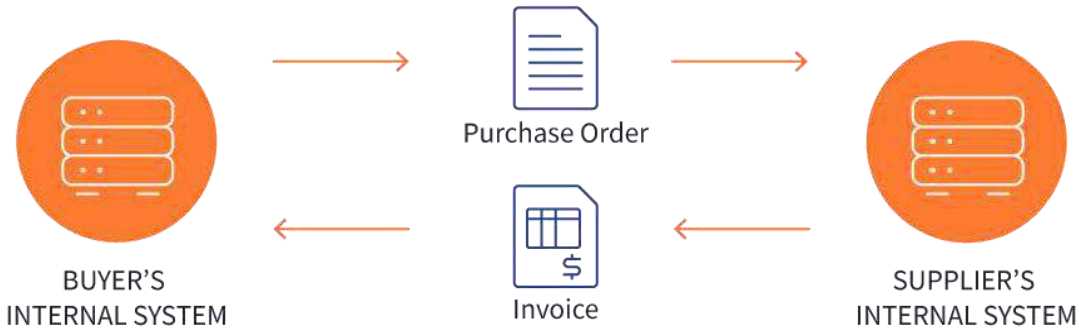
By moving from a paper-based exchange of business document to one that is electronic, businesses enjoy major benefits such as reduced cost, increased processing speed, reduced errors and improved relationships with business partners.

Computer-to-Computer

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:



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, mmddyy). 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.

- There are several EDI standards in use today, including ANSI, EDIFACT, TRADACOMS and ebXML. 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.
- 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.

The advantages of EDI

- A significant saving of labor, since transactions do not have to be entered at both the customer and vendor. For example, when the customer's purchase order was sent to the vendor, a sales order was automatically created in the vendor's computer system.
- A saving of time, as EDI is usually faster than placing an order by phone, fax, or mail.
- Fewer errors, as each transaction is keyed in only once, at the point of origin.
- Because a formal relationship is established between each set of trading partners (along with the VAN provider), EDI transactions are highly reliable and security is rarely an issue.

Delivery management system

Brilliant provides a very simple dispatch & delivery management solution. With the option to choose proper transporter, area or direction, it will become easier to focus on customer transactions. Invoices can be attached with dispatch date & time. Thus overdue reminder alerts could be generated.

Why use the Delivery Management System?

Delivery Management System provides an easier interface to assign and manager order while dispatch process. It helps to build a better relationship with the customers. DMS makes it easier to manage your deliveries with route tracking.

Delivery businesses have continued to maintain their position in the global economy despite worldwide pandemics. Moreover, there were increasing demands of the delivery services, which required lots of resources and manual work. But the transformation to digital methods can help a business to a great extent.

Delivery management software is determined to manage the delivery processes with on-demand platforms. It consists of separate modules for customers, delivery providers, stores or delivery agents, and admin. The online platform aims to make the accurate and personalized business flow leveraging significant profits.

The doorstep delivery has widened its reach in the post-pandemic, to cope with the current market trend, Elluminati offers an excellent solution that removes unnecessary administration work, focussing on the convenience of customers and businesses. All stores can acquire white-label ordering management software for delivery services and turn up their business efficiency. Fostering the growth of your delivery store with these solutions makes your unique position in the market.

Business-Savvy Features Of Contactless Ordering Software

Get benefits of contactless ordering software to digitize your business tasks and serve customer's rising online demands efficiently

Navigation Support

- The on demand delivery management system includes support for efficient navigation with an integrated map facility
- Users can view the location of registered stores on the map and track their orders in real-time with GPS functionality
- Admin, stores, and providers can also view locations on the map, and providers get the optimized routes to reach faster

Document Management

- Online order and delivery management software includes support for document upload and verification
- Stores and delivery providers have to upload documents on the dedicated apps or panels, which are marked compulsory by the admin
- The admin then verifies these to check transparent and secure services for all the users

Store Settings

- Store settings allow a store to manage their operations from their dedicated panel and the store app
- Stores can set convenience charges, extra tax, and define the order amount limits using these settings
- From managing store timings to products to users and delivery providers, store settings improve delivery accuracy

Cashless Payment Options

- Contactless delivery management software provides various cashless payment methods

- Software admin can offer multiple online payment options like pay by credit/debit cards or e-wallets. They can also provide custom card payments to the users
- Admin can disable any payment modes anytime they want

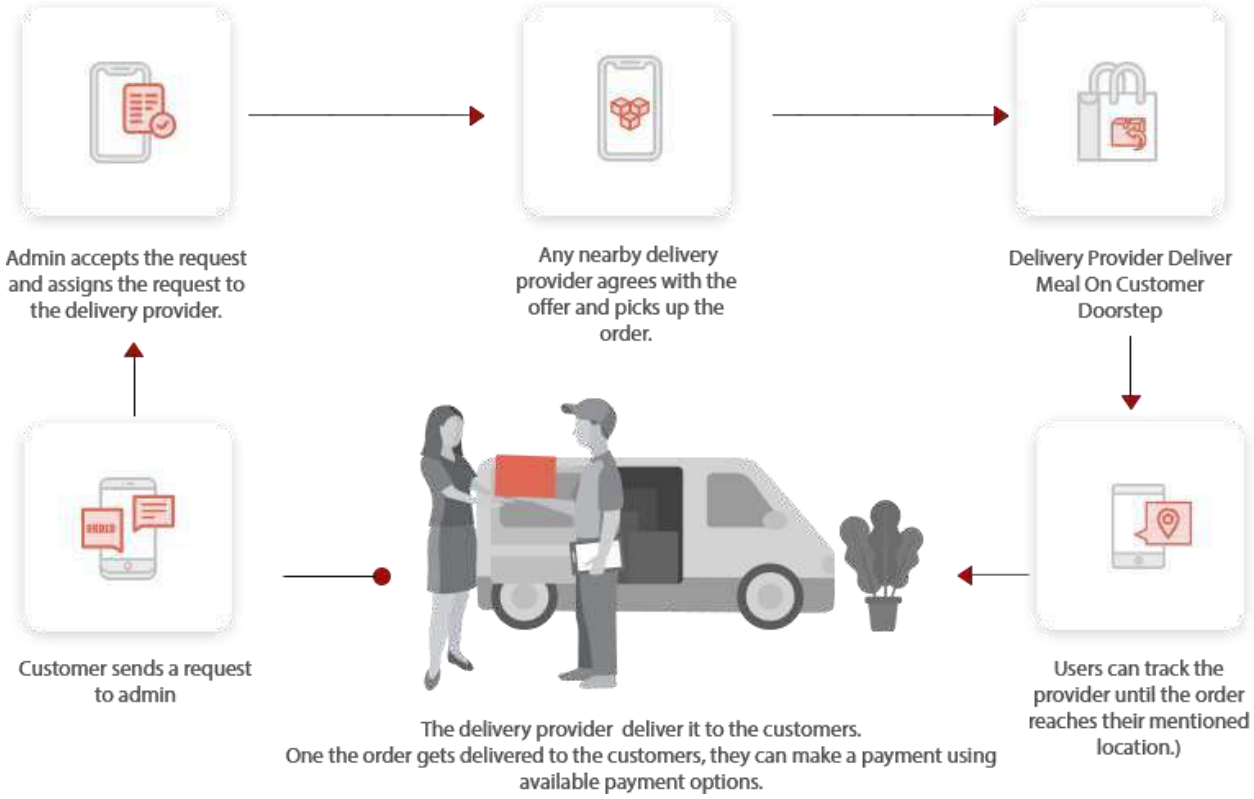
Manage Login Rights

- The login options get limited if the admin wishes to, as they can edit and change the valid login methods
- The solution includes login by registered ID and password or using the social media accounts
- Also, they can block users, restricting them from accessing the app or panel

Promote Store Operations

- Admin can choose to promote any specific store from all registered stores
- They can earn advertising revenues by promoting a store in the user dedicated solutions
- Stores can also promote their products by indicating the most popular items setting them as the most popular items


100k +
Orders Per Day
10000 +
Users



Working Flow of Online Delivery Management Software

The delivery management software involves support for more comfortable order placing and reliable delivery services. Various activities are driven within the platform, like order requests, delivery services, drivers registration, store tasks, and much more. The workflow goes like this:

- Store receives order from the customers, and accept or edit it as per the availability of the items
- As the order gets prepared, provider will be assigned for the delivery service
- Driver can notify users of their order status and complete it within the estimated time

Web Auctions

A web auction is when a consumer or business lists an item or service on the Internet for sale to the public. The auction includes a starting price and allows bidding by consumers who are interested in purchasing the merchandise. The web auction can take place using a service provided by another company or on a private website.

Time frame

A web auction can take place for a few hours up to a week. In some cases the more days an item is listed on an auction, the more bids the item gains. In other cases a longer auction may not benefit the item if it is an item that is difficult to sell. Once the item is sold, the seller is typically charged a small fee for using the website.

Benefits

A web auction can benefit a seller who may not have space or time to sell an item on their own. This can mean extra cash for a person or business needing extra income for personal or business use. Another benefit of a web auction is exposure to a larger number of people. This also includes the ability to list more details about an item and displaying photos.

Potential

Web auctions have the potential to earn large volumes of income for those who wish to sell online. Some sellers buy used or discount items and sell them in a web auction to turn a profit. For example, a seller can find an item at a resale shop for $1 and put it in a web auction for a starting price of $3.

Geography

Web auctions have the ability to include people form various nations and culture. Many textbooks are sold in the international marketplace on popular web auction providers. It is also possible to list an item in multiple languages. The auctions that include include international buyers usually have an increased shipping rate and extended expected time of arrival to accommodate the international buyer.

Expert insight

According to the seller advice website whatdoisell.com, new sellers who desire to sell online should work at the task everyday and treat it like a business. The website says that success in a business means that you have to work at it daily. The website also advise against solely working on the business like a hobby.

Online auctions allow auctioneers to connect sellers with buyers from potentially anywhere in the world. Consider Tom, a hypothetical seller of classic cars. Tom is looking to sell a classic car over an online auction because he believes that will lead to a higher number of potentially interested buyers. Since there are multiple ways to conduct an auction, let's take a look at what is involved in and what his options are.

Online auctions are typically managed by a business which specializes in conducting auctions over an Internet based platform instead of in person or by mail. The business, or auctioneer typically takes a percentage of what an item sells for before the proceeds are given to the seller. A potential buyer makes a bid, which is the amount that the buyer is willing to pay for that item.

Auction Types

Tom has a variety of choices for how to auction his car. As Tom will see, some types are better suited to trying to get the best price for a single item, while others might be more appropriate for selling a large amount of identical items.

English Auction

The English auction is what Tom first thinks of when he imagines an auction. The opening price is low, but with each new bid the price goes up. The advantage of this system is that it helps Tom get the highest possible price. He can also set a reserve price which ensure that the car will not be sold for anything below an amount that he decides on in advance.

Dutch Auction

A Dutch auction operates with the auctioneer opening at a high price and then continuing to drop the price until a buyer bids on it. The first person to bid wins the auction. A Dutch Auction can alternately be used to refer to auctions where multiple items are offered at once, such as investment securities. In this case, bidders state the quantity and price they would like to purchase. Once the bids are in the winning bidders are determined by who offered to pay the most per item. However, every winning bidder pays only what the lowest winning bidder offered.

Sealed-bid Auctions

With the sealed-bid auction, the process is incredibly simple. Bidders submit their bid for the auction at the same time and no one knows what the other person has bid. The highest bid is the

winning bid. Unlike the English auction, there is no bidding war with the price being driven up by competing bidders.

One variant of this method is the second-price sealed-bid auction. In this format, the highest bidder buys the car, except instead of paying what he bid he will pay the amount of the second-highest bid. The reasoning behind this is to motivate multiple bidders to drive up the price with additional bids.

Double Auctions

The double auction system is what Tom would see in the stock market. Buyers place bids and sellers place offers throughout the trading day. This can be done electronically, or by open outcry where each party calls out prices they are willing to buy or sell at and make a transaction if the prices match up. In this way a negotiation of sorts occurs where buyer and seller work together to arrive at a fair market price.

Pros and Cons

With the types in mind, let's address some of the pros and cons as well as concerns of online auctions in general. As we mentioned earlier, an online auction means Tom can get greater visibility for his car than if he were limited to his hometown. Greater visibility means potentially more bidders and thus a higher price because of the increased competition.

Virtual Communities and WebPortal

- Cellular-satellite communications technology can be packaged with:
    - Notebook computers
    - Personal digital assistants (PDAs)
    - Mobile phones
- Wireless Application Protocol (WAP)
    - Allows Web pages formatted in HTML to be displayed on devices with small screens
- Electronic marketplaces can serve people who want to buy and sell a wide range of products and services
- AvantGo
    - Provides PDAs with downloads of Web site contents, news, restaurant reviews, and maps

Intelligent Software Agents

- Intelligent software agents are programs that search the Web and find items for sale that meet a
  buyer's specifications
- Some software agents focus on a particular category of product
- Simon
    - One of the best shopping agents currently available

Virtual Communities

- A virtual community is a gathering place for people and businesses that does not have a physical
  existence
- They exist on the Internet in various forms:
    - Usenet newsgroups
    - Chat rooms
    - Web sites
- They offer people a way to connect with each other and discuss common issues and interests
- Virtual learning community
    - One form of a virtual community
- Virtual communities can help companies, their customers, and their suppliers plan, collaborate,
  and transact business
- Google Answers
    - Gives people a place to ask questions that are answered by an expert for a fee

Early Web Communities

- The WELL ("whole earth 'lectronic link")

- One of the first Web communities
- Predates the Web

- Tripod
  - Founded in 1995 in Massachusetts
  - Offered its participants free Web page space, chat rooms, news and weather updates,and health information pages

Web Community Consolidation

- Virtual communities for consumers can succeed as money-making propositions if they offer something sufficiently valuable to justify a charge for membership

The Second Wave of E-Commerce: Social Networking

- As the Internet and Web grew:
  - Experiences of online communication faded
  - New phenomenon in online communication began
    - Internet no longer focus of community (became a tool)
    - Enabled communication among community members
  - Social networking sites
    - New Web site category designed to facilitate interactions among people
  - Web logs (Blogs)
    - Web sites containing individual commentary on current events or specific issues
    - Form of social networking site
      - Encourage interaction among people
      - Visitors add comments
    - Early blogs focused on technology topics
    - 2004: blogs used as political networking tool
    - 2008: all major candidates using blogs
      - Communicating messages, organizing volunteers, raising money
    - Idea-based social networking
      - Idea-based virtual communities
        - Create communities based on connections between ideas

        - More abstract, participants more engaging
    - Example: del.icio.us site
        - One-word bookmarks tags describe Web pages
        - Focus: ideas, contributions of all community members
    - Example: 43 Things
    - Show promise for re-creating essence of original Internet communities

Revenue Models for Web Portals and Virtual Communities

- Web portals are so named because the goal is to be every Web surfer's doorway to the Web
- One rough measure of stickiness is how long each user spends at the site
- Nielsen//NetRatings determine site popularity by measuring the number of unique visitors
- Web portals
    - High visitor counts can yield high advertising rates
    - Companies that run Web portals add sticky features such as chat rooms, e-mail, and calendar functions

Mixed Revenue Portals and Virtual Communities

- Time Warner's AOL unit
    - One of the most successful Web portals
    - Charges a fee to users and has always run advertising on its site
- Yahoo!
    - Now charges for the Internet phone service originally offered at no cost

Social media marketing

Social media marketing is the process of creating content for social media platforms to promote products and/or services, build community with target audience, and drive traffic to business. With new features and platforms emerging every day, social media marketing is constantly evolving.

Social media marketing is all about meeting target audience and customers where they are and as they socially interact with each other and brand.

While social media marketing as a whole is incredibly valuable and beneficial to business growth , strategy will differ based on which social networks audience spends their time on.

Social Media Marketing Platforms

Facebook

Users: 1.9 billion daily active users worldwide

Audience: An even spread of Generation X and Millennials

Industry impact: B2C

Best for: Brand awareness; advertising

Facebook is the largest social media platform and the most established. Since its launch in 2004, it has become an invaluable tool for B2C businesses, offering advanced advertising tools as well as organic opportunities.

TikTok

Users: 1 billion active monthly global users

Audience: Primarily Gen Z followed by Millennials

Industry impact: B2B and B2C

Best for: Short-form, creative video content; user-generated content; brand awareness

When you think of short-form video, you probably think of TikTok. The platform rose in popularity in 2020 and shows no signs of slowing down. It's one of the best platforms for community building, with marketers ranking it in second place behind YouTube.

Instagram 

Users: 1 billion monthly active users

Audience: Primarily Millennials

Industry impact: B2C

Best for: High-quality images and videos; user-generated content; advertising

Although Instagram launched only 12 years ago, the platform has taken the world by storm. When it comes to sharing visually compelling content, Instagram is where brands go. Another thing that sets the platform apart is its advanced ecommerce tools.

Today, users can discover brands, browse their products and/or service, and complete a purchase without ever leaving the app – making Instagram a hard platform to beat.

Twitter 

Users: 211 million *daily* active users worldwide

Audience: Primarily Millennials

Industry impact: B2B and B2C

Best for: Public relations; customer service; community building

While Instagram focuses on visuals, Twitter focuses on words. Since the early days of 140-character Tweets, the platform has now expanded to include an audio tool called Twitter Spaces, a community-building tool called Twitter Communities, and Twitter Moments to share interesting content with your followers.

LinkedIn 

Users: 774 million active users worldwide

Audience: Baby boomers, Generation X, and Millennials

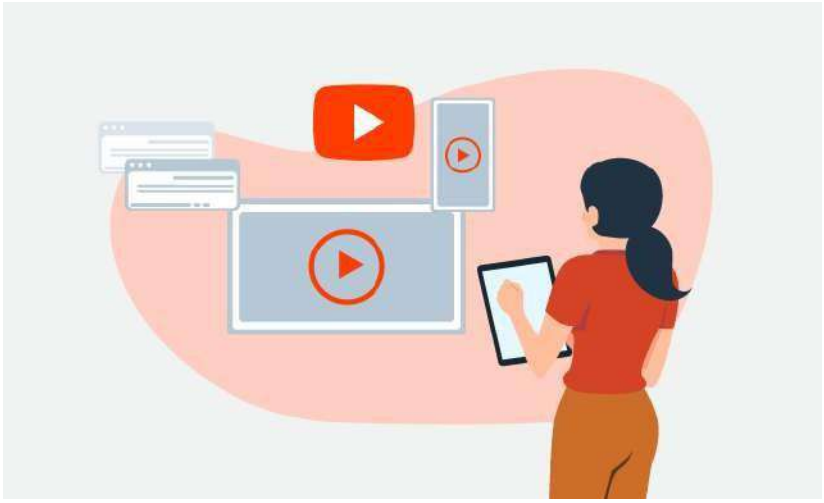
Industry impact: B2B

Best for: B2B relationships, business development, and social selling

LinkedIn is Facebook's professional cousin. It's perhaps the only platform where its audience is clearly defined: Working professionals looking to network and seek out new opportunities.

That makes it the ideal platform for B2B companies looking to identify key decision-makers and build an industry-specific community.

YouTube



Users: Over 315 million daily active users worldwide

Audience: Primarily Millennials but has a strong audience across gender and age demographics

Industry impact: B2C and B2B

Best for: Brand awareness; long-form entertainment, and how-to videos

According to HootSuite, YouTube is the second most visited website in the world. In addition, marketers name it the best platform to build community.

In addition to being an incredibly popular platform, its users also tend to stay longer on it because it features mostly long-form content – making it an ideal platform to share educational content.

Snapchat

Users: 306 million daily active users worldwide

Audience: Primarily Generation Z

Industry impact: B2C

Best for: Brand awareness; advertising

When Snapchat came out in 2011, leading the charge in ephemeral content. It introduced content that you could share with your friends and that would expire after 24 hours.

The platform peaked in 2015 and has held strong since then. Many thought the brand would disappear once Instagram introduced Stories, the same feature with a different name. However, Snapchat continues to be popular among young adults.

Pinterest 

Users: 444 million monthly active users worldwide

Audience: Primarily Millennials with a solid audience in Gen Z, Gen X and Baby Boomers

Industry impact: B2C

Best for: Visual advertising; inspiration

Think of Pinterest like a visual storyboard that allows users to get inspiration for everything from fashion to home decor.

85% of Pinners say Pinterest is where they go to start a new project. In addition, 80% of weekly Pinners say they've discovered a new brand or product on the platform. So, not only is it a great discovery tool but it's also a way for brands to build their narrative through visual stories.

Clubhouse 

Users: 10 million weekly active users worldwide

Audience: Primarily Millennials

Industry impact: B2B and B2C

Best for: Visual advertising; inspiration

Clubhouse made a strong impression as soon as it entered the social media world in 2020. The audio-only platform allows people to start interesting conversations with followers as well as strangers and build community.

The platform also gained some buzz for its invitation-only set up when it was in beta testing. Today, the platform is open to everyone globally and on both IOS and Android devices. Another big selling point to this platform is that it works well for both B2B and B2C businesses and leverages audio, which has made a huge comeback in recent years.

There are a variety of reasons why your company should use social media marketing. A list of the most beneficial reasons to consider.

1. Increase brand awareness.

Due to the sheer amount of people on social media, you're missing out on the potential to reach thousands, and even millions, if you don't have a presence.

In fact, social media has been proven to boost brand awareness by driving up engagement. Social engagement includes things like comments, likes, shares, and reposts, and saves.

It also helps you increase brand awareness by directing traffic straight to your site. You can do this by including direct links to your website in your profile, bio, and posts.

2. Generate leads and boost conversions.

Promoting and sharing your products on social media is a simple way to improve lead generation, boost conversions, and increase sales because you're advertising to people who have opted to engage with you by following your account.

Here are some examples of ways you can use social media to generate more leads.

Create contests for your visitors and followers to participate in on your social media profiles.

Include links to your website and offers in the bio sections of your profiles.

Host live videos to make announcements about products and provide updates or details about exciting news at your company.

Implement a social media marketing campaign on one of your channels.

Sell your products through your social profiles. For example, you can enable Facebook's Shop Section or Instagram's Shopping feature on your profiles. These features allow your visitors and followers to click on products you've shared in posts to view information such as price, material, and size. Then, visitors can easily proceed to checkout through the platform and buy the product directly from you.

3. Foster relationships with your customers.

By connecting and engaging with your social media followers, you'll be able to build lasting relationships between them and your business. You can do this by interacting with them on your posts, responding to their questions and comments, and providing them with any help they may need.

You can also ask your followers questions about your products, their pain points, or create giveaways to help you build trust and show them how much you value their input and support.

4. Learn from your competitors.

Social media is a great way to keep tabs on your competitors — whether that's in reference to their social media tactics, the products they're promoting, the campaigns they're implementing, or their level of interaction with followers.

Social media allows you to get a look at what is and isn't working for your competition, and therefore helps you decide what should or shouldn't change in terms of *your* company's approach.

Lastly, reviewing the social accounts of your competitors can help you make sure your marketing stands out and is unique to your brand.

Learn how to conduct a competitive analysis to discover how you can beat the competition.

Now, let's talk strategy — there are severa steps to ensure your social media marketing plan is sustainable and positively impacts your business.

How to Create a Social Media Marketing Strategy

- Research your buyer personas and audience.
- Determine which social platforms you'll market on.
- Establish your most important metrics and KPIs.
- Get to know your competition.
- Create unique and engaging content.
- Organize a schedule for your posts.

Although social media is constantly evolving, most of the foundational steps you need to succeed stay the same. Essentially, following the same steps you would take to create a marketing strategy and narrow it to a specific channel.

Step 1: Research your buyer personas and audience.

The first step to creating a social media marketing strategy is to determine who your buyer personas and audience are so you can target their needs and interests appropriately.

To do this, think about the people you're trying to reach and why, and how you would classify them as a group. For example, if your company sells trendy leggings and joggers, you might classify your target audience as millennials who like to wear stylish athletic apparel regularly — a style known as athleisure.

By considering your buyer personas and audience, you'll then be able to determine what content will attract the type of followers and customers you hope to gain. Plus, learn how to create engaging content to keep your followers interested.

Step 2: Determine which social platforms you'll market on.

As a social media marketer, it's crucial you determine which platforms you're going to share your content on.

There's not necessarily a right or wrong answer when it comes to which social channels your business should use — it's more about the needs of your target audience and where they tend to spend their time.

"It's important to be where your audience of potential customers is today, and where they might be tomorrow," said Andrew Delaney, former social media marketing manager at HubSpot. "It's better to be ahead of the curve than behind."

For example, if you are going for that target audience of athleisure-loving millennials, you may want to focus the majority of your social media efforts on Instagram — this is because millennials cover the largest portion of users on the platform.

Stephanie Morgan, founder and CEO of social media agency Social Lock, echoes this sentiment.

"Think about their behaviors and where they hang out online. If that's Pinterest, use that platform for your brand. If that's TikTok, use that platform for your brand," Morgan adds. "Don't waste time on a platform that your ideal client avatar is not very active on."

Step 3: Establish your most important metrics and KPIs.

No matter your goals or industry, your social media strategy should be data-driven.

That means focusing on the social media metrics that matter. Rather than focus on vanity metrics, dig into data that aligns directly with your goals.

What metrics are we talking about? Check out the breakdown below:

Reach. Post reach is the number of unique users who saw your post. How much of your content actually reaches users' feeds?

Clicks. This is the number of clicks on your content or account. Tracking clicks per campaign is essential to understand what drives curiosity or encourages people to buy.

Engagement. The total number of social interactions divided by the number of impressions. This sheds light on how well your audience perceives you and their willingness to interact.

Hashtag performance. What were your most-used hashtags? Which hashtags were most associated with your brand? Having these answers can help shape the focus of your content going forward.

Organic and paid likes. Beyond a standard "Like" count, these interactions are attributed to paid or organic content. Given how much harder organic engagement is to gain, many brands turn to ads. Knowing these differences can help you budget both your ad spend and the time you invest in different formats.

Sentiment. This is the measurement of how users react to your content, brand, or hashtag. Did customers find your recent campaign offensive? What type of sentiment do people associate with your campaign hashtag? It's always better to dig deeper and find out how people talk or feel about your brand.

Step 4: Get to know your competition.

A competitive analysis allows you to understand who the competition is and what they're doing well (and not so well). You'll get a good sense of what's expected in your industry, which will help you set social media targets of your own.

It will also help you spot opportunities.

Maybe one of your competitors is dominant on Facebook, for example, but has put little effort into Twitter or Instagram. You might want to focus on the networks where your audience is underserved, rather than trying to win fans away from a dominant player.

Step 5: Create unique and engaging content.

With the billions of social media users around the globe, there's no question that at least *some* of your followers — or the people browsing your profile — have also seen your competitor's content or that of other businesses in your industry.

That's why you must have engaging social media content that stands out and provides viewers with a reason to click that "Follow" button and interact with your brand.

Not sure what's considered engaging? Morgan has a recommendation.

"My number one tip to brands for creating engaging content on social media is to do market research first because what will be engaging depends on the audience," Morgan said. "When you know what your audience likes and needs to know, you can create content that engages those interests."

To help you get creative, consider the content your competitors are sharing and how you can uniquely promote your products. Also, take advantage of the features offered by the platform you're using.

For example, you can create live videos on Facebook to share the latest details about a product launch or conduct a giveaway.

You can also use your current customers and promoters to help you generate content. You can do this by re-posting their content or encouraging them to use a hashtag to share their own experiences and pictures with your products.

Lastly, leverage trends. Social media trends are always coming up, especially on short-form video platforms like TikTok. Don't be afraid to join in but you still have to be intentional about how you do it.

"If the trend started happening three weeks ago, you've probably missed the boat," Morgan said. "Catching the trends early is the best way to capitalize on it without coming across as inauthentic or like you're trying too hard, or worse [as] 'chuegy' – see Gen Z for that one."

Step 6: Organize a schedule for your posts.

One of the easiest ways to ensure your content is shared as planned is to use a social media management solution. These tools allow you to write captions, prepare pictures and videos, and

schedule posts in advance. They also automatically share your content on schedule and monitor all post interactions and engagement for you. Social media management solutions save you time and allow you to focus on your other tasks.

e-BUSINESS PAYMENTS AND SECURITY

E-payments - Characteristics of payment of systems, protocols, e-cash, e-cheque and Micro payment systems- internet security – cryptography – security protocols – network security.

E-payments

E-payments are an electronic or digital way of transferring funds. Essentially, you can utilise electronic payment methods to transfer funds as an alternative to cash payments. In India, you can access various types of electronic payment methods based on your requirements.

The various types of e-payment include credit and debit cards, mobile wallets, UPI, internet and mobile banking, and many more. You simply require a bank account and an internet-enabled device to leverage e-payment solutions and pay for various products and services.

Advantages of e-Payment

The following are some of the critical advantages of e-payments.

Time-Saving

E-payments enable you to make purchases with a simple tap or swipe. Transactions are processed and completed within a couple of minutes. While it is faster than paying with a paper check or other instruments, it also saves you the time and hassles associated with arranging cash.

Efficient

With electronic payment systems, you do not have to wait in long queues at ATMs or bank branches to withdraw cash. The lines at checkout counters are also shorter, with each transaction taking less time. You can also use these online payment systems to pay for a wide variety of products on online shopping websites, thus eliminating the need to visit stores physically.

Cashless Economy

Another advantage of e-payments is that it helps build a cashless economy, especially in the urban areas of the country, by reducing the reliance on cash. Reduced cash usage in the urban sectors enables banks to distribute more cash in the rural parts of the nation where e payments are uncommon.

Security

Cash transactions bring their own set of risks, such as robbery, misplacement, or other similar incidents. However, electronic payment systems come equipped with security protocols that ensure the safety of your funds. Banks use highly secure practices like

two-factor authentication, PIN (Personal Identification Numbers) and OTPs (One Time Passwords) to protect your funds from thefts or fraudulent activities.

Certainty

The payments made using e-payment methods reflect in your bank statement or digital wallets. You also receive instant e-mails and SMS alerts after every transaction. You can check for the credit/debit of funds in your account based on the chosen method of e-payment. In case funds are debited wrongly, the transaction is reversed within 24-48 hours.

E-Payment System

An e-payment or Electronic Payment system allows customers to pay for the services via electronic methods.

They are also known as online payment systems. Normally e-payment is done via debit, credit cards, direct bank deposits, and e-checks, other alternative e-payment methods like e-wallets, bitcoin, cryptocurrencies, bank transfers are also gaining popularity.

Types of e-payment system

E-payments can be done in the following ways,

Internet banking – In this case, the payment is done by digitally transferring the funds over the internet from one bank account to another.

Some popular modes of net banking are, NEFT, RTGS, IMPS.

Card payments – Card payments are done via cards e.g. credit cards, debit cards, smart cards, stored valued cards, etc. In this mode, an electronic payment accepting device initiates the online payment transfer via card

Credit/ Debit card – An e payment method where the card is required for making payments through an electronic device.

Smart card – Also known as a chip card, a smart card, a card with a microprocessor chip is needed to transfer payments.

Stored value card – These types of cards have some amount of money stored beforehand and are needed to make funds transfer. These are prepaid cards like gift cards, etc.

Direct debit – Direct debit transfers funds from a customer's account with the help of a third party

E-cash – It is a form where the money is stored in the customer's device which is used for making transfers.

E-check – This is a digital version of a paper check used to transfer funds within accounts.

Alternate payment methods – As technology is evolving, e-payment methods kept evolving with it (are still evolving..) These innovative alternate e-payment methods became widely popular very quickly thanks to their convenience.

E-wallet – Very popular among customers, an E-wallet is a form of prepaid account, where customer's account information like credit/ debit card information is stored allowing quick, seamless, and smooth flow of the transaction.

Mobile wallet – An evolved form of e-wallet, mobile wallet is extensively used by lots of customers.

It is a virtual wallet, in the form of an app that sits on a mobile device. Mobile wallet stores card information on a mobile device.

The user-friendly nature of mobile wallets makes them easier to use. It offers a seamless payment experience making customers less dependent on cash.

QR payments – QR code-enabled payments have become immensely popular. QR code stands for 'Quick Response' code, a code that contains a pixel pattern of barcodes or squares arranged in a square grid.

Each part of the code contains information. This information can be merchant's details, transaction details, etc. To make payments, one has to scan the QR code with a mobile device.

Contactless payments – Contactless payments are becoming popular for quite some time. These payments are done using RFID and NFC technology.

The customer needs to tap or hover the payment device or a card near the payment terminal, earning it a name, 'tap and go'.

UPI payments – NPCI (National Payment Corporation of India) has developed an instant real-time payment system to facilitate interbank transactions.

This payment system is titled UPI(Unified Payment Interface). Payments via UPI can be made via an app on a mobile device.

Biometric payments – Biometric payments are done via using/scanning various parts of the body, e.g. fingerprint scanning, eye scanning, facial recognition, etc.

These payments are replacing the need to enter the PIN for making transactions making these payments more accessible and easy to use.

Payments are done via Wearable devices – Wearable devices are rapidly becoming popular among customers.

These devices are connected to the customer's bank account and are used to make online payments.

An example of a wearable used for making an online payment is a smartwatch.

AI-based payments – As machine learning and Artificial Intelligence is creating a revolution all around the world, AI-based solutions are becoming more popular.

Payments based on AI such as speakers, chatbots, ML tools, deep learning tools, etc are making it easier for businesses to maintain transparency.

How e-payment system works?

- Entities involved in an online payment system

  The merchant

  The customer / the cardholder

  The issuing bank

  The acquirer

  Payment Processor

  Payment Gateway

Working of e-payments can be explained in the following three steps,

Payment initiation – Customer finalizes the product/service and chooses the payment method to initiate the transaction.

Depending on the payment method, the customer enters the required information like card number, CVV, personal details, expiration date, PIN, etc.

The chosen payment method either redirects the customer to an external payment page or a bank's payment page to continue the payment process.

Payment authentication – The information submitted by the customer along with other details like payment information, customer's account information is authenticated by the operator.

The operator can be a payment gateway or any other solution involved. If everything gets authenticated positively, the operator reports a successful transaction.

On the contrary, if there is any problem with any of the authentication checks, the transaction fails.

After the successful transaction, the customer gets a payment confirmation.

Payment settlement – After the successful authentication process, payment from the customer's bank gets transferred into the merchant's account by the online payment service provider.

Characteristics of online payment system:

Security Since payments involve actual money, payment systems will be a prime target for criminals. Since Internet services are provided today on networks that are relatively open, the infrastructure supporting electronic commerce must be usable and resistant to attack in an environment where eavesdropping and modification of messages is easy.

Reliability As more commerce is conducted over the Internet, the smooth running of the economy will come to depend on the availability of the payment infrastructure, making it a target of attack for vandals. Whether the result of an attack by vandals or simply poor design, an interruption in the availability of the infrastructure would be catastrophic. For this reason, the infrastructure must be highly available and should avoid presenting a single point of failure.

Scalability As commercial use of the Internet grows, the demands placed on payment servers will grow too. The payment infrastructure as a whole must be able to handle the addition of users and merchants without suffering a noticeable loss of performance. The existence of central servers through which all transactions must be processed will limit the scale of the system. The payment infrastructure must support multiple servers, distributed across the network.

Anonymity For some transactions, the identity of the parties to the transaction should be protected; it should not be possible to monitor an individual's spending patterns, nor determine one's source of income. An individual is traceable in traditional payment systems such as checks and credit cards. Where anonymity is important, the cost of tracking a transaction should outweigh the value of the information that can be obtained by doing so.

Acceptability The usefulness of a payment mechanisms is dependent upon what one can buy with it. Thus, a payment instrument must be accepted widely. Where payment mechanisms are supported by multiple servers, users of one server must be able to transact business with users of other servers.

Customer base The acceptability of a payment mechanism is affected by the size of the customer base, i.e. the number of users able to make payments using the mechanism. Merchants want to sell products, and without a large enough base of customers using a payment mechanism, it is often not worth the extra effort for a merchant to accept the mechanism.

Flexibility Alternative forms of payment are needed, depending on the guarantees needed by the parties to a transaction, the timing of the payment itself, requirements for auditability, performance requirements, and the amount of the payment. The payment infrastructure should support several payment methods including instruments analogous to credit cards, personal checks, cashier's checks, and even anonymous electronic cash. These instruments should be integrated into a common framework.

Convertibility Users of the Internet will select financial instruments that best suit their needs for a given transaction. It is likely that several forms of payment will emerge, providing different tradeoffs with respect to the characteristics just described. In such an

environment it is important that funds represented by one mechanism be easily convertible into funds represented by others.

Efficiency Royalties for access to information may generate frequent payments for small amounts. Applications must be able to make these "micropayments" without noticeable performance degradation. The cost per transaction of using the infrastructure must be small enough that it is insignificant even for transaction amounts on the order of pennies.

Ease of integration Applications must be modified to use the payment infrastructure in order to make a payment service available to users. Ideally, a common API should be used so that the integration is not specific to one kind of payment instrument. Support for payment should be integrated into request-response protocols on which applications are built so that a basic level of service is available to higher level applications without significant modification.

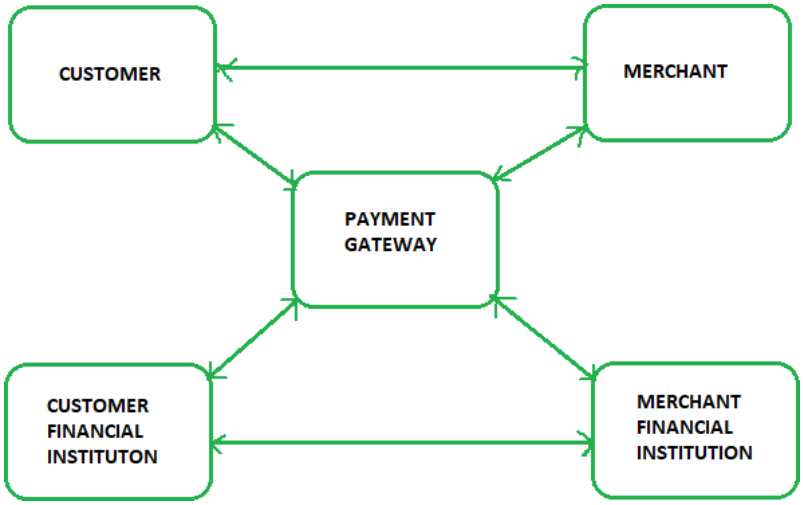
Ease of use Users should not be constantly interrupted to provide payment information and most payments should occur automatically. However, users should be able to limit their losses. Payments beyond a certain threshold should require approval. Users should be able to monitor their spending without going out of their way to do so.

Secure Electronic Transaction (SET) Protocol

Secure Electronic Transaction or SET is a system that ensures the security and integrity of electronic transactions done using credit cards in a scenario. SET is not some system that enables payment but it is a security protocol applied to those payments. It uses different encryption and hashing techniques to secure payments over the internet done through credit cards. The SET protocol was supported in development by major organizations like Visa, Mastercard, Microsoft which provided its Secure Transaction Technology (STT), and Netscape which provided the technology of Secure Socket Layer (SSL).

SET protocol restricts the revealing of credit card details to merchants thus keeping hackers and thieves at bay. The SET protocol includes Certification Authorities for making use of standard Digital Certificates like X.509 Certificate.

Before discussing SET further, let's see a general scenario of electronic transactions, which includes client, payment gateway, client financial institution, merchant, and merchant financial institution.



Requirements in SET :

The SET protocol has some requirements to meet, some of the important requirements are :

- It has to provide mutual authentication i.e., customer (or cardholder) authentication by confirming if the customer is an intended user or not, and merchant authentication.
- It has to keep the PI (Payment Information) and OI (Order Information) confidential by appropriate encryptions.
- It has to be resistive against message modifications i.e., no changes should be allowed in the content being transmitted.
- SET also needs to provide interoperability and make use of the best security mechanisms.

Participants in SET :

In the general scenario of online transactions, SET includes similar participants:

1. **Cardholder –** customer
2. **Issuer –** customer financial institution
3. **Merchant**
4. **Acquirer –** Merchant financial
5. **Certificate authority –** Authority that follows certain standards and issues certificates(like X.509V3) to all other participants.

SET functionalities :

- **Provide Authentication**

- **Merchant Authentication** – To prevent theft, SET allows customers to check previous relationships between merchants and financial institutions. Standard X.509V3 certificates are used for this verification.
- **Customer / Cardholder Authentication** – SET checks if the use of a credit card is done by an authorized user or not using X.509V3 certificates.

- **Provide Message Confidentiality**: Confidentiality refers to preventing unintended people from reading the message being transferred. SET implements confidentiality by using encryption techniques. Traditionally DES is used for encryption purposes.
- **Provide Message Integrity**: SET doesn't allow message modification with the help of signatures. Messages are protected against unauthorized modification using RSA digital signatures with SHA-1 and some using HMAC with SHA-1,

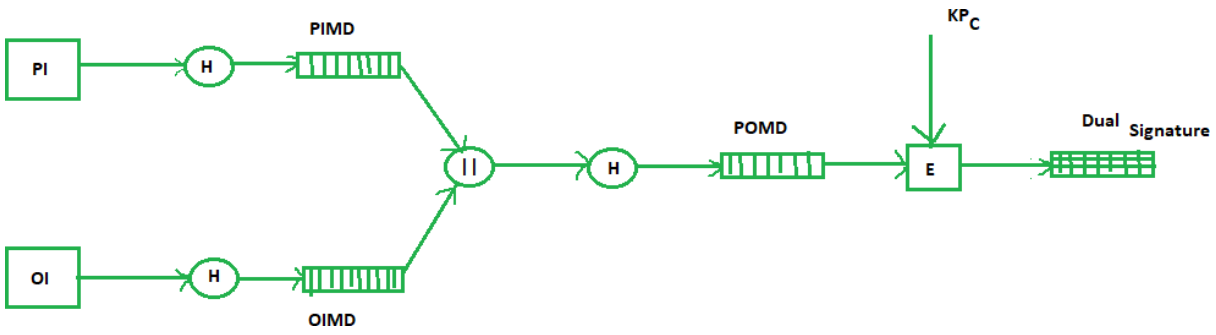
Dual Signature :

The dual signature is a concept introduced with SET, which aims at connecting two information pieces meant for two different receivers :

Order Information (OI) for merchant

Payment Information (PI) for bank

You might think sending them separately is an easy and more secure way, but sending them in a connected form resolves any future dispute possible. Here is the generation of dual signature:



Where,

PI stands for payment information

OI stands for order information

PIMD stands for Payment Information Message Digest

OIMD stands for Order Information Message Digest

POMD stands for Payment Order Message Digest

H stands for Hashing

E stands for public key encryption

KPc is customer's private key

|| stands for append operation

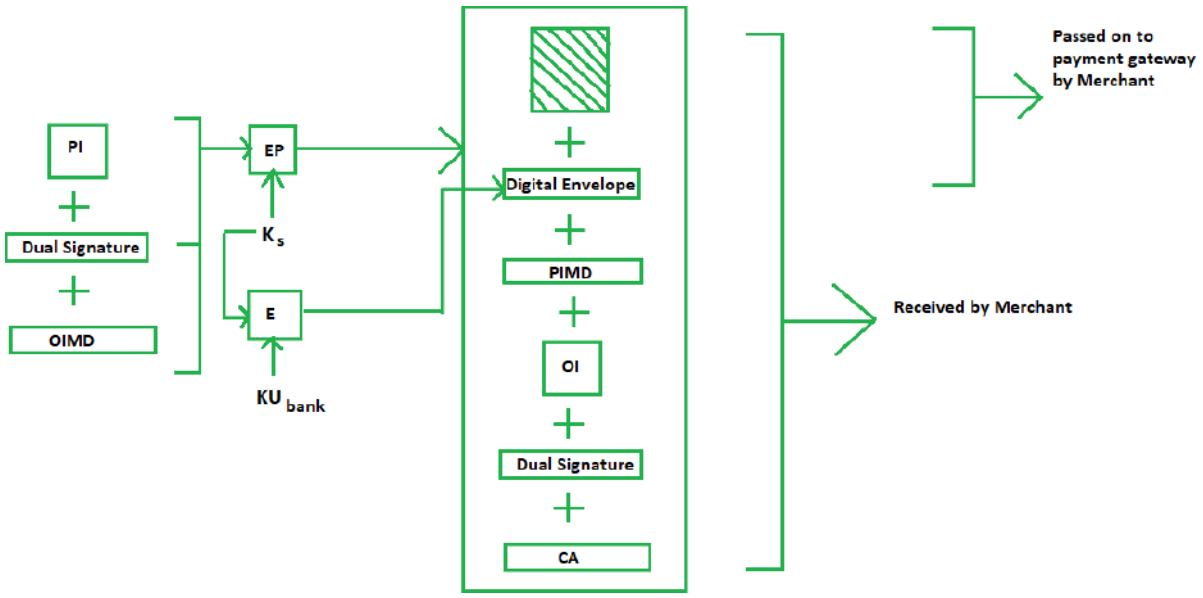
Dual signature, DS= E(KPc, [H(H(PI)||H(OI))])

Purchase Request Generation :

The process of purchase request generation requires three inputs:

- Payment Information (PI)
- Dual Signature
- Order Information Message Digest (OIMD)

The purchase request is generated as follows:



Here,

PI, OIMD, OI all have the same meanings as before.

The new things are :

EP which is symmetric key encryption

Ks is a temporary symmetric key

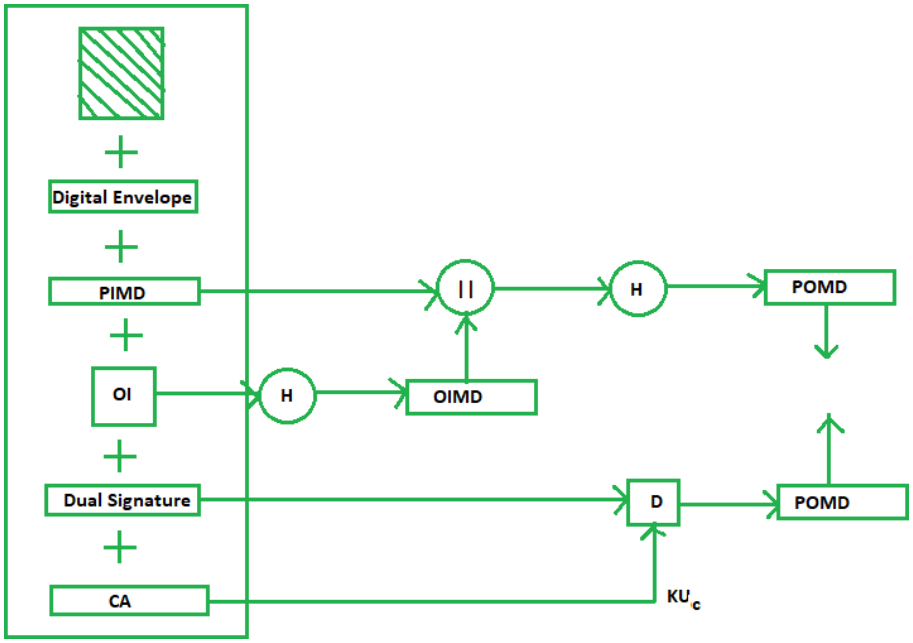
KUbank is public key of bank

CA is Cardholder or customer Certificate

Digital Envelope = E(KUbank, Ks)

Purchase Request Validation on Merchant Side :

The Merchant verifies by comparing POMD generated through PIMD hashing with POMD generated through decryption of Dual Signature as follows:



Since we used Customer's private key in encryption here we use KUC which is the public key of the customer or cardholder for decryption 'D'.

Payment Authorization and Payment Capture :

Payment authorization as the name suggests is the authorization of payment information by the merchant which ensures payment will be received by the merchant. Payment capture is the process by which a merchant receives payment which includes again generating some request blocks to gateway and payment gateway in turn issues payment to the merchant.

ash

eCash was a digital-based system that facilitated the transfer of funds anonymously. A pioneer in cryptocurrency, its goal was to secure the privacy of individuals that use the Internet for micropayments. eCash was created by Dr. David Chaum under his company, DigiCash, in 1990. Though there was interest in the platform from large banks, eCash never took off and DigiCash filed for bankruptcy in 1998. DigiCash,

along with its eCash patents, was eventually sold off. In 2018, Chaum launched a new startup focused on cryptography.

Understanding eCash

The idea for eCash came from Dr. David Chaum in 1983. He was ahead of his time in thinking about privacy concerns in the age of the Internet. And not only did he advocate for privacy but he took it a few steps further in creating an anonymous based payment system for the digital age. This was even before the Internet was available for public use. In 1990, Chaum created the company, DigiCash, to realize his idea for eCash.

The core concept behind eCash was blind signatures. A blind signature is a type of digital signature in which the message's content is invisible prior to signing. In this manner, no user is able to create a link between withdrawal and spend transactions. The money used in the system was called "CyberBucks."

eCash's Rise and Fall

DigiCash gained a lot of traction in the 1990s when Internet companies were taking off. The company signed deals with many banks that intended to use the platform. These banks included Deutsche Bank (DB), Credit Suisse (CS), and other banks across the globe. Microsoft was also interested in eCash for Windows 95 but the two companies couldn't agree to a deal.

The banks that decided to implement eCash started testing the platform but never sold it as a viable product to its customers. The only bank that actually used the platform was Mark Twain Bank in St. Louis, Missouri. The service was free to buyers, but sellers had to pay a transaction fee. Mark Twain Bank had signed up 300 businesses and 5,000 individual users but the platform never gained traction. According to Chaum, "As the Web grew, the average level of sophistication of users dropped. It was hard to explain the importance of privacy to them."

DigiCash eventually filed for bankruptcy in 1998. It was sold off to eCash Technologies along with its patents for eCash. The trademark for the name is now with Due Inc. Due was founded in 2015 and is ranked one of the top 10 e-wallets in the world.

eCash and Online Security Today

Despite the failure of DigiCash and with it eCash, online security is an ongoing issue in the digital realm to this day. Financial information, stored on a computer or electronic device, or the Internet more generally (e.g., the cloud) is vulnerable to hackers. Cryptocurrencies are extremely popular today and owe their foundations to eCash. The most popular cryptocurrency is Bitcoin, which was created in 2009 by an anonymous

creator and had a better luck gaining traction quickly. Overall, many consider Dr. Chaum to be the father of digital currency.

In 2018, Chaum launched a new startup called Elixxir, whose purpose is to create a cryptography network focused on communication anonymity, that is controlled by users to protect their information, as opposed to the current setup, where companies have detailed access to consumer information and use it for targeting ads to generate revenue.

What is e-Cheque?

heque is an electronic counterpart of paper cheque. It turns the cheque writing and deposit processes totally online. Paying with e-Cheques will be an entirely paperless experience.

Key features

- It is in PDF format. It has similar layout of a paper cheque with the display of astandardized e-Cheque logo on the face of e-Cheque
- It has the same legal status as paper cheque
- It is not negotiable nor transferable
- It must be addressed to a payee and deposited to the payee's bank account only
- It can be used to make Hong Kong Dollar, US Dollar and Renminbi payments

Benefits

- It can be issued anytime anywhere
- It removes the need for physical delivery and deposit
- It carries enhanced security features
- It removes the need of physical cheque book. The e-Cheque book is kept by the payingbank
- It is environmentally friendly

How secure is e-Cheque?

- The payer is required to pass through Two Factor Authentication (2FA) before issuing ane-Cheque
- The e-Cheque issuance record kept by the paying bank provides an additional channelfor the bank to verify the e-Cheques
- Adoption of Public Key Infrastructure (PKI) technology in the digital signature ofe-Cheque prevents e-Cheque tampering
- Centralized presentment checking mechanism avoids multiple deposits of e-Cheques
- The payer may consider encrypting an e-Cheque before delivery to further

improvesecurity

How to issue e-Cheque

Before issuance of e-Cheque

- Sign up for the e-Cheque service through your Internet banking account and apply for adigital certificate for the purpose of e-Cheque signing*
- Obtain the payee's agreement and the latest email address for receiving e-Cheques

* Some paying banks may offer to apply, renew and keep custody of the digital certificate on behalf of the payers. The application and renewal can be completed online in a short period of time.

Issuance of e-Cheque

Step 1 – Log onto your Internet banking account

Step 2 – Select e-Cheque Issuance service

Step 3 – Input the payee name, cheque date and cheque amount in figures

Step 4 – The bank will generate the e-Cheque with the digital signature based on the payer'sgiven instruction^

Step 5 – Download and send the e-Cheque to the payee through electronic means (e.g. byemail)

^ Some paying banks may send a SMS notification to the registered mobile number of thepayer after an e-Cheque is issued.

How to deposit e-Cheque

Before deposit of e-Cheque

- Sign up for the e-Cheque deposit service through your Internet banking(if any)@ and/or the e-Cheque Drop Box service provided by Hong Kong Interbank Clearing Limited (HKICL)#
- The e-Cheque Drop Box can be accessed through its website http://www.echeque.hkicl.com.hk or mobile application

@ Please enquire your bank for details.

HKICL is the clearing house for processing interbank clearing and settlement in Hong Kong. It is a company equally owned by the Hong Kong Monetary Authority and the Hong Kong Association of Banks.

Deposit of e-Cheque through your bank+

Step 1 – Log onto your Internet banking account

Step 2 – Select e-Cheque Deposit service

Step 3 – Choose the deposit account and upload the e-Cheques that you have received

Deposit of e-Cheque through the e-Cheque Drop Box service

Step 1 – Log onto the e-Cheque Drop Box service through its website http://www.echeque.hkicl.com.hk or mobile application*

Step 2 – Register the bank and bank account number for the e-Cheque deposit (in case it isnot registered before)

Step 3 – Upload the e-Cheque(s)

Step 4 – Select from the pull down list for the bank and bank account number for the e-Cheque deposit

Step 5 – Assuming that the bank-in information is correct, click "Proceed" button followed by "Confirm" button to complete the e-Cheque deposit

Step 6 – A notification email will be sent to the user's registered email address. The user can also enquire the e-Cheque status through the "Presentment Enquiry" function of the e-Cheque Drop Box service

* A one-off user account registration is necessary before the user can use the service.

Smart tips to use e-Cheque

Dos

- Obtain the payee's agreement and the latest email address for receiving e-Cheques
- Ensure that the e-Cheque information has been correctly filled in before issuance
- Use a secured electronic channel for the delivery of e-Cheques or encrypt the e-Cheques before delivery if necessary
- Remove the e-Cheques from the computer and/or smart phone after the issuance and/or deposit (where applicable) unless record-keeping is necessary

Don'ts

- Don't input any personal data (e.g. HK Identity Card number, Telephone number etc) other than the payee name when issuing e-Cheques
- Don't scan an image of paper cheque and treat it as an e-Cheque
- Don't print out the e-Cheques for deposit at bank branches
- Don't deposit an e-Cheque more than once
- Don't offer any credit facility to the payee based on an e-Cheque as collateral

Micropayment – Meaning, Types, Importance, Examples & How-It

In the online world, you must have come across some book, application, or tune that you like. But the owner requires you to pay a certain amount to use it and you've made the payment for it. Marketers call it micropayment in the e-commerce world. A micropayment is a minimum amount that you have to pay to use the product/service.

Micropayments play a very significant role for day to day operations of the businesses. Today we'll discuss micropayments, its history, types, examples, and how it works.

What is Micropayment?

In simple words, Micropayment is small financial transaction that a customer makes usually online. It doesn't matter however small the amount may be in cents, micropayment is the amount you pay online to get the product/service.

The product/service could be a music tune, application, or a book that you want access to it. It is getting very common nowadays. Some people even make the transaction to get the product delivered to them. They use different methods of payments to complete the process.

History of Micropayment

Ted Nelson first used the term micropayment long before the invention of the internet and WWW (World Wide Web). Initially, people used the terms for low-cost copyrights holders. After the invention of the internet, many people use a micropayment system to sell their content online. It was an alternative source of earning other than advertisements. W3C, IBM, and Compaq decided to set some standard protocol for the micropayments in the late 90s but left the efforts later on.

How Micropayment Model Works

Ecommerce retail stores and online businesses have designed a special system to carry out various e-commerce transactions smoothly. Credit card companies don't follow that system. It's because the micropayment system follows a specific scheme system, where the buyer and seller have to be there.

The buyer and seller both have their accounts in the system. The service provider would monitor the whole process. He'll start by receiving the payment from the buyer and then distributing it to the third-party sellers.

The seller would include an encoded link on the home page during the transaction. When an interested buyer comes across the page and starts the transaction, then the payment would go to

an internet wallet and stay there. The service provider would access the wallet and send it to the concerned parties.

The transaction system of micropayment works very well for multiple sellers if there's a one-time payment. It's because the seller accounts of different businesses work the same way. That's why people prefer the micropayment service to complete the process.

Some experts have predicted after analyzing the standard system of micropayment that sports sites, media sites, content creators, apps, and music downloads, and other platforms would always prefer and use the pay-per-use method of online transactions. The system of micropayment is going to be very famous among e-commerce businesses and online retail stores in the upcoming years.

Importance of the Micropayment Model

A micropayment is gaining attraction again because it allows people to make a transaction even less than a dollar. The business model of micropayment has become more important than ever for maintaining a sustainable source of income in the digital world. Here are some of the reasons why the micropayment system is more important in the digital age;

More Choices

You must have come across a situation while surfing online that when you have found a worth reading content. The website asks you to subscribe to the platform to access the content. You end up leaving the platform because you aren't a frequent reader.

The Micropayment system provides the website owners and customers an additional option in this regard. In the abovementioned scenario, you can provide a list of options/choices to the reader that here's how the reader should proceed. Instead of telling the customers that they should either subscribe to the platform or leave.

Profit/Revenue

Ads are the main source of income for bloggers and website owners. But with the rise of features like ad blockers pose a great threat to the revenue stream of bloggers and web owners. Micropayment provides an additional option to the content creators. They can charge a small amount in cents from all the users by leveraging the micropayment system.

Strategy

The Micropayment system is a very good business strategy. It provides you an option to think outside the box and focus on sources of income. Like ads, micropayment, subscription, and

native ads, instead of just relying only on the ads. That's why they say that you shouldn't put all of your arsenals in one place. When you follow the diverse strategy, then you'll succeed and have more sources of income.

Types of Micropayment

The micropayment system has different types and some of the main types are as follows;

Prepay

As the name implies the prepay model means that customers/users have to make the payment before getting access to content. Online games, newspapers, and social media platforms use this model, where the platform provides a set of instructions to the users plus the payment method. You can send a gift card to the users who are unable to pay. The disadvantage is that the customers have to make the payment before getting access to the content.

Post-pay

The post-pay model means that the customers have to make the payment after getting an excess. Online music platforms follow this model, where the user listens to the music. If the user likes it, then he'll buy the downloading permission. Many businesses follow both approaches, prepay and post-pay at the same.

Collaborative

Online publishing businesses follow the collaborative approach, where they leave a link to more than one website. The collaborative model is a very good option for the small publisher, it's because not all the publishers have a plethora of viewers to the platforms to support the micropayment system. The good thing about this platform is that various publishing platforms can work collectively and work from it.

Pay-as-you-go

A Pay-as-you-go type of micropayment system allows users to pay whatever they like. It's not a good approach from the business point of view. The good thing about the collaborative system is that it's a very supportive model for the users.

Examples of Micropayment System

Upwork

Upwork is a very famous online platform for freelancers. The platform brings the freelancer closer to the recruiter by matching the skill set of the freelancer with the job description of the

client. For instance, a firm wants to hire a writer for $5 an hour, and the work would help the client to find the most suitable candidate.

If the freelancer completes the work in 5 hours, Upwork would receive $25 from the client and create a digital wallet on behalf of the freelancer. The freelancer can withdraw money anytime he likes, or he can keep saving it in the digital wallet by earning more and withdraw it later on.

Media

Some famous platforms use the micropayment system where you have to pay some cents to read the article and the newspaper. You can read it uninterruptedly.

Art

The art community raises funds on behalf of the artist by adding a pay button. Everyone pays a small amount to support the artist.

Internet security

Internet security consists of a range of security tactics for protecting activities and transactions conducted online over the internet. These tactics are meant to safeguard users from threats such as hacking into computer systems, email addresses, or websites; malicious software that can infect and inherently damage systems; and identity theft by hackers who steal personal data such as bank account information and credit card numbers. Internet security is a specific aspect of broader concepts such as cybersecurity and computer security, being focused on the specific threats and vulnerabilities of online access and use of the internet.

In today's digital landscape, many of our daily activities rely on the internet. Various forms of communication, entertainment, and financial and work-related tasks are accomplished online. This means that tons of data and sensitive information are constantly being shared over the internet. The internet is mostly private and secure, but it can also be an insecure channel for exchanging information. With a high risk of intrusion by hackers and cybercriminals, internet security is a top priority for individuals and businesses alike.

Types of internet security threats

While the web presents users with lots of information and services, it also includes several risks. Cyberattacks are only increasing in sophistication and volume, with many cybercriminals using a combination of different types of attacks to accomplish a single goal. Though the list of potential threats is extensive, here are some of the most common internet security threats:

Malware: Short for "malicious software," malware comes in several forms, including computer viruses, worms, Trojans, and dishonest spyware.

Computer worm: A computer worm is a software program that copies itself from one computer to the next. It does not require human interaction to create these copies and can spread rapidly and in great volume.

Spam: Spam refers to unwanted messages in your email inbox. In some cases, spam can simply include junk mail that advertises goods or services you aren't interested in. These are usually considered harmless, but some can include links that will install malicious software on your computer if they're clicked on.

Phishing: Phishing scams are created by cybercriminals attempting to solicit private or sensitive information. They can pose as your bank or web service and lure you into clicking links to verify details like account information or passwords.

Botnet: A botnet is a network of private computers that have been compromised. Infected with malicious software, these computers are controlled by a single user and are often prompted to engage in nefarious activities, such as sending spam messages or denial-of-service (DoS) attacks. Choosing the right internet security tactics

Internet security requires a combination of several products and technologies to properly safeguard data. It's important to consider several types of internet security strategies when taking proper measures to help keep your network secure. These tactics can include:

- **Browser selection**: Each browser has its own security measures in place, but some can have serious flaws that allow hackers and cybercriminals to exploit and invade. Ensure that you're using a secure browser to reduce the risk of compromising your computer or network.

- **Multi-factor authentication (MFA)**: MFA is a method of controlling computer access by requiring several separate pieces of evidence to an authentication mechanism. Websites and email accounts can be made more secure by requiring at least two factors of authentication by a user.
- **Email security**: Email creates a wave of opportunity for viruses, worms, Trojans, and other unwanted programs. Establishing a multi-layered and comprehensive email security

strategy will help significantly reduce exposure to emerging threats. Email messages can also be protected by using cryptography, such as signing an email, encrypting the body of an email message, and encrypting the communication between mail servers.

- **Firewalls**: Firewalls act as filters that protect devices by allowing or denying access to a network. By applying a specific set of rules to identify if something is safe or harmful, firewalls can prevent sensitive information from being stolen and keep malevolent code from being embedded onto networks.

Internet security solutions

There are several internet security products and solutions available to help keep your internet usage secure. These include:

- Antivirus software products, which protect devices from attacks by detecting and eliminating viruses.
- Password managers, which help store and organize passwords through encryption.
- Endpoint security suites, which include a more comprehensive internet security approach with firewalls, antivirus, anti-spyware, and more.

Choosing the right package of products is important for securing your data across the internet. Bringing together web filtering, content inspection, antivirus, zero-day anti-malware, SSL inspection, data loss prevention, and broad integration, our portfolio delivers a comprehensive web security solution available on-premises, as a cloud service, or as a hybrid of both.

Cryptography and its Types

Cryptography is technique of securing information and communications through use of codes so that only those person for whom the information is intended can understand it and process it. Thus preventing unauthorized access to information. The prefix "crypt" means "hidden" and suffix graphy means "writing". In Cryptography the techniques which are use to protect information are obtained from mathematical concepts and a set of rule based calculations known as algorithms to convert messages in ways that make it hard to decode it. These algorithms are used for cryptographic key generation, digital signing, verification to protect data privacy, web browsing on internet and to protect confidential transactions such as credit card and debit card transactions.

Techniques used For Cryptography: In today's age of computers cryptography is often associated with the process where an ordinary plain text is converted to cipher text which is the text made such that intended receiver of the text can only decode it and hence this process is known as encryption. The process of conversion of cipher text to plain text this is known as decryption.

Features Of Cryptography are as follows:

1. **Confidentiality:** Information can only be accessed by the person for whom it is intended and no other person except him can access it.
2. **Integrity:** Information cannot be modified in storage or transition between sender and intended receiver without any addition to information being detected.
3. **Non-repudiation:** The creator/sender of information cannot deny his intention to send information at later stage.
4. **Authentication:** The identities of sender and receiver are confirmed. As well as destination/origin of information is confirmed.

Types Of Cryptography: In general there are three types Of cryptography:

1. **Symmetric Key Cryptography:** It is an encryption system where the sender and receiver of message use a single common key to encrypt and decrypt messages. Symmetric Key Systems are faster and simpler but the problem is that sender and receiver have to somehow exchange key in a secure manner. The most popular symmetric key cryptography system is Data Encryption System(DES).
2. **Hash Functions:** There is no usage of any key in this algorithm. A hash value with fixed length is calculated as per the plain text which makes it impossible for contents of plain text to be recovered. Many operating systems use hash functions to encrypt passwords.
3. **Asymmetric Key Cryptography:** Under this system a pair of keys is used to encrypt and decrypt information. A public key is used for encryption and a private key is used for decryption. Public key and Private Key are different. Even if the public key is known by everyone the intended receiver can only decode it because he alone knows the private key.

Applications Of Cryptography:

1. Computer passwords
2. Digital Currencies
3. Secure web browsing

4. Electronic Signatures
5. Authentication
6. Cryptocurrencies
7. End-to-end encryption

What is Security Protocol

Also called cryptographic **protocol**, it constitutes transferring specially constructed encrypted messages between legitimate **protocol** participants to fulfil objectives such as mutual authentication or key-exchange in a predefined procedure. .

A **security protocol** is essentially a communication **protocol** – an agreed sequence of actions performed by two or more communicating entities in order to accomplish some mutually desirable goal – that makes use of cryptographic techniques, allowing the communicating entities to achieve a **security** goal. A particular **protocol**, however, may enable the communicating parties to establish one or more such goals. Some common **security** goals include (data and entity) authentication, confidentiality and integrity.

Different Security Protocols that Secures your Data Integrity

Security Protocols naming cryptographic or encryption protocols help protect sensitive data, financial data, and file transfer using the cryptographic method.

The protocol shows how the algorithm works and gives details like data structure, and data representation.

Security protocols can apply secure multi-party computation, secret sharing process, entity authentication, Non-repudiation method, and encryption method.

Such protocols ensure the data delivery in a secure way between two ends.

Below we have discussed few security protocols to protect online information.

SSL and TLS (HTTPS):

SSL and TLS are separate protocols; however, TLS is a successor version of SSL. After SSL v3.0, TLS came into focus, and at present, TLS 1.3 is in practice by certificate authorities. Still, we know the TLS protocol with an SSL certificate.

1. SSL Protocol:

SSL protocol (Secure Socket Layer) offers data encryption, integrity, and authentication that flows between the server and the client. The protocol offers server and client authentication.

During SSL handshake to create a secure connection, session keys (public and private key) are swapped, and algorithms are agreed upon.

SSL certificates signed by a certificate authority should be compatible with almost all servers, operating systems, and browsers to avoid SSL warnings.

2. TLS Protocol:

TLS (Transport Layer Security) 1.1 was released in 2006 after two years in 2008, TLS 1.2 replaced it.

However, TLS 1.3 is used by many certificate authorities and came into play in 2018. Foremost browser authorities and search engines have already started to use TLS 1.2 and TLS 1.3 from January 2020

VPN:

VPN (Virtual Private Network) creates a secure and private network while hiding an IP address to cover actual identity. VPN offers an encrypted connection, which is strong compared to a secure Wi-Fi hotspot. While surfing on insecure Wi-Fi, an attacker can steal login credentials and other private information. In that case, you need a VPN that keeps your connection anonymous. VPN offers the freedom to access a website and app in a secure environment using a secure tunnel between a local network and an exit point in another location.

SFTP:

SFTP (Secure File Transfer Protocol) is an upgraded version of FTP (File Transfer Protocol) in which the files were transferred in an unencrypted manner. SFTP removes this issue and offers a secure environment for file transfer on both local and remote servers. SFTP uses a secure SSH protocol to establish a connection. SFTP helps to protect against MiTM and password sniffing attacks. With cryptographic hash function and data encryption, SSH protects data integrity.

SSH:

SSH (Secure Shell) is a cryptographic protocol for carrying out network services in a secured environment over an insecure network. Over SSH protocol, each command, file transfer, and output are encrypted to protect against network attacks. It connects a client-server application to an SSH server. SSH works on TCP port#22 and generally used on Unix and Windows systems.

OSPF:

Open Shortest Path First (OSPF) is a routing protocol that creates a route between the origin and the target router. The IETF (Internet Engineering Task Force) has developed OSPF protocol as an interior gateway protocol. It works on port 89 as a network layer protocol.

Firewall:

Firewall is a renowned technology that is used to protect online information. In E-commerce, firewall is used to protect E-commerce components such as Internet Payment Gateway, Server Based Wallet, and Payment Server.

Most firewalls can be divided into three categories:

- Packet filter (without memory);
- Filter circuit level;
- Application-layer filters.

Packet filtering blocks or passes data packets as they pass through a network interface,which include IP-address and port numbers and destination.This type of firewall is the easiest to implement and maintain, and almost no effect on network performance but its protection level is very low.

Filter Circuit level is an intermediate between the packet filter and application layer. Filter circuit-level monitors handshake (handshake) between the authorized client and the external host that determines whether the requested session is valid.Information delivered to a remote computer over a circuit level gateway seems to have originated from the gateway; such it hides the information on protected networks. Such circuit level is inexpensive and suitable for protecting private network. It does not filter individual packets.

Application-level filters provide a high degree of protection, but it is expensive and can increase complexity. Such filters are implemented as a dedicated firewall. The server application is located on a private network behind a firewall. In fact, the client cannot find the application proxy (proxy application server) with the firewall. In contrast to the filter circuit level, application-level intermediaries allow only packets that they were assigned to work. Application-level intermediaries check the contents of each packet passing through the gateway.

IPSec:

It encrypts data at the network level that consists of three protocols: Authentication Header, Encapsulating Secure Payload (ESP), and Internet Key Exchange (IKE).

- The Authentication Header provides data origin authentication, data integrity, and protection from the burden of repeated messages. The AH protocol authenticates every packet, which makes ineffective the program, and tries to seize control of the session.
- ESP offers validation and integrity for the payload and not for the IP header.ESP protocol provides encryption of data streams. It uses SHA and MD5 standard algorithms.
- IKE protocol solves the problem of key distribution protocol based on Diffie-Hellman. It establishes security association (SA) in the IPsec. It uses DNS and a Diffie-Hellman key exchange to establish a shared secret session.

IPSec has spread in two main configurations. First configuration carries Network Layer Protocol that uses for data transfer between gateways for local networks that support IPv4 for unencrypted transmission of network. Second configuration is for closing the data within the network, for that all the jobs and the web server must support the protocol IPSec. Today, most modern operating systems (Windows 2000, Linux, and Solaris) protocol supports IPSec.

PCT:

If we talk about PCT (Private Communication Technology), it works same as SSL. The main difference between PCT and SSL is the message size. PCT has a smaller set of message compared to SSL.PCT supports algorithms RSA, Diffie-Hellman, Fortezza key management; DES, RC2 and RC4 – data encryption; DSA and RSA – for digital signature.PCT is implemented in Microsoft Internet Explorer version 3 and above, as well as Microsoft Internet Information Server version 2 and above. PCT has more options in the negotiation of an algorithm and data formats. While authenticating and encrypting the message, it requires two separate key in PCT. However, in SSL both need a single key.

Network Security

Network security is any activity designed to protect the usability and integrity of your network and data.

- It includes both hardware and software technologies
- It targets a variety of threats
- It stops them from entering or spreading on your network

- Effective network security manages access to the network How

does network security work?

Network security combines multiple layers of defenses at the edge and in the network. Each network security layer implements policies and controls. Authorized users gain access to network resources, but malicious actors are blocked from carrying out exploits and threats.

How do I benefit from network security?

Digitization has transformed our world. How we live, work, play, and learn have all changed. Every organization that wants to deliver the services that customers and employees demand must protect its network. Network security also helps you protect proprietary information from attack. Ultimately it protects your reputation.

Types of network security

Firewalls

Firewalls put up a barrier between your trusted internal network and untrusted outside networks, such as the Internet. They use a set of defined rules to allow or block traffic. A firewall can be hardware, software, or both. Cisco offers unified threat management (UTM) devices and threat-focused next-generation firewalls.

Email security

Email gateways are the number one threat vector for a security breach. Attackers use personal information and social engineering tactics to build sophisticated phishing campaigns to deceive recipients and send them to sites serving up malware. An email security application blocks incoming attacks and controls outbound messages to prevent the loss of sensitive data.

Anti-virus and anti-malware software

"Malware," short for "malicious software," includes viruses, worms, Trojans, ransomware, and spyware. Sometimes malware will infect a network but lie dormant for days or even weeks. The best antimalware programs not only scan for malware upon entry, but also continuously track files afterward to find anomalies, remove malware, and fix damage.

Network segmentation

Software-defined segmentation puts network traffic into different classifications and makes enforcing security policies easier. Ideally, the classifications are based on endpoint

identity, not mere IP addresses. You can assign access rights based on role, location, and more so that the right level of access is given to the right people and suspicious devices are contained and remediated.

Access control

Not every user should have access to your network. To keep out potential attackers, you need to recognize each user and each device. Then you can enforce your security policies. You can block noncompliant endpoint devices or give them only limited access. This process is network access control (NAC).

- Cisco Identity Services Engine

Application security

Any software you use to run your business needs to be protected, whether your IT staff builds it or whether you buy it. Unfortunately, any application may contain holes, or vulnerabilities, that attackers can use to infiltrate your network. Application security encompasses the hardware, software, and processes you use to close those holes.

- Services for Security

Behavioral analytics

To detect abnormal network behavior, you must know what normal behavior looks like. Behavioral analytics tools automatically discern activities that deviate from the norm. Your security team can then better identify indicators of compromise that pose a potential problem and quickly remediate threats.

- Stealthwatch
- Security Analytics

Data loss prevention

Organizations must make sure that their staff does not send sensitive information outside the network. Data loss prevention, or DLP, technologies can stop people from uploading, forwarding, or even printing critical information in an unsafe manner.

- Data Loss Prevention

Intrusion prevention systems

An intrusion prevention system (IPS) scans network traffic to actively block attacks. Cisco Next-Generation IPS (NGIPS) appliances do this by correlating huge amounts of global threat

intelligence to not only block malicious activity but also track the progression of suspect files and malware across the network to prevent the spread of outbreaks and reinfection.

- Learn the fundamentals of IPS (5:48 min)

Mobile device security

Cybercriminals are increasingly targeting mobile devices and apps. Within the next 3 years, 90 percent of IT organizations may support corporate applications on personal mobile devices. Of course, you need to control which devices can access your network. You will also need to configure their connections to keep network traffic private.

- Mobile Device Management

Security information and event management

SIEM products pull together the information that your security staff needs to identify and respond to threats. These products come in various forms, including physical and virtual appliances and server software.

- Identity Services Engine with SIEM (PDF - 439 KB)

VPN

A virtual private network encrypts the connection from an endpoint to a network, often over the Internet. Typically, a remote-access VPN uses IPsec or Secure Sockets Layer to authenticate the communication between device and network.

- VPN and Endpoint Security Clients

Web security

A web security solution will control your staff's web use, block web-based threats, and deny access to malicious websites. It will protect your web gateway on site or in the cloud. "Web security" also refers to the steps you take to protect your own website.

- Web Security

Wireless security

Wireless networks are not as secure as wired ones. Without stringent security measures, installing a wireless LAN can be like putting Ethernet ports everywhere, including the parking lot. To prevent an exploit from taking hold, you need products specifically designed to protect a wireless network.

Unit - 5

LEGAL AND PRIVACY ISSUES

Legal, Ethics and privacy issues – Protection needs and methodology – consumer protection, cyber laws, contracts and warranties, Taxation and encryption policies.

The Ethical Problems In E-Business

Over the past two decades, e-commerce has become a major channel for selling products and services around the world. This method of doing business has resulted in numerous conflicts between purchasers, sellers and vendors, as unexpected challenges and ethical problems have arisen. Understanding these issues is critical when trying to develop a respected online brand.

Business Representation

By using a well-designed website, stock photographs, well-written copy, search engine optimization and paid-for social media followers, it is possible for a small business with a limited track record to represent itself online as larger, better-funded company that has leadership that is more experienced and competent than it actually is.

While it is understandable that a business owner would want to create a strong online brand, doing so can sometimes cross the line into misrepresentation, one of the more common *problems of e-business.* Things that a business owner could do to create a professional online manage while also being honest with website visitors or social media contacts include:

- Avoid using stock photographs of large office buildings, professional conference rooms or employees at work on business websites. Using these photographs can give the impression that the business actually owns or rents the facilities or employs the pictured workers.
- Include an “About" section on its website that conveys pertinent information about the company, including how long it has been in business.
- Avoid paying for social media “likes” or followers. While doing so can be tempting, many social media companies now have algorithms that can detect *real* versus *paid* followers. Business owners should strive to build a social media following through the development of quality content and interaction.

Intellectual Property Violations

Ethical fallouts from intellectual property violations often plague online businesses. In some cases, these violations are the result of ignorance and poor legal advice, while others are deliberate. Some of the most common violations include:

- **Unoriginal logos:** Logos are an essential part of a company's branding. Some entrepreneurs have a small budget for logo design and may either copy a logo from another company or may hire a logo designer who, due to budget constraints, copies a design that is already in use.
- **Image theft:** Quality images are a vital component of a quality website. Hiring a professional photographer or purchasing stock photographs can be expensive. As a result, unethical web designers will sometimes steal images and use them on the websites they create.
- **Content theft:** When a business cannot afford to hire quality copy and content writers, its web designer or administrator may lift blog posts, product descriptions and other content for use on its site, online catalog or social media platforms.
- **Selling counterfeit items:** Small online retailers sometimes sell counterfeit items. In some cases, this happens because the retailer is itself the victim of a scam by an illegitimate wholesaler. In other cases, the owner of the company is fully aware that it is selling fake products.
- **Unauthorized use of audio and video files:** This can become a significant issue for businesses that use music and other sound files in podcasts and video programming. Audio content, including music, may be copyrighted and standard use permissions may not apply to podcasts or videos that can be downloaded and replayed over and over again on a user's device. It is possible for a business to purchase the rights to use a copyrighted song in a live broadcast, only to run into trouble when a recorded podcast version of the show is posted online for download or streaming.

Using content and images without permission can result in lawsuits, suspension of web hosting accounts, public shaming, removal from social media platforms or a lowered search engine ranking. Business owners can avoid intellectual property violations by purchasing the creation of original content, working with quality stock photography or content creation services and ensuring that they have documentation authorizing the use of all online content.

Information Security

One of the most commonly discussed *ethical issues in e-commerce* is information security and data protection. Companies that sell products and services online typically collect sensitive information from customers that includes credit card or bank account information, along with

the customer's name, address, and phone number. In addition, many e-commerce sites offer customers the option of setting up an online account, requiring the customer to set up a username and password.

Hackers are very willing to attempt to breach websites and their e-commerce software in an attempt to get consumer information, which can then be used to steal money from customers' accounts or perpetrate identity fraud. This information is often sold on the black market, increasing its exposure and subjecting users to increased risk of identity theft and financial loss.

Companies that fail to protect their data can be held liable for information security breaches. Consumers may become disgruntled and cancel their accounts, opting to take their business to competitors.

Product Quality

One advantage to shopping in a brick-and-mortar store is being able to view and inspect merchandise before purchasing it. This can't happen online, which means that the customer has to trust the merchant to sell her an item that matches the photographs and descriptions posted on the retailer's website.

Unfortunately, some companies take advantage of the distance between consumer and product to sell inferior goods. Many consumers have opened a package expecting a high-quality item, only to find a product that is shoddily made or that does not resemble its online images.

Vendor Compliance

Many online retailers sell products purchased from manufacturers, wholesalers and other suppliers. In some cases, the vendor that actually owns the brand being sold establishes stipulations under which the products can be sold by a third-party retailer. These often include:

- Obtaining permission to sell the product as an authorized retailer.
- Using approved content, such as photographs, company logos and descriptive copy in sales efforts.
- Respecting price points established by the vendor.

Some e-retailers fail to honor these requirements. This failure can confuse customers and can create branding problems for vendors. In some instances, vendors may take legal action against non-compliant suppliers.

Customer Service

By definition, e-commerce involves a barrier between customers and retailers. When a customer has a question, needs assistance, receives a damaged product or wants to inquire about a refund, he can't just walk into a store to get help. Instead, customers have to rely on the contact methods made available by an online retailer. Many retailers are committed to providing quality customer service and offer online chat, phone-based customer service as well as email assistance.

Unethical e-commerce companies can make it very difficult to get help. They may simply refuse to respond to emails and other attempts to contact them. In addition, the company may continuously promise a customer that the company will deal with the customer's concern, but will continually delay taking action, until the customer gives up trying to get her problem resolved or when is too late for her to request a chargeback from her credit card company.

PRIVACY

The right to "privacy" can encompass a wide variety of concepts. Perhaps the most famous definition was expressed by Justice Louis D. Brandeis, when he called the right to privacy the right to be left alone. In our relationship to the government, privacy can encompass the security of our homes and possessions from unwarranted governmental search and seizure. In our personal lives it can encompass our freedom of self-determination to live our lives the way we want, where we want, and with whom we want. It can include our reproductive rights and our right to raise our children.

In the workplace, privacy can include freedom from intrusive and offensive monitoring and surveillance by employers. In this digital age, it can include the right to control information and facts about ourselves. Such informational privacy is our focus here.

Ethical Basis of Informational Privacy

The focus here is on informational privacy in electronic commerce--the right of individuals to exercise control over information about themselves. Informational privacy rights can be derived from the general right to privacy discussed earlier. From the authors' perspectives, there is nothing inherently unjust or unethical in gathering information on customers when appropriate procedural justice safeguards are put into place to protect them. Data gathering has been practiced since the dawn of commerce. A bricks-and-mortar store owner knew his regular customers and their personal tastes and preferences. A merchant may even have maintained records of customer preferences and purchase histories.

What has irrevocably altered this information-gathering process is the growth of sophisticated computer technology, which enables the collection, dissemination, and combination of information at previously unprecedented levels. Technology has substantially altered the relationship between customers and merchants, and tipped the balance in favor of online merchants' commercial interests versus the customers' privacy interests. This change leaves online consumers particularly vulnerable, subject to harm, their right to psychological and physical privacy compromised. Just as our legal conceptions of the right to privacy lag behind in adapting to rapid technological change, so do our ethical conceptions of privacy in contemporary social conditions.

Protection needs and methodology

eCommerce security is the guideline that ensures safe transactions through the internet. It consists of protocols that safeguard people who engage in online selling and buying goods and services. You need to gain your customers' trust by putting in place eCommerce security basics. Such basics include:

- Privacy
- Integrity
- Authentication
- Non-repudiation

1. Privacy

Privacy includes preventing any activity that will lead to the sharing of customers' data with unauthorized third parties. Apart from the online seller that a customer has chosen, no one else should access their personal information and account details.

A breach of confidentiality occurs when sellers let others have access to such information. An online business should put in place at least a necessary minimum of anti-virus, firewall, encryption, and other data protection. It will go a long way in protecting credit card and bank details of clients.

2. Integrity

Integrity is another crucial concept of eCommerce Security. It means ensuring that any information that customers have shared online remains unaltered. The principle states that the online business is utilizing the customers' information as given, without changing anything.

Altering any part of the data causes the buyer to lose confidence in the security and integrity of the online enterprise.

3. Authentication

The principle of authentication in eCommerce security requires that both the seller and the buyer should be real. They should be who they say they are. The business should prove that it is real, deals with genuine items or services, and delivers what it promises. The clients should also give their proof of identity to make the seller feel secure about the online transactions. It is possible to ensure authentication and identification. If you are unable to do so, hiring an expert will help a lot. Among the standard solutions include client login information and credit card PINs.

Also Read: Security Audit Services: Importance, Types, Top 3 Companies

4. Non-repudiation

Repudiation means denial. Therefore, non-repudiation is a legal principle that instructs players not to deny their actions in a transaction. The business and the buyer should follow through on the transaction part that they initiated. eCommerce can feel less safe since it occurs in cyberspace with no live video. Non-repudiation gives eCommerce security another layer. It confirms that the communication that occurred between the two players indeed reached the recipients. Therefore, a party in that particular transaction cannot deny a signature, email, or purchase.

eCommerce security

While growth in eCommerce has improved online transactions, it has attracted the attention of the bad players in equal measures. eCommerce cybercrime reports reveal that the industry is among the most vulnerable ones when it comes to cybercrimes.

The eCommerce world experiences about 32.4% of all attacks. 50% of small eCommerce store owners are lamenting that the attacks are becoming severe. Furthermore, the reports show that 29% of traffic accessing a website consists of malicious requests.

Such attacks have contributed to significant losses in financials, market shares, and reputation. Almost 60% of small eCommerce stores that experience cybercrimes don't survive more than six months.

Therefore, it is very crucial to put in place water-tight security measures and hire a robust team. It will ensure you run your business without worrying about closing down due to cybercriminals.

Common Ecommerce Security Issues

1. Lack of trust in the privacy and eCommerce security

Businesses that run eCommerce operations experience several security risks, such as:

- **Counterfeit sites**– hackers can easily create fake versions of legitimate websites without incurring any costs. Therefore, the affected company may suffer severe damage to its reputations and valuations.
- **Malicious alterations to websites**– some fraudsters change the content of a website. Their goal is usually to either divert traffic to a competing website or destroy the affected company's reputation.
- **Theft of clients' data**– The eCommerce industry is full of cases where criminals have stolen the information about inventory data, personal information of customers, such as addresses and credit card details.
- **Damages to networks of computers**– attackers may damage a company's online store using worm or viruses attacks.
- **Denial of service**– some hackers prevent legit users from using the online store, causing a reduction in its functioning.
- **Fraudulent access to sensitive data**– attackers can get intellectual property and steal, destroy, or change it to suit their malicious goals.

2. Malware, viruses, and online frauds

these issues cause losses in finances, market shares, and reputations. Additionally, the clients may open criminal charges against the company. Hackers can use worms, viruses, Trojan horses, and other malicious programs to infect computers and computers in many different ways. Worms and viruses invade the systems, multiply, and spread. Some hackers may hide Trojan horses in fake software, and start infections once the users download the software. These fraudulent programs may:

- hijack the systems of computers
- erase all data
- block data access
- forward malicious links to clients and other computers in the network.

3. Uncertainty and complexity in online transactions

Online buyers face uncertainty and complexity during critical transaction activities. Such activities include payment, dispute resolution, and delivery. During those points, they are likely to fall into the hands of fraudsters.

Businesses have improved their transparency levels, such as clearly stating the point of contact when a problem occurs. However, such measures often fail to disclose fully the collection and usage of personal data.

E-commerce website security measures to cover 24/7

1. Use Multi-Layer Security

It is helpful to employ various security layers to fortify your security. A Content Delivery Network (CDN) that is widespread can block DDoS threats and infectious incoming traffic. They use machine learning to keep malicious traffic at bay.

You can go ahead and squeeze in an extra security layer, such as Multi-Factor Authentication. A two-factor authentication is a good example. After the user enters the login information, they instantly receive an SMS or email for further actions. By implementing this step, it blocks fraudsters as they will require more than just usernames and passwords to access the legit users' accounts. However, hacking can still occur even if an MFA is in place.

Most companies that use MFA are still successfully hacked.

— Roger Grimes, 2018

2. Get Secure Server Layer (SSL) Certificates

One of the primary benefits of SSL Certificates is to encrypt sensitive data shared across the internet. It ensures that the information reaches only the intended person. It is a very crucial step because all data sent will pass through multiple computers before the destination server receives it.

If SSL certificate encryption is absent, any electronic device between the sender and the server can access sensitive details. Hackers can thus take advantage of your exposed passwords, usernames, credit card numbers, and other information. Therefore, the SSL certificate will come to your aid by making the data unreadable to unintended users.

2. Use solid-rock Firewalls

Use effective e-commerce software and plugins to bar untrusted networks and regulate the inflow and outflow of website traffic. They should provide selective permeability, only permitting trusted traffic to go through.

You can trust the Astra firewall to stop Spam, XSS, CSRF, malware, SQLi, and many other attacks on your website. It ensures that the only traffic that accesses your eCommerce store consists of the real users. Moreover, we have specialized WAF solutions for WordPress, Magento, Opencart, Prestashop, Drupal, Joomla, and custom made PHP sites.

In a nutshell, the Astra firewall protection from:

- OWASP top 10 threats
- Protection from bad bots.
- Spam protection.
- Protection against 100+ types of attacks.

3. Anti-Malware Software

Your electronic devices, computer systems, and web system need a program or software that detects and block malicious software, otherwise known as malware. Such protective software is called Anti-malware software. An effective anti-malware should render all the hidden malware on your website.

One such scanner is the Astra Malware Scanner. It scans your web system for all malicious software round the clock and is at your disposal It also lets you automate your scans with its "Schedule a Scan" feature. You can schedule the scans daily, weekly, monthly or fortnightly.

With Astra Scanner, you can enjoy:

- unlimited scans
- Notifications in case of any changes in file
- scanning powered by machine learning.
- collective intelligence

It is capable of cleaning malware like credit card hack, Japanese spam, pub2srv, Pharma attacks, and malicious redirects.

4. Comply with PCI-DSS Requirements

Make it a routine to maintain the Payment Card Industry Data Security Standard (PCI-DSS) to protect all credit card data. All businesses that handle credit card transactions need to follow these requirements:

CYBER LAW, CONTRACTS AND WARRANTIES - E-COMMERCE CONCEPTS

Cyber law

Cyber law is a term used to describe the legal issues related to use of communications technology, particularly "cyberspace", i.e. the Internet. It is less a distinct field of law in the way that property or contract are, as it is an intersection of many legal fields, including intellectual property, privacy, freedom of expression, and jurisdiction. In essence, cyber law is an attempt to apply laws designed for the physical world to human activity on the Internet.

Jurisdiction and sovereignty

Issues of jurisdiction and sovereignty have quickly come to the fore in the era of the Internet. The Internet does not tend to make geographical and jurisdictional boundaries clear, but Internet users remain in physical jurisdictions and are subject to laws independent of their presence on the Internet. As such, a single transaction may involve the laws of at least three jurisdictions: 1) the laws of the state/nation in which the user resides, 2) the laws of the state/nation that apply where the server hosting the transaction is located, and 3) the laws of the state/nation which apply to the person or business with whom the transaction takes place. So a user in one of the United States conducting a transaction with another user in Britain through a server in Canada could theoretically be subject to the laws of all three countries as they relate to the transaction at hand.

Another major problem of cyber law lies in whether to treat the Internet as if it were physical space (and thus subject to a given jurisdiction's laws) or to act as if the Internet is a world unto itself (and therefore free of such restraints). Those who favor the latter view often feel that government should leave the Internet community to self-regulate. John Perry Barlow, for example, has addressed the governments of the world and stated, "Where there are real conflicts, where there are wrongs, we will identify them and address them by our means. We are forming our own Social Contract. This governance will arise according to the conditions of our world, not yours. Our world is different" (Barlow, A Declaration of the Independence of Cyberspace). A more balanced alternative is the Declaration of Cyber secession: "Human beings possess a mind,

which they are absolutely free to inhabit with no legal constraints. Human civilization is developing its own (collective) mind. All we want is to be free to inhabit it with no legal constraints. Since you make sure we cannot harm you, you have no ethical right to intrude our lives. So stop intruding!". Other scholars argue for more of a compromise between the two notions, such as Lawrence Lessig's argument that "The problem for law is to work out how the norms of the two communities are to apply given that the subject to whom they apply may be in both places at once" (Lessig, Code 190).

Cyber Contracts

Contracting and Contract Enforcement in EC

Any contract includes three essential elements: an offer, an acceptance and consideration. The Contract is formed when one party accepts the offer of another party.

An **offer** is a commitment with certain terms made to another party such as declaration of willingness to buy or sell a product or service. An **acceptance** is the expression of willingness to take an offer, including all of its stated terms. **Consideration** is the agreed upon exchange of something valuable, such as money, property or future services. Contracts are a key element of traditional business practice, and they are equally important on the Internet. Offers and acceptances can occur when parties exchange email messages, engage in electronic data interchange (EDI) or fill out forms on web pages.

These Internet communications can be combined with traditional methods of forming contracts, such as exchange of paper documents, faxes and verbal agreements made over the telephone or in person. When enforcing contracts, courts tend to view offers and acceptances as actions that occur within a particular context. If the actions are reasonable under the circumstances, courts tend to interpret those actions as offers and acceptances. For example, courts have held the various actions—including mailing a check, shipping goods, shaking hands, nodding one's head, taking an item off a shelf, or opening a wrapped package—are all, in some circumstances, legally binding acceptances of offers.

Writing Contracts on the web

An early decision in the 1800's held that a telegraph transmission was writing. Later courts have held that tape recordings of spoken words, computer files on disks and faxes are writings. Thus the parties to an electronic commerce contract should find it relatively easy to satisfy the writing requirement. Courts have been similarly generous in determining what constitutes a signature.

A **signature** is any symbol executed or adopted for the purpose of authenticating writing. It is reasonable to assume that a symbol or code included in an electronic file would constitute a signature. Firms concluding international electronic commerce do not need to worry about the signed writing requirement in most cases. The main treaty that governs international sales of goods, Article 11 of the United Nations Convention on Contracts for the International Sales of Goods (CISG), requires neither a writing nor a signature to create a legally binding acceptance.

Warranties on the web

Any contract for the sale of goods includes implied warranties. A seller implicitly warrants that the goods it offers for sale are fit for the purposes for which they are normally used. If the seller knows specific information about the buyer's requirements, acceptance of an offer from the buyer may result in an additional implied warranty of fitness, which suggests that the goods are suitable for the specific uses of the buyer. Sellers could create explicit warranties, often unintentionally, by making general statements in brochures or other advertising materials about product performance or suitability for particular tasks.

An Overview Of The Implications Of Consumer Protection Rules For Relevant Stakeholders

The E-Commerce Rules prescribe an elaborate framework for ecommerce entities to oversee and prevent any unfair trade practices or misleading advertisements on part of the sellers on their platform

Ecommerce entities are now required to obtain an express consent from its consumers for the purchase of any good or service offered on its platform

Price of the goods or services offered cannot be manipulated by the e-commerce entities to gain unreasonable profits

A year after the enactment of the Consumer Protection Act 2019 (Consumer Protection Act), which legislation has repealed its more than three decades old predecessor, the Government has now notified the Consumer Protection (E-Commerce) Rules 2020 (E-Commerce Rules) with effect from 23 July 2020.

The Consumer Protection Act has bolstered the regulatory approach towards consumer protectionism and reinforced the legal framework for a timely and effective administration and

settlement of consumer disputes at a time when rapid developments in the modern age retail trade and technology have led to a marketplace which is accessible by a click of a button and is no longer shackled by the rigours of distance, location, space constraints, opening hours, stock limitations or logistical challenges.

We have in an earlier article discussed the key implications of the Consumer Protection Act on the ecommerce sector, and in this follow up piece, we assess and discuss the various obligations and rights stemming from the Ecommerce Rules from the perspective of each of the following key stakeholders in the e-commerce sector – ecommerce entities (*marketplace and inventory models*), sellers and the consumers.

Applicability

The term "ecommerce entity" has been very broadly defined under the E-Commerce Rules to mean/include "*any person, who owns, operates or manages digital or electronic facility or platform for electronic commerce, but does not include a seller offering his goods or services for sale on a marketplace e-commerce entity*" and the E-Commerce Rules apply to:

- all goods and services bought or sold over digital or electronic network including digital products;
- all models of e-commerce, including marketplace and inventory models of e-commerce;
- all e-commerce retail, including multi-channel single-brand retailers and single-brand retailers in single or multiple formats; and/or
- all forms of unfair trade practices across all models of e-commerce.

The legislative intent to include all forms of e-commerce/retail models/entities – B2C, B2B and B2B2C, whether incorporated in or outside India (but offering goods and services to consumers in India), within the grip of the E-commerce Rules is abundantly clear.

Therefore, all types of e-commerce entities whether operating on the inventory model or the marketplace model including e-commerce platforms that are engaged in providing services or renting/leasing goods will fall within the meaning of "*e-commerce entity*" as defined under the E-Commerce Rules and consequently will be subject to the legal regime prescribed under the Consumer Protection Act and the E-Commerce Rules.

The Key Obligations Applying To Ecommerce Entities And Sellers

Ecommerce Entities

The E-Commerce Rules prescribe an elaborate framework for ecommerce entities to oversee and prevent any unfair trade practices or misleading advertisements on part of the sellers on their platform and obligate them to ensure that they do not engage in any price manipulation and have in place adequate internal mechanism for the redressal of complaints by consumers.

Further, the Consumer Protection Act and the E-Commerce Rules also stipulate that an e-commerce entity shall not directly or indirectly influence the sale price of goods or services and shall maintain a level playing field for all sellers without any discrimination.

Pertinently, prior to the notification of the Consumer Protection Act and the E-Commerce Rules, these obligations to restrain from influencing the sale price of goods or services and to maintain a level playing field for all sellers without any discrimination were applicable only in respect of e-commerce entities that had received foreign investment.

With these restrictions being introduced under the Consumer Protection Act and the E-Commerce Rules as well, the Government has now created a uniform governing code for all e-commerce entities in India (with or without foreign investment) and resolved the abovementioned disparity.

However, there are still some gaps between the requirements under the Foreign Exchange Management (*Non–Debt* Instrument) *Rules* 2019 (NDI Rules) that apply only in respect of e-commerce entities with foreign investment and the Consumer Protection Act/E-Commerce Rules.

For instance, under the NDI Rules, an ecommerce entity with foreign investment is required to obtain a report from a statutory auditor by 30 September every year confirming compliance of the ecommerce guidelines under the NDI Rules for the preceding financial year; but this requirement has not been prescribed under the Consumer Protection Act/E-Commerce Rules.

Given the above, the key implications emanating from the E-Commerce Rules that an e-commerce entity should take note of:

Explicit And Affirmative Consent Of The Consumers

Interestingly, ecommerce entities are now required to obtain an express consent from its consumers for the purchase of any good or service offered on its platform and this consent can no longer be recorded automatically, not even in the form of pre-ticked checkboxes.

However, the exact tenor of this requirement is unclear – what actions of the consumers would constitute 'explicit' and 'affirmative' consents have been not been elucidated in the E-Commerce Rules. Would a consent which is accorded through a click wrap agreement be sufficient to ensure compliance under the E-Commerce? Would this consent be required only at the time of the registration by a consumer with an online e-commerce platform or would a consent be required every time a consumer undertakes a purchase transaction?

A consumer typically accepts the terms and conditions of the marketplace (which are often structured as a click wrap agreement) only once at the time of making an account with such marketplace (and not at the time of every purchase) and these terms and conditions continue to apply every time the consumer makes a purchase on the marketplace.

In our view, this requirement appears to be more relevant in cases/in respect of marketplaces which allow the consumers to shop and check out from the website as a '*guest'* without any registration. In such cases, the exercise of such option by a consumer (by means of clicking at the payment button at the time of checkout) automatically makes a consumer agree to the terms and conditions of such purchase, without actually giving an opportunity to the consumer to read and accept such terms and conditions.

Given this new legal requirement to procure an express consent of a consumer for the purchase of any good or service, in our view, all e-commerce entities that allow a consumer to checkout as a '*guest*' would now need to ensure that before a consumer checks out with the purchase, the consumer is presented with the terms and conditions of such purchase and is offered with an opportunity to read and provide his/her express consent for such purchase.

Price Manipulation

Price of the goods or services offered cannot be manipulated by the e-commerce entities to gain unreasonable profits. The underlying intent behind this obligation is to ensure that a level playing field is maintained for all sellers and no unfair method or deceptive practices are adopted by an e-commerce entity (such as deep discounts, freebies, cash back offers and/or EMI options) to influence transactional decisions of the consumers which favour a particular seller.

In the past, there have been instances where certain e-commerce entities have witnessed alleged claims of price manipulation involving deep discounts being offered on certain products that were originally listed at prices which were more than the MRP of such products. In fact, the National Consumer Disputes Redressal Commission and the District Consumer Disputes

Redressal Commission have in the past also held that listing goods at a price higher than the MRP is an offence under the Consumer Protection Act.

TAXATION AND ENCRYPTION POLICIES: - E-COMMERCE CONCEPTS

Introduction on Taxation

Electronic Commerce ("Ecommerce") presents unique challenges to federal and state tax authorities. Ecommerce involves commerce using the Internet: typically purchases and sales through computers. Because Ecommerce involves computers communicating with each other at the speed of light, transactions are both instantaneous and largely anonymous. In contrast, mail order and telephone solicitation, two traditional forms used by remote sellers, involve the delivery of goods from a specific physical location to a specific location by means of a common carrier.

Although states and local jurisdictions have wrestled with the issue of collecting taxes from out-of-state mail order sellers and telephone solicitors for decades, the internet allows almost any small business to sell to customers in different states and countries.

The concept of taxation involves jurisdiction. From the Boston Tea Party Rebellion in which tea was taxed as it physically landed on American shores, to sophisticated concepts in international taxation, a government's authority to tax has always been based on territory and jurisdiction.

With the internet, a business can move to so-called tax haven jurisdictions and conduct business outside the taxing jurisdiction of any country. Also, because of the speed in which transactions occur and the absence of a traditional paper trail, especially with intangible property transmitted by computer such as software, digital music or books and services, it will be very difficult, if not impossible to apply traditional notions of jurisdiction to tax these transactions.

While governments who rely on an income tax to fund themselves will have great difficulty taxing Ecommerce, states and local jurisdictions that rely on sales and property taxes to fund their operations are in steep trouble. As discussed below, the U.S. constitution requires a sufficient physical connection with the state or local jurisdiction by a company to burden the business with a tax obligation, and merely selling property, services or goods to a customer who resides in a state is not sufficient nexus.

In short, it will take a Constitutional amendment to change the commerce clause, and it extremely doubtful that U.S. citizens will vote to tax themselves on internet transactions. In fact, outside of pressure from state and local tax authorities, there is little ground swell for internet

taxation by politicians. According to a Gallup Poll, 73% of active internet users oppose an internet sales tax, compared to 14% in favor (Source: San Francisco Chronicle, September 15, 1999, page D2). According to 36% of the respondents who use the internet, they would be less likely to vote for a politician who voted to tax internet transactions. But brick and mortar retailers who sell their products in physical locations, contend that internet taxes are needed to equalize the tax burden for competitive reasons.

Some of the unique features of Ecommerce include:

- Computer-to-Computer transactions without a paper trail;
- Anonymous transactions, especially if a new form of electronic cash takes hold;
- Lack of information on the location of the seller and purchaser;
- Electronic delivery of goods (books, CDs and movies in electronic form) and services (brokerage or accounting services); and
- Bundling of taxable and non-taxable items, such as taxable goods with taxexempt
- services.

Current Law - A Moratorium on Internet Taxes

Currently, under the Internet Taxation Freedom Act ("ITFA"), passed in 1988 there is a 3-year moratorium on federal and state taxation imposed on internet transactions. The moratorium began on October 21, 1998 and remains in effect until October 21, 2001. ITFA's purpose is to halt the rush by states to tax transactions occurring on the internet until Congress has had the opportunity to study the issue and make recommendations.

Congress realized that the internet needed time to grow as a viable medium for commerce, without being subjected to taxing regimes imposed by the states. Congress noted that the internet was inherently susceptible to multiply and discriminatory taxation in ways that traditional commerce was not. Congress was concerned that because internet transactions involved a number of computers and routers, routing transactions throughout the country and even throughout the world, potentially dozens of jurisdictions could attempt to tax a single transaction. Thus, ITFA would protect internet business from being taxed in complicated and unexpected ways by remote jurisdictions.

Discriminatory Taxes

A discriminatory tax traditionally involved a tax that favored local commerce over interstate commerce, but the definition under ITFA has been broadened to include the coverage of the tax,

its application or a differential tax rate. In other words, if an ecommerce transaction is subject to a tax that is any different from a tax imposed on similar property, goods or services through other means, then the tax is discriminatory. Example: If the purchase of a book over the internet is subject to a tax that is different from purchasing a book in a bookstore, the tax is discriminatory. The same would be true if the taxing authority charged a higher rate of tax for ecommerce purchases of books. However, it is permissible to charge a lower rate on an ecommerce transaction. It other works, a taxing jurisdiction may discriminate in favor of ecommerce.

Ecommerce conducted by out-of-state vendors do not have an obligation to collect sales taxes if traditional remote sellers, such as mail-order and telephone solicitation vendors do not collect sales taxes. Sales tax cannot be levied on because the purchaser uses ecommerce to access the seller's computer to acquire property, goods or service. Also, states cannot use an "agency nexus" theory to claim that a purchaser's ISP is an in-state agent for the seller.

Example: If a purchaser in California uses his computer to connect with a bookseller's computer located in Nevada, no state or political subdivision may levy a sales tax, even if the purchaser used a California ISP to connect to the internet.

Example: If a Nevada-based seller hosts his website on a California computer and a California resident purchases a book, California cannot claim there is an agency nexus to tax the transaction.

In addition, if a remote seller in one state, uses a computer in another state for internet access or online services, there is no agency relationship between the remote seller and the company providing the access or online services.

Example: A New Hampshire company, with no physical presence in California, hosts its website with a California ISP, California cannot impose a sales tax on transactions because a California ISP was involved.

If books, magazines, newspapers or forms of tangible information are not subject to sales tax, then downloads of that same information cannot be taxed. A tax obligation cannot be imposed on a different entity such as a credit card company, if the vendor selling the product, service or property would be the entity responsible to collect sales tax under conventional commerce.

Multiple Taxes

Multiple taxes on the same transaction or service either in the same taxing jurisdiction or tow or more taxing jurisdictions are prohibited. There is an exception if the tax is imposed by a state and

a local subdivision, such as California's sales tax and San Francisco County's add-on sales tax for it Bay Area Rapid Transit. This could occur if a state taxed internet access services as telecommunications services and then taxed located telephone services as well. Unless a credit is given to eliminate any double-taxation, such a tax would violate the prohibition against multiple taxation.

Exceptions to ITFA transactions.

Vendors who knowingly conduct ecommerce involving obscene or materials that are otherwise harmful to minors cannot rely on ITFA as a defense against taxation. However, the vendor can use ITFA as a defense if he uses credit card verification or procedures to insure he is dealing with persons over age 17. The exception does not apply to internet information and search services such as Yahoo, Lycos or Alta Vista or ISPs that host such websites or telecommunication companies that transmit information over the internet. Bundled software that includes protected ecommerce or internet applications are protected under ITFA, but only in proportion to the ecommerce or internet applications.

Taxation of Ecommerce - The Significant Issues

Nexus - The Foundation of State and Local Taxation The Interstate Commerce Clause of the U.S. Constitution prevents the states and their political subdivisions from imposing taxes that unduly burden interstate commerce. The key issue is whether the company that is being taxed as sufficient connection (nexus) with the taxing authority.

***Example*:** A company that operates in Nevada and does not sell products in California or to California residents cannot be taxed by California. Converse, both California and San Francisco have the right to tax a company physically located in San Francisco, such as a hotel, even though the guests might reside in another state. The problem comes when a business is not physically located in California, but sells to California residents. Under what circumstances may California levy a tax on sales to California residents?

In Quill v North Dakota, 504 U.S. 298, 1992, the U.S. Supreme Court held that a remote seller could be required to collect sales taxes only if the seller had the requisite nexus with the buyer's state. Quill corporation sold office furniture products through a catalogue. Although it was not physically present in North Dakota and did not have a sales agents in the state, the North Dakota Supreme Court held that by selling its product to North Dakota customers, Quill established an economic presence in North Dakota which created nexus for sales tax purposes.

The U.S. Supreme Court held otherwise and ruled that a state could impose a requirement that a company collect and remit sales taxes, the company had to have substantial connections (a physical presence) with the state. Under the commerce clause, a mailorder company without a physical location, employees or sales agents in North Dakota could not be compelled to collect sales tax on its sales to North Dakota customers. It is the commerce clause's concept of nexus that prohibits most ecommerce transactions from being taxed. In general, the duty to collect a sales or use tax depends on where the sale is located and whether the buyer is a consumer or a business. Three general rules apply:

1. Retail sales by venders to in-state consumers are subject to sales tax on the purchase, but the vendor has the obligation of collect and remit the tax to the tax agency.
2. Out-of-state vendors making consumer sales are not required to collect and remit sales taxes, unless the vendor has sufficient nexus under the commerce clause with the purchaser's state to require collection.
3. If the out-of-state vendor cannot be required to collect the tax, then the consumer is legally obligated to pay a self-assessed tax directly to the taxing agencies on the purchase. This is usually referred to as a "use" tax, instead of a sales tax, since the consumer is paying a tax for the use of the property. As a practical matter, this is virtually impossible to enforce, hence the emphasis on requiring out-of-state vendors to collect and remit the tax.

The absence of nexus in the mail order cases is profoundly greater in the Ecommerce context. Not only do internet companies not have physical presence in the taxing jurisdiction, often then can be located outside the jurisdiction of the U.S. altogether. Even if a transaction can be theoretically taxed, in reality, Ecommerce transactions occur instantaneously and without identity of the seller's or buyer's location. Because the sales tax is destination based, unless a state or locality can pinpoint the physical location of the seller and buyer, it is impossible to determine jurisdiction for sales tax purposes.

***Example*:** California wants to apply a sales tax to the sale of software to its residents. In order to California to levy the tax, it must determine that the purchase is a California resident and that the seller has sufficient nexus with California to be required to collect and remit the sales tax. Without ascertaining the location of the seller or buyer, California cannot determine whether the purchaser was a California resident and whether the seller had sufficient physical presence in California.

***Note*:** If the goods or property purchased are tangible, such as an actual book, CD or a shirt, then the traditional notions applicable to mail order taxation could be applied since it could be ascertained where the goods were shipped and where they were delivered.

Taxation and Encryption Policies

The Future for Ecommerce Taxation

The Commission on Electronic Commerce, created by the ITFA legislation, has not been able to make any headway in the taxation debate, but several members have voice support for Internet taxes, provided the tax is simple to calculate for businesses. This could mean a uniform tax rate agreed to by all the states, or technological advances that would allow businesses to calculate the sales tax simply and without a large investment in time and resources.

Unfortunately, the current state and local tax systems, which number close to 7,500 throughout the U.S., are notoriously parochial minded when it comes to defending their jurisdiction. In Texas alone, there are more than 1,300 separate sales tax jurisdictions. These numbers could be significantly increased if states and local jurisdictions were allowed to tax Ecommerce.

Small businesses would be buried in costly paperwork attempting to comply with all these rules. That is precisely why the commerce clause in the Constitution prohibits taxes and is an undue burden on interstate commerce.

Encryption policy:

Encryption is a technique for hiding data. The encrypted data can be read only by those users for whom it is intended. Nowadays various encryption techniques are available. One of the available techniques commonly used for encryption is Public Key. In Public Key encryption system, RSA Data Security of Redwood City offers the most popular and commercially available algorithm.

In a Public Key encryption system each user has two keys-public key and private key. The encryption and decryption algorithms are designed in a way so that only the private key can decrypt data that is encrypted by the public key. And the public key can decrypt data, encrypted by the private key. Therefore, one can broadcast the public key to all users.

Computer encryption is based on the science of cryptography, which has been used throughout history. Before the digital age, the biggest users of cryptography were governments, particularly for military purposes.

Most computer encryption systems belong in one of two categories. Broadly speaking, there are two types of encryption methods:

- Secret-key cryptography
- Public-key cryptography

Data Encryption Standard (DES)

A widely-adopted implementation of secret-key cryptography is Data Encryption Standard (DES). The actual software to perform DES is readily available at no cost to anyone who has access to the Internet. DES was introduced in 1975 by IBM, the National Security Agency (NSA), and the National Bureau of Standards (NBS) (which is now called NIST). DES has been extensively researched and studied over the last twenty years and is definitely the most well-known and widely used cryptosystem in the world. DES is secret-key, symmetric cryptosystem: When used for communication, both sender and receiver must know the same secret key, which is used both to encrypt and decrypt the message. DES can also be used for single user encryption, for example, to store files on a hard disk in encrypted form. In a multi-user environment, however, secure-key distribution becomes difficult; public-key cryptography, discussed in the next subsection, was developed to solve this problem.

DES operates on 64-bit blocks with a 56-bit secret key. Designed for hardware implementation, it operation is relatively fast and works well for large bulk documents or encryption. Instead of defining just one encryption algorithm, DES defines a whole family of them. With a few exceptions, a different algorithm is generated for each secret key. This means that everybody can be told about the algorithm and your message will still be secure. You just need to tell others your secret key a number less than 256. The number 256 is also large enough to make it difficult to break the code using a brute force attack (trying to break the cipher by using all possible keys). DES has withstood the test of time. Despite the fact that its algorithm is well known, it is impossible to break the cipher without using tremendous amounts of computing power.

A new technique for improving the security of DES is triple encryption (Triple DES), that is, encrypting each message block using three different keys in succession. Triple DES, thought to be equivalent to doubling the key size of DES, to 112 bits, should prevent decryption by a third party capable of single-key exhaustive search. Of course, using triple-encryption takes three times as long as singleencryption DES. If you use DES three times on the same message with different secret keys, it is virtually impossible to break it using existing algorithms.. Over the past few years several new, faster symmetric algorithms have been developed, but DES remains the most frequently used.

Customer's Trust Online

Presentation

The look of a site conveys a sense of personality and influences the degree to which visitors are prepared to trust the site owner. If an organisation already has a corporate identity then the site should be consistent with this. On-screen design and copy styles should reflect existing printed literature. A company's colours may need re-working online, to a new palette that is fast to download to the computer screen. Developing a brand to work online is a new task. The internet is tactile - web pages should look, sound and move in ways that reinforce the company's existing image.

Navigation

If customers walk into a new high street shop they can usually find their way around. There are conventions for laying out a shop and customers unconsciously understand and follow them. Online conventions are still being developed. Therefore, some judgement will be needed to make first-time visits successful.

The challenge is to create enticement – to explore the store - without customers getting lost. On the home page a site's purpose must be clear to the first-time visitor. Use simple words to describe the site's content and make it easy for visitors to find what they are looking for by giving clear instructions.

Fulfilment

Goods have now been selected and your customer has made it to the checkout. At this point most shopping carts are abandoned. Websites can keep customers' trust by taking them through a transparent transaction process. At all times customers should know where they are in the checkout process and they should be able to find out what happens later. It must be easy to see: How orders are to be processed The company's returns policy. Online and offline customer support services The company's security policy for personal information. If you have shops on the high street, give customers the option to return goods there. And remember to train your staff to handle returned online orders.

Familiar Names & Logos

Names that we know and trust are familiar and friendly. If we see them on a website we trust the website more. Customers trust sites where they can see the familiar logos of credit card brands, major software companies and web security organizations. If your company is trusted by these

organizations, don't hide it. Should your company have a familiar name, use it to build customer expectation of the site's content, the quality of products and the level of service support. Web customers will have higher service expectations than offline customers. They may expect service delivered in real time, with transparency and, above all, with consistency.

Technology

Too much technology can be daunting. Use technology as a transparent aid to navigation and activity. Aim for graphics and functions in proportion to your customer's needs. These needs will change with your customer's experience. Are you handling visitors new to the web trade or devotees?

- Newcomers need signposts and easy navigation.
- Old hands need quick routes to every part of the site.

Younger visitors and technically aware customers may be more tolerant of higher technical demands. Make sure that technology supports your sales process and does not obscure it: Automatically recognise returning customers Help to complete forms correctly Design forms to work with software programs that automatically add user details to the form

Steps to Plan Successful E-Commerce

Respond Fast

If the plan is to respond to customer wishes, then the most successful plan will be the one that responds fastest. This means that every component of the plan should be built with the intention of proving a principle. Ask yourself if your customers want this? If they do, then a more robust version can be built. If they don't, then you can redirect your time and resources and use the knowledge gained to good effect elsewhere.

Test out Your Plan

In the online marketplace everything is a test until it's proven by the customer. Successful testing follows a simple rule:

Test one Thing at a Time

Only test changes that can be measured directly. If a test includes more than one change, it's almost always impossible to measure the effect of each one. Test to learn from the customer and to improve one step at a time.

Challenge Internal Assumptions

Remove internal processing costs to make dramatic improvements to profit margins. Analyse each sales process to clarify what it is that staff spend time doing. In particular, look for processes in which information is transferred. How many steps can be eliminated by outsourcing tasks to your customers and suppliers? Who is best placed to make the original information entry? Can that information be shared to avoid reentering the same information? What information could customers, suppliers and distributors find for themselves, computer to computer? With the time saved, what could your staff do to add more value for customers?

Focus on Customer, Supplier & Distributor Benefits

What's in it for customers, suppliers and distributors? Have you asked what they'd like? The web's very good at research. Are you offering them a new way to use an existing service or a completely new service? Is it faster, cheaper, more convenient or just new and online? What new information do they get? Decide what you can reliably offer each group now and plan a phased introduction of more complex services. Complexity often arises from integrating tried and tested stand-alone services.

Give Good Reasons to Use Online Services

Not all customers will automatically move to an online service simply because it's there. Equally, in a service's early stages it may not make good sense to risk overwhelming a new online channel by quickly moving large numbers of customers over to the new service.

If you prefer customers to use an online channel, find ways to: Inform them that it is there (they may not know this) Tell them how to change over Incentivise the swap to make it worthwhile Introduce the new service as a special privilege beta test programme

Calculate the Three Sets of Costs

Very few organisations have all the resources in-house to start offering online services. There are three sets of costs that should be calculated:

1. **Current company costs that will be altered by the online changes**
   - both internal and external costs
2. **Cost to implement the changes**
   - interim support may be needed
   - training for staff whose tasks change
3. **New cost assumptions, post change**
   - long-term cost-savings