Unit-4

Internet Service Provider (ISP):- An Internet service provider (ISP) is a company that provides customers with Internet access. It is often referred to as just "the provider."

An **Internet service provider** (**ISP**) is an organization that provides a myriad of services for accessing, using, or participating in the INTERNET service providers can be organized in various forms, such as commercial, community owned , nonprofit or otherwise privately owned

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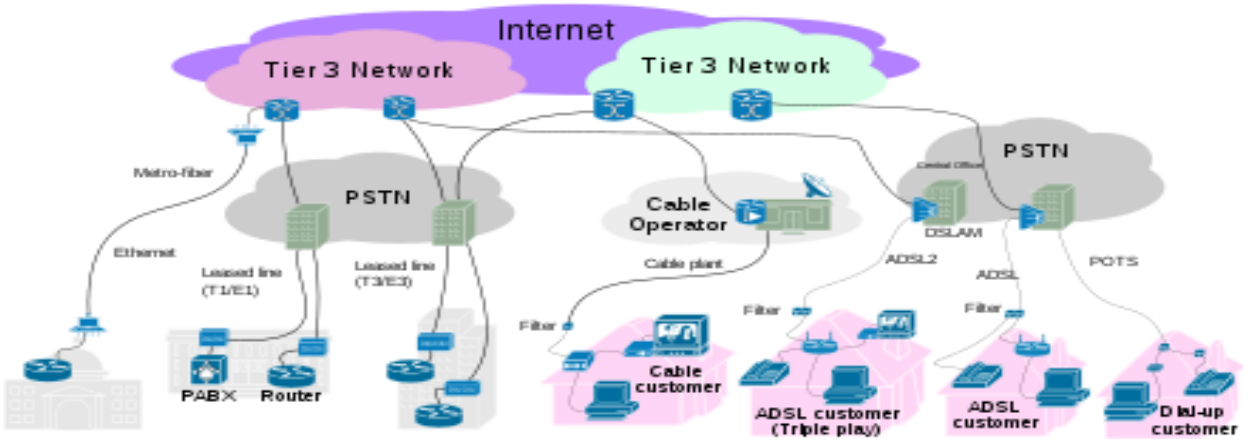


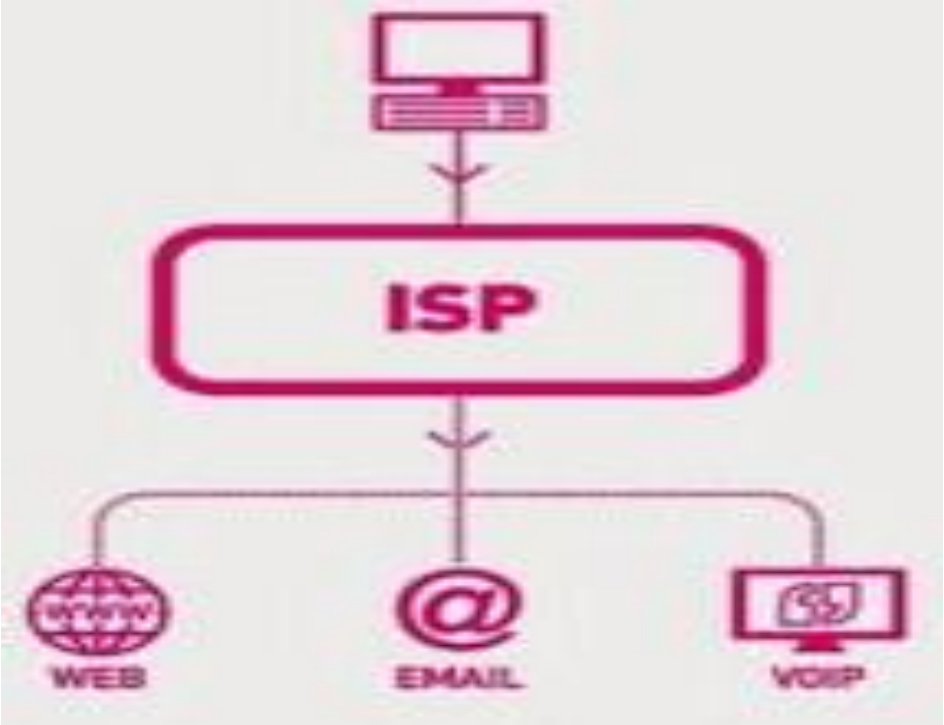
Internet Service Provider is a company or entity that organizes the internet connection services and other related services.
Most telephone companies are Internet service providers. They provide services such as connection to the Internet, domain name registration, and hosting.

ISP has a network both domestically and internationally so that the customer or the user of the connection provided by the ISP to connect to the global Internet network.
Here in the form of network transmission medium that can stream data can be either wired (modem, leased line, and broadband), radio, etc.

The role of ISP in internet access among others:

- As a medium that provides services to connect to the internet.
- Connect customers to the nearest Internet gateway.
- Provides a modem for dial-up.
- Connecting an information service to a user of the World Wide Web (www).
- Allows a user to use the services of electronic mail (e-mail).
- Allows a user voice conversations via the internet.

- Gave place to the homepage.
- ISP do protection from the spread of the virus by applying antivirus systems for his customers.



Benefits for Internet Service Providers:-

Seamless Failover
IP-failover maintains sessions for real-time applications like voice and data flows, which move from failed links in less than 300 milliseconds.

Greater Bandwidth
The only thing more frustrating than no internet is slow internet. Just giving customers uptime isn't enough; you need to give them quality application experience. Bandwidth is a valuable resource and it's imperative that its being used efficiently.

Provide a Secure Network
Unfortunately, Hackers are evolving faster than the defenses. The Financial Conduct Authority (FCA), which is a financial regulatory body in the United Kingdom, reported a 4x rise in data hacking attacks in 2018. SD-WAN enables you to secure your customers' data end-to-end, while providing them with full monitoring and management capabilities over their network to ensure only the traffic they want is going in. Whether it's single-site or multi-site, protect your customers' data and secure all communications using DTLS in three cipher strengths – AES128, AES256, and Salsa20 – or add additional ciphers per your customer's needs. Site-to-Site encryption will encode their data in a way that only they can access it.

Increase Revenues & Margin

Our platform increases sales and stickiness of your existing services, while adding a new source of high-margin, monthly recurring revenue.

WWW

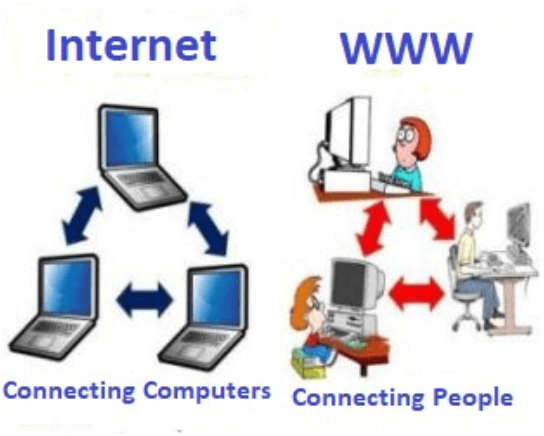
World Wide Web, which is also known as a Web, is a collection of websites or web pages stored in web servers and connected to local computers through the internet. These websites contain text pages, digital images, audios, videos, etc. Users can access the content of these sites from any part of the world over the internet using their devices such as computers, laptops, cell phones, etc. The WWW, along with internet, enables the retrieval and display of text and media to your device.

A web page is given an online address called a Uniform Resource Locator (URL). A particular collection of web pages that belong to a specific URL is called a website, e.g., *www.facebook.com*, *www.google.com*, etc. So, the World Wide Web is like a huge electronic book whose pages are stored on multiple servers across the world.

Small websites store all of their WebPages on a single server, but big websites or organizations place their WebPages on different servers in different countries so that when users of a country search their site they could get the information quickly from the nearest server.

Difference between World Wide Web and Internet:

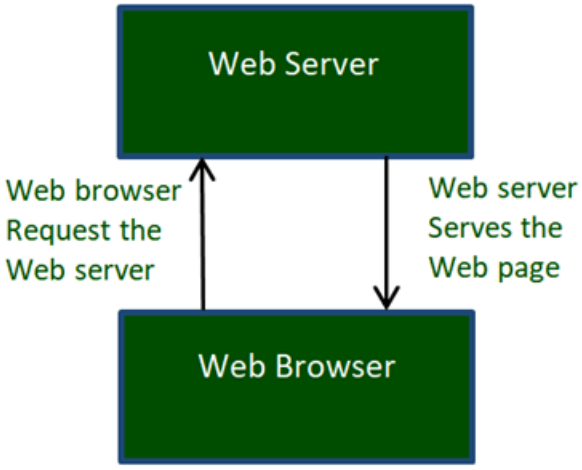
Some people use the terms 'internet' and 'World Wide Web' interchangeably. They think they are the same thing, but it is not so. Internet is entirely different from WWW. It is a worldwide network of devices like computers, laptops, tablets, etc. It enables users to send emails to other users and chat with them online. For example, when you send an email or chatting with someone online, you are using the internet.



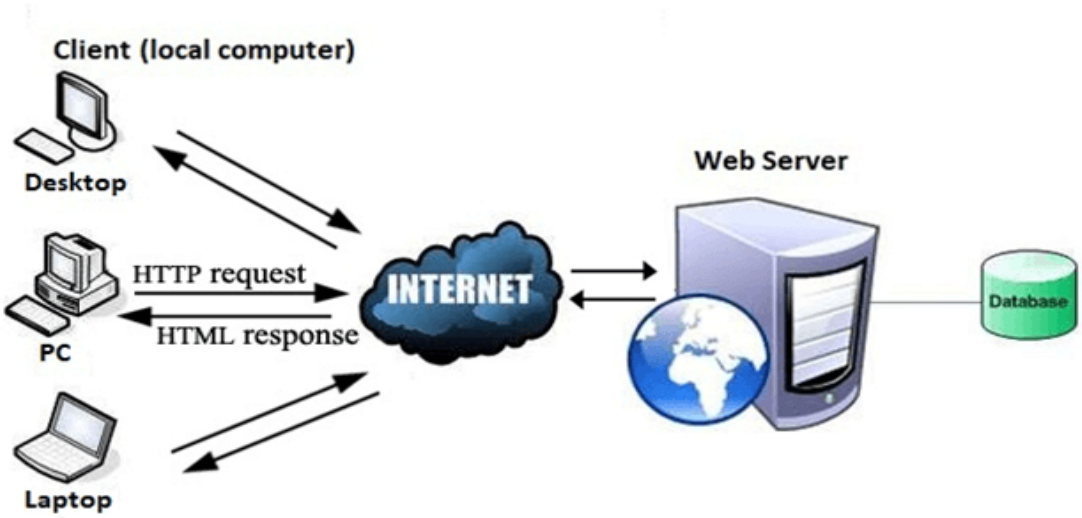
But, when you have opened a website like google.com for information, you are using the World Wide Web; a network of servers over the internet. You request a webpage from your computer using a browser, and the server renders that page to your browser. Your computer is called a client who runs a program (web browser), and asks the other computer (server) for the information it needs.

How the World Wide Web Works?

Now, we have understood that WWW is a collection of websites connected to the internet so that people can search and share information. Now, let us understand how it works!



The Web works as per the internet's basic client-server format as shown in the following image. The servers store and transfer web pages or information to user's computers on the network when requested by the users. A web server is a software program which serves the web pages requested by web users using a browser. The computer of a user who requests documents from a server is known as a client. Browser, which is installed on the user' computer, allows users to view the retrieved documents.



All the websites are stored in web servers. Just as someone lives on rent in a house, a website occupies a space in a server and remains stored in it. The server hosts the website whenever a user requests its WebPages, and the website owner has to pay the hosting price for the same.

The moment you open the browser and type a URL in the address bar or search something on Google, the WWW starts working. There are three main technologies involved in transferring information (web pages) from servers to clients (computers of users). These technologies include Hypertext Markup Language (HTML), Hypertext Transfer Protocol (HTTP) and Web browsers.

What is a Web Portal?

A **portal** is a web-based platform that collects information from different sources into a single user interface and presents users with the most relevant information for their context. Over time, simple web portals have evolved into portal platforms that support digital customer experience initiatives.

EXAMPLE

- UID PORTAL
- EMITRA
- BANKING PORTAL
- PAYMENT PORTAL

The three distinguishing strengths of portals — integration, consistency and personalization — are essential components of an increasingly important part of business today: digital customer experience.

1. **Integration** capabilities allow organizations to unite systems and customer data on the back end.

2. An emphasis on **consistency** across digital touchpoints gives these united systems a shared look and feel on the front end.

Personalization through a combination of biographical data (who they are) and behavioral data (what they did on the site) gives enterprises the ability to contextualize experiences, usually facilitated by a login process

Uses of Portal Platform

Aside from broad digital transformation applications, portal platforms are still uniquely useful for several business scenarios, such as:

- Customer self service. Portals are well-suited to gathering information relevant to customers in the post-purchase phase, allowing companies to nurture long-term loyalty while decreasing the burden to customer service call centers.

- Business agility. Portal platforms that support mobile experiences and use modular architecture are now well-equipped to quickly roll out new digital touchpoints, while still

carrying the user authentication and integrated back-end data necessary to connect experiences.

Benefits Of Web Portal

1. Improved Interaction:

With the increment of social media interaction, the businesses now have the capability to easily interact with their customers in quite an effective way by means of replying to their numerous queries. Also, it has been duly found that customer is much more prospective to consider various services of portals if the customer has the appropriate knowledge of the business. Also, the portal remains to be the finest as well as the most efficient way to train your customers apart from executing a smart marketing plan.

2. Enhanced Awareness:

Essentially, the implementation of Business to Business and Business to Customer models performs a key role in creating the overall awareness concerning business growth. Also, the internet has become among the most used platforms where any individual can easily interrelate with the customers, and even face competition is a much more effective way. Also, business organizations even avail a chance to recognize the present market trends and hence, develop and enhance their marketing policies for improving awareness.

3. Simplification of Issues related to Integration:

The key goal of the website is to provide a single point of access for entire business requirements and even offer information system to be actually carried out for not only sources but also the integration process. Hence, with the numerous integration tools, the fullstack development services will have some of the latest technologies to use. Also, most portals are now integrated clearly and generally focus mainly on the clients to hire in quite a simple manner. The web portals do have a unique integration process that allows one to get services with ease easily.

4. Offering Single Sign for a Variety of Applications:

To access a different variety of information systems, web portals offer a single sign of one particular common application to use in quite a simple manner. Although, there are a lot of people who are rendering for the best possible settings for developing an online business to integrate with different business applications and even be useful for creating a particular source system for a wide range of web portals. Also, it offers an integration layer to the particular end-users as well as the source system in order to create with a single click always. Hence, web portal development services should consider this during web portal development.

5. Supports for different Portlets:

Essentially there are numerous portlets that are available for the web portals that enable to offer a wide range of functionalities in order to align with business conditions and norms. However, these portals often offer an extremely swift way to deliver the functionalities with the best web portal development. Also, the wide range of portals are duly available often varies according to the products and need to contain the selection process in order to intake with quite a simple manner.

6. Offer Improved Customization:

Also, the web portals are often required to develop better personalization and even customize the various tools to create with quite an ease. Hence, portals are inviting people to render for the best available customization process to intake with different web portal development process in order to create with simple manner.

7. Providing Flexible and User-Friendly Portals:

Most of the web portals are often designed with extraordinary themes and offer brilliant and intuitive user-friendly web portals to utilize forever. There are people who look for professional web portals to create numerous resources to get in quite a simple manner.

8. Providing Services to Diverse Domains:

The most crucial benefits of web portal development is in the area of domains, and a good web portal developer makes sure that they are designed for different domains. This type of web portals finally becomes entrances to different clients, along with similar companies that exist in the industry. Hence, making as well as using a domain-specific portal is certainly a major benefit for any web development company which designs portal.

9. Rebranding an Existing Website:

A best website development company working for this thing essentially re-brands a currently existing website. Thus, the company easily avails the opportunity to easily interact with its visitors over a highly transformed web page. Most of the companies actually capitalize on different companies because they try to make their own web page to be the best and finest.

10. Bringing Visitors:

A web development company implements high-class web portal development with an expert team that consists of web development specialists that are well-versed in every relevant requirement and need. Hence, the web page of the respective business finally yields more visitors

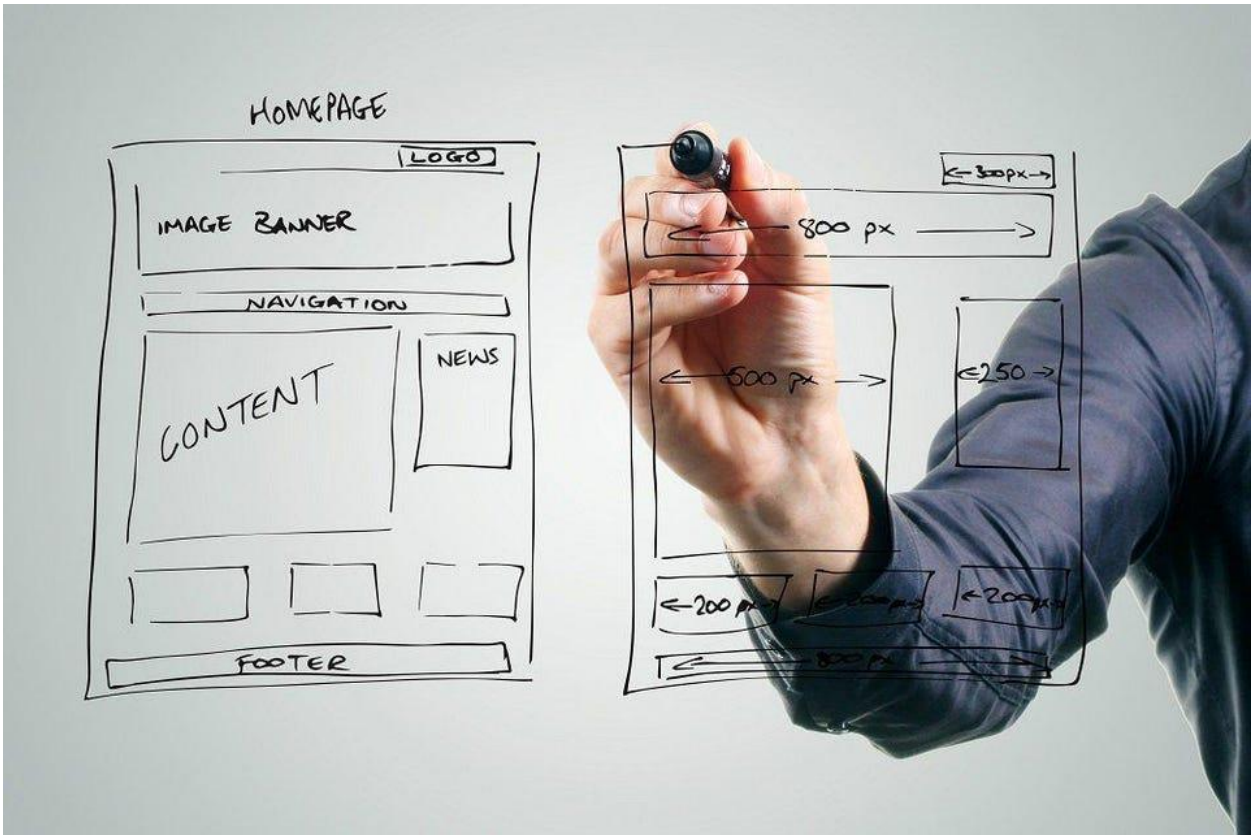
and consistently increases sales and profits.

11. Offers Professional Look

The portal development achieves a sincere and professional look. For instance, it loads quite swiftly and is highly SEO friendly too. Also, every professional web portal developer works to strictly follow a planned and step-wise process to achieve the objectives of the business.

Steps to build home page:-

- Choose the right website builder for you.
- Sign up for a plan that suits your needs and budget.
- Choose a unique and relevant domain name.
- Pick a design template you love.
- Customize your template design.
- Upload and format your own content.
- Choose and download apps.
- Preview and test your website.
- Publish your website on the internet.



- **Business benefits of the Web portal:-**
- Improved **Interaction**. ...
- Enhanced Awareness. ...
- Simplification of Issues related to **Integration**. ...
- Offering Single Sign for a **Variety** of Applications. ...
- Supports for different Portlets. ...
- Offer Improved **Customization**. ...
- Providing **Flexible** and User-Friendly Portals.

Metadata is data about data. In other words, it's information that's used to describe the data that's contained in something like a web page, document, or file. Another way to think of metadata is as a short explanation or summary of what the data is.

A simple example of metadata for a document might include a collection of information like the author, file size, the date the document was created, and keywords to describe the document. Metadata for a music file might include the artist's name, the album, and the year it was released.

For computer files, metadata can be stored within the file itself or elsewhere, like is the case with some EPUB book files that keep metadata in an associated ANNOT file.

Metadata represents behind-the-scenes information that's used everywhere, by every industry, in multiple ways. It's ubiquitous in information systems, social media, websites, software, music services, and online retailing. Metadata can be created manually to pick and choose what's included, but it can also be generated automatically based on the data.

Types of Metadata

Metadata comes in several types and is used for a variety of broad purposes that can be roughly categorized as a business, technical, or operational.

- **Descriptive** metadata properties include title, subject, genre, author, and creation date, for example.
- **Rights** metadata might include copyright status, rights holder, or license terms.
- **Technical** metadata properties include file types, size, creation date and time, and type of compression. Technical metadata is often used for digital object management and interoperability.
- **Preservation** metadata is used in navigation. Example preservation metadata properties include an item's place in a hierarchy or sequence.
- **Markup languages** include metadata used for navigation and interoperability. Properties might include heading, name, date, list, and paragraph.

Enterprise portal

An **enterprise portal**, also known as an **enterprise information portal (EIP)**, is a framework for integrating information, people and processes across organizational boundaries in a manner similar to the more general web portals. Enterprise portals provide a secure unified access point, often in the form of a web-based userinterface, and are designed to aggregate and personalize information through application-specific portals.

One hallmark of enterprise portals is the de-centralized content contribution and content management, which keeps the information always updated. Another distinguishing characteristic is that they cater for customers, vendors and others beyond an organization's boundaries. This contrasts with a corporate portal which is structured for roles within an organization.

Features of an EIP include:

- Integration - provides an integrated navigation gateway for multiple systems and components.
- Customization- provides an environment for users to customize.
- Access control and security -the ability to give the limitation needed for specific contents and services as needed. The EIP administrator can designate the access controls as needed for the organization.
- Single sign-on - capabilities for single sign-on can be given to users and other systems.
- Categorization and collaboration - can categorize all information and also provide users the ability to collaborate regardless of physical location.
- Personalization - based on the role and job function, the personalization is possible. The matching content for users is provided and matching services are used.

What is an online publication?

It is the digital or online publishing of editorial web content that serves a specific (business) purpose. An online publication is browser-based and must offer an optimal content experience for the public. A digital publication, an online magazine for example, is often used in business for marketing & sales purposes.

FEATURES OF Digital PUBLISHING
Deliver media to the public through digital devices

- Reach a wider audience (including mobile and global audiences)
- Save money
- Analyze website visitors and optimize content accordingly
- Collect market research data

Print media vs digital media

Print media is becoming extinct. In the past decade, print publications have been shedding pages as print advertising revenue decreases and news delivery becomes increasingly digitized.

As new generations become accustomed to digital technology, electronic and web publishing is rapidly replacing traditional print media, and with good reason. Traditional newspapers and print publishers do not offer the immediacy newer generations have come to expect. Digital news sources provide information more quickly, enabling people to read breaking news as it happens.

For publishers accustomed to print media, the decline of traditional publishing – and subsequent rise of digital media – is a big adjustment. Nonetheless, there are many advantages of digital publishing.

Advantages of digital publishing

1. **Visual content domination**

Visual stimulation is on the rise. In 2020, 81% of businesses predicted that 46% of their business would rely on visual content marketing. Moreover, according to TechCrunch, visual content creation and consumption is up 842% since early 2016.

Visual content encourages readers to spend more time with a website or media channel. It's also a huge factor in engaging audiences in an effort to drive emotions and motivate them to action.

Digital publishing offers its audience the joy of consuming content with more added visuals than ever before. Audiences now readily expect to see videos, infographics, GIFs and links to other media in the content they consume. Digital publishing platforms also offer publishers the ability to integrate PDFs and WhitePapers with YouTube, Vimeo, SoundCloud, and SlideShare.

2. **Huge cost savings**

By reducing or eliminating print media, publishers can reduce publication costs drastically.

3. **Interactive advertising**

Publishers are pretty limited when it comes to advertisements with print media. But, with a digital publishing platform, advertisements become interactive. Publishers can insert an ad multiple times, and consumers have the option to click on compelling CTAs (calls-to-action) that take them to the advertiser's website.

4. **Social media exposure**

Social media boosts digital publishing platforms. Publishers can increase their visibility by sharing links from their website or uploading their media to social media platforms. Furthermore, platforms like Facebook, Twitter, and Pinterest allow readers to share content, which can lead to more views, organic traffic, and new subscribers.

5. **Revenue potential**

Perhaps the greatest advantage of digital publishing is its accessibility to online revenue opportunities. Last year, the digital ad industry surpassed traditional media, seizing more than half of all dollars spent by advertisers.

Because of the mainstream adoption of digital media and smartphone technology, digital ad budgets are only continuing to grow. Brands need a massive amount of content to cover their digital omnichannel approach, leaving digital publishers a huge opportunity to leverage their platforms for brand promotion and general content and programmatic demand.

Digital publishing examples
Some of the most common examples of digital publishing include:

- Digital magazines.
- Online newsletters.
- Digital catalogs.
- Digital brochures.
- Presentations.
- Online newspapers.
- Blogs.
- eBooks

Online Publishing Strategies
As with any new development, there are generally three strategies for publishing companies to consider:

Early Movers
These are highly skilled independent publishers with existing access to such key capabilities as direct marketing and order fulfilment. These publishers have the capacity to derive the highest benefits from new media as their learning curves are much shorter than others, and they already have many of the necessary resources at hand.

Watchers
These are large publishing companies that employ scale-sensitive economics. They are unlikely to view online publishing as a sufficiently attractive channel until costs fall and distribution widens. This category includes publishers of unbranded or less distinctive content who cannot attract a sufficiently large initial consumer franchise, as well as fo-cused publishers in categories not easily suited for the online medium.

Testers
These are the majority of publishers that face either attractiveness and/ or skill challenges. Gathered here are many multi category and specialty publishers who are competing successfully in traditional markets, who are uncertain who will win in the online marketplace, and who neither need nor want to make a choice now. Testers also include branded general publishers with robust consumer franchises and attractive distribution channels already in place. For this group, the online medium appears to be an alternative.
In general, publishers are educating themselves about the potential opportunities without committing themselves to anyone position. Those with strong brand images and existing consumer franchises may choose to post-pone entry until they find viable service providers and distributors. Publishers such as the Wall Street Journal and New York Times are taking part in targeted tests

and pilot projects aimed at learning what online publishing has to offer, building required skills, and exploring the attractiveness of potential channels.
These tests often include a skill-building program as well as an early warning system so that a company can quickly identify and re-act to changes within the industry or economy. Content, incentives, service, quality, and price will not be enough to compete in this new environment. Speed of delivery, bundling of products, and diversity of choice also become critical success factors. Publishers will have to innovate constantly and challenge present concepts if this form of commerce is to become widely accepted and popular.
Winning in online publishing will entail developing new skills in areas such as tailored advertising,order processing and fulfilment, and customer service as well as re-learning the fundamental principles concerning why people subscribe.

Online Publishing Approaches
There are four contrasting content publishing approaches.

- The online archive approach. This is new to the Web, but is a logical extension of the trends in electronic delivery over the past several years.
- The new medium approach. This is more controversial and more difficult to implement, but also more exciting.
- The publishing intermediation approach. This is an online extension of the third party publisher role off-line.
- The dynamic and just-in-time approach. In this approach, content is assembled in real-time and transmitted in the format best suited to the user's tastes and preferences.

The Online Archive Approach
The online archive approach (including bibliographic databases and full-text search/ retrieval services) is one that appeals to corporate publishers and, to some extent, commercial publishers (such as academic or journal publishers) who have an existing digital archive that they want to deliver over the Web as well as on paper, CD- ROM, or other media. The most prevalent example of online archive approach is library catalogs and bibliographic databases. Most libraries have replaced traditional card catalogs with sophisticated electronic online bibliographic databases offering an incredible range of functions. At revenues of over $1 billion a year, bibliographic databases represent a sizable chunk of the online data-base market.
An example of a bibliographic database is MEDLINE, developed by the National Library of Medicine (NLM), which caters to an increasing number of physicians who rely on online medical databases to keep up to date with the latest developments and literature. The spread of PCs has enabled physicians to directly search databases used only by librarians in the past. MEDLINE and other medical databases are available free of charge on the Internet.
The online archive approach is also being used by niche publishers such as Ziff- Davis, which began its venture into electronic publishing in .1985 with a bulletin board system for readers of PC Magazine. That bulletin board evolved in 1988 to become PC Mag-Net on CompuServe, which quickly grew in popularity. In 1991, Ziff-Davis created the ZD Net subscription service on CompuServe to provide a service supporting online versions of all its publications.
Members of the ZD Net/CompuServe edition have access to several features, including the ZD Net University series of comprehensive online "continuing education courses, sophisticated on-line forums with top industry personalities, and a comprehensive database of past articles. In

addition to its successful CompuServe subscription ser-vice, the ZD Net Web Edition logs access by more than 700,000 Internet hosts each month and is reportedly showing a profit.

The New Medium Approach

The new medium approach (including real -time news delivery, personalized news delivery, and edutainment) aims to create new material for the Web-to treat the Web as its own medium, one deserving its own material. This approach will have the most appeal to commercial print publishers, such as magazines, that view the Web as an alternative, not a replacement, for print publications. For example, Wired magazine sees very little crossover in content between its magazine and its Hot Wired venture. Some writers may write for both media, but separate content streams will be developed for each medium.

This approach currently has some teething problems because of technological limitations. For instance, the formatting limitations of the Web are frustrating at the moment, but with technological advancements they will soon be forgotten. The frustrations are more than offset by the excitement of the interactivity the Web offers; its model is both broadcasting and conversation at the same time. With online publishing there may be a well-known starting point, but with no controlling gatekeeper, the subsequent value-added improvisation from readers makes each online magazine a unique experience.

Even if the technology constraints were overcome, the expectations of the Web are so different from print media that new content, written for a Web audience, must be created. It quickly becomes apparent that under this model, the old paradigms do not work. The publisher gives up not only its brand name, but its intellectual content, too-once the information is out there, it is no longer, owned. Faced with that model, all a publisher can do is "be the first with the most interesting stuff," an approach that HotWired is taking in its attempt to create a place where readers can see what the world has to say on a minute-by minute basis.

The Publishing Intermediation Approach

The publishing intermediation approach (including online directories) exploits new service opportunities for intermediaries. For example, in the growing market for educational material such as course packs and other customized books, companies offering material owned by more than one publisher face the daunting task of obtaining permissions. New organizations that specialize in the management of copyright clearance are emerging as key players.

Online directories are important for several reasons. Companies and consumers interested in conducting electronic commerce often struggle to navigate the Internet to create an electronic marketplace. Once on that sprawling network, they are having trouble finding other companies, products, and services. The success of Yahoo's initial public offering (IPO) underscores the importance of online directories. Yahoo (which stands for Yet Another Hierarchical Officious Oracle) was created in 1994 by David Filo and Jerry Yang, two Stanford, University electrical engineering PhD students who began DY simply compiling lists of their favorite Web sites. It went on to become one of the most popular means of navigating around the Internet.

Yahoo is the first place millions of Internet users go when they try to find their way around the rapidly growing Internet. At one time, Yahoo was getting about 6 million visitors per day, which made it the second most active Web sitenext to Netscape's home page.

Clearly, there will be a demand for intermediation because there will al-ways be a need for a good directory to help people locate goods, services, and products. The future is bright for the publishing intermediaries who offer ease of operation, speed, and detailed information.

The Dynamic and Just-in-Time Publishing Approach

Online content is no longer static information. Content can now be created in real-time and transmitted on the fly in the format best suited to the user's location, tastes, and preferences. More importantly, the content engine recognizes repeat visitors to a site and configures the Web pages to match the individual's known preferences. For example, a publisher planning to deploy a large product catalog will no longer have to author and update each individual Web page. Instead, the elements of each page-text, graphics, video, and sound-are stored separately in a database and used to create individualized pages on the fly as each user browses the site.

The page content can be further customized to reflect which Web browser is being used, the user's geographic location, and modem speed. Another way of looking at dynamic publishing is that it is just-in-time publishing. That is, the stories, applets, and content flow into the computer just as consumers need them, and then self-destruct after usage.

A number of micro payment schemes are emerging. The world of online entertainment-specifically "pay-for-play" outlets being developed by Sony, Sierra On- Line, and others-could serve as the best model for every-one else [PCW96]. Clearly publishers and developers should be thinking about low-value payments, but it is still too early for most companies to de-ploy. For micro payments to work, transaction costs must be very small (around 10 cents), and they are nowhere near that yet. What is more, the proposed schemes vary widely and many kinks in the micro payment puzzle have to be worked out.